Service Manual

Tektronix

AM700
Audio Measurement Set

070-9055-00

Warning
The servicing instructions are for use by qualified personnel only. To avoid personal injury, do not perform any servicing unless you are qualified to do so. Refer to the Safety Summary prior to performing service.

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Tektronix, Inc., P.O. Box 1000, Wilsonville, OR 97070–1000

WARRANTY

Tektronix warrants that this product will be free from defects in materials and workmanship for a period of one (1) year from the date of shipment. If any such product proves defective during this warranty period, Tektronix, at its option, either will repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, Customer must notify Tektronix of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by Tektronix, with shipping charges prepaid. Tektronix shall pay for the return of the product to Customer if the shipment is to a location within the country in which the Tektronix service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. Tektronix shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than Tektronix representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non-Tektronix supplies; or d) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

THIS WARRANTY IS GIVEN BY TEKTRONIX WITH RESPECT TO THIS PRODUCT IN LIEU OF ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED. TEKTRONIX AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TEKTRONIX' RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE SOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR BREACH OF THIS WARRANTY. TEKTRONIX AND ITS VENDORS WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER TEKTRONIX OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

Service Assurance

If you have not already purchased Service Assurance for this product, you may do so at any time during the product's warranty period. Service Assurance provides Repair Protection and Calibration Services to meet your needs.

Repair Protection extends priority repair services beyond the product's warranty period; you may purchase up to three years of Repair Protection.

Calibration Services provide annual calibration of your product, standards compliance and required audit documentation, recall assurance, and reminder notification of scheduled calibration. Coverage begins upon registration; you may purchase up to five years of Calibration Services.

Service Assurance Advantages

- Priced well below the cost of a single repair or calibration
- Avoid delays for service by eliminating the need for separate purchase authorizations from your company
- Eliminates unexpected service expenses

For Information and Ordering

For more information or to order Service Assurance, contact your Tektronix representative and provide the information below. Service Assurance may not be available in locations outside the United States of America.

Name	VISA or Master Card number and expiration
Company	date or purchase order number
Address	Repair Protection (1,2, or 3 years)
City, State, Postal code	Calibration Services (1,2,3,4, or 5 years)
Country	Instrument model and serial number
Phone	Instrument purchase date

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General Safety Summary

Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it. To avoid potential hazards, use this product only as specified.

Only qualified personnel should perform service procedures.

To avoid potential hazards, use this product only as specified.

To Avoid Fire or Personal Injury

Use Proper Power Cord. Use only the power cord specified for this product and certified for the country of use.

Use Proper Voltage Setting. Before applying power, ensure that the line selector is in the proper position for the power source being used.

Ground the Product. This product is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.

Observe All Terminal Ratings. To avoid fire or shock hazard, observe all ratings and markings on the product. Consult the product manual for further ratings information before making connections to the product.

Do Not Operate Without Covers. Do not operate this product with covers or panels removed.

Use Proper Fuse. Use only the fuse type and rating specified for this product.

Avoid Exposed Circuitry. Do not touch exposed connections and components when power is present.

Do Not Operate With Suspected Failures. If you suspect there is damage to this product, have it inspected by qualified service personnel.

Do Not Operate in Wet/Damp Conditions.

Do Not Operate in an Explosive Atmosphere.

Keep Product Surfaces Clean and Dry.

Provide Proper Ventilation. Refer to the manual's installation instructions for details on installing the product so it has proper ventilation.

Symbols and Terms

Terms in this Manual. These terms may appear in this manual:

WARNING. *Warning statements identify conditions or practices that could result in injury or loss of life.*

CAUTION. *Caution statements identify conditions or practices that could result in damage to this product or other property.*

Terms on the Product. These terms may appear on the product:

DANGER indicates an injury hazard immediately accessible as you read the marking.

WARNING indicates an injury hazard not immediately accessible as you read the marking.

CAUTION indicates a hazard to property including the product.

Symbols on the Product. The following symbols may appear on the product:

WARNING
High Voltage

Protective Ground
(Earth) Terminal

CAUTION
Refer to Manual

Double
Insulated

Service Safety Summary

Only qualified personnel should perform service procedures. Read this *Service Safety Summary* and the *General Safety Summary* before performing any service procedures.

Do Not Service Alone. Do not perform internal service or adjustments of this product unless another person capable of rendering first aid and resuscitation is present.

Disconnect Power. To avoid electric shock, disconnect the main power by means of the power cord or, if provided, the power switch.

Use Caution When Servicing the CRT. To avoid electric shock or injury, use extreme caution when handling the CRT. Only qualified personnel familiar with CRT servicing procedures and precautions should remove or install the CRT.

CRTs retain hazardous voltages for long periods of time after power is turned off. Before attempting any servicing, discharge the CRT by shorting the anode to chassis ground. When discharging the CRT, connect the discharge path to ground and then the anode. Rough handling may cause the CRT to implode. Do not nick or scratch the glass or subject it to undue pressure when removing or installing it. When handling the CRT, wear safety goggles and heavy gloves for protection.

Use Care When Servicing With Power On. Dangerous voltages or currents may exist in this product. Disconnect power, remove battery (if applicable), and disconnect test leads before removing protective panels, soldering, or replacing components.

To avoid electric shock, do not touch exposed connections.

X-Radiation. To avoid x-radiation exposure, do not modify or otherwise alter the high-voltage circuitry or the CRT enclosure. X-ray emissions generated within this product have been sufficiently shielded.

Preface

This AM700 Audio Measurement Set Service Manual is intended for use by qualified service personnel as a tool for troubleshooting, repair, and understanding of the AM700. No servicing of circuit boards should be attempted during the Warranty period of the instrument. Repair of the instrument when a defective circuit board is determined to be the cause of a failure is by board exchange. Both the CRT display and the flat-panel color display versions of the AM700 are covered in this service manual.

Specifications

This section provides a brief description of the features of the AM700 Audio Measurement Set, a list of the options and accessories available for use with the AM700. That is followed by the specification for the AM700 in tabular form. These tables provide numerical values for measurement accuracies for those characteristics that may be measured and functional descriptions for those functions that require a definition of their operation.

Operating Information

An introduction to how the AM700 operates is provided in this section to assist a service person in becoming familiar with the user interface and accessing the many application menus. A description of the power requirements and main fuse location is also found at the beginning of the section.

Theory of Operation

A quick overview of the functional blocks of the AM700 introduces the service person to the basic architecture of the circuit boards in the Block Circuit Description. That is followed by a more detailed description of the circuitry of the AM700 with block diagrams and references to the schematic diagrams to assist in obtaining a more indepth understanding of the functional blocks of the AM700. The circuit descriptions are mainly to assist the service person in narrowing the number of choices of circuit boards that may require swapping to effect repairs to a malfunctioning instrument.

Verification Procedure

Test procedures to verify the functional performance of the AM700 are found in this section. A list of test equipment needed to perform the procedures precedes the test procedures. These verification procedures require test equipment and automated testing software that is not readily available to most service departments.

Adjustment Procedure

The adjustment procedures are shorter that the verification procedures. While there are many parameters of the AM700 that require specification and verification, there are relatively few adjustments. A list of test equipment need to perform the adjustments of the AM700 is provide, and, as with the verification procedure, some of the equipment may not be readily available to the service person. Some the adjustments can be made only with the circuit board on extender cables to be able to access the adjustable controls.

Maintenance

Maintenance of the AM700 is described in this section. General maintenance procedures for external and internal cleaning and static protection precautions are followed by some specific maintenance procedures for the AM700. Also in this section is a description of the internal self-diagnostics that the AM700 runs, information on the board exchange program, the removal and replacement steps to remove the assemblies from the AM700, and the rack adapter instructions.

Options

The available options for the AM700 are very briefly discussed. Option information is incorporated in the appropriate location throughout the manual, but this space is provided to summarize the options and add information for future options as they are developed.

Replaceable Electrical Parts

The parts list of modules and replaceable electrical parts is supplied in this section. Attempts to repair a circuit board by a non-Tektronix approved service person during the warranty period of the instrument will void the warranty, and credit for a damaged board will not be given for an exchange if the module is included in the board exchange program.

Diagrams

Detailed block diagrams and circuit diagrams are found in this section. The block diagrams are provided to assist in determining board functions and functionality in the event of a circuit board failure. Schematic circuit diagrams are provided to assist in locating components and troubleshooting for circuit board repairs.

Replaceable Mechanical Parts

Part numbers for the replaceable mechanical parts and a mechanical exploded view of the AM700 are found in this section.

Appendix A

Memory and register mapping tables are provided to assist in signal tracing and troubleshooting.

Related Manuals

The *AM700 Audio Measurement Set User Manual* and the *AM700 Audio Measurement Set with Color Display User Manual* can be referred to for additional operating information.

Programming information for the standard GPIB interface is found in the *AM700 Programmer Manual* and the *AM700 Programmer Reference Manual*.

Specifications

The Tektronix AM700 Audio Measurement System is a programmable high-performance, mixed signal audio analyzer designed for use in product design, characterization, quality control, manufacturing test, and servicing. It is also a valuable tool for monitoring and testing of signal distribution systems used in broadcasting and related applications.

The AM700 Audio Measurement System is an advanced audio test set combining the signal generating capability of a two-channel analog and digital audio generator with the measurement / analysis capability of a two-channel analog and digital audio analyzer using digital signal processing. All hardware control, instrument configuration, data storage and I/O operations may be accomplished with the front-panel interface. The AM700 can be operated remotely through its GPIB port. Timed functions may be programmed using remote control.

Key Features of the AM700

- The AM700 is compact, light weight, and self contained making it suitable for both bench and portable audio testing applications.
- The AM700 is the first advanced audio analyzer to employ the proven touch/turn/zoom interface consisting of hard keys, knobs, and touch screen soft key controls.
- The AM700 provides manual, semiautomatic, and fully automatic testing operation.
- Graphical and text displays of measurements on early versions of the AM700 are displayed on a 7-inch monochrome raster-scan CRT. Later versions use a flat-panel LCD color display. A touch screen and soft key menu structure provides the user interface to the extensive applications of the AM700. Larger, external color displays of the AM700 screens are supported with a VGA port and user-supplied VGA monitor.
- Printed copies of screens of the AM700 may be output to printers connected to RS-232C or GPIB ports. In addition, you may store the information on a 1.44 Mbyte, 3.5-inch floppy disk, using the internal disk drive, for later use or analysis.
- LISTEN mode on all applications (except Digital Interface Tester) allows monitoring of signals through headphones.
- The physical size of the AM700 is approximately 7.7 inches high, 18.2 inches wide (with handle), 18.8 inches deep, and it weighs about 31 pounds. This size allows the instrument to fit laboratory bench space and enhances

portability. The standard accessory front cover provides extra protection to the face of the AM700 when used as a portable instrument or when stored. The AM700 may also be rackmounted in a standard 19-inch rack using the optional rackmounting accessory kit.

Options

The following options are available for use with the AM700:

- Options A1 through A5 substitute an appropriate power cord for the country of use (see Table 1–1).
- Remedial Service Support Option M2
- Repair Protection Option M9

Standard Accessories

- AM700 Audio Measurement Set User Manual
- AM700 Programmer Manual
- AM700 Programmer Quick Reference Manual
- Standard power cord (optional power cord substituted when ordered)
- Protective Front Cover

Optional Accessories

Accessories may be used for remote control, signal interfacing, and rack-mounting. They are:

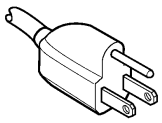
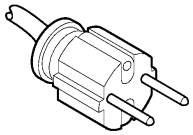
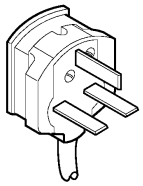
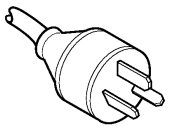
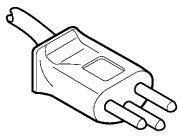
- GPIB Cable: double shielded in various lengths
  - 1 meter Tektronix part number 012-0991-01
  - 2 meter Tektronix part number 012-0991-00
  - 4 meter Tektronix part number 012-0991-02
- Tektronix ASW 100F Input Signal Switcher
- Tektronix ASW 100M Output Signal Switcher
- Rackmounting kit Tektronix part number AM7FR1

User-supplied Accessories

- Standard VGA monitor (for viewing the AM700 display in color)
- Ariel digital microphone (for direct audio input to the DSP input port)
- XLR interconnection audio cables
- BNC to XLR adapters
- RCA Phono to XLR adapters
- AT compatible keyboard

Power Cord Options

Table 1–1: Power cord identification

Plug configuration	Normal usage	Option number
	North America 125 V/15A Plug NEMA 5-15P	Standard
	Europe 230 V	A1
	United Kingdom 230 V	A2
	Australia 230 V	A3
	Switzerland 230 V	A5

Characteristics

The performance limits in this specification are valid with the following conditions:

- This instrument must have been calibrated/adjusted at an ambient temperature between +20° C and +30° C.
- The instrument must be in an environment with temperature, altitude, humidity, and vibration within the operating limits described in Table 1–15 on page 1–24.
- The instrument must have had a warm-up period of at least 20 minutes.
- The instrument must have had its signal-path-compensation routine last executed after at least a 20 minute warm-up period at an ambient temperature within ±5° C of the current ambient temperature.

Any conditions that are unique to a particular characteristic are expressly stated as part of that characteristic.

Table 1–2: Analog analyzer specifications

Capabilities	Description
Input characteristics	
Number of Input Channels	Two channels: A and B
Input Type	Balanced, differential
Input Impedance	100 kΩ per side in parallel with ≈ 300 pF (with no internal loads)
Internal Load Impedance	600 Ω, 150 Ω or 200 kΩ, software selectable
Vmax Internal Load	Approximately 34.65 V peak or 24.5 V_{RMS} (sinusoidal) at 600 Ω (+30 dBm) Overload exerted for inputs peaks greater than +35 V
Maximum Input Voltage	176 V (DC + peak AC) ***NOTE:*** *Installation Category I – Signals must be isolated from the mains.* DO NOT CONNECT TO MAINS VOLTAGES.
Full Scale Input Ranges	From –22 dBu (62.5 mV_{RMS}) to +44 dBu (125 V_{RMS}) in 12 6-dB steps Input gain ranges are in 6 dB steps from –22 dBu to +8 dBu and in 12 dB attenuator steps (with intermediate 6 dB gain steps) from +8 dBu to +44 dBu. Autoranging can be selected to switch the gain appropriately on the level of the input signal.
Auto Ranging	Input level sensing circuitry exists which allows software control of the input gain and attenuation, automatically selecting the optimum dynamic range for the current input level.
Minimum Input for ±1 dB Accuracy	1 mV (–57.8 dBu) (–36 dB on 62.5 mV scale) in "high resolution mode."

Table 1–2: Analog analyzer specifications (cont.)

Capabilities	Description	
Input characteristics		
Maximum Resolution	96 dB below 62.5 mV = 0.9875 μV	
Maximum Useable Bandwidth		
High Bandwidth Mode	80 kHz	
High Resolution Mode	24 kHz	
Common-Mode Rejection		
At 50 or 60 Hz	≥50 dB	
At 1 kHz	≥50 dB. Typically 80 dB on +8 dBu scale, 60 dB on +14 dBu and up, and typically > 80 dB on less than +8 dBu scale	
At 10 kHz	≥45 dB. Typically 80 dB on +8 dBu scale, 45 dB on +14 dBu and up, and typically > 80 dB on less than +8 dBu scale	
At 20 kHz	≥40 dB. Typically 80 dB on +8 dBu scale, 45 dB on +14 dBu and up, and typically > 80 dB on less than +8 dBu scale	
Isolation, Generator to Analog Acquisition	*Load R = 200 kΩ*	*Load R = 600 Ω*
10 Hz to 1 kHz	≥90 dB	≥140 dB
>1 kHz to 80 kHz	≥80 dB	≥100 dB
Crosstalk +Noise, Channel-to-Channel This is a wideband measurement of the level difference between the undriven channel and the driven channel.	Driven channel input is a +8 dBu sine wave. Undriven input terminated in ≤600 Ω	
Both Channel Input Ranges Set to +8 dBu		
High Resolution Mode		
15 Hz to 20 kHz	≤–88 dB, typically ≤–100 dB (noise-limited). Typically ≤–100 dB at full scale on the +2, +8, +14, +20, and +26 dBu ranges from 10 Hz to 20 kHz.	
High Bandwidth Mode		
70 Hz to 80 kHz	≤–65 dB, typically ≤–70 dB (noise-limited)	
Undriven Channel Set to Autorange (Set driven channel input range to FS value indicated below.)		
High Resolution Mode		
15 Hz to 20 kHz Input (FS)		
+8 dBu	≤–100 dB, typically ≤–115 dB (noise-limited)	
+14 dBu	Typically ≤–120 dB	
+20 dBu	Typically ≤–125 dB	
High Bandwidth Mode		
70 Hz to 80 kHz Input (FS)		
+8 dBu	≤–95 dB, typically ≤–100 dB, 70 Hz to 40 kHz (noise-limited)	

Table 1–2: Analog analyzer specifications (cont.)

Capabilities	Description
Input characteristics	
Channel Separation (High Resolution Mode) This is a measurement of the level of the driven channel with respect to the undriven channel with a bandpass filter centered on the driven channel frequency. The measurement is primarily noise-limited, therefore, measured values improve as input amplitude increases.	
Channels A and B Equal Gain Settings (both channel input ranges at +8 dBu)	Typically ≥110 dB, 20 Hz to 5 kHz, from +2 dBu on the +2 dBu input range through +30 dBu on the +32 dBu input range.
10 Hz to 5 kHz	≥100 dB
>5 kHz to 20 kHz	≥90 dB
Undriven Channel Set to Auto Range	
15 Hz to 5 kHz	≥120 dB (noise-limited)
>5 kHz to 20 kHz	≥110 dB
Channel Separation (High Bandwidth Mode)	
Channels A and B Equal Input range Settings (driven input = +8 dBu on +8 dBu input range)	
CH A into CH B	
70 Hz to 5 kHz	≥85 dB
>5 kHz to 40 kHz	≥75 dB
>40 kHz to 80 kHz	≥65 dB
CH B into CH A	
70 Hz to 5 kHz	≥85 dB
>5 kHz to 40 kHz	≥80 dB
>40 kHz to 80 kHz	≥70 dB (typically ≥85 dB)
Undriven Channel Set to Autorange (driven input = +8 dBu on +8 dBu input range)	
CH A into CH B	
70 Hz to 5 kHz	≥115 dB
>5 kHz to 40 kHz	≥105 dB
>40 kHz to 80 kHz	≥ 95 dB
CH B into CH A	
70 Hz to 5 kHz	≥112 dB
>5 kHz to 40 kHz	≥110 dB
>40 kHz to 80 kHz	≥108 dB

Table 1–2: Analog analyzer specifications (cont.)

Capabilities	Description		
Amplitude measurement			
Amplitude Accuracy at CAL Frequency			
+8 dBu FS	±0.1 dB at 120 Hz		
Other gain steps FS	±0.15 dB at 120 Hz		
Amplitude Accuracy (relative to Accuracy at CAL Frequency) (High Resolution Mode)			
10 Hz to 20 kHz			
Inputs >1 mV (–57.8 dBu) to 10 mV (–37.8 dBu)	±1.0 dB		
Input >10 mV (–37.8 dBu) to 1.946 V (+8 dBu)	±0.1 dB, typically ±0.05 dB, 50 Hz to 10 kHz		
Input >1.946 V (+8 dBu) to <64 V (+36 dBu) for input frequency below 20 kHz and to <16 V (+26 dBu) for input frequencies from 20 to 80 kHz	±0.15 dB, typically ±0.05 dB, 50 Hz to10 kHz		
Amplitude Accuracy (relative to Accuracy at CAL Frequency) (High Bandwidth Mode)	*10 Hz to 20 kHz*	*20 to 70 kHz*	*70 to 80 kHz*
Inputs >1 mV (–57.8 dBu) to 10 mV (–37.8 dBu)	±1.0 dB	±1.0 dB	±2.0 dB
Input >10 mV (–37.8 dBu) to 1.946 V (+8 dBu)	±0.15 dB (Typically ±0.05 dB from 50 Hz to10 kHz)	±0.2 dB	±1.0 dB
Input >1.946 V (+8 dBu) to < 64 V (+36 dBu) for input frequency below 20 kHz and to <16 V (+26 dBu) for input frequencies from 20 to 80 kHz	±0.20 dB (Typically ±0.05 dB from 50 Hz to10 kHz)	±0.25 dB	±1.0 dB
Interchannel Amplitude Accuracy at 120 Hz			
High Resolution Mode			
At +8 dBu FS	±0.1 dB, typically ±0.05 dB		
At other gain steps FS	±0.15 dB		
High Bandwidth Mode			
At +8 dBu FS	±0.2 dB, typically ±0.05 dB		
At other gain steps FS ≥62.5 mV (–22 dBu)	±0.25 dB		
Interchannel Amplitude Flatness Relative to Interchannel Amplitude Accuracy at 120 Hz			
High Resolution Mode (10 Hz to 20 kHz)			
At +8 dBu FS	±0.1 dB, typically ±0.05 dB		
At other gain steps FS	±0.15 dB, typically ±0.05 dB		

Table 1–2: Analog analyzer specifications (cont.)

Capabilities	Description		
Amplitude measurement			
High Bandwidth Mode	*10 Hz to 20 kHz*	*20 to 70 kHz*	*70 to 80 kHz*
At +8 dBu FS	±0.2 dB (Typically ±0.05 dB from 50 Hz to 10 kHz	±0.35 dB	±1.0 dB
At other gain steps FS ≥62.5 mV (–22 dBu)	±0.25 dB	±0.35 dB	±1.0 dB
	The accuracy of the measurement may be noise-limited for amplitudes below 62.5 mV (–22 dBu).		
Interchannel Phase Difference			
High Resolution Mode	±1 degree from 100 Hz to 20 kHz		
ADC Sampling Rate			
High Resolution Mode	6.144 MHz, decimated to 48 kHz (two channels, 64 times oversampling on each channel)		
High Bandwidth Mode	192 kHz		
THD + N measurement			
High Bandwidth Mode Residual THD + N THD + N measured using the high bandwidth ADC over an 80 kHz BW. The measurement is noise-limited for amplitudes below 125 mV (–16 dBu).			
Input > 125 mV (–16 dBu); frequency ≤20 kHz to ≥72 Hz.	Typically ≤0.03%, maximum 0.05%.		
High Resolution Mode Residual THD + N Measurement bandwidth = 20 kHz			
Input Amplitude > 62.5 mV (≈–21.9 dBu)	≤0.015%, noise-limited for amplitudes <250 mV (≈–10 dBu)		
Input Amplitude Between 250 mV (≈–10 dBu) and 16 V (≈+26 dBu) and frequencies between 20 Hz and 6.6 kHz			
On +2, +8, +14, +20, and +26 dBu Input Ranges	*At Full Scale*	*At Full Scale –6 dB*	
400 Hz to 6.6 kHz	≤0.003%, typ. ≤0.0015%	≤0.003%, typ. ≤0.002%	
100 Hz to <400 Hz	≤0.005%, typ. ≤0.0025%	≤0.003% typ. ≤0.0025%	
20 Hz to <100 Hz	≤0.011%	≤0.005%, typ.≤0.003% at 20 Hz	

Table 1–2: Analog analyzer specifications (cont.)

Capabilities	Description	
THD + N measurement		
On –4 dBu Input Range	*At Full Scale*	*At Full Scale –6 dB*
400 Hz to 6.6 kHz	≤0.003%	≤0.006%
100 Hz to <400 Hz	≤0.0075%	≤0.006%
20 Hz to <100 Hz	≤0.0125%	≤0.0075%
On –10 dBu Input Range		
400 Hz to 6.6 kHz	≤0.005%	≤0.010%
100 Hz to <400 Hz	≤0.0075%	≤0.010%
20 Hz to <100 Hz	≤0.015%	≤0.011%
	THD + N is limited by the A/D distortion (primarily 3rd harmonic) near full-scale at frequencies below 200 Hz. At –6 dB relative to FS, the increase in distortion at low frequencies is much less, typically 0.003% versus 0.0075% (FS) at 20 Hz. Under some conditions (measurements below 200 Hz), it may be desirable to manually set the input range one setting higher, sacrificing 6 dB of noise floor for better distortion readings. The auto-range circuitry optimizes dynamic range, somewhat compromising distortion near full-scale.	

Table 1–3: Electronic trigger specification

Capabilities	Description
Trigger input	
Number of Trigger Inputs	One input located on the rear panel.
Electrical Characteristics	TTL-level, Schmitt-trigger input.
Connector Type	BNC female
Psuedo triggers	
Trigger Events	Two trigger events may be generated by remote control using the commands in the SCPI TRIGger subsystem: STARt starts the sweep running and STOP ends the sweep.

Table 1–4: Analog generator specifications

Capabilities	Description		
Output characteristics			
Number of Output Channels	Two, labeled A and B		
Signal Format	Switchable between balanced and unbalanced.		
Source Impedance	Selectable between: 600 Ω, 150 Ω, and 10 Ω.		
	Minimum	*Typical*	*Maximum*
600 Ω	594	600	608
150 Ω	148.5	150	155
10 Ω (nominal)	9.5	11.8	13.5
	A user-defined impedance may be used in place of either the 600 Ω or the 150 Ω source impedance. (Internal modification is required.)		
Output Control Enable	Switchable on-off, with terminating resistance remaining as selected.		
Output Float Enable	Switchable floating/grounded output.		
Floating Mode			
R to Ground	≈1 kΩ		
Capacitance to Ground	≈1 nF (@ 1 kHz)		
Maximum Float Voltage	±25 V peak		
Channel Separation			
High Resolution Mode	≥100 dB for frequencies ≥20 Hz		
High Bandwidth Mode	≥70 dB for frequencies ≥70 Hz		
Signals and control			
All signals are generated digitally using software running on a DSP56002 digital-signal processor, driving audio digital-to-analog converters.			
Types of Signals Supported by Hardware	Signals that are band limited to 80 kHz.		
Independence of Generated Signal Outputs	The hardware allows either stereo or mono mode generation. In stereo mode, each channel is generated from a separate DAC, while for mono mode, a signal DAC is used, followed by separate output drivers for each channel (A and B). The AM700 does not support stereo mode with the high bandwidth generator.		
Frequency related characteristics			
Sine Wave Frequency Range			
High Resolution Mode	10 Hz to 20 kHz		
High Bandwidth Mode	11.719 Hz to 79992.188 kHz		
Sine Wave Frequency Resolution			
High Resolution Mode	0.1 Hz		
High Bandwidth Mode	11.719 Hz		

Table 1–4: Analog generator specifications (cont.)

Capabilities	Description
Frequency related characteristics	
Sine Wave Frequency Accuracy	±0.01%
Interchannel Phase Difference	These specifications apply only if generator channels are set to Follow A. When channels are not in follow, their relative phases are arbitrary.
High Resolution Mode	±1 degree at 1 kHz Typically ±1 degree, 100 Hz to 20 kHz
High Bandwidth Mode	Typically ±1 degree at 1 kHz; ±2 degrees at 20 kHz
Amplitude related characteristics	
Full Scale Output Amplitude Ranges (Balanced outputs with source R = 10 Ω nominal) Measured into a high impedance load. Amplitudes will be approximately 0.14 dB lower if measured across a 600 Ω load when the source R = 10 Ω nominal.	Every 6 dB from –22.1 dBu (60.8 mV_{RMS}) to +13.9 dBu (3.84 V_{RMS}) plus +20 dBu (7.75 V_{RMS}), +26.0 dBu (15.45 V_{RMS}), and +30 dBu (24.5 V_{RMS}) for frequencies up to 20 kHz. Maximum output is limited to +28 dBu from 20 kHz to 80 kHz. For 600 Ω source impedance, all amplitudes are 6 dB lower if measured across a 600 Ω load.
Maximum Generator Output Amplitude into a 600 Ω Load	
10 Hz to 20 kHz	
Source Impedance = 10 Ω	+28 dBu
Source Impedance = 600 Ω	+24 dBu
Minimum Output Amplitude for ±1 dB Accuracy	1 mV
Maximum Resolution	
High Resolution Mode	
10 Hz to 20 kHz	1 µV
High Bandwidth Mode	
11.7 Hz to 80 kHz	3 µV
Amplitude Accuracy at 120 Hz, High Resolution Generator	
Normal Mode	
At +13.9 dBu	±0.1 dB, typically ±0.05 dB
–16.1 dBu to +30 dBu	±0.1 dB
–34.1 dBu to <–16.1 dBu	±0.15 dB, typically ±0.1 dB
–52.1 dBu to <–34.1 dBu	±0.25 dB
Low Distortion Mode	+0.2 dB to –0.0 dB relative to Normal Mode

Table 1–4: Analog generator specifications (cont.)

Capabilities	Description
Amplitude related characteristics	
Amplitude Accuracy at 120 Hz, High Bandwidth Generator	
At +13.9 dBu	±0.15 dB, typically 0.1 dB
–16.1 dBu to +30 dBu	0.15 dB, typically 0.1 dB
–34.1 dBu to <–16.1 dBu	0.15 dB, typically 0.1 dB
–52.1 dBu to <–34.1 dBu	±0.25 dB
Amplitude Flatness, High Resolution Generator Relative to 120 Hz	Levels from –22.1 dBu to +30 dBu
Normal Mode	
10 Hz to 10 kHz	±0.1 dB
>10 kHz to 20 kHz	+0.1 / –0.2 dB
Low Distortion Mode	
10 Hz to 1 kHz	+0.1 / –0.25 dB
>1 kHz to 10 kHz	+0.1 / –0.6 dB
Amplitude Flatness, High Bandwidth Generator Relative to 120 Hz	Level from –22.1 dBu to +30 dBu
11.7 Hz to 20 kHz	± 0.1 dB
>20 kHz to <70 kHz	+0.1 / –0.5 dB
70 kHz	Typically ≤–0.3 dB
>70 kHz to <80 kHz	+0.5 / –1.0 dB
80 kHz	Typically ≤–0.5 dB
Interchannel Amplitude Accuracy at 120 Hz	
High Resolution Mode	
At +13.9 dBu	±0.2 dB; with respect to amplitude accuracy at 120 Hz and 13.9 dBu, typically ±0.05 dB
–22.1 dBu to +30 dBu	±0.3 dB
High Bandwidth Mode	
At +13.9 dBu	±0.2 dB with respect to amplitude accuracy at 120 Hz and 13.9 dBu
–22.1 dBu to +30 dBu	±0.3 dB
Interchannel Amplitude Flatness Relative to 120 Hz	Levels from –22.1 dBu to +30 dBu
High Resolution Generator	
Normal Mode	
10 Hz to 10 kHz	±0.2 dB
>10 kHz to 20 kHz	±0.4 dB

Table 1–4: Analog generator specifications (cont.)

Capabilities	Description	
Amplitude related characteristics		
Low Distortion Mode		
10 Hz to 1 kHz	±0.5 dB	
>1 kHz to 10 kHz	±1.0 dB	
High Bandwidth Generator		
11.7 Hz to 20 kHz	±0.2 dB	
>20 kHz to 70 kHz	±1.0 dB	
>70 kHz to 80 kHz	±1.0 dB	
THD + N		
High Resolution Generator Residual THD + N (Normal Mode) Residual THD+N of the high resolution generator without the bandpass filter in place. These specifications are baseline for nonsine-wave signals and for sine-wave signals not generated in the low-distortion mode.	Measurements over 80 kHz BW are noise limited below –4 dBu. Measurements over 22 kHz BW are noise limited below –10 dBu.	
Load R ≥ 600 Ω.	*Over 22 kHz BW*	*Over 80 kHz BW*
10 Hz to 5 kHz Amplitude ≥–10 dBu	≤0.01% (–80 dB) typ. ≤0.008% (–82 dB)	
10 Hz to 20 kHz Amplitude ≥+8 dBu		≤0.0175% (–75 dB) typ. ≤ 0.011% (–79 dB)
Amplitude ≥–4 dBu		≤0.025% (–72 dB)
Residual THD + N (Low Distortion Mode) Residual THD+N with the bandpass filter in place. These specifications are baseline for sine waves generated in the low-distortion mode.	Amplitudes less than –16 dBu are noise limited (22 kHz BW).	
Load resistance ≥ 600 Ω	*Over 22 kHz BW*	*Over 80 kHz BW*
100 Hz to 749 Hz Amplitudes ≥+4 dBu to ≤+26 dBu	Typ. ≤0.001% (–100 dB)	
20 Hz to 749 Hz Amplitudes ≥+8 dBu		≤0.005% (–86 dB)
Amplitudes ≥0 dBu	≤0.0025% (–92 dB), typ. ≤ 0.0015% (–96.5 dB)	≤0.0075% (–82.5 dB)
Amplitudes ≥–4 dBu	≤0.0025% (–92 dB)	
Amplitudes ≥–10 dBu	≤0.005% (–86 dB)	
Amplitudes ≥–16 dBu	≤0.0075% (–82.5 dB)	

Table 1–4: Analog generator specifications (cont.)

Capabilities	Description	
THD + N		
750 Hz to 7.3 kHz Amplitudes ≥+8 dBu		≤0.005% (–86 dB)
Amplitudes ≥0 dBu	≤0.005% (–86 dB), typ. ≤ 0.003% (–90.5 dB)	≤0.0075% (–82.5 dB)
Amplitudes ≥–4 dBu	≤0.005% (–86 dB)	
Amplitudes ≥–10 dBu	≤0.005% (–86 dB)	
Amplitudes ≥–16 dBu	≤0.0075% (–82.5 dB)	
High Bandwidth Generator Residual THD+N Residual THD+N of the high bandwidth generator. Load resistance ≥ 600 Ω outputs ≥–4.0 dBu	*Over 22 kHz BW*	*Over 80 kHz BW*
11.7 Hz to 5 kHz	≤0.015% (–76.5 dB) typ. ≤0.01% (–80 dB)	≤0.018% (–75 dB)
>5 kHz to 20 kHz	Not applicable	≤0.025% (–72 dB)
>20 kHz to 40 kHz	Not applicable	≤0.03% (–70.5 dB)
>40 kHz	Not applicable	Not applicable

Table 1–5: Digital audio unit specifications

Capabilities	Description
The Digital Audio Unit includes a generator, a reference generator, a main receiver, and a reference receiver. These four sections can operate simultaneously, each at its own sample rate.	
Interface Characteristics	The generator always drives the Digital Out XLR, Unbalanced Out BNC, and Optical Out connectors. The main receiver selects one of: Digital XLR, Unbalanced In BNC, Optical In, or AES generator as its source. The reference receiver normally selects the Digital Ref In XLR as its source, except when the AES generator is selected as the main input, the reference receiver input switches to the reference generator.
Connector Types Front Panel Digital In, Digital Out	 Balanced XLR, conforms to AES3-1992 and EBU 3250-E
Rear Panel Unbalanced In, Unbalanced Out	 BNC
Optical In, Optical Out	F05 snap-in type, 10 meter capability using APF (980/1000 mm [micrometer]) optical fiber
Digital Reference In, Digital Reference Out	Balanced XLR, conforms to AES3-1992 and EBU 3250-E

Table 1–5: Digital audio unit specifications (cont.)

Capabilities	Description
DSP	15-pin D, TTL/CMOS compatible. Pinout is compatible with Ariel Digital Microphone.
Input and Output Impedances	
Digital In, Digital Out, Digital Reference In, Digital Reference Out	110 Ω ±10%, 0.1 MHz to 6 MHz
Unbalanced In, Unbalanced Out	75 Ω ±5%, 0.1 MHz to 6 MHz
Input and output levels	
AES/EBU I/O Levels Input levels required for normal operation and the output levels available. For details on measured or programmable parameters, see either *Main Receiver Interface Parameter Measurements* or *Generator Variable Parameters*.	
Digital In	0.15 V to 10 V peak-to-peak
Unbalanced In	30 mV to 2 V peak-to-peak
Digital Reference In	0.2 V peak-to-peak minimum eye opening. 10 V peak-to-peak maximum amplitude, 20% minimum eye height
Digital Out	Programmable from 0.2 V to 8 V peak-to-peak into 110 Ω
Unbalanced Out	Programmable from 50 mV to 2 V peak-to-peak into 75 Ω
Digital Reference Out	Fixed at 5.4 ±0.5 V peak-to-peak into 110 Ω
DSP I/O Levels	
DSP Inputs	Vil = 0.8 V, Vih = 2 V, Iil = 4 mA, Iih = 0 (CMOS with 1.2 kΩ pull-up)
DSP Outputs	Iol = 4 mA, Ioh = –5.3 mA, Vol = 0.6 V, Voh = 2.4 V
Optical I/O Levels	Conforms to TOSLINK™ parameters
Receiver interface parameter measurements	
Main Input Level This is the level in Volts peak-to-peak being applied to the selected digital input (the front-panel Digital In or rear-panel Unbalanced In).	
Measurement Range	XLR: 0.15 V to 8.0 V peak-to-peak BNC: 30 mV to 2.0 V peak-to-peak
Accuracy with Factory Calibration Factors	XLR: ±(30 mV + 15% of reading) BNC: ±(15 mV + 15% of reading)
Clock Rate	
Range	All inputs: 30 kHz to 52 kHz.
Accuracy	±10 ppm

Table 1–5: Digital audio unit specifications (cont.)

Capabilities	Description
Receiver interface parameter measurements	
Input Equalization The Main Input includes automatic line equalization to measure and correct roll-off due to typical 110 Ω digital audio cable.	
Range	0 to 20 dB loss at 10 MHz
Accuracy	±2 dB
Static Phase Difference This is the phase difference between the selected main input and the reference input. The primary function of the measurement is to check compliance with AES11-1991 section 5.3.	
Range	+49.6% to –50.0% of the digital audio frame
Accuracy	±1% of the digital audio frame
Eye Diagram This is the data source for the eye diagram display and its accompanying peak-to-peak jitter measurement. It is the equivalent-time sample points of the selected main input.	
Time-base PLL Bandwidth	120 Hz or 1.2 kHz, user selectable
Bandwidth Accuracy	±10%
Amplitude Accuracy	±10% with calibration, ±20% with factory calibration factors
Eye Diagram Peak-to-Peak Jitter	
Range	0 to 0.8 UI peak-to-peak jitter
Accuracy	
LF Reject = 120 Hz. (Response falls 6 dB per octave below about 100 Hz.)	±(0.02 UI + 5%) for sinusoidal jitter above 500 Hz
LF Reject = 1200 Hz. (Response falls 6 dB per octave below about 1000 Hz.)	±(0.02 UI + 5%) for sinusoidal jitter above 30 kHz
Eye Diagram Residual Jitter	0.03 UI (combined residual jitter of reference generator and main receiver, with 120 Hz time-base bandwidth)

Table 1–5: Digital audio unit specifications (cont.)

Capabilities	Description
Receiver interface parameter measurements	
Phase Jitter This is the jitter amplitude in unit intervals (UI) as a function of jitter frequency.	
Range	10 UI p-p from 20 Hz to 500 Hz, decreasing proportionally to 0.5 UI p-p from 10 kHz to 50 kHz.
Accuracy For sinusoidal jitter greater than –20 dBUI (0.1 UI p-p) at jitter gain = 1, or greater than –40 dBUI (0.01 UI p-p) at jitter gain = 8.	
Jitter Gain = X1 or X8	
50 Hz to 500 Hz	±2 dB
500 Hz to 10 kHz	±1 dB
Jitter Gain = X8	
10 kHz to 50 kHz	±2 dB
Spurious Response	
Jitter Gain = X1	
50 Hz to 100 Hz	–20 dBUI
100 Hz to 50 kHz	–30 dBUI
Jitter Gain = X8	
50 Hz to 100 Hz	–30 dBUI
100 Hz to 50 kHz	–40 dBUI
Reference input parameter measurements	
Clock Rate	
Range	30 kHz to 52 kHz
Accuracy	±10 ppm
Generator variable parameters	
Clock Rate Range	
All Inputs and Outputs	27.2 kHz to 55.2 kHz (32 kHz –15% to 48 kHz +15%)
Clock Rate Accuracy The primary clock rates (32, 44.1, and 48 kHz) are synthesized exactly, so accuracy depends solely on the accuracy of the reference used (internal or external).	
Internal Ref Accuracy	±10 ppm

Table 1–5: Digital audio unit specifications (cont.)

Capabilities	Description
Generator variable parameters	
Static Phase Difference This is the phase difference between the generator output and the selected reference (input or output). The primary function of the measurement is to check compliance with AES11-1991 section 5.3.	
Range	–64 to 63.5 UI (Unit Intervals)
Resolution	0.5 UI
Accuracy	Offset <50 ns, nonlinearity <5 ns
Phase Jitter Generation	
Range	0 to 10 UI p-p from DC to 500 Hz, decreasing proportionally to 0.5 UI p-p from 10 kHz to 50 kHz.
Resolution	0.02 UI p-p
Accuracy	
DC to 20 kHz	±(10% of value + 0.02 UI)
20 kHz to 50 kHz	±(20% of value + 0.02 UI)
Cable Simulator	A selectable cable simulator inserts the response of a long, typical digital audio cable in the front-panel Digital Out signal.
Simulated Cable Response	125 ns to 175 ns rise time measured at the second transition of the preamble of subframe 1.
Output Level	
Range	XLR: 0 to 8.0 V p-p into 110 Ω BNC: 0 to 2.04 V p-p into 75 Ω
Resolution	XLR: 10 mV BNC: 2 mV
Accuracy	XLR: ±(10 mV + 5% of setting) BNC: ±(2 mV + 2% of setting)
Main Output Residual Jitter	
Clock Source From Audio	
Frequency Offset = 0	0.05 UI p-p maximum
Frequency Offset < > 0 or Clock Source is Variable	0.08 UI p-p maximum
Clock Source From Ref	(0.08 UI p-p + reference jitter) maximum Reference signal jitter up to 15 kHz adds directly to output jitter. Reference input jitter above 15 kHz is attenuated by 6 dB per octave.

Table 1–5: Digital audio unit specifications (cont.)

Capabilities	Description
Reference output variable parameters	
Clock Rate Range	The reference output can be driven from the same clock that drives the main output, in which case the specifications of the main clock apply. Alternately, the reference output can be timed from the internal 48 kHz clock, or from the clock applied to the Digital Reference In connector.
Clock Rate Accuracy	Same as Internal clock rate accuracy.
Reference Output Residual Jitter	
Clock Source From Audio	
Frequency Offset = 0	0.03 UI p-p maximum
Frequency Offset < > 0 or Clock Source is Variable	0.08 UI p-p maximum
Clock Source From Reference (external reference is required)	(0.08 UI p-p + reference jitter) maximum

Table 1–6: Display system specifications

Capabilities	Description
CRT display	
Display Type	Monochrome CRT; magnetic deflection; raster scan
Display Size	7 inches diagonal
Phosphor	P4 White
LCD flat panel display	
Display Type	Color LCD flat panel; backlighted
Display Size	6.4 inches (162.6 mm) diagonal
Display Resolution	640 (H) × 480 (V) pixels (VGA)
Touch panel	
Description	Analog resistive touch screen
Size	
Width	6.615 inches (168 mm)
Height	5.33 inches (134.5 mm)

Table 1–6: Display system specifications (cont.)

Capabilities	Description	
VGA output		
Resolution	640 × 480 VGA	
Signal Levels	*Level*	*Voltage*
	White Level	0.7 V
	Black Level	0 V
	Blanking	0 V
	Horizontal Sync	TTL, low true
	Vertical Sync	TTL, low true
Load Impedance	*Signal*	*Load Impedance*
	Red	75 ohms
	Green	75 ohms
	Blue	75 ohms
	Horizontal Sync	TTL compatible
	Vertical Sync	TTL compatible
Timing	*Signal*	*Time/Frequency*
	Dot Clock	25.175 MHz
	Horizontal Rate	31.469 kHz
	Vertical Rate	59.940 Hz
Pin Out	*Pin Number*	*Description*
	1	Red
	2	Green
	3	Blue
	4	NC
	5	Ground
	6	Red Ground
	7	Green Ground
	8	Blue Ground
	9	NC
	10	Ground
	11	NC
	12	NC
	13	Horizontal Sync
	14	Vertical Sync
	15	NC

Table 1–7: Nonvolatile memory

Capabilities	Description
Battery-backed SRAM	
Storage Capacity	1 Mbyte
Retention Time (The length of time that stored waveforms and setups are retained without power to the instrument)	Internal batteries, installed at the time of manufacture, have a life of greater than 10 years when operated and stored at an ambient temperature from 0° C to 50° C. Retention time of the nonvolatile memories is equal to the remaining life of the batteries. Battery life can be reduced when stored for extended time above 50°C. Retained data may be lost when stored for extended time below 0° C.
Backup Battery	Lithium inorganic
Rated Voltage	3.0 V
Flash EPROM	
Storage Capacity	8 Mbyte
Retention Time (The length of time that data stored in flash memory will remain useable)	10 years (minimum)
Maximum Rewrites	100,000

Table 1–8: Software update procedure

Capabilities	Description
Update Procedure	AM700 firmware may be updated from a 1.44 Mbyte diskette.

Table 1–9: Floppy disk drive

Capabilities	Description
Mechanical	
Size of Floppy Disk	3.5 inches, 1.44 Mbytes, DSHD
Mounting Location and Orientation of Disk Drive	Left side of CRT, vertically oriented Disk drive must not be operated when it is upside down (with the left side of the AM700 down).
Ejection Tab Orientation	Toward the bottom of the cabinet
Logical	
User File Format	MS-DOS

Table 1–10: Front panel hardware

Capabilities	Description
Analog Audio	Standard XLR female. Pin 1 shield, pin 2 is +, pin 3 is –
Digital Audio	Input: XLR female, Output: XLR male
Headphone Jack	Standard 1/4 inch, stereo; channel A is left, channel B is right
Headphone Nominal Impedance	8 to 2000 Ω
Output Power to Headphones	20 mW minimum into 8 to 2000 Ω headphones at full volume

Table 1–11: Rear panel hardware

Capabilities	Description
Remote Connector	Female DB9
Normally Open Contact, Pin 3 to Pin 9	
Maximum Voltage	28 VDC
Maximum Current	500 mA
Maximum Power	14 W
Relay Closure Input Pin 1	Pulled to +5 V ≤100 mA; input is protected
Ground Pins	2, 4, 6, and 8
Normally Closed Contact, Pin 5 to Pin 9	
Maximum Voltage	28 VDC
Maximum Current	500 mA
Maximum Power	14 W
+5 V Output, Pin 7	+ 5 V @ 5 mA Use ground pins 2, 4, or 6 to pull the relay-closure input low through an external contact-closure relay. The +5 V output is provided to drive the relay-closure input pin through an external contact-closure relay.
GPIB Connector	Meets electrical specifications described in IEEE–488
COM1 and COM2 Connectors	DB9 male, configured as RS–232C, DTE; provides connection for serial printers
VGA Connector	DB15 female; supports external VGA monitor
Keyboard Connector	Supports AT-type keyboard

Table 1–12: Power distribution system

Capabilities	Description
AC power source	
Source Voltage	
Low Range (115 V nominal)	90 to 132 VAC_{RMS}
High Range (230 V nominal)	180 to 253 VAC_{RMS}
Source Frequency	50 or 60 Hz
Fuse Rating	
Low Range	4 A, 3AG, slow-blow
High Range	2 A, 3AG, slow-blow
Power Consumption	
Maximum	185 watts (240 VA)
Typical	180 watts

Table 1–13: Safety standards

Capabilities	Description
U.S. Nationally Recognized Testing Laboratory Listing	ANSI/ISA S82.01 – Safety Standard for Electrical and Electronic Test, Measuring, Controlling, and Related Equipment, 1994
Canadian Certification	CAN/CSA C22.2 No. 1010.1 – Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use
European Union Compliance	Low Voltage Directive 73/23/EEC, Amended by 93/768/EEC. EN601010-1 – Safety Requirements for Electrical Equipment for Measurement, Control. and Laboratory Use
Additional Compliance	UL3111-1 – Standard for Electrical Measuring and Test Equipment IEC1010-1 – Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use

Table 1–14: Safety standards compliance

Capabilities	Description
Temperature (operating)	+5° C to +40° C
Altitude (maximum operating)	2000 Meters
Equipment Type	Test and Measuring
Safety Class	Class I (as defined in IEC 1010-1, Annex H) – grounded product

Table 1–14: Safety standards compliance (cont.)

Capabilities	Description
Overvoltage Category	Mains – Overvoltage Category II (as defined in IEC 1010-1, Annex J) Analog Input – Overvoltage Category I
Pollution Degree	Pollution Degree 2 (as defined in IEC 1010-1) Note – Rated for indoor use only

Table 1–15: Environmental characteristics

Capabilities	Description
Atmospherics	
Temperature	
Operating	–10° C to +50° C, Class 5
Nonoperating (storage)	–51° C to +71° C. Class 3
Humidity	To 95% relative humidity at or below +55° C
Altitude	
Operating	To 15,000 feet (4572 meters) Maximum operating temperature to be decreased 1° C per 1000 feet (305 meters) above 5000 feet (1524 meters).
Nonoperating (storage)	To 50,000 feet (15240 meters)

Table 1–16: Dynamic characteristics

Capabilities	Description
Vibration	
Random Vibration	Class 3 levels
Sinusoidal Vibration	MIL-T-28800E, para. 4.5.5.3.1, Sinusoidal Vibration test, 5 Hz to 55 Hz.
Shock	
Functional Shock	30 g, 11 ms, half-sine input
Transit Drop	Nonoperating Transit Drop with 8-inch drops, front cover installed.
Bench Handling	MIL-T-28800E, para. 4.5.5.4.3, Bench Handling test, with cabinet on and instrument operating. Each edge lifted four inches and allowed to free fall onto a solid wooden surface.
Packaged Product Drop	Drop of 18 inches on each edge, face, and corner of packaged product; additional drop of 36 inches on bottom face.
Warehouse Stacking	Up to five units high

Table 1–16: Dynamic characteristics (cont.)

Capabilities	Description
Shock	
Loose Load Vibration	1 inch p-p sinusoidal at approximately 4.5 Hz with at least 1/16 inch peak separation between the packaged product and the surface. Thirty minutes in normal shipping orientation, 30 minutes split between other possible shipping orientations.
Vehicle Vibration	1.33 g_{RMS}, random vibration, from 5 to 500 Hz, 60 minutes on each axis.
Storage Shelf-Life (uncontrolled warehouse climate)	Six months or more if desiccant is included inside normal package, and normal package is placed inside a vacuum sealed bag with additional outer package.

Table 1–17: Electromagnetic compatibility

Capabilities	Description
EMC requirements	
Emissions	Emissions shall be within the limits specified by the following requirements. Enclosure EN55022 Class B limits for radiated emissions AC Mains EN55022 Class B limits for conducted emissions To ensure compliance with the above requirements, only high-quality shielded interface cable should be attached to this instrument. High-quality cables have a reliable, continuous outer shield (braid and foil) that has low impedance connections to shielded connector housings at both ends. The shield of the cable used to connect to the DSP must be clamped by the housing where the cable enters the connector. The cables used for the front panel Digital Out and the rear panel AES REF OUT must be wired with the cable shield connected to both pin 1 and to the shell of the female XLR connector (sometimes labeled “G” within the connector). Both of these connections should be as short as possible, less than 0.25 inch (0.1 cm).
Immunity, Enclosure, Electrostatic Discharge	IEC 801-2 1984 Up to 8 kV with no loss of stored data, change to control settings, degradation of performance, or temporary loss of function.
Immunity, Enclosure, Radio Frequency Electromagnetic Field	IEC 801-3 1984 No degradation of performance when the instrument is subjected to a 3 V/M electromagnetic field over the frequency range of 27 MHz to 500 MHz.

Table 1–17: Electromagnetic compatibility (cont.)

Capabilities	Description			
EMC requirements				
Immunity, Fast Transients, Common Mode	IEC 801-4 1988 No loss of stored data, change to control settings, degradation of performance, or temporary loss of function will occur when the instrument is subjected to transients as described below.			
	Port	*Peak (kV)*	*Tr/Th (ns)*	*Rep Frequency (kHz)*
	Signal & Control	0.5	5/50	5
	DC Power	0.5	5/50	5
	AC Power	1.0	5/50	5
FCC	The instrument complies with the radiated and conducted emissions requirements of FCC 47 CFR, Part 15, Subpart B, for Class A equipment. To ensure compliance with the above requirements, only high-quality shielded interface cable should be attached to this instrument. High quality cable is described in the Emissions Specification.			

Table 1–18: Mechanical characteristics

Capabilities	Description
Standard instrument	
Weight (nominal)	
CRT Display Instrument	
Instrument by Itself	32.25 lbs (14.66 kg)
With Front Cover and Accessories	34 lbs (15.45 kg)
Domestic Shipping Weight (with shipping box, including instrument, manuals, foam, and snap-on cover. Optional service manual not included.)	45 lbs (20.454 kg)
LCD Flat Panel Display Instrument	
Instrument by Itself	30.62 lbs (13.92 kg)
With Front Cover and Accessories	32.38 lbs (14.72 kg)
Domestic Shipping Weight (with shipping box, including instrument, manuals, foam, and snap-on cover. Optional service manual not included.)	43.37 lbs (19.71 kg)
Shipping Box	
Length	28 in (711.2 mm)
Width	23 in (584.2 mm)
Height	19.5 in (495.3 mm)
Volume	7.3 cubic feet (0.207$m^{3)}$

Table 1–18: Mechanical characteristics (cont.)

Capabilities	Description
Standard instrument	
Overall Dimensions	
Height (with feet installed)	
Without Optional Front Cover	7.7 in (195.6 mm)
With the Optional Front Cover	8.0 in (203.2 mm)
Width	
Without the Handle	16.6 in (422 mm)
With Handle	18.2 in (462.3 mm)
Depth	
Instrument Alone	18.8 in (477.5 mm)
With Optional Front Cover	19.0 in (482.6 mm)
With Handle Fully Extended	23 in (584 mm)
Cooling Method	Forced-air circulation with no air filter
Finish Type	Gray paint finish on aluminum cabinet
Construction Material	Chassis parts constructed of aluminum alloy; front panel constructed of plastic laminate; circuit boards constructed of glass-laminate; plastic parts are polycarbonate
Rackmounted instrument	
Weight of Rackmounted Instrument, and the Rackmount Conversion Kit	The handle of the AM700 must be removed to mount it in the rackmount adapter.
Kit Weight	3.5 lbs (1.6 kg)
Domestic Shipping Weight	6 lbs (2.73 kg)
Weight of Rackmounted Instrument	30 lbs (13.64 kg) plus the weight of rackmount parts for the rackmounted instrument
Domestic Shipping Weight	45 lbs (20.5 kg) plus the weight of rackmount parts
Overall Dimensions of the Cradle Rackmount Adapter	
Height	8.75 in (222.3 mm)
Width	19 in (482.6 mm)
Depth	20 in (508 mm)

Table 1–19: Remote control protocol

Capabilities	Description
Remote Control Protocol	SCPI (Standard Commands for Programmable Instruments) 1994
External Keyboard	
Keyboard Operation	The external keyboard is used to enter text and numbers into those portions of the user interface that accept such input. The front-panel keypad may also be used for numeric entry. In the absence of an external keyboard, a keyboard that is operated using the touch-screen interface appears on the AM700 display when character input is permitted.

Table 1–20: Generator control

Capabilities	Description
Generator Capabilities	The analog and digital generators calculate signals in real time. The analog signals are derived digitally, providing a great deal of flexibility, but the output signals are restricted to those that can be realized with digital-to-analog converters and standardized sampling rates. Sine wave test signals may be swept in amplitude and frequency. The test signals may also be driven from a sequence within the capability of SCPI lists. More complicated modes may be created using the AM700 function capability as required by the user. There are some differences in the signal set and specifications between analog and digital generators, and the analog generator capabilities differ between high bandwidth and high resolution.
Analog Signal Generation	Several predefined signals or arbitrary user-defined signals.
Mono and Stereo Signals	Monophonic and stereophonic test signals. Each channel of a stereo pair is treated as a separate entity in SCPI and the AM700. This permits a great deal of flexibility in providing test signals to the outputs of the AM700. It is possible, for example, to have completely separate signals and sweeps at the A and B outputs. The same signal may be applied to both channel outputs. This mode is often needed for testing with the AM700. From a remote controller the `SOURce:FOLLow` command causes one channel to track the other. The high bandwidth generator outputs only monophonic signals (the same signal on both the A output and the B output).
User-Defined Signals	User-defined signals may be generated. User-defined signals may be loaded to the AM700 from a file in the internal file system or from a DOS formatted 1.44 Mbyte diskette.

Table 1–20: Generator control (cont.)

Capabilities	Description
Time-Dependent Signals	Simple user-defined audio sweeps and tone sequences are permitted. The sweep feature permits sweeping frequency and amplitude separately, or both simultaneously if necessary. The sweep test signal is a set of discrete test frequencies, not a linear sweep of frequencies from start to stop.
Digital Signal Generation	Digital signal generation is similar to analog signal generation. This includes the ability to generate the same signal simultaneously on the analog and digital outputs. In order to operate analog and digital generators from the same controlling parameters, it is necessary for the user to supply a conversion factor between generator voltage and full-scale digital amplitude. This conversion factor may be entered from the user interface under System Setup Conversion Factors.
Generator Signals	Table 1–21 describes each signal that may be generated in the AM700. Some signals cannot be generated by every generator. Please refer to the following table for each generator signal output capability.

Signal	Analog high resolution generator	Analog high bandwidth generator	Digital AES	Digital DSP
sine	Yes	Yes	Yes	Yes
tone burst	Yes	Yes	Yes	Yes
smpte imd	Yes	No	Yes	Yes
ccif imd	Yes	No	Yes	Yes
shaped noise	Yes	No	Yes	Yes
chirp	Yes	Yes	Yes	Yes
polarity	Yes	No	Yes	Yes
tek polarity	Yes	Yes	Yes	Yes
user	Yes	Yes	Yes	Yes
multitone	Yes	Yes	Yes	Yes
jittered sine	No	No	Yes	No

Table 1–21: Generator signals

Capabilities	Description
Generated signals	
Sine	A single sine-wave tone with variable amplitude and frequency. The amplitude or frequency or both may be swept or stepped to provide a wide range of sinusoidal test signals.
Tone Burst	A sine-wave burst tone with variable amplitude, frequency, burst width, and burst period
Width	10 to 100000 cycles, resolution 1
Period	64 to 100064 cycles, resolution 1 The generator converts the width time parameter into the nearest number of cycles of sine wave to generate.
SMPTE/DIN type IMD	A two-tone intermodulation signal with one tone variable in frequency
Amplitude Ratio	0.01 to 8
Variable Frequency	3 kHz to 18 kHz, resolution 0.1
Fixed Frequency	40 Hz and 500 Hz With appropriate parameter choices this signal can be used in a SMPTE or DIN intermodulation distortion test.
CCIF type IMD	A two-tone intermodulation signal. Both tones are typically swept in tandem with a constant frequency separation.
Amplitude Ratio	0.01, 100
Center Frequency	2.5 kHz, 19 kHz
Frequency Spacing	80 Hz, 1000 Hz With appropriate parameter choices this signal can be used in a CCIF intermodulation distortion test.
Shaped Noise	A periodic pseudo-random noise signal with a specified spectral distribution The available colors of the noise are white and pink.
Chirp	A periodic sine sweep with a flat spectral distribution (equal energy per Hz of bandwidth). The chirp may optionally be restricted in bandwidth, with parameters for the lower and upper band edges.
Polarity	An IEC-type polarity test signal. The signal resembles a half-wave rectified sine wave with the negative values removed.
Tek Polarity	A Tektronix ASG100-style polarity test signal. The signal consists of a sine wave and its second harmonic added together.
Arbitrary Waveform	A user-defined waveform of up to 176,384 samples is repeatedly played. The waveform is provided by the user in a file loaded from a DOS formatted 1.44 Mbyte diskette.

Table 1–21: Generator signals (cont.)

Capabilities	Description
Generated signals	
Multitone	A multitone test signal with variable amplitude. This signal consists of multiple simultaneously generated sine waves. The multitone may be specified in either of two ways: file mode or list mode. File Mode: A user-provided file contains the description (frequency and amplitude) of each tone included in the multitone signal and the buffer size to use for the fft-based generation of the multitone. Up to 128 tones may be generated, in buffer sizes from 512 to 8192 bytes. List Mode: The multitone is generated using the same frequencies and amplitudes as used when making sweeps in list mode. The built-in list editor may be used to enter this information. The buffer size is fixed at 1024.
Jittered Sine	This is a jittered sine wave with user-controlled jitter frequency and amplitude.

Table 1–22: Audio analyzer application

Capabilities	Description
Human interface	
The analyzer has a touch and zoom interface.	
Number of Display Screens	1
Number of Measurements per Screen	Up to 4 measurements at once
Analysis modes	
Major Modes of Operation	
Open Loop	Acquisitions are controlled by the received signal. Measurements (except for the real-time readouts) are subject to settling criteria, and no special knowledge of the generated signal may be assumed by the analyzer.
Closed Loop	The local generator is coupled to the analyzer. This can be signalled by the user to enable the analyzer to optimize its behavior (only plotting points during generator sweeps, for example).
Minor Modes of Operation	
Regulation Mode	The analyzer controls the generator amplitude or frequency to get a desired reading. When the reading is obtained a measurement is triggered. This may be used to produce amplitude versus frequency plots at a constant distortion level, for example.
Relative to Reference	All measurements may be made relative to a previous measurement. This reference measurement may be recalled from a file or loaded with GPIB.

Table 1–22: Audio analyzer application (cont.)

Capabilities	Description
Analysis modes	
Major Acquisition Modes An acquisition may take one of the following forms:	
Automatic	Whenever trigger conditions are met, and the measurement can be made, a new reading is taken.
Track Generator Sweeps	Acquisition does not occur except when the internal generator is producing a sweep. Automatic sweep detection will be present for detecting the beginning of sweeps. The user may indicate whether sweeps are rising or falling, and data plotting will not commence until the appropriate sweep direction is detected.
Measurements	
Y-Axis Measurements	The analyzer is capable of measuring the following and displaying them on the Y-axis: Received level Stereo phase difference THD THD+N IMD Received frequency Crosstalk + noise Channel separation Received level difference In addition, a Wow and Flutter measurement is made and displayed in the Real Time measurements only. Sweep signals generated by the Tektronix ASG100 and ASG140 can be used as stimulus signals for making the above measurements (except IMD, THD, THD+N, and Wow and Flutter). These signal generators produce 'stepped sweeps' as opposed to continuous frequency sweeps. Frequency content and dwell time for each step are described in the relevant user manual for each model.
X-Axis Measurements	
Types of measurements that may control the X-axis	Frequency (received or generated) Level

Table 1–22: Audio analyzer application (cont.)

Capabilities	Description
Filters	
This application gives the user a choice of several predefined filters.	
Supplied Filters	
Low Pass Filter	15 kHz, 20 kHz, 22 kHz
High Pass Filter	400 Hz
Weighting Filters	A-weighting, CCIR-468-3 (required by AES 17-1993), C-messaging, B-weighting, F-weighting, CCIR-ARM

Table 1–23: FFT analyzer

Capabilities	Description			
Frequency related characteristics				
Span (the bandwidth of the displayed data)	Span is dependent on the input and Zoom as shown in the following table for typical inputs and sampling rates.			
	Input	*Sampling rate*	*Width*	*Zoom factor*
	High Res	48 kHz	200.156 400.312 800.624 1000.78 2000.56 4003.12 5003.9 10007.8 20015.6	100 50 25 20 10 5 4 2 1 (full)
	High Bw	192 kHz	16012.5 20015.6 40031.2 80062.5	5 4 2 1 (full)
	AES	48 kHz	Same as High Res	
	AES	44.1 kHz	183.894 367.787 35.574 918.468 1838.94 3677.87 4597.34 9194.69 18389.4	100 50 25 20 10 5 4 2 1 (full)

Table 1–23: FFT analyzer (cont.)

Capabilities	Description			
Frequency related characteristics				
Span (the bandwidth of the displayed data) (cont.)	*Input*	*Sampling rate*	*Width*	*Zoom factor*
	AES	32 kHz	133.438 266.875 533.75 667.187 1334.38 2668.75 3335.94 6671.82 13343.8	100 50 25 20 10 5 4 2 1 (full)
Measurement Range				
High Resolution Mode	DC to 20 kHz			
High Bandwidth Mode	DC to 80 kHz			
Displayed Bins				
Zoomed	16			
Unzoomed	428			
Bin Width	0.781 Hz (min. span) to 156.3 Hz (max. span); calculated as span divided by 512.			
FFT Record Length	1024 data points			
Window Parameters				
Window Functions				
Weighting Functions	Hann Kaiser-Bessel Blackman-Harris Flat-top Uniform Saramaki-Rajan User-defined			
Amplitude Related Characteristics				
Amplitude Resolution	0.1 dB with a flat-top window			
Absolute Amplitude Accuracy	±0.15 dB at 120 Hz			
Full Span FFT Noise Floor Input terminated with 600 Ω or less, auto range and averaging ON.				
High Resolution Mode				
170 Hz to 1000 Hz	<–120 dBu			
1 kHz to 20 kHz	<–140 dBu			

Table 1–23: FFT analyzer (cont.)

Capabilities	Description
Amplitude Related Characteristics	
High Bandwidth Mode	
>400 Hz	<–120 dBu
Residual DC Response	<–60 dBFS within two hours of offset calibration
FFT dynamic range	
Spurious Free Dynamic Range	>105 dB
Phase	
FFT Cross-Channel Phase Accuracy	±1 degree
Display related characteristics	
Displays Available	Spectral Display (amplitude versus frequency for A and B) Spectrogram (time versus frequency with amplitude color/gray coded)
Display Update Rate	>10 updates per second at full span
Frequency Axis	Linear or Log
Averaging	
Displays	The following average displays are available: Max Hold Min Hold Average
Type of Averaging	Exponential only
Cursor functions	
Number of Cursors	One or Two
Cursor Modes	The following cursor modes are provided: Continuously displayed amplitude and frequency at each cursor Peak locator function
Multitone	
Multitone analyzer is a measurement that may be run in the FFT application. When the user turns on the multitone analysis mode, the AM700 starts looking for a multitone signal. When it detects the specified multitone, it starts making the user-selected measurements, as long as the multitone is present.	
Multitone Measurements	The following measurements may be made in Multitone analysis: 1. Level versus frequency: A, B 2. Stereo interchannel level difference 3. Stereo interchannel phase difference 4. Stereo crosstalk versus frequency 5. Distortion + Noise (with FFT-like display)
Multitone Graphical Displays	Graphical display will be available for each of the multitone measurements.

Table 1–23: FFT analyzer (cont.)

Capabilities	Description
Multitone	
Multitone Record Size	16 Kbytes or less for detecting multitones
Multitone Detection	Each channel may be set to recognize one multitone, which can either be the current tone in one of the generator channels or a multitone described in a file. Files are provided in the AM700 file system that contain multitone specifications for the Tektronix ASG 100/140 audio generators.
Minimum Multitone Detection Level	–60 dBu The minimum detection level is for individual tones that make up the multitone signal. The generator amplitude readings are 0.707 × peak voltage, which is RMS voltage for sine waves only. The level of transmitted multitones depend on the crest factor of the signal, which varies each time the multitone signal is computed (unless in file mode with absolute phases provided). In both file mode and list mode, the amplitude parameters for individual tones are only used to control the relative amplitude of the tone with respect to the other tones. The only way you can determine the received level of each tone is to work backwards from the peak level of the complex waveform, with knowledge of the crest factor.

Table 1–24: Audio monitor

Capabilities	Description
Human interface	
This application has the primary use of verifying the presence of audio and making simple time-domain measurements of the signal amplitude.	
Primary Display	Oscilloscope (voltage versus time)
Signal acquisition	
Input Channels	High Resolution analog inputs High Bandwidth analog inputs Digital audio inputs Inputs from the DSP connector This application follows the <primary input> global SCPI parameter to determine which input to display.
Oscilloscope display	
This display emulates a traditional digitizing oscilloscope, but with a ‘touch-and-zoom’ touch screen human interface.	
Measurement Range	Depends on the analog performance and digital input word lengths

Table 1–24: Audio monitor (cont.)

Capabilities	Description
Oscilloscope display	
Display Appearance	The display is similar to the ones used in the VM700A audio option. Both channels may be overlaid or put in a 'split window' mode. Touch-and-zoom affects both channels in a window, and graticules track their signals.
Waveform Display Resolution	Nominal 400 pixels vertical × 500 pixels horizontal The reserved pixels for display will shrink during generator control and programmed text display.
Display Update Rate	Minimum of 15 screen updates per second with proper triggering and time base conditions
Digitized Record Length Amount of data in a waveform record obtainable without missing samples.	
Inputs with Sample Rates up to 48 kHz	Continuously variable from 32 to 48000 samples per channel
Inputs with Sample Rates Above 48 kHz	Continuously variable from 32 samples to 4 milliseconds. All samples returned must be in the vicinity of the trigger.
Time Base Range	Four samples per screen to 48000 samples per screen, continuously variable with touch-and- zoom
Trigger Sources	Channel 1 (A channel) Channel 2 (B channel) External (rear-panel TTL input trigger)
Trigger Modes	
Auto	New data is displayed in the absence of an edge trigger being detected.
Normal	New data is displayed only following detection of a trigger. Trace is erased if no trigger occurs.
Trigger Slope	Rising or Falling edge
Trigger Level	Adjustable
Trigger Position	The trigger may be positioned anywhere in the digitized record, with all samples valid. Pretrigger samples and post-trigger samples must fit within one record. Trigger position is determined automatically from the views being displayed. There is no direct control for selecting trigger position in the record. Trigger position is at the 0 horizontal graticule marking.
Cursors	Cursors can measure time difference and level difference on a waveform. Cursor position difference for both amplitude and time is displayed in the cursor readout line above the view. Position difference is obtained by subtracting the readings obtained from cursor 2 (the dashed cursor) from the readings obtained from cursor 1 (the solid cursor). The time reading of the cursor position displayed above the cursor is with respect to the trigger point in the waveform.

Table 1–24: Audio monitor (cont.)

Capabilities	Description
Listen capability	
LISTEN	A user can listen to input channels.

Table 1–25: Digital interface tester

Capabilities	Description
Intended Use	The digital interface tester application is used to monitor and troubleshoot the digital audio interface. It allows you to view incoming data streams at the logical (bit), or electrical interface level, and to create special signals to probe the interface.
Number of Primary Modes	There are four major modes of operation.
Bit Activity	Displays instantaneous bit probability (with no history or averaging) of each bit of each subframe. The four preamble bits are not available to be displayed, and are grayed out in the display.
Channel Status	Displays the current contents of the 192 channel status bits in both subframes of the digital input stream. The data can be displayed in four styles: Binary (most-significant-bit or MSB on the left) Transmission order (MSB on right) Hex (same bit order as binary, displayed in base 16) Decoded (raw data translated into words) In the raw and decoded styles, the user can optionally underline data elements which differ between the two subframes. This allows a quick visual check for identical subframe information. The user can choose to display either the subframe 1 data, the subframe 2 data, or both subframes.
Eye Diagram	Displays a “cloud of dots” representing an equivalent-time sampled time-domain graph of the digital main inputs. In addition, the following seven numeric readouts are displayed above the diagram in a real-time readout box (when measurements are available for the category): Measured sample frequency on the main input Measured sample frequency on the reference input Measured ratio between the main and reference sample frequencies Phase difference between the main and reference Voltage level of the main input Equalization applied to the main input Peak-to-peak jitter of the interface

Table 1–25: Digital interface tester (cont.)

Capabilities	Description
Jitter Spectrum	Displays the energy spectrum of the jitter on the digital main input signal. Like FFT, this spectrum can be viewed as an interpolated graph, a bar graph, or a spectrogram. Averaging is available (exponential averaging, min hold, and max hold) in the jitter spectrum display. Averaging is not available in the other displays.
Enhanced Stimuli	Within this application, the DIT menu choices provide extra features for controlling the digital generator. Electrical interface modifications include: Cable Simulator Jitter Generation with Controlled Frequency and Amplitude

Table 1–26: Software update procedure

Capabilities	Description
Update Procedure	AM700 firmware may be updated from a 1.44 Mbyte diskette. (Update procedure is given in the Maintenance Section of this manual.)

Operating Information

This section provides the installation information needed for the AM700 Audio Measurement Set and the basic operating information that a service person might need to check for proper operations of the instrument.

Power Requirements and Power On

The AM700 operates with line frequencies of 50 or 60 Hz over two line voltage ranges. The nominal setting of the low voltage range is 115 VAC. The nominal setting of the high voltage range is 230 VAC. The AM700 power requirement is 185 watts or 230 volt-amperes at maximum power consumption.

There are two power switches on the AM700. They are the main power switch, a push button switch on the rear panel above the power cord receptacle, and the Stby/On button on the front panel. **Both must be on** to operate the instrument.

WARNING. *Dangerous voltages are present within the Power Supply module when the rear-panel power switch is on, regardless of the position of the front-panel power switch. Do not operate the AM700 with any covers removed. Refer all servicing of the instrument to a qualified service person.*

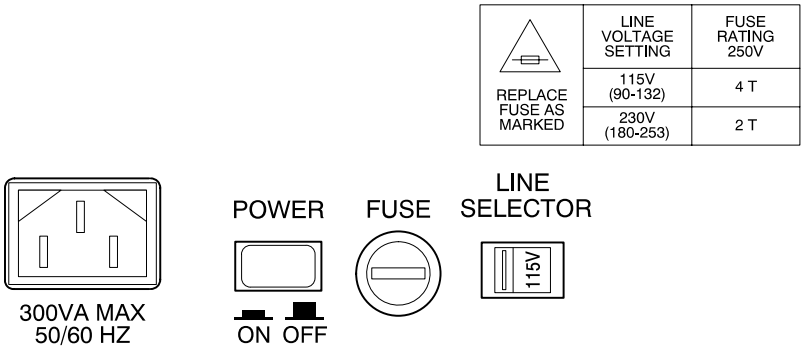


Figure 2–1: Rear panel fuse, power connector, On/Off Switch, and line selector

Changing Line Voltage Range and Fuse

The voltage range selection switch and fuse holder are located in the lower left corner of the AM700 rear panel (see Figure 2–1). The AM700 is shipped from the factory set for the operating voltage of the destination nation (115 VAC or 230 VAC). If the setting is not correct, it must be changed before connecting the power cord to the power source.

1. Turn off the rear-panel power switch and disconnect the power cord from the mains supply.
2. Set the voltage range selection switch (located on the rear panel of the AM700) to the correct position for operation.

Instruments are shipped with the power cord most appropriate for the country of destination. Available power-cord option information is given in the *Options* section. Contact your Tektronix representative or local Tektronix field office for additional power-cord information.

CAUTION. *When changing the line voltage selector switch you must also change the fuse to provide proper protection for the operating voltage in use.*

The mains fuse provides protection in the event of a major failure of the AM700 power supply. Two sizes of fuses are specified, one for 115 V operation and the other for 230 V operation. See the *Fuse* specification in *Appendix A* for the correct fuse rating to use for each voltage range.

3. Replace the fuse with the correct one, as indicated on the rear panel, for the new mains voltage selection.

CAUTION. *Use only the power cord and connector specified for your product. Use only a power cord that is in good condition with a proper safety ground connector.*

4. Replace the power cord with the correct one for use with the local mains outlets.
5. Turn on the rear power switch, then the front power switch to operate the AM700.

Power Cord

A detachable three-wire power cord with a three-contact plug is provided with each instrument for connecting to both the power source and protective ground. The protective-ground connector in the plug connects (through the protective-ground conductor) to the accessible metal parts of the instrument. For electrical-shock protection, insert this plug only into a power-source outlet that has a properly grounded protective-ground contact. The voltage to ground from either pole of the power source must not exceed 250 V_{RMS}. For electric-shock protec-

tion, the grounding connection must be made before making connections to the instrument input or output terminals.

Power-on Procedure

Starting with Version 1.02 firmware, the power-up diagnostics are normally bypassed, and the measurement set initializes with the FFT application running. You can start an application other than FFT by pressing and holding in the front-panel button for the application you want to start as you turn on the front panel power switch. The AM700 will beep twice, and you can then release the application front-panel button. To run the power-up diagnostics, press and hold in the front-panel Limits button as you press the front-panel power button. The AM700 beeps twice, displays the message 'Start mode "RUN DIAGNOSTICS" recognized,' and then runs the diagnostics before initialization.

Before Version 1.02 firmware, at power up the AM700 normally performs the power-up diagnostics before initializing. To bypass these diagnostics, press and hold the front-panel button of the application you wish to start as you press the front-panel power button. The AM700 will beep twice and flash a message about which start up was recognized, and then initialize without running the diagnostics.

Should a power-up diagnostic fail, the measurement set should be referred to your local Tektronix representative for servicing. You may bypass the diagnostic routines and check to see if you can still make the measurements you require as some diagnostic failures may not affect all the applications.

Basic Operation Information

Touch Screen

The AM700 Audio Measurement Set is controlled by selecting from measurement parameters and menus on the instrument display. A touch screen detects the user's selections.

Many operations are started by selecting soft keys using the touch screen (touching the display in the right place to invoke some function) as shown in Figure 2–2. In some menus, numerical values are entered either from the keypad or with the control knob.

Front Panel Controls and Touch Screen Interface

Buttons with gold outlines (Copy, Average, Cursor, Sound, Filter, Sound On, User, and Units) have two possible behaviors, depending on how you use them. and the application or display that is running. If an application does use a button, no action is produced when the button is pressed.[1]

[1] **An example is the Filter menu. Filters are only available in Audio Analyzer, so when the Digital Interface Tester or the FFT analyzer is running, pressing the Filter button has no effect.**

1. When pressed and immediately released, each of these buttons performs a default action (turning on or off the specified feature).
2. When any of these buttons is pressed and held for one second or more, a configuration menu related to its operation is displayed.

***NOTE**. The button default action (selected when you press and release the front-panel button) does not occur when exiting a press/hold menu. Instead, you must again press and release the button to perform the default action.*

The LEDs associated with these buttons track the action you select, not the configuration menu associated with the hard key. For example, the Filter hard key LED lights only when you select filtering.

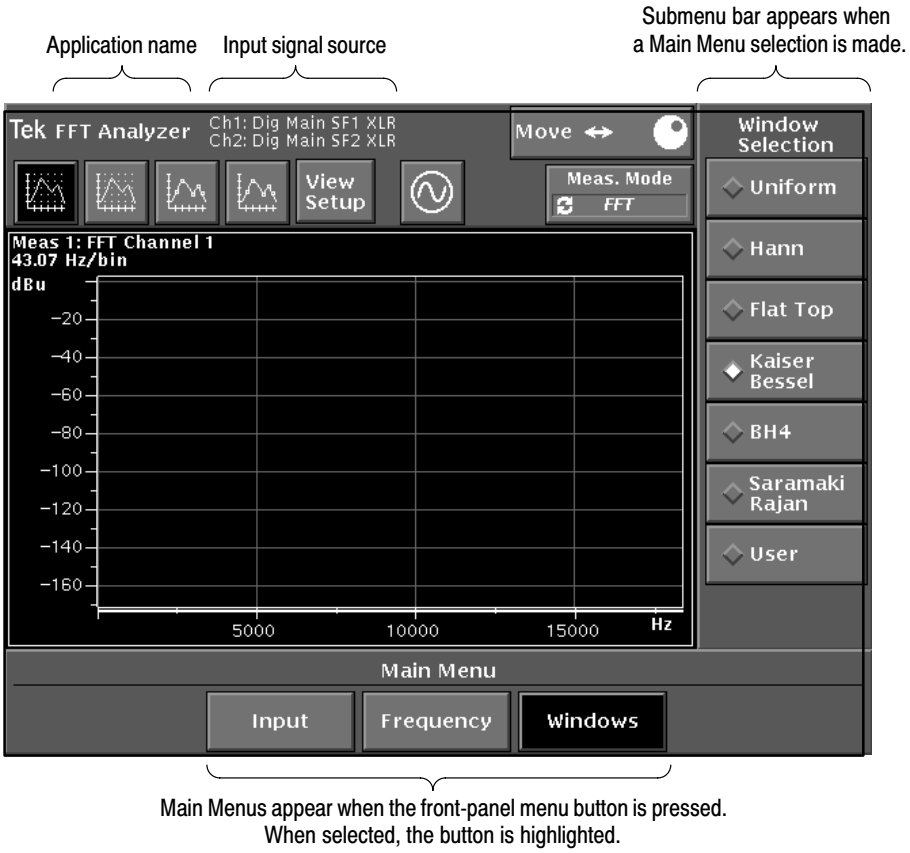


Figure 2–2: Touch screen interface with main menu and submenu displayed

During operation of the AM700 the following objects may appear on the screen:

- One to four measurement view windows
- Generator Status area
- Generator Control Panel
- Menu and Soft Keys selections
- Operational status and Real Time measurement displays
- Notifier messages

Display Icons

The AM700 uses icons in its menus and control panels to represent actions or available choices. Some of these icons are displayed in Figure 2–3.

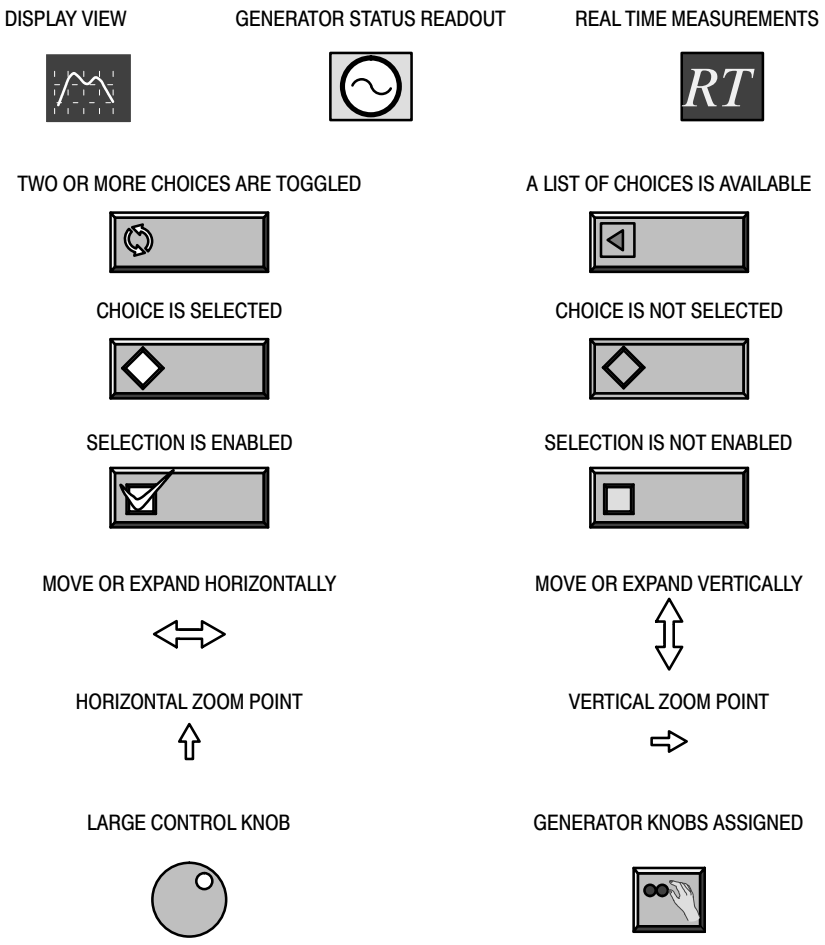


Figure 2–3: Representative icons and arrows seen in the display

Calibrating the Touch Screen

The measurement set is shipped from the factory with its touch screen fully calibrated. Although it will seldom be necessary, the touch screen can easily be recalibrated.

To calibrate the touch screen:

- Press the front-panel button labeled Other.
- Use the large control knob to scroll through the menu choices and select the touch screen calibration choice from the menu that appears (see Figure 2–4). Press Enter on the keypad to activate the selection.

The choice may also be made by touching the selection directly on the touch screen interface, however, the above procedure can be used if the touch screen should ever become uncalibrated.

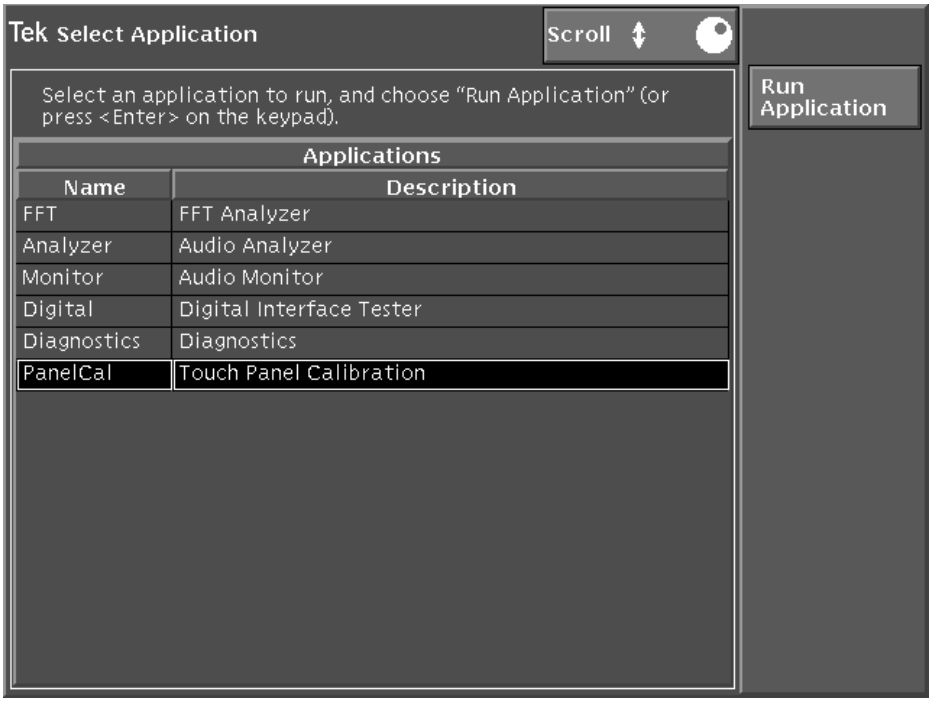


Figure 2–4: Application selection menu under the other button

Full instructions for calibration are given on the screen when the calibration display appears (see Figure 2–5). A small circle with a dot is highlighted in succession in each of three corners. View the screen directly on to avoid parallax errors and use a small blunt pointed scribe, such as a pencil eraser tip, to produce the best accuracy for the calibration. Touch the screen directly over the first dot. The dot in the next corner then lights. Touch the second dot, then the third dot to finish the calibration.

After calibration, the screen will display the Paint screen. You can test areas of the screen for activity by touching the screen at various points. The touch point will become highlighted. The Clear soft key on the touch screen erases the highlighted areas of the Paint screen. Press any application front-panel button to exit the paint screen and start the application.

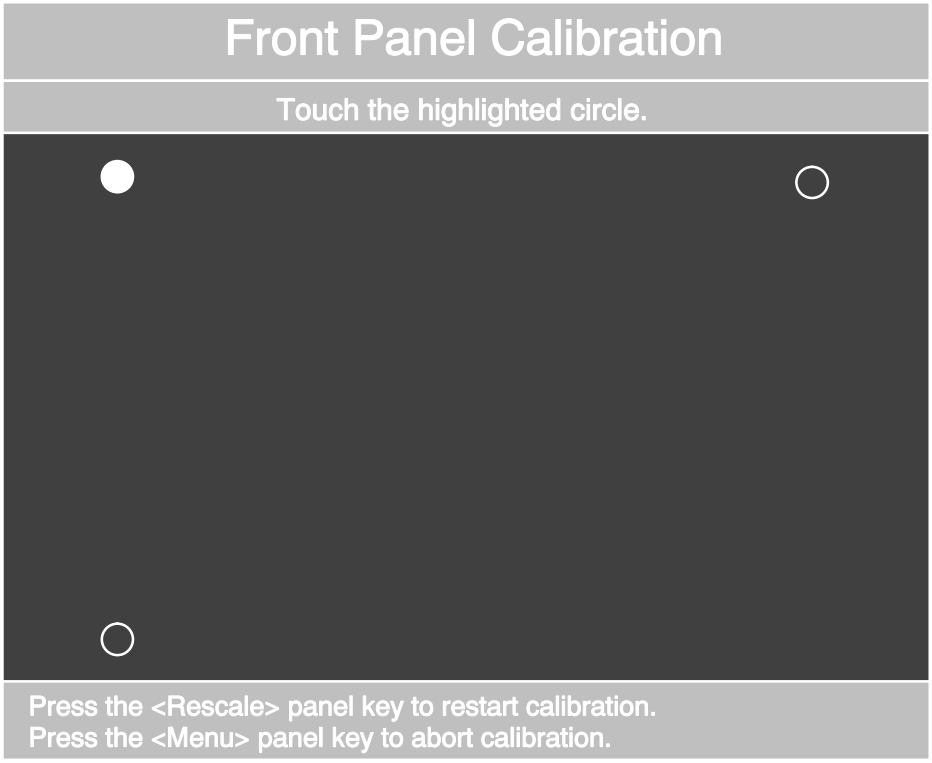


Figure 2–5: Touch screen calibration

Setting the AM700 Clock

The AM700 has a system clock with an internal backup battery. After setting for your local time, it is ready to use. Performing this exercise for the first time will also introduce you to the Configure menus that you will use as you set up the AM700. To set the clock use the following procedure:

1. Press the Configure button on the front panel. This displays the choices for configuring the various user selections of the AM700. Clock setting is done in the System Setup option.

2. Touch the System Setup selection to display the setup menu choices. Setting the clock is the default selection, and the clock face appears as seen in Figure 2–6.

3. Check the date and time settings. If any are not correct, they may be selected and adjusted to the correct setting. A selected choice changes intensity to show that editing of that setting is active.

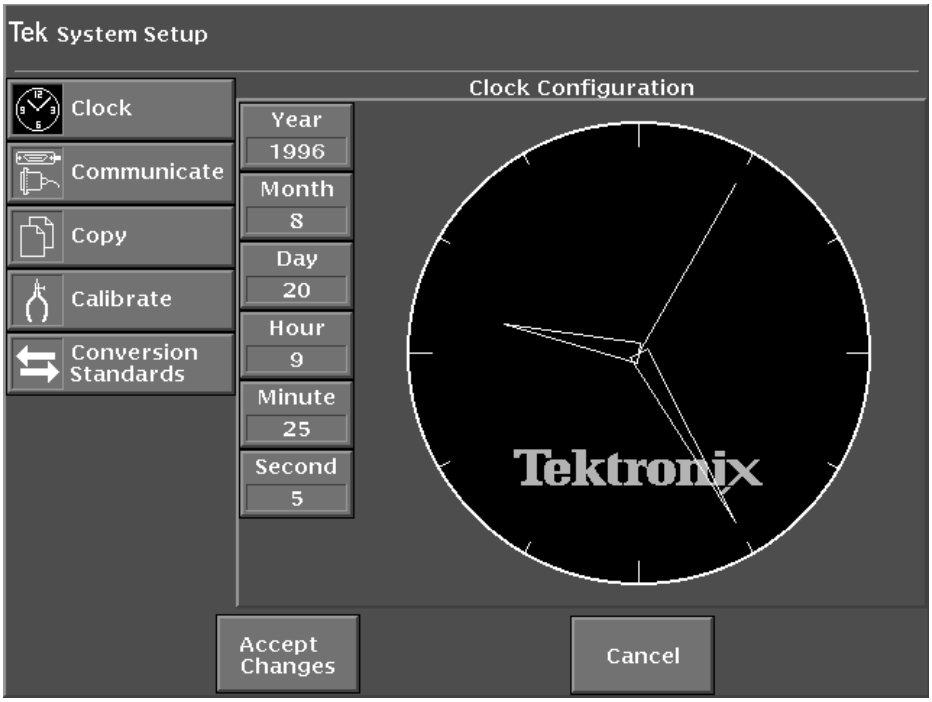


Figure 2–6: AM700 Audio Measurement Set system clock

4. Setting may be done by rotating the large control knob or by making a direct keypad entry of the new value and pressing the Enter button. Changes made to the time are shown in the clock as they are entered, but those changes are not permanent until the Accept Changes soft key is touched.

5. When the date and time are correct, touch the Accept Changes soft key. This changes the time to the new values and returns to the previous application.

Backup Battery

The nonvolatile memory of the AM700 is maintained by an internal backup battery. Stored data will be retained for the life of the battery. A fresh battery installed at the factory has a life of greater than 10 years when operated and stored at an ambient temperature between 0° C and 50° C.

***NOTE**. The backup battery used to retain stored data has an operating life of greater than 10 years when operating between 0° and 50° C. If operating out of that range for extended periods of time the battery life may be reduced or stored data may be lost.*

AM700 Setup for Operation

Turn the AM700 on. Unless otherwise directed, it runs the power-up diagnostics and loads the FFT Analyzer application.

After completing the power up diagnostics and loading of the FFT application, you may select any of the applications you wish to use from the Applications section of the front panel buttons (see Figure 2–7). After making another application request, you should wait until that application is running before making another choice or button press. It takes some 30 seconds to load an application, during which time the action of other button presses will not be seen, but they will be answered after the application is running.

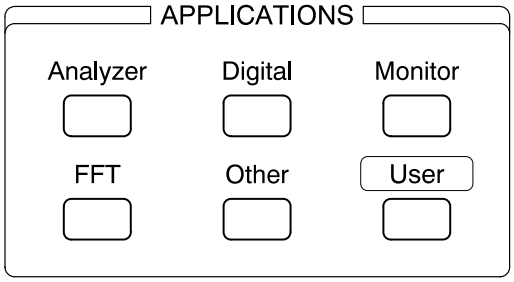


Figure 2–7: Applications selection buttons

Bypassing Diagnostics

To bypass the power-up diagnostics and go directly an application other than FFT, press and hold the application button in when turning on the power to the AM700. Hold the button in until a double beep is heard; then it may be released. The AM700 starts up in quick start mode with the selected application loaded.

Configuration

Press the Configuration button (shown in Figure 2–8) to display the Configuration options menu. There are seven selection choices displayed in the Configuration menu shown in Figure 2–9. The summary of the configuration choices is followed by a more detailed explanation of the configuration menus for operation of the AM700.

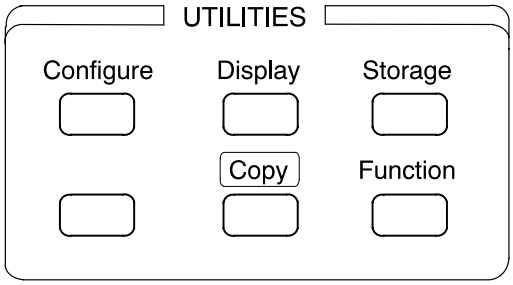


Figure 2–8: Configure button in the utilities selection block

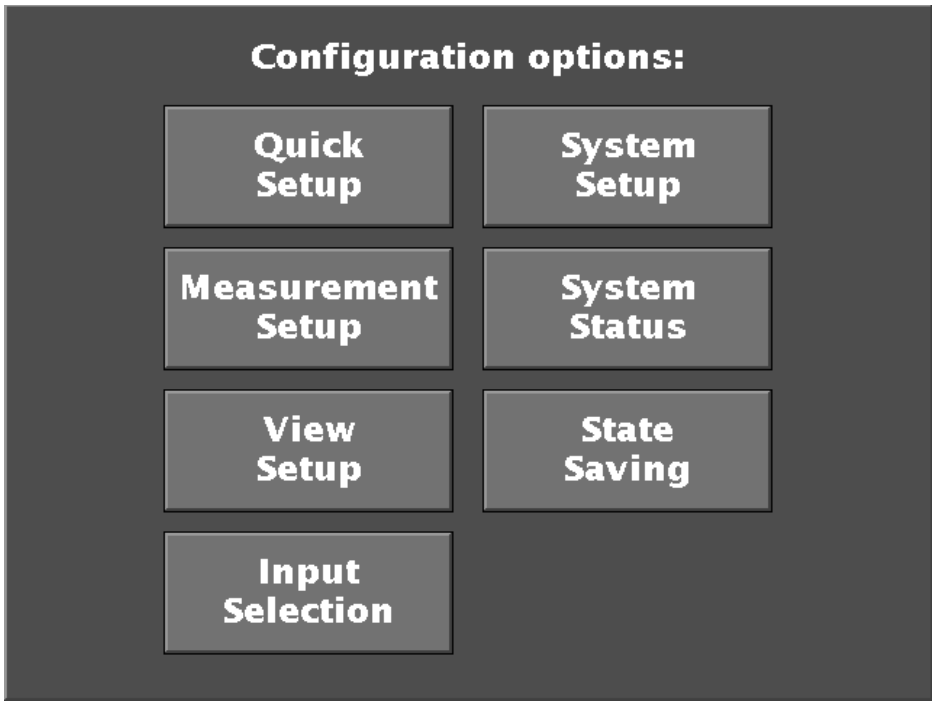


Figure 2–9: Configuration menu initial selection screen

Configuration Summary

Quick Setup. Touch this soft key to display a menu of template selections. These selections save time by providing one-touch instrument configuration for some common AM700 measurements. See *Quick Setup* at the end of this section for information on the quick setup templates and the measurements that are available with the quick setups.

Input Selection. Touch this soft key to display the Input Configuration menu. From this menu you can select the type of input and front panel connection, input impedance and whether the instrument is to auto range on the input signal, and the type of signal source that is applied to the input channels.

Measurement Setup. Touch this soft key to display the Measurement Configuration menu. From this display other soft keys display various measurement configuration options in various categories. The contents of the menus are application specific and change by application.

System Setup. Touch this soft key to display the System Setup menu. Soft keys in this display allow you to set the date and time, configure the serial and GPIB communications parameters, select copy format and destination for display captures, activate calibration, and specify the external input and output resistance values to be used for units conversions between volts, dBu, and dBm, and the specify the conversion factor to dBFS.

View Setup. Touch this soft key to display the View Setup menu. Here is where you select the measurements to be displayed and the type of view in which the selected measurement is displayed. In this menu you can also touch the View Options soft key to display a menu where you may configure the type of display axes and waveform, whether cursors are enabled (turned on or not), and whether the cursors will be constrained to the trace data (Snap to Data) or will permitted to be positioned anywhere in the display window.

System Status. Touch this soft key to display a summary of the AM700 system configuration selections as seen in Figure 2–10. This display is useful for quickly determining what measurement the views in the running application are set up to display, how the trace data is displayed (interpolator, point plot, tabular, etc.), the measurement channel input selection, and the generator signal type choices for the analog and digital generators.

State Saving. This selection provides two choices: one saves the present state of instrument settings that can be saved, and the other restores the factory default settings. If you want to save a particular setup state for an application, it should be done immediately before turning off the AM700. Settings for many of the controls are saved each time an application is changed. Any settings that are saved when State Save is used are overwritten if further changes are made and

another application is started prior to power off. State Save does not return the application that was running at power off when power is again turned on, but the user selections for an application that were saved will be restored.

Also, refer to the *Save AM700 State* function discussion in the *AM700 Audio Measurement Set User Manual*. The Save AM700 State function generates new functions that store customized application setups. These application setup functions are then used in making repetitive tests and for building a standardized set of application setups that can be transferred to other AM700 Audio Measurement Sets.

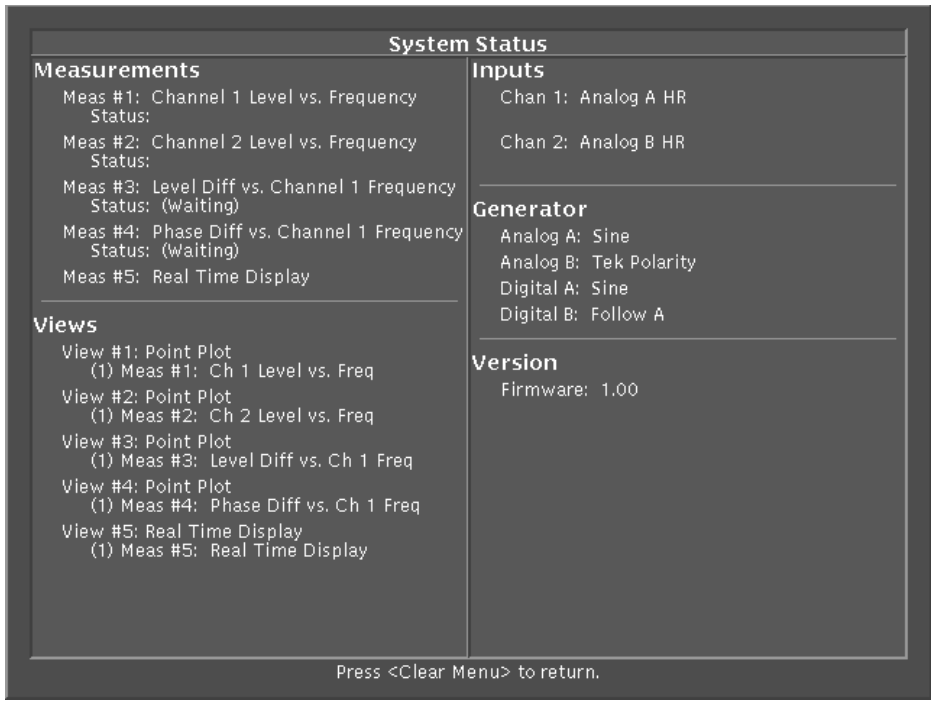


Figure 2–10: System status display

Input Selection

From the Configure screen, first select Input Selection. In here are the choices you need to make for input connector selection for the digital and analog signals, the input impedance and gain range of the analog inputs, and the signal selections to apply to the two measurement channels of the AM700. Alternately, you may wish to select a Quick Setup. In the Quick Setup choices you will find setup templates for often-used measurements. Those are given in the *Quick Setup* discussion at the end of this section.

The Input Selection block diagram shown in Figure 2–11 graphically shows the input section of the AM700. Touch screen selections allow the user to choose a wide variety of signal sources and paths.

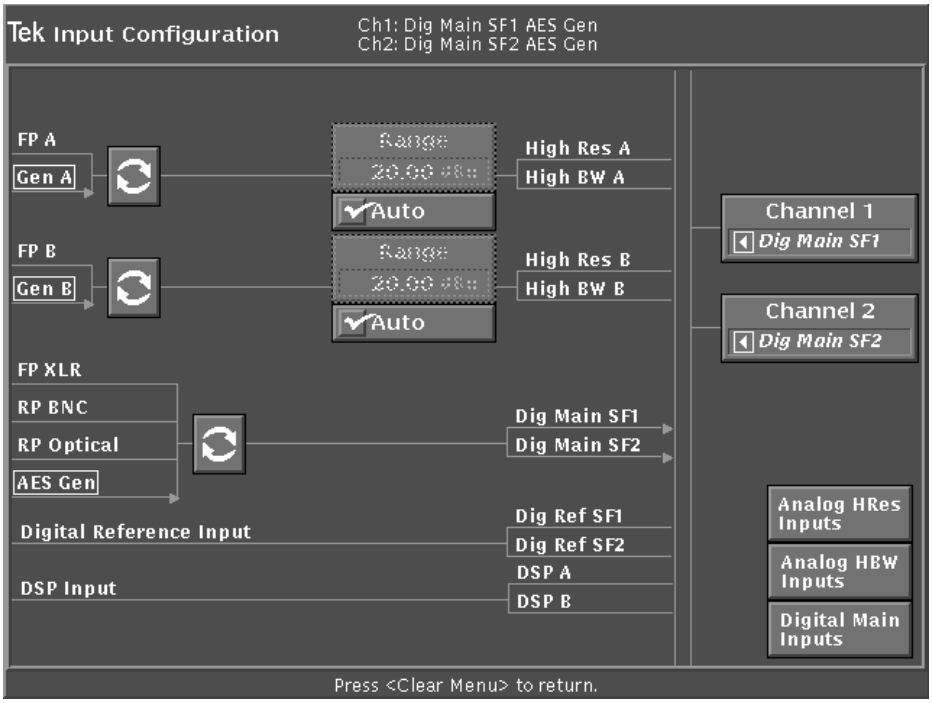


Figure 2–11: Input selection control panel

Analog Input Connections. Touch the select soft key associated with the Analog A and Analog B input connections to toggle between the front-panel XLR connector and the internal Generator routing. The front-panel XLR inputs are the default choice for signal input to the AM700. Selecting the internal generator routing permits testing of the generator/analyzer pair without using interconnecting cables.

Input Impedance. Analog Input Impedance is selected from a three-choice pull-down menu. The choices are 150 Ω, 600 Ω, and 200 kΩ (high). The 200 kΩ choice is the default selection. Perform the following steps to change input impedance:

1. Touch the Impedance soft key to display the pull-down menu choices.
2. Rotate the large control knob to select the proper choice for your measurement.
3. Touch the Impedance soft key a second time to make the assignment and clear the menu.

The Input Impedance choice is not available for an internally connected generator.

Input Range and Auto. The gain range for the analog inputs defaults to Auto enabled to provide auto ranging on the applied signal. This avoids possible overloading of the A/D converters and is the recommended setting for normal operation. When you know the amplitude of the signal being measured, you may choose to make a manual gain setting. Follow these steps when changing the input range setting:

1. Turn off the Auto enabling (check goes away) by touching the Auto soft key.
2. Make the new gain range setting by either rotating the large control knob to the new setting and again touching the soft key or make a direct keypad entry of the new number and press enter.

The gain range steps of the AM700 have fixed upper limits for each range, therefore when a number is entered that is not exactly one of the available range numbers, the gain switches to the next highest valid setting above the number you entered.

Input gain range settings are also available as menu choices from within the applications that make measurements on analog signals. From within a running application you may make the change and observe the effects on the signal.

Digital Input Connector Selection. The Digital Main Input connector selection choices are: Front-panel XLR connector (the most common selection and made by default), the Rear-panel BNC, and the Rear-panel Optical connector. An internal connection to the AES generator is also available. Touching the selection soft key associated with the digital generator choices advances the selection box through the list.

Measurement Channel Assignment. A pull-down menu (see Figure 2–12) is used to individually assign the signal to the two measurement channels of the AM700. The same range of signals input choices is available for both Channel 1 and Channel 2, and the channels may have the same signal applied to each as well. If you wish both inputs to be obtained from the same type of generator (High Resolution, High Bandwidth, or Digital Main), the fast selection soft keys along the lower right of the screen may be used (see Figure 2–12). (These choices are also available within the Main menu for the applications with the Input menu displayed.) With a single touch of the choice both measurement channels may be set simultaneously to the A and B High Resolution generator, the A and B High Bandwidth generator, or the Digital Main Inputs.

If you want to use the digital generator or the digital reference signal as inputs to the measurement channels, select the appropriate one instead of the analog high bandwidth or analog high resolution route. The most common selections (and the default connections) are the Analog A high resolution input connected to measurement Channel 1 and the Analog B high resolution input connected to measurement Channel 2.

When finished making your selections, press Clear Menu to exit the Input Selections menu.

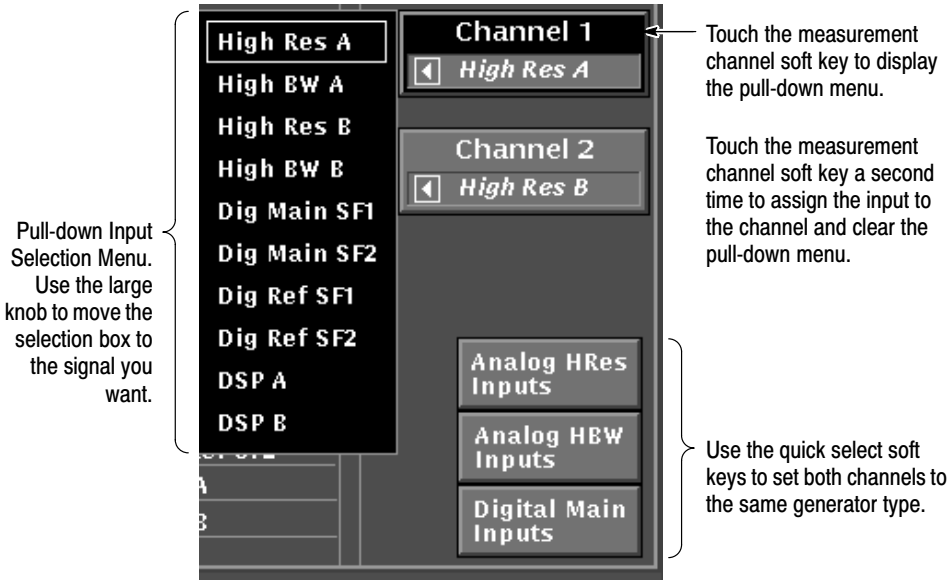


Figure 2–12: Measurement channel assignment pull-down menu

View Setup

The View Setup menu permits AM700 users to specify how measurement results should be displayed on the screen. Contents of this menu vary depending upon the current application. In the follow description, the FFT application is active.

View Selection Bar. The top line in the View Setup screen is a view selection bar as shown in Figure 2–13. The selections that are made in the remaining portion of the View Setup window apply only to the selected view. The view choices in the view selection bar include an icon that indicates the type of view that is selected. For example, the possible choices for FFT Analyzer in FFT mode are Interpolator, Bar Graph, and Spectrogram. View Setup choices are illustrated in each of the applications in Section 4 of this manual.

For each type of view, the AM700 also offers options that allow you to configure the display for your viewing requirements. You may configure the display in the View Setup menu (see Figure 2–13).

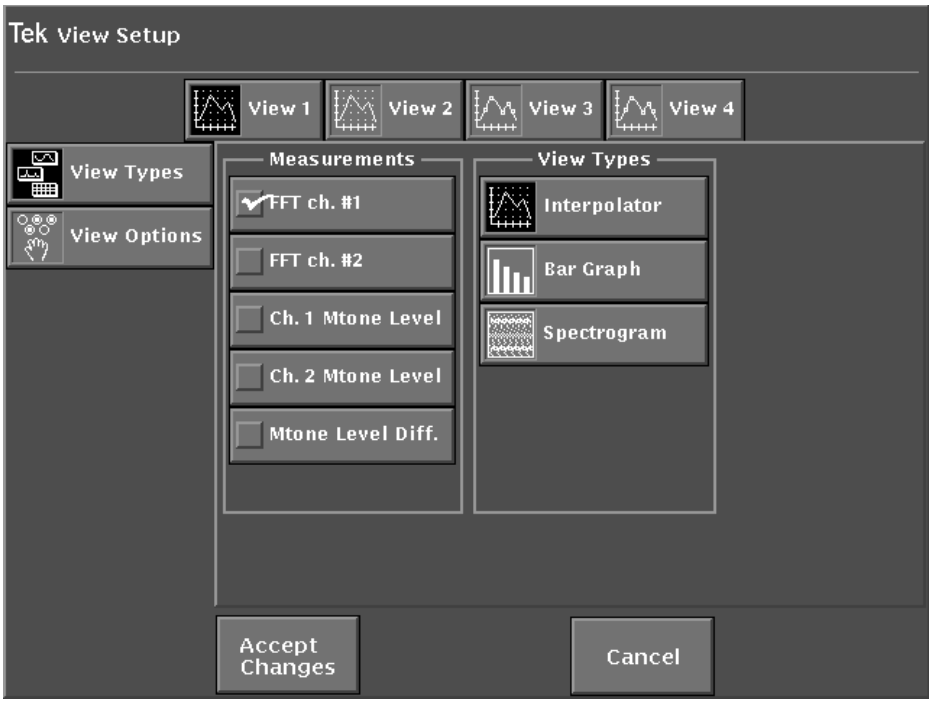


Figure 2–13: A typical view setup control menu

To select a view type and define the view options:

1. Press the Configure button and touch the View Setup soft key to enter the View Setup menu.
2. Select the desired view type by touching the icon on the display.
3. If desired, touch the View Options icon to display available options for the view you have selected.
4. Select the desired view options (a checked box indicates that an option is selected).
5. Save your selections and return to the main display by touching the Accept Changes soft key or cancel your changes and return to the main display by touching the Cancel soft key.

View Types. The View Types column in the figure shows the icons for these view types. Each view may be a different view type. Selecting a particular view type of a view is done by first selecting the view you wish to change in the View Selection bar. Only the selected view is affected by a change in the choices. The Measurement column shows the measurement types that are available for viewing in a view window. Altering those choices is done in the Measurements Setup menu that will be discussed later.

You may set up a view to display FFT measurements or Multitone measurements but not both. The View Types that are available also depend on the measurement selected as they are different for FFT and Multitone. The applicable choices will be displayed for the Measurement Type selected for a view. Notice that both FFT traces may be displayed in the same view window.

View Options. The View Options menu permit selection of axis types, display persistence, and cursor actions as shown in Figure 2–14. When selected by touching the enable soft key, a check mark appears in the soft key to show that it is enabled. Touch the enable soft key again to remove the check mark and return to the alternate choice.

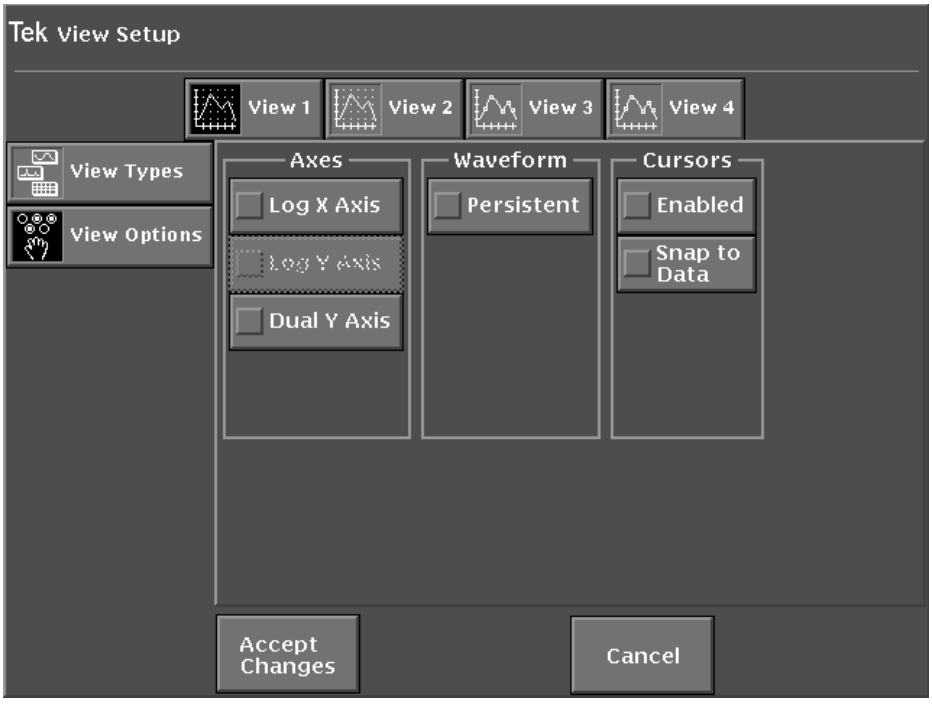


Figure 2–14: FFT Analyzer view options in the view setup controls

The choices in the Axes column allow the linear/log selection for the x- and y-axes and a choice of Dual Y Axis. Dual Y-Axis displays are permitted when more than one trace is displayed in a single view. In Dual Y-Axis displays, the vertical or y-axis scale of the front trace is seen on the left side of the graticule and y-axis scale for the back trace is seen on the right side of the graticule. Other axes choices are determined by the view type.

When persistent is enabled, trace data is accumulated and held in the display in a continuous storage mode. This feature is very useful for gathering history of waveform changes and showing the bounds of varying signals in either frequency, voltage, or both. Turning persistent off restores the trace to showing data for a single acquisition only.

Cursor controls for enabling the cursors and holding the cursors to the displayed data are found in the Cursors column. Enabling or disabling cursors is the same as turning them on or off using the Cursor button on the front panel. Selecting Snap to Data is used to hold the cursors on actual data points in the trace display.

NOTE. *When cursors are viewed on a Dual Y-Axis display, they are associated only with the front trace. The amplitude readouts accompanying the cursors reflect the amplitude at the cursor positions in the front trace.*

Saving Changes and Exiting the Input Selections Menu. Soft keys to exit the input selection menu are located at the bottom of the screen. When Accept Changes is touched, any selections made are entered. If Cancel is touched, all changes are deleted before returning to the current application. Pressing Clear Menu also exits back to the application.

Measurement Setup Menu

The Measurement Setup menu permits AM700 users to define which measurements are to be performed and displayed by the current application. An example of setting up different measurements in the four measurement views of Audio Analyzer is shown in Figure 2–15. Figure 2–16 shows the FFT and Multitone Measurement Setup controls. See the specific application in Section 4 for information on setting up the measurements for the applications.

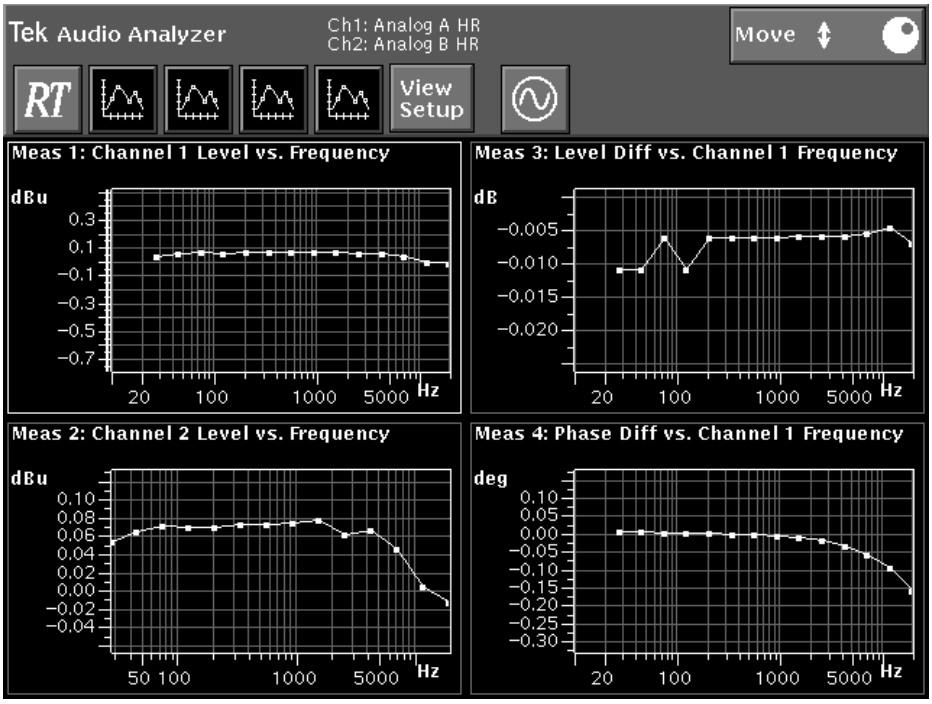
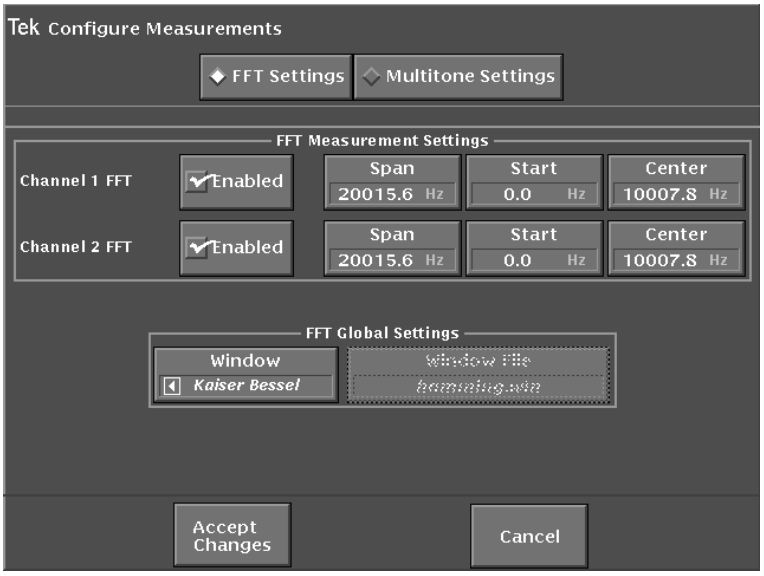
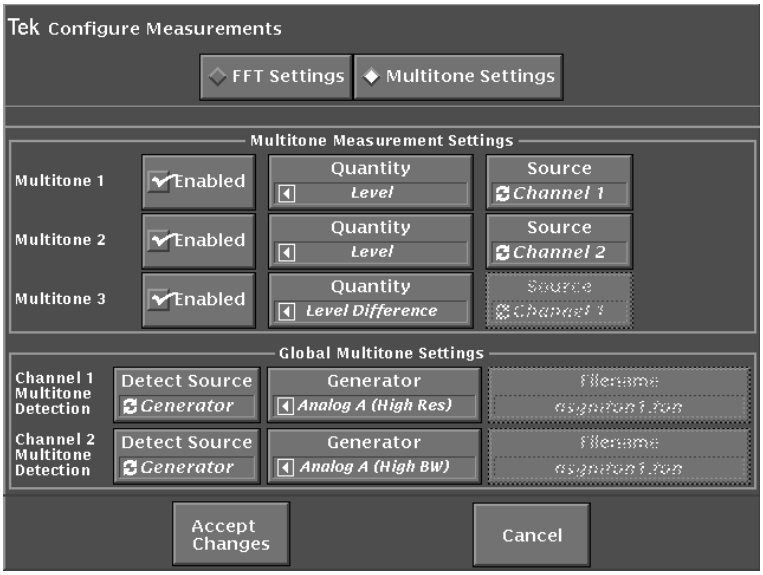


Figure 2–15: Four different measurements in four views of the Audio Analyzer



FFT Configure Measurements



FFT Multitone Configure Measurements

Figure 2–16: Configure measurement screens for FFT Analyzer for FFT and for multitone

System Setup Menu

The System Setup menu is used to set the system clock, the serial and GPIB communication parameters, the hard copy output format, run the AM700 calibration routine, and set the input, output, and dBFS conversion factors.

System Copy. The control screen display for setting the Copy parameters is reached either through the Configure System Setup menu or directly by pressing and holding the Copy front-panel button to bring up the same menu. Press and hold the Copy button to display the Copy Configuration screen see Figure 2–17.

***NOTE**. Pressing and holding the Copy button immediately brings up the Configure menu, with the System Setup choices for Copy displayed. This is the same screen that is displayed by pressing the Configure button, then System Setup.*

In this screen you may set the following copy functions:

- copy output format
- copy destination
- file name when File is the selected copy destination

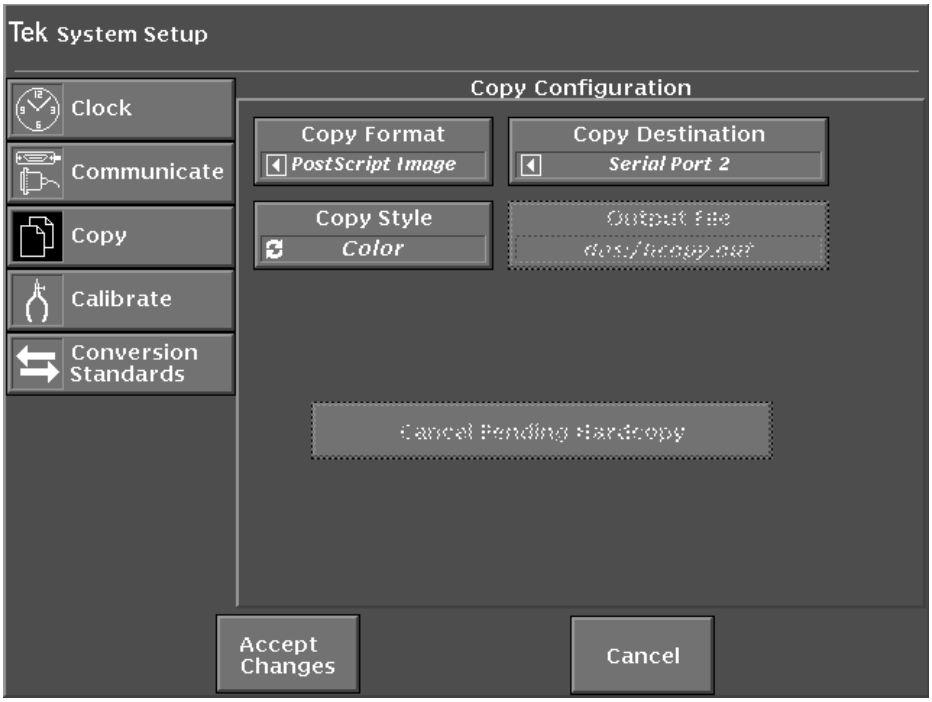


Figure 2–17: The copy configuration menu

After setting copy options, touch the Accept Changes soft key to save your selections, exit the Copy Configuration screen, and return to the measurement display.

To delete all copies from the spooler, press and hold the copy button to display the Copy Configuration menu. Touch the Cancel Pending Hardcopy soft key to delete all the spooled hard copies.

Screen dumps print when you press the Copy button. The image currently on the screen is printed. Graphic displays are printed only when the printer port is formatted for a graphics printer.

Copy Formats. The AM700 supports the following printer and hard-copy types:

- PostScript Image
- HP DeskJet
- Epson (24 pin)
- Tag Image File Format (TIFF)
- Interleaf Image

When the Copy Format is either PostScript or TIFF the Copy Style may be set to Color.

Copy Destination. Printouts are spooled to the currently selected printer port, which may be one of the following:

- GPIB
- Serial Port 1 (COM 1) or Serial Port 2 (COM 2) (RS-232)
- File on floppy disk
- File in internal nonvolatile file system
- None (This choice disables hard copy output.)

When the Copy Destination is set to File, the Output File selection is active. This choice brings up a file browser, shown in Figure 2–18, to let you select or name the output file name for the hard copy. You may name a file by touching the Filename soft key. This displays a keyboard to type in the new file name. Hard copy files may be sent directly to the floppy disk for later printing. A limited number of screen dumps may be stored in NVRAM for later transfer to a floppy disk. The available memory in the internal NVRAM of the AM700 depends on how much of the memory is used for other user files.

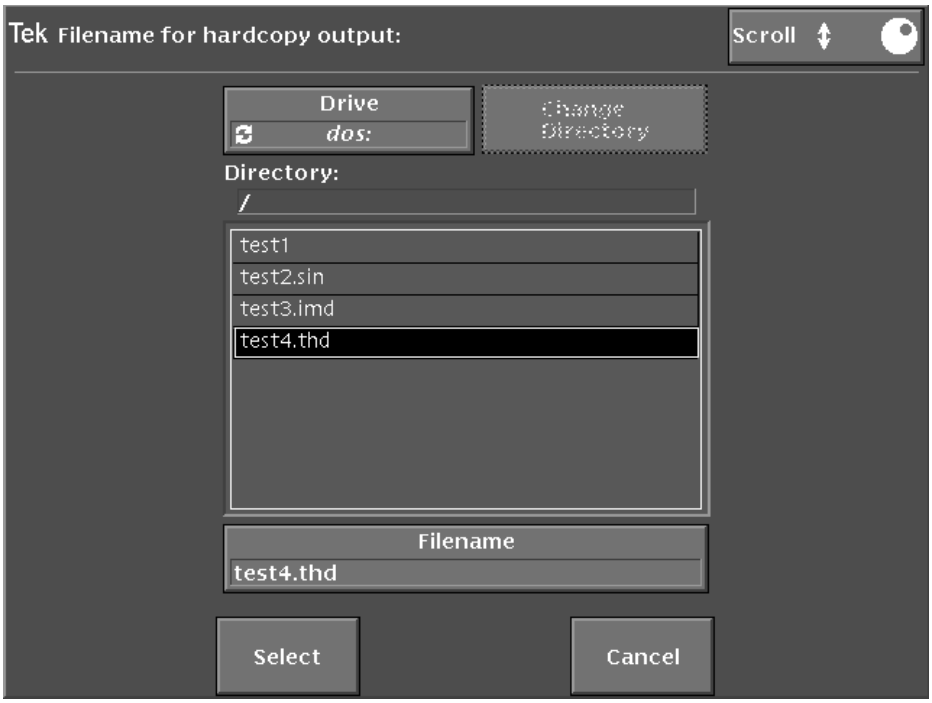


Figure 2–18: Hard copy output file selector

Copy Styles. Sets the choice of the color output for PostScript and TIFF formatted files. When set to Color, printer output will be color formatted. If a copy format other than PostScript or TIFF is used, the Color state is ignored, and the file is output as monochrome (gray scale) only.

System Communication Menu

The Communicate Configuration menu (shown in Figure 2–19) is used to define the serial communication parameters for serial ports 1 and 2, and the GPIB port.

GPIB choices permit you to select the mode of operation and the GPIB address of the AM700. GPIB modes of operation are Talk/Listen, Hardcopy, and Off Bus. Talk/Listen mode is used for remote control of the AM700 via the GPIB port. Hardcopy is the talk only mode and is used to output screens and data to a GPIB printer. Off Bus turns of the GPIB interface, and the AM700 will not communicate with any other device on the bus.

Saving Changes and Exiting the Input Selections Menu. Soft keys to exit the input selection menu are located at the bottom of the screen. When the Accept Changes soft key is touched, any selections made are entered. If the Cancel soft key is touched, all changes are deleted before returning to the current application. Pressing Clear Menu also exits back to the application.

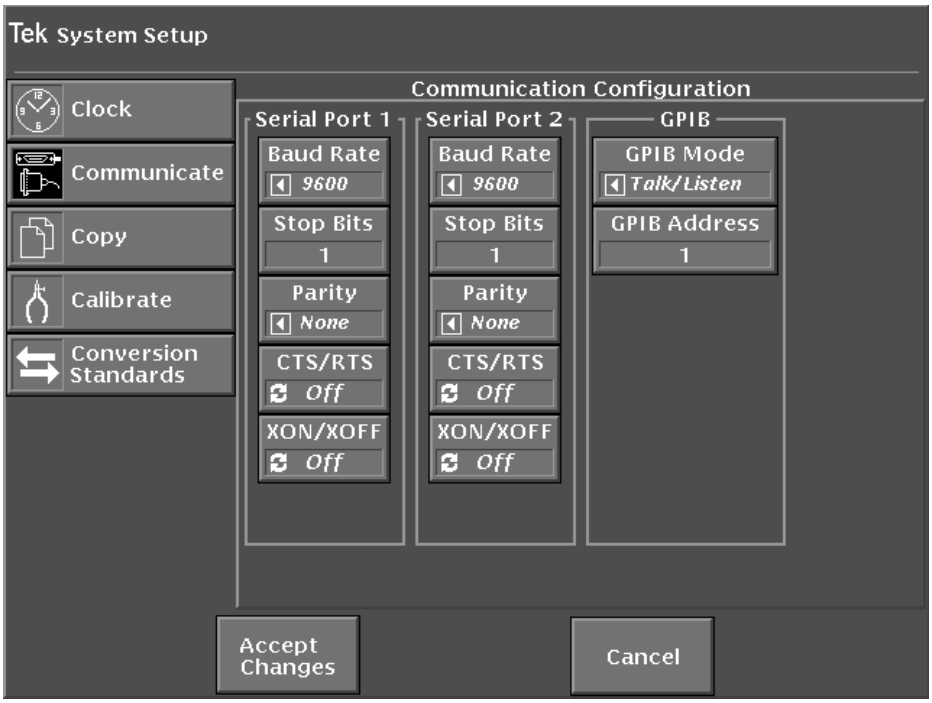


Figure 2–19: Configure system setup communicate menu

System Calibration Menu

The Calibrate menu provides a soft key to start calibration. Calibration of the analog acquisition system is done after touching the Calibrate Now soft key. Offset changes that occur with temperature will be removed. If operating the AM700 in conditions that permit large ambient temperature changes, a calibration of the analog system improves the accuracy of the measurements. If ambient temperatures are stable, a calibration done infrequently is adequate to compensate for component aging. A calibration should be done at the ambient operating temperature to produce the best accuracy.

When Audio Analyzer, FFT Analyzer, or Monitor is the running application, calibration switches the analog acquisition system to a known test signal (a 120 Hz symmetrical square wave) to acquire the positive and negative peak values seen at the output of the A and B high resolution A/D converters and at the output of the A and B high bandwidth A/D converters. The values obtained are used to determine the DC offset of the acquisition system at the time of calibration and the calibration factor needed to remove the offset from the converted data values. The calibration constants obtained are stored and used until a subsequent calibration is done.

If the Digital Interface Tester application is running when calibration is performed, the digital acquisition system offset is calculated and the calibration factor obtained is used to remove the offset from the peak-to-peak jitter measurements.

***NOTE**. Calibrate does not perform an analog acquisition system calibration when Digital Interface Tester is the running application.*

System Conversion Standards Menu

The Conversion Standards menu shown in Figure 2–20 permits you to define certain values to be used in deriving measurement results.

Output dBm. This setting defines the value of the external load resistor. The divider formed by load resistance and the internal series resistance selected for use (10, 150, or 600 Ω) is taken into account for the calculation (see Figure 2–21). Thus, generator signal level can be specified in dBm, and the correct power will be delivered to the load.

***NOTE**. This is calculated dBm, so if the external load is not as stated in the Output dBm box, the output value stated in dBm will not be correct.*

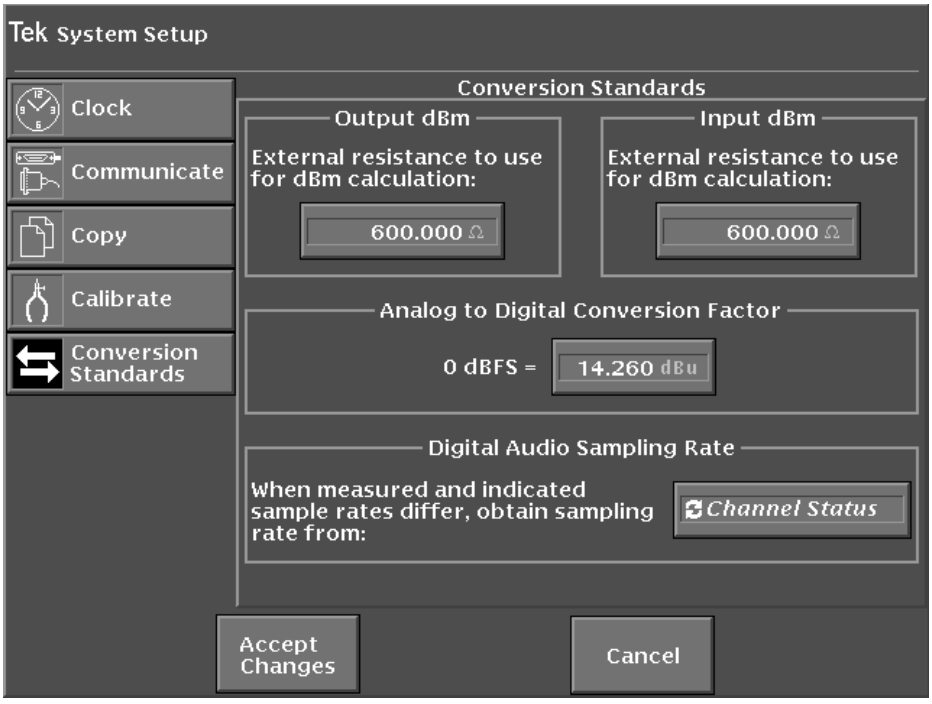


Figure 2–20: Configure system setup conversion standards menu

When the generator is driving an output load of 600 Ω, and the internal series resistor is also set for 600 Ω, the generator dBm reading will be correct. This also true when driving a 150 Ω load with the internal 150 Ω series resistor selected. Since half the voltage is dropped across the internal resistor and half across the external resistor, the dBu (voltage across the load) output will be 6 dBu down from the output value in dBm for these matching conditions.

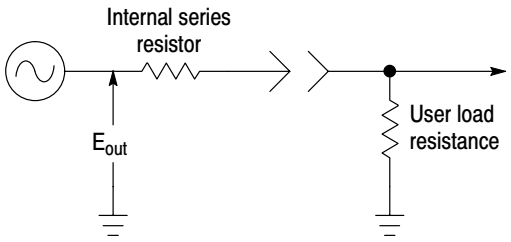


Figure 2–21: Generator output voltage divider for dBm calculations

Input dBm. This setting defines the external resistance on the input of the AM700 and is used for calculating the input signal amplitude in terms of dBm. Since the AM700 is measuring voltage, the internal termination load of the AM700, which is in parallel with the external load, has no effect on the calculation as the applied voltage is dropped across both in parallel (see Figure 2–22).

***NOTE**. This is calculated dBm, so if the external load is not as stated in the Input dBm box, the measured value stated in dBm will not be correct.*

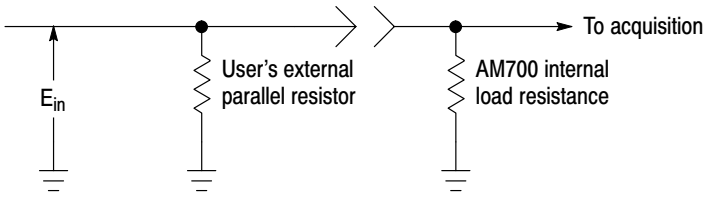


Figure 2–22: Input circuit for dBm calculations

Analog to Digital Conversion Factor. This selection permits measurement results obtained from digital audio sources to be represented as analog values as if they were produced by a D/A converter. The scale factor of a hypothetical D/A converter is specified in this entry.

Digital Audio Sampling Rate. In certain situations, the actual sample rate of a digital audio signal may differ from the value contained in the channel status bits. When digital audio is a source of input signals, the frequency measurements of the AM700 can be referred to the actual sample rate or the sample rate obtained from the channel status byte. Selection of the choice depends on whether the user wishes the calculation to reflect frequencies present in the original sampled data, or those which will result from a playback at the actual sample rate. The user must make the appropriate choice.

NOTE*. When actual sample rate and channel status content match, either setting produces identical measurement results.*

Saving Changes and Exiting the Input Selections Menu. Soft keys to exit the menu are located at the bottom of the screen. When Accept Changes is touched, any selections made are entered. If Cancel is touched, all changes are deleted before returning to the current application. Pressing Clear Menu also exits back to the application.

Quick Setup

One of the configuration choices is the Quick Setup selection. Under this selection is a set of application specific setups that can be used to quickly make the needed instrument configuration changes for an often used measurement setup. Figure 2–23 shows the selection screen with the Audio Analyzer selections; Table 2–1 gives the application-specific choices and the views that the selection produces. In the table, those views in parentheses are available but not displayed. To do a quick setup, touch the measurement you want to make. When the setup has finished, the selection screen is exited. If you want to exit the screen without making a selection, press the Clear Menu button.

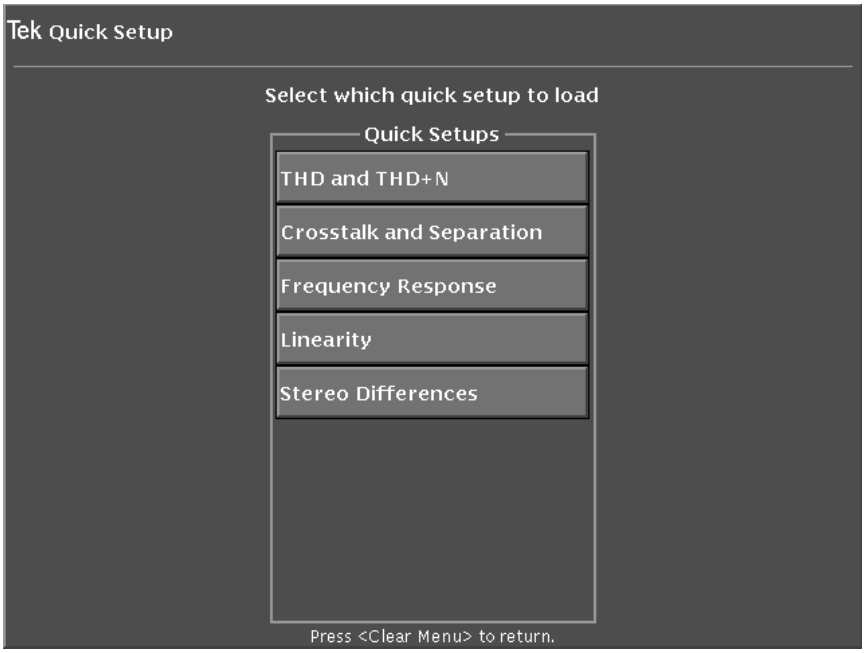


Figure 2–23: Quick setup selections for the Audio Analyzer

Table 2–1: Quick setups by application

Application	Measurements	Views displayed (views available but not displayed)
FFT Analyzer	FFT Analysis	FFT1: Channel 1
		FFT2: Channel 2
	Multitone Level Measurements	Meas1: Level Ch1
		Meas2: Level Ch2
		Meas3: Level Diff Ch1 –> Ch2

Table 2–1: Quick setups by application (cont.)

Application	Measurements	Views displayed (views available but not displayed)
FFT Analyzer	FFT Analysis	FFT1: Channel 1
		FFT2: Channel 2
	Multitone Level Measurements	Meas1: Level Ch1
		Meas2: Level Ch2
		Meas3: Level Diff Ch1 –> Ch2
Digital Interface Tester	View Enables	Jitter Spectrum
		Eye Height
		Bit Activity
		Channel Status
Audio Analyzer	THD and THD+N	Meas1: Ch1 THD+N versus Frequency
		Meas2: Ch2 THD+N vs. Freq.
		(Meas3: Ch1 THD vs. Freq.)
		(Meas4: Ch2 THD vs. Freq.)
	Crosstalk and Separation	Meas1: Ch1 Crosstalk 1–>2
		Meas2: Ch2 Crosstalk 2–>1
		(Meas3:Ch1 Separation 1–>2)
		(Meas4: Ch2 Separation 2–>1)
	Frequency Response	Meas1: Ch1 Level vs. Freq.
		Meas2: Ch2 Level vs. Freq.
		(Meas3: Level Difference)
		(Meas4: Phase Difference)
	Linearity	Meas1: Ch1 Level versus Gen A Level
		Meas2: Ch2 Level versus Gen A Level
		(Meas3: Not defined)
		(Meas4: Not defined)
	Stereo Differences	(Meas1: Ch1 Level vs. Freq.)
		(Meas2: Ch2 Level vs. Freq.)
		Meas3: Level Difference
		Meas4: Phase Difference
Monitor	Single Trace	View 1 – Meas1 on View 1
		(View 2 – Meas 2 on View 2)
	Dual Trace	View 2 – Meas2 and Meas1 on View 2

Theory of Operation

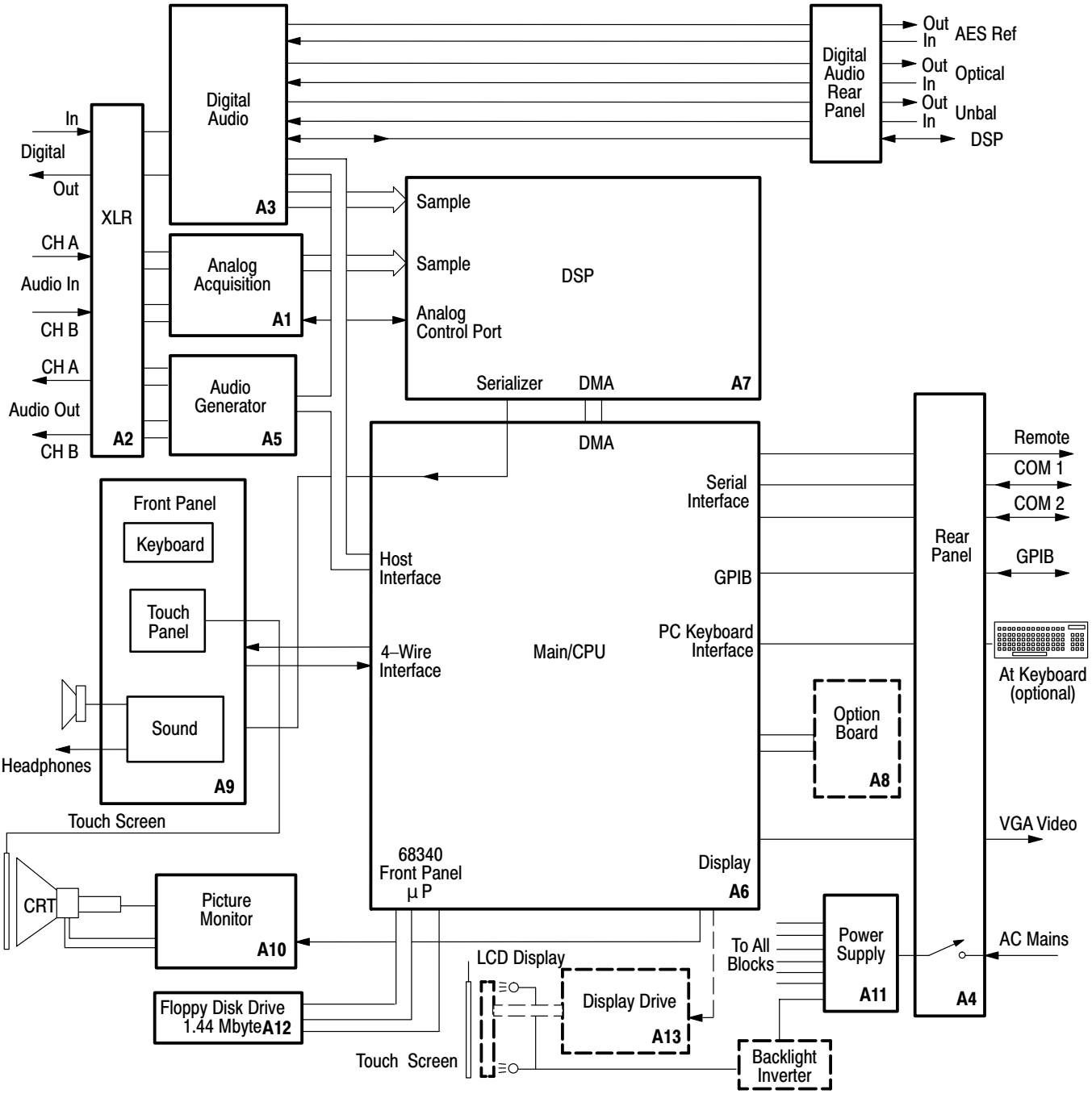


Figure 3–1: Simplified block diagram of the AM700 Audio Measurement Set

Block Circuit Description

A simplified board-level block diagram of the AM700 is shown in Figure 3–1. Only the main signal paths are shown. More detailed block diagrams of the circuitry are shown with the detailed circuit descriptions and in the diagrams section of this manual.

CPU

The CPU (central processing unit) controls the operation of the AM700 using the programming contained in the flash EPROM (electrically programmable read-only memory). That memory is programmed at the time of manufacture with the standard programming plus any optional programming purchased. The CPU has access to all the devices on the busses for either reading of the ROM programming or reading and writing to the other devices for either memory storage (to the NVRAM or other RAM) or controlling the activity of other devices (output to the VGA connector for example).

DSP

The DSP (digital signal processor) accepts digital analog signal inputs from either the Digital or the Analog input boards through sample transmitter/receiver ASICs. Communication with the Main/CPU is through a DMA ASIC. The digitized audio signal is serialized and converted to analog signals for driving the front panel headphone circuit. Control circuitry on the DSP circuit board provides signals to set up the acquisition gain, bandwidth, filters, etc., on the Analog Acquisition board.

The DSP has port A and port B memories to handle the processed data and commands. Instructions to the DSP are written to the Port B memory by the CPU. The DSP then runs the programmed instructions for the Port B memory.

Analog Acquisition

Analog audio signals applied to the CHA and CHB XLR connectors are digitized for application to the DSP for processing. A small over/underrange circuit board assembly, which is physically attached to the Analog Acquisition board, determines if the applied analog input signal is overrange (signal too big for application to the A/D converter) or underrange (signal amplitude that is small enough that a higher gain step or less attenuation should be used to provide a better dynamic range signal to the A/D converter). The gain or attenuation of the input circuitry is set to optimize the signal amplitude to the A/D converter.

Selectable filtering conditions the applied signal for either high resolution or high bandwidth measurements depending on the selections made from within a measurement application. The digitized input signals are formatted by the Sample Transmitter for application to the DSP (digital signal processor).

Digital Audio

Digital audio signals from the front panel XLR connectors or the rear panel connectors (BNC, optical, or, XLR) are processed for application to the DSP. The digital audio generator is also located on the Digital Audio board.

Audio Generator

There are two analog generators: High Resolution and High Bandwidth. Each generator has two channels of output. The High Resolution generator output channels are independent (output completely different signals on either channel). The High Bandwidth Generator outputs the same signal on both channels.

There also two digital audio generators: AES/EBU and the DSP (digital signal processor). Either of these generators may be used to produce the same signals capable of being produced by the High Resolution analog generator. In addition, the AES/EBU digital generator has the added signal of jittered sine which is used to jitter modulate the digital signal to test for jitter immunity of a circuit or device under test.

Front Panel

The Front Panel contains the touch screen circuitry, the front panel key pad circuitry, and the sound circuitry. Inputs from the analog resistive touch screen and the key pad are processed by the Front Panel μP, located on the Main/CPU board. Communication between the Front Panel and the Front Panel μP is done on a special 4-wire interface circuit.

The touch screen consists of two opposing transparent resistive layers made of 7 mil polyester coated with indium tin oxide. The two layers are joined together around the perimeter, but they are kept apart by insulating spacers in the middle. The two layers are laminated to a chemically strengthened glass backing panel using a special optical adhesive. The touch screen may be activated by a press of a finger tip or stylus.

Picture Monitor

Vertical, horizontal, and video circuitry to display the AM700 visual interface are contained in the Picture Monitor. The 7-inch (diagonal) display is non-interlaced raster scan, operating at 31.469 kHz horizontal deflection rate and 59.940 Hz vertical deflection rate. The monochrome CRT uses P4 white phosphor.

Floppy Disk Drive

The 1.4 Meg floppy disk is on the Front Panel μP bus. Waveforms, files, and programming data may be uploaded and downloaded through the floppy disk drive.

Power Supply (A12)

The power supply is an pre-regulator inverter switching supply composed of a primary rectifier, a housekeeping supply, pre-regulator, the inverter switching circuit, output rectifiers, 15 V regulators, an alarm sensing circuitry that monitors for overvoltage, overcurrent, and over temperature conditions, and the alarm logic circuitry that shuts down the inverter switching circuitry in the event of a problem.

The mains AC voltage is rectified to provide the drive power to the pre-regulator switching circuitry. A line voltage switch sets the supply to operate on a nominal voltage of either 115 VAC or 230 VAC. On 230 V operation, the primary

rectifier acts as a full-wave bridge rectifier; for 115 V operation, the primary rectifier is configured as a full-wave voltage doubler.

The primary bridge rectifier is protected by the mains line fuse and surge suppressors. A mains line filter at the input of the power supply reduces conducted and radiated EMI from and to the AM700. Additional components in the rectifier output provide line filtering and common-mode noise rejection for further reduction of conducted electromagnetic interference. Input surge current and overvoltage protection components are included in the input rectifier circuit to prevent major component damage in the event that incorrect line voltage is applied to the AC input.

Housekeeping Supply. A second power supply provides the housekeeping (or keep-alive) power source. This supply provides power to the logic circuitry that controls the power supply STBY/ON logic circuitry. It is supplied through a transformer that is wired with the power line switch to provide the correct voltage to the primary for either line voltage. The rectifiers for the + and –14.5 V housekeeping supply are full-wave with capacitive filtering of the rectified voltages. The filtered voltages are regulated by 3-terminal regulators. Both sides of the transformer secondary are fused with self-healing fusing devices. One of the sensing signals (LINE SENSE) to the power supply logic circuitry is developed from the secondary of the housekeeping supply transformer.

Floating Power Supply. In CRT display instruments, these supplies are located on the Generator board (A5). In LCD flat panel display instruments, the floating supplies are part of the power supply board.

The floating power supply provides the isolated voltages to power the analog audio generator. This isolation permits the generator outputs to float with respect to chassis ground. The +22 V and –22 V outputs of the power supply power a set of 3-terminal regulators that provide the +15 V, +5 V, and –15 V to the Generator board. Those voltages, along with the +22 V and –22 V voltages and the floating return line are connected to the Generator board through J12 on the power supply board.

AM700 Circuit Description

The remainder of this section provides more information regarding circuit operation of the AM700. It is arranged by assembly (board number) and follows the schematic diagram in order. Refer to the appropriate schematic diagram in the diagrams section to follow the circuit descriptions. Simplified block diagrams are provided in the circuit descriptions. Diamond symbols in the blocks indicate the schematic diagram or diagrams associated with that functional block. More detailed block diagrams are also included in the diagrams section of this manual.

Schematic diagrams are numbered sequentially by circuit board, for example, A5 diagram 3 and A6 diagram 3.

Analog Acquisition Board (A1A1)

Analog audio signals applied to the CHA and CHB XLR connectors are digitized for application to the DSP for processing. A small over/underrange circuit board assembly, that is physically attached to the Analog Acquisition board, determines if the applied analog input signal is overrange (signal too big for application to the A/D converter) or underrange (signal amplitude that is small enough that a higher gain step or less attenuation should be used to provide a better dynamic range signal to the A/D converter). The gain or attenuation of the input circuitry is set to optimize the signal amplitude to the A/D converter.

Selectable filtering conditions the applied signal for either high resolution or high bandwidth measurements depending on the selections made from within a measurement application. The digitized input signals are formatted by the Sample Transmitter for application to the DSP (digital signal processor).

CHA and CHB Input and Attenuator Boards (diagrams 1 and 2)

Refer to schematic diagrams 1 and 2 of the A1A1 circuit board for the following circuit description.

Analog Inputs

The Channel A and Channel B Input circuitry are identical in operation. The Channel A circuitry is described. Like components in Channel B perform the same function. A simplified block diagram of the analog input circuitry is shown in Figure 3–2.

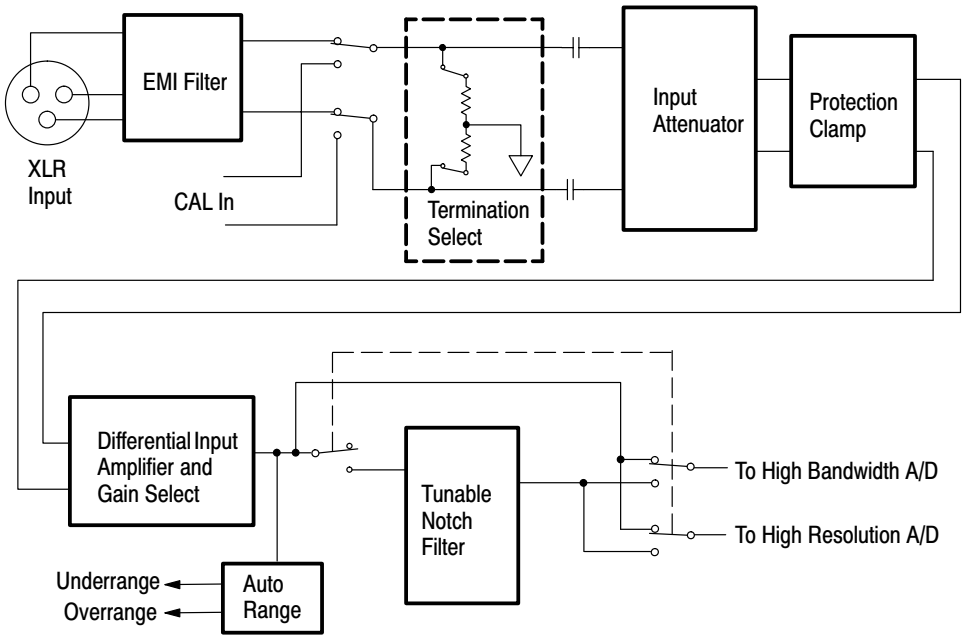


Figure 3–2: Simplified block diagram of one channel of the analog input circuitry

Differential analog audio signals are applied to the front panel XLR connectors on the XLR board, A2 and passed to the CHA input through EMI filters. The CHA input provides a selection of terminations of 150 Ω, 600 Ω, or 200,000 Ω. Relays are switched to make the selection under firmware control. There is also a selection of signal source. Either the front-panel XLR connector or the AM700 generator may be selected, also using relays. If an excessive amplitude signal is applied while one of the termination resistors is being used, an overload sense circuit causes a relay to open the circuit path to the termination resistors. The generator input is used during auto-calibration of the input circuitry to check for amplitude flatness and for measurements of the generator without using an external cable.

Attenuators

Attenuation is actually a combination of attenuator and gain stages that provide a wide dynamic operating range for the input signal from –22 dBu (62.5 mV_{RMS}) to +44 dBu (125 V_{RMS}) in 12, 6-dB steps. Input gain ranges are in 6 dB steps from –22 dBu to +8 dBu and in 12 dB attenuator steps (with intermediate 6 dB gain steps) from +8 dBu to +44 dBu. Autoranging is normally selected to automatically switch the gain based on the level of the input signal, however, manual range setting is available to the user. Relay switching and solid-state relays are used to select the various attenuation and gain settings. Control signals for the relays are applied through the Control Register, U103.

At the output of the Attenuator a clamp circuit across the two sides of the differential signal prevents the signal from exceeding + or –10 V. This clamp protects the Input Amplifier from the accidental application of excessive signal amplitudes that would damage it. If the autorange function is enabled, the attenuator will be switched to the appropriate range for the applied signal.

Gain Selection. Both sides of the differential input signal are handled on different paths through the attenuator and gain stages. The positive phase of the signal is applied to U3A, and the negative side is amplified through U3B. These gain stages may be set for unity gain, 6 dB gain, or 12 dB gain. The separate outputs are then applied to the Combining Amplifier, U4.

Differential-to-Single-Ended Amplifier

Amplifier U4 converts the differential audio signal into a single-ended signal. This stage may be set for either unity gain or 18 dB gain. The overall gain is the sum of the gain from the previous amplifiers and the input amplifier in dB. The output of U4 may be viewed with an oscilloscope at TP6 for troubleshooting the input circuitry. With an input signal applied, the output at TP6 should range between 1 and 2 V_{RMS}, with 2 V_{RMS} being full scale to the A/D converter.

Tunable Notch Filters (diagram 3)

Refer to schematic diagram 3 of the A1A1 circuit board for the following circuit description.

Notch Selection

At the input to the Notch Filter, a solid-state relay, U35, either selects the notch filter or permits the audio signal to bypass the filter completely. At the output of the notch filter, another solid-state relay, U36 selects either the output of the notch filter or the bypass signal to be applied to the A/D Converters. When in use, the notch filter is tuned to the fundamental frequency so that it is notched by 20 dB. The notched signal is then amplified by 20 dB. This increases the amplitude of the harmonic content in the signal so that harmonic distortion measurements may more easily be made. The 20 dB gain is later removed from the measurement readouts of harmonic distortion.

Multiplying DAC

The center frequency of the notch is determined by the DSP. Binary data applied to U29 determines the gain that is applied to the state variable notch, thus setting its center frequency. At the notch frequency, the amount of signal passed is reduced by greater than 20 dB. The current output steps from U29 are converted to voltage by U33A, and the steps are reintegrated by U33B.

The reintegrated and out-of-phase signal is fed back to the input minus pin of U31A where it is summed with the incoming analog signal. That output signal is also summed with the input signal and the minus input of operational amplifier U31B where it subtracts from the output of the operational amplifier at the notch

frequency. The notch has a Q of 2.7 and a depth of greater than 20 dB throughout its 20 kHz tuning range.

Test points, TP11 for CHB and TP12 for CHA, are provided for viewing the signal at the output of the notch filter. Analog ground is available at TP10.

A/D Converters (diagram 4)

Channel A and Channel B of the High Resolution A/D Converter are identical in operation as are Channel A and Channel B of the High Bandwidth A/D Converter. Figure 3–3 is a simplified diagram of the Channel A A/D Converter. Refer to schematic diagram 4 of the A1A1 circuit board for the following circuit description.

Input Buffer and 5 V Clamp

In the input to the High Resolution A/D Converter, a unity-gain buffer, U45A and + and –5 V clamp isolates the input of the A/D converter from the output of the Input Amplifier (or notch filter) and prevents overload of the A/D Converter IC.

Anti-Aliasing Low Pass Filter

The anti-aliasing low pass filter, U60B, is a 3-pole, bessel filter. The 3 dB roll-off point is at 150 kHz so within the 24 kHz bandwidth of interest there is minimal phase shift.

Single-ended to Differential Converter

The output of U60B is fed to the plus input of U58, the High Resolution A/D Converter. It is also fed to the inverting (minus) input of U60A, a unity-gain inverting buffer. The output of this state provides the negative differential side of the input signal to the A/D Converter.

High Resolution A/D Converter

The High Resolution A/D Converter, U58, is a two-channel delta-sigma converter. Both Channel A and Channel B differential signals are applied to the converter inputs. The analog input signal is converted to a serial digital data stream with a L/R output signal provided to indicate to following devices when the data applies to the left channel and when it applies to the right channel. The A/D Converter also outputs a serial clock (1SCLK) used to synchronize the High Resolution output data into the Sample Transmitter (diagram 5). The High Resolution analog data is 64 times oversampled.

Offset DAC

The Offset DAC, U81, converts serial digital data to analog output voltages on its outputs. During calibration, the amount of offset seen in the analog channels is measured. That measurement determines a calibration constant used to derive the offset correction voltages to the A/D Converters. In the High Resolution A/D Converters, that offset is applied to the 150 kHz anti-aliasing filters. The offset corrections for the High Bandwidth A/D Converter are applied to the A/D

Converter offset inputs. The high resolution A/D Converter also contains circuitry to measure and store DC offset and subtract that value form all readings. This offset value is updated each time a different measurement application is selected or when requested through the calibration menu.

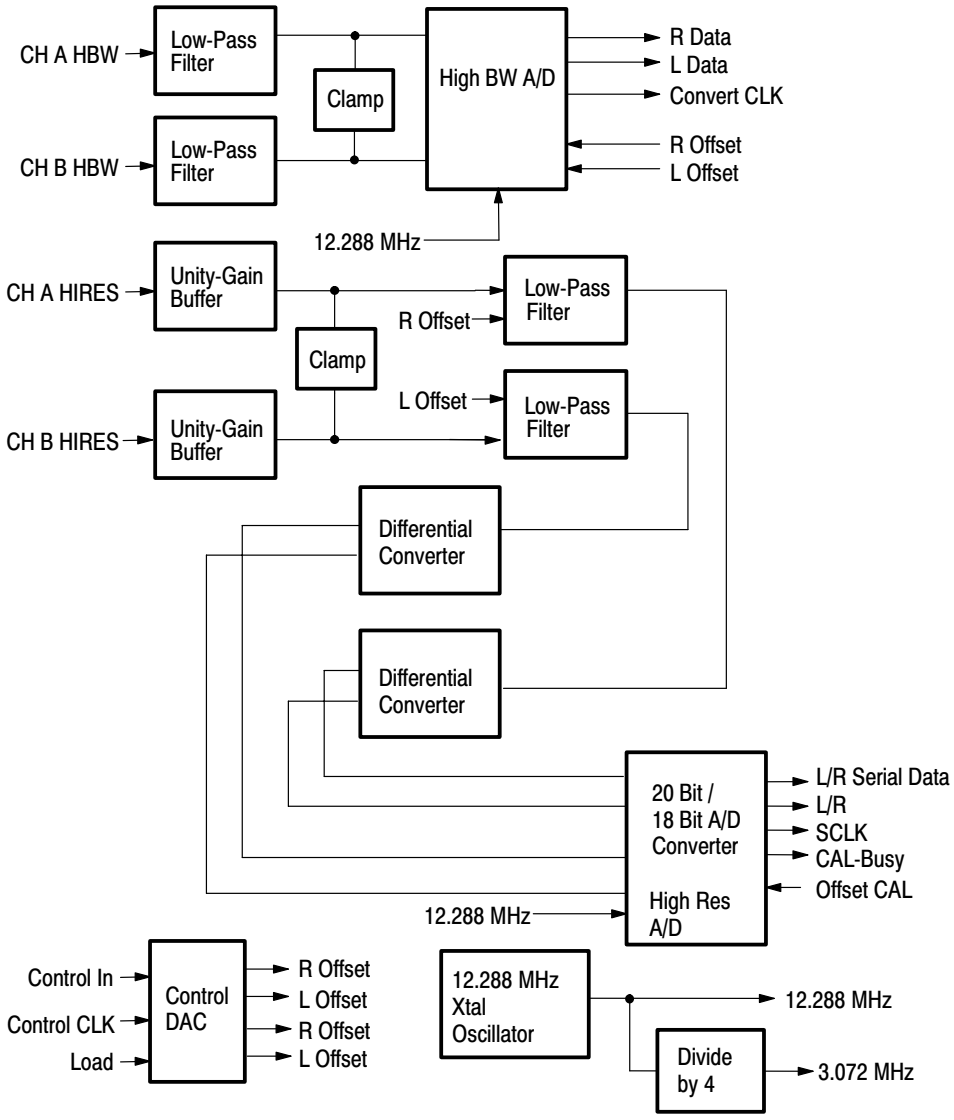


Figure 3–3: Simplified block diagram of the high resolution analog to digital converter

80 kHz Low Pass Filter

The analog bandwidth of the Input Amplifier is approximately 300 kHz. The operating bandwidth of the High Bandwidth A/D Converter is approximately 96 kHz. The 80 kHz low-pass filter, FL10, is an 11-pole filter hybrid circuit that sharply limits the bandwidth of the signal applied to the A/D Converter. At

96 kHz, the roll off is better than 90 dB. A servo circuit following the filter (U122 and associated components), looks at the DC offset of the output and feeds back an offsetting signal to the filter. At the output of the filter, the DC offset is reduced to a few millivolts.

High Bandwidth A/D Converter In the High Bandwidth A/D Converters, the left and right signals are applied single-ended. Both channels also have separate serial data outputs instead of being interleaved as in the High Resolution A/D Converter.

Decimating Filter This device provides the clocking signals to the High Bandwidth A/D Converter. Although the decimated data from the A/D is derived, it is not currently used by the AM700 software.

Sample Transmitter (diagram 5)

A simplified block diagram of the Sample Transmitter is shown in Figure 3–4. The Sample Transmitter formats data from the A/D Converters into a form that can be applied to the DSP. Data from the A/D Converters does not follow a standard format, and both A/D Converters, High Resolution and High Bandwidth, output data in different formats. This means that each data stream must be reformatted into a pattern that the Sample Transmitter ASIC, U120, can use. Both transmit and receive capabilities are included in the Sample Transmitter ASIC. A single bit is set to switch between using the device as a transmitter or as a receiver. Refer to schematic diagram 5 of the A1A1 circuit board for the following circuit description.

Format PALS These PALs, U117, U118, and U119, accept data from the A/D Converters and format it into data streams that contain a Start bit, a Stop bit, and the appropriate number of bits between that are the digitized audio signal. A second job of these PALs is to accept the eight bits that define the gain and attenuation settings and encode them into a four-bit signal that tells the Sample Transmitter ASIC how much shift is needed to restore the actual input audio signal level.

Sample Transmitter The formatted serial data is received from the Format PALS and shifted as necessary to remove the gain and attenuation from the signal that was applied prior to being digitized by the A/D Converters. That data is then arranged into eight-bit data bytes to be sent to the DSP. A block of nine bytes is sent to the DSP. The first byte defines the channel source of the data; the remaining eight bytes are 32 bits of left data followed by 32 bits of right data. A Start bit, TIDENT, goes high at the first byte, then low for the remaining bytes of the data block. The data is clocked into the DSP by the TCLK signal. (In the block diagram of Figure 3–4, this is block labeled Transfer Control.) Those signals are applied to the DSP board through connector J26, shown on diagram 6. A trigger

bit is included as the LSB bit of the data. That bit is set high or low depending on the state of the output of the trigger circuitry.

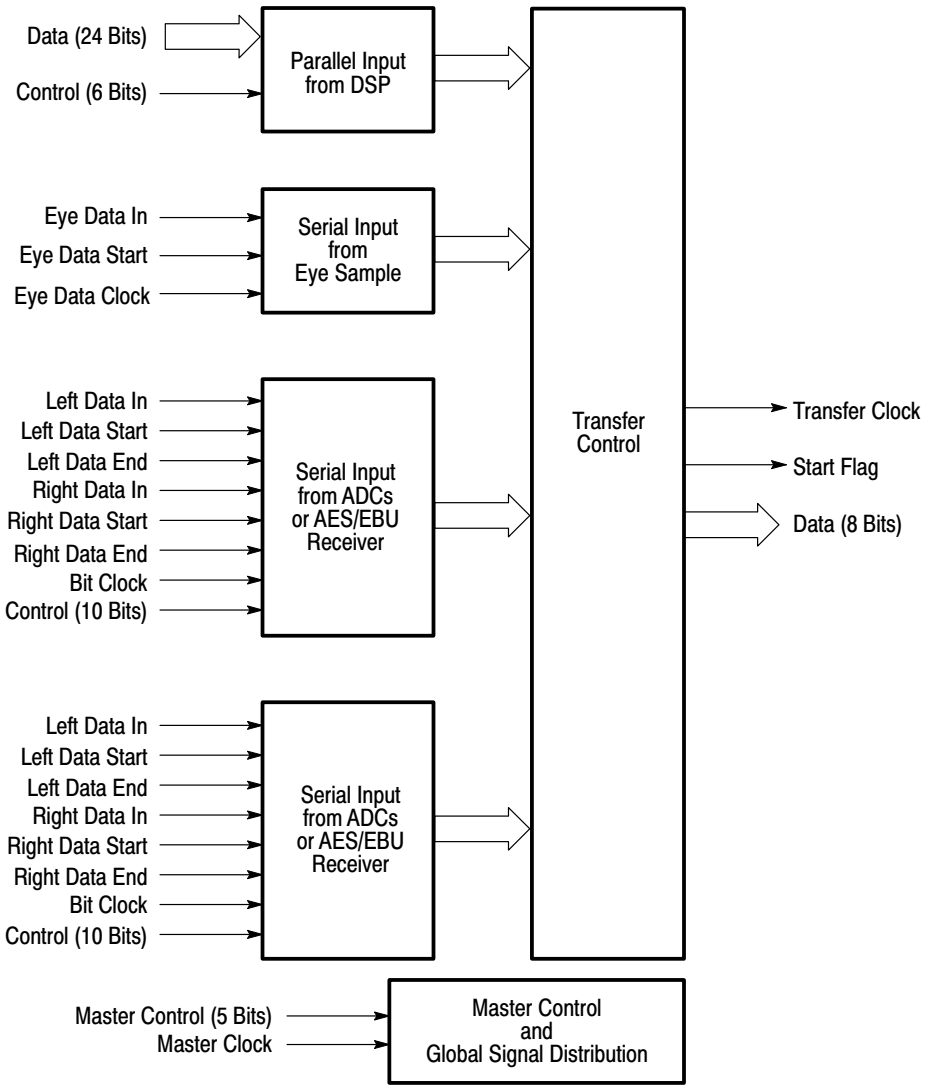


Figure 3–4: Sample transmitter block diagram

Diagnostics

As the normal data through the Sample Transmitter is highly uncorrelated, it is difficult to troubleshoot the logic circuitry. To overcome this problem, the diagnostic routine at power up uses known test patterns to check that the various sections of the formatting logic are working properly and bits are not being missed or dropped.

Calibration, Control Registers, Interface, and Power Supplies (diagram 6)

Refer to schematic diagram 6 of the A1A1 circuit board for the following circuit description. The circuitry shown on this diagrams is composed of unrelated circuitry that includes the calibration test signal generator, the TTL trigger input circuit, the isolated power supplies for the A/D Converters, and a 72-bit serial control register used to store the controlling signals for switching the attenuators, gain settings, and input terminations. Other control bits determine the setting of the notch filter frequency and control the calibration sine-wave oscillator and square-wave chopper.

Calibration Signal Source

Two calibration signals to the analog acquisition circuitry are provided. One is a 5 V, 120 Hz, symmetrical square-wave signal. The other is a highly accurate ±2.5 V sine wave. The square-wave signal is produced by chopping between a precision 5 V voltage reference and ground. When this precise duty-cycle square wave is AC-coupled, it provides a ±2.5 V reference used to calibrate the gain of the A/D Convertors and signal path.

A test point, TP31, is provided to check this signal using an oscilloscope. Test points are also provided to check the precision 5 V reference and the output of the sine-wave oscillator. Switching relays under control of signals from the Serial Control Register are applied to a relay driver, U82, to select the calibration signals and direct them to the channel being calibrated. During calibration, offset and gain calibration constants are derived. These are used to correct offset and gain shifts due to thermal effects and component aging. Maximum accuracy for measurements is obtained immediately after a calibration cycle.

Serial Control Register

The Control Register, U116, is a 72 bit serial register. It is formed by a series of registers mounted on a SIMM chip. Serial control data bits are loaded from the DSP. When any control bit is changed, all 72 bits must be re-sent to the register, but when the data is latched, only those bits that have changed are written to the register output pins.

Isolated Power Supply

Power to the isolated power supply is provided from the + and –15 V sources. Test points are provided to check these inputs. These inputs are also separately fused on the board by 5 A fuses, F3 and F4. Additional filtering is done on each side of these sources before being applied to three-terminal regulators. There are two three-terminal regulators with + 5 V output and two more with –5 V output. Test points are provided on each of these outputs to verify the voltage levels. The isolated supplies are used to provide power to the A/D Converters to limit the introduction of noise to the converters.

Interface Status Read-back Register

Interface status reports under- and over-range conditions, CAL BUSY, and input overload conditions. The status bits are parallel loaded in read-back register U109 and clocked out serially. There is also a read-back signal that is serially

loaded. That path permits a diagnostic routine to write serial data on the CONTROLAIN data line and read it back to determine if the control path is functioning correctly. The CAL BUSY signal tells the DSP that a calibration is in progress.

TTL Trigger Input

A TTL trigger signal input is applied to a Schmitt trigger device, U111D. The output of the Schmitt trigger is buffered by U121C. When U121C is enabled, a trigger event is output to the Sample Transmitter where it is included as the LSB bit of the digitized audio data.

Over/Under Range Board (A1A7)

This assembly is a small circuit board that is physically attached to the A1A1 Analog Acquisition board. Its circuitry is composed of comparators used to determine if the applied analog input signal is overrange (signal too big for application to the A/D converter) or underrange (signal amplitude that is small enough that a higher gain step or less attenuation should be used to provide a better dynamic range signal to the A/D converter).

The fixed input of the comparators is supplied through a voltage divider circuit. One output of the divider is the voltage that is the overrange level and the other is the underrange level. The analog signal from the A and B Input Attenuators (after the gain and attenuation stages) is applied to the comparators. The output of each comparator is applied to a latch circuit that holds the state of the comparison. A (CLRORANGE) (clear overrange) signal is applied to the latches to clear the states in preparation for a new comparison.

Those states are applied to a data selector, U5, that is checked to determine if over- or under-range conditions exist. If either condition is found, the control signals to the Channel A or Channel B Input Attenuator boards are modified to change the gain or attenuation as needed to adjust the input signal level to the A/D converters. The CHA/(CHB) SEL signal switches the data selector between the Channel A and Channel B range states so each channel can be checked separately.

XLR Connector Board (A2)

The XLR connector board interfaces between the input and output XLR connectors and the Analog Acquisition, Analog Audio Generator, and Digital Audio circuit boards. Each of the XLR connector signal lines is fed through EMI filters to reduce the affects of external electromagnetic pickup through the connectors and attached cabling. The Digital Audio Output connector includes transformer T1 to couple the digital audio signal, as required by the AES standard for digital audio signals.

Digital Audio Board (A3)

The information for the A3 digital audio board is provided in two manners. First is a discussion of the digital audio board functions as related to the user interface. The first discussion follows the functional operation of the board. The second part of the discussion more closely follows the schematic layout for the digital audio board.

Digital Audio Board Functional Description

Digital audio signals from the front panel XLR connectors or the rear panel connectors (BNC, optical, or, XLR) are processed for application to the DSP (Digital Signal Processor) circuit board. The Digital Audio board is composed its own DSP, the Digital Generator, and the Digital Receiver.

Digital Audio Board Terminology. The following terms are used in the discussion of the functions of the digital audio board.

- Interface Signal. This is the voltage versus time waveform present on the AES interface cable. The voltage changes represent a serial bit stream of 1's and 0's. It is characterized by digital waveform parameters including: amplitude, clock frequency, jitter, phase (relative to another interface signal), and eye opening.
- Audio Data. This is the digital data conveyed by the interface signal. It can be characterized by audio signal measurements such as level, distortion, frequency, channel separation, and so on.

Main Audio Data Generation. Main Audio data generation includes both the AES and the DSP generator modes. A simplified block diagram of the digital generator is shown in Figure 3–5. Either of these generators may be used to produce the same signals capable of being produced by the High Resolution analog generator. In addition, the AES/EBU digital generator has a jittered sine wave that is used to jitter modulate the digital signal to test for jitter immunity of a circuit or device under test.

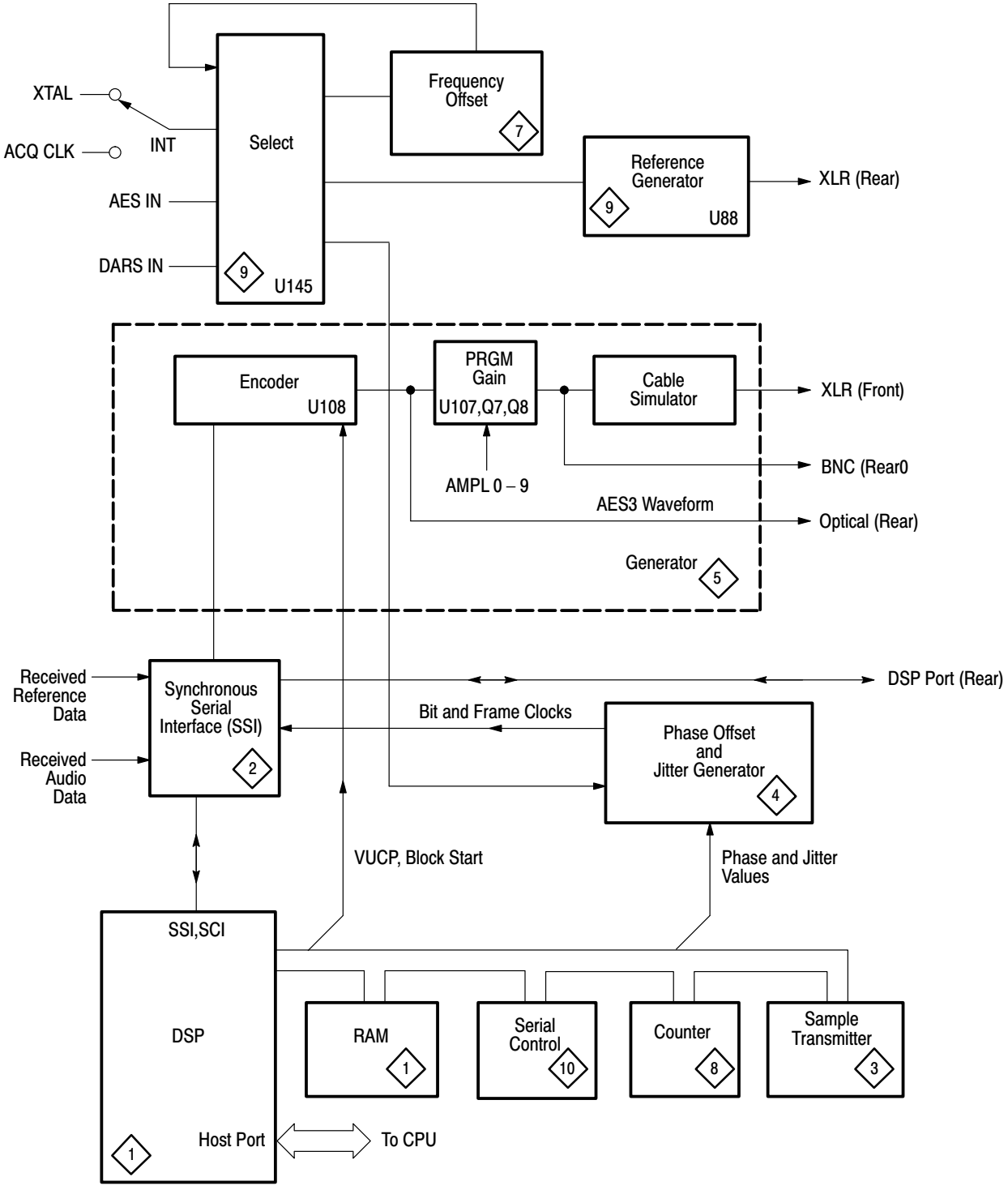


Figure 3–5: Digital audio generator simplified block diagram

User Controlled Audio Data Parameters. The user can set the following software controlled audio data parameters for the digital signal generator: waveform, frequency, amplitude, audio sample rate, number of bits, dither, channel status, and user bits. Changes to these signal parameters involve no hardware beyond that required to communicate from the CPU to the Digital Audio Board.

The hardware supporting the normal operation of these functions consist of the following circuitry blocks:

- Power Input. Power to the digital audio board is supplied through the cable connected to J30. The +5 V source is protected by an on-board 2 A fuse.
- DSP Core. The DSP core circuitry is composed of the DSP chip, and address decoder, a random-access memory SIMM, and the host interface buffers. A simplified block diagram of the DSP core is shown is Figure 3–6.
- Clock Sources. There are two clock sources to the DSP. A crystal clock circuit supplies a 12.288 MHz OSC signal to the timing generator PAL circuit that produces the DSP clock signal. That clock signal is multiplied by the DSP to provide an internal DSP clock of 39.74 MHz. The second clock is a differential clock signal from the Analog Acquisition circuit board on J31 pins 39 and 40. It is a more accurate 12.288 MHz clock that provides the digital generator output timing.
- DSP Resets. The reset to the DSP is a combined reset signal: the power-on reset and a reset from the CPU. At power up, the DSP is held in reset until the power and PLL has stabilized. The active low reset from the CPU is applied to the Digital Audio board on J31 pin 33.

  When the reset (DSPRST) is asserted (low), the DSP is initialized and held in the reset state until the reset line goes high. This reset signal is widespread on the Digital Audio board.
- Host Port. The CPU and the DSP communicate through the host interface on J31. Two buffers between the CPU and the DSP isolate the two devices from each other when they are not communicating. One buffer isolates the control signal and the second is a bidirectional parallel data buffer.
- Interconnection Cables. The power cable on J30, the host port cable on J31, the rear panel cable on J27, the sample transmitter cable on J32, and the front panel cable on J29 provide the interconnections to and from the Digital Audio Board. Check that they are properly seated and securely connected.
- Variable interface clock phase. Main output phase changes with respect to Ref output phase.

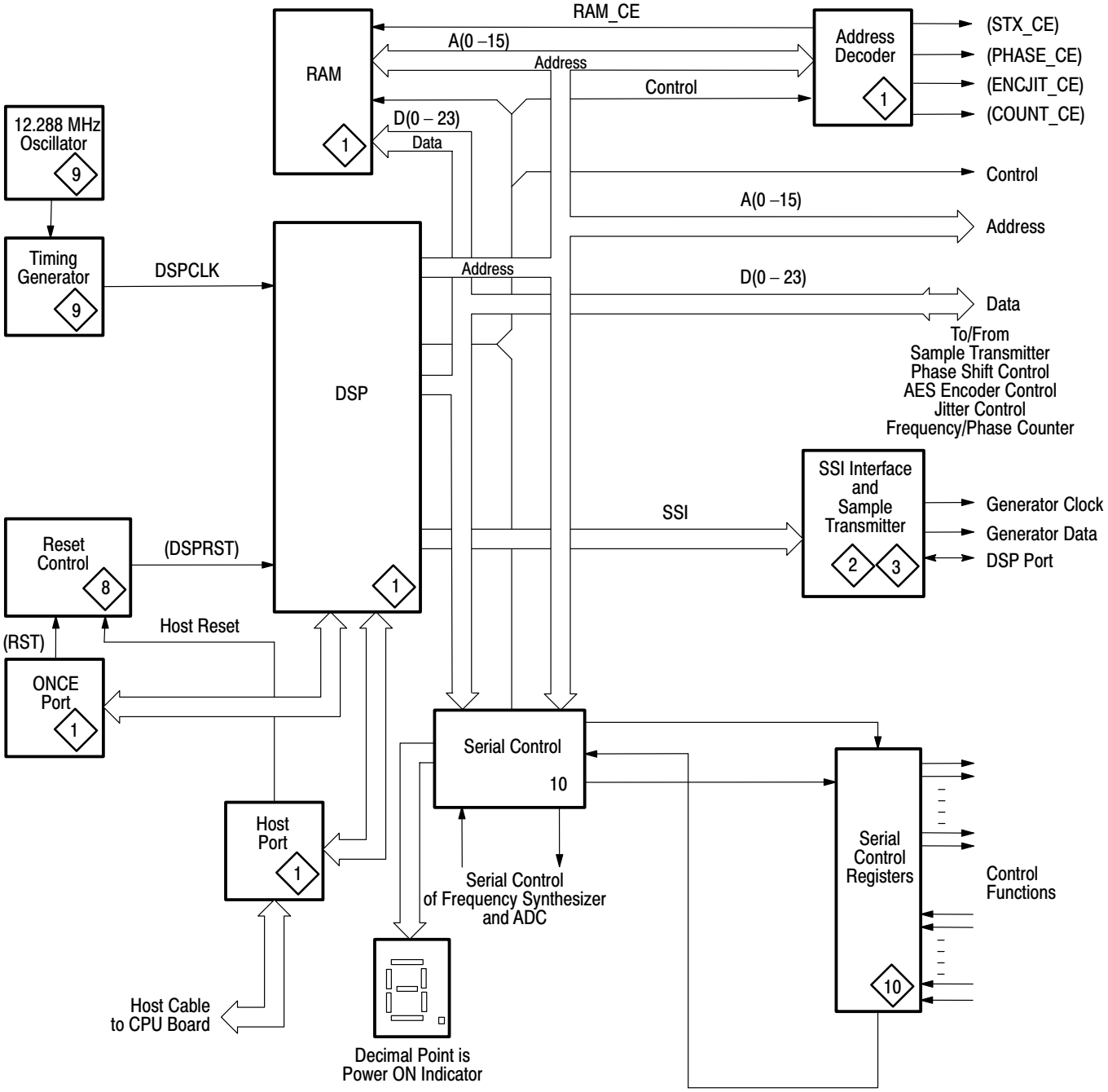


Figure 3–6: Digital audio board DSP section block diagram

- Interface jitter generation. Works only with the jittered sine-wave waveform.
- Cable simulator. Rolls off the digital waveform to the front panel XLR output connector.

- Variable interface amplitude. Controls both the XLR and BNC output signal amplitude in a 5:1 XLR to BNC ratio.

User Controlled Interface Parameters. The user can make the following parameter changes to control the generated digital audio interface signal. Control of these parameters depends on correct operation of specific hardware circuitry on the Digital Audio board.

- Interface clock source selection. These selections are: Follow Audio, Variable, or Ref In.
- Variable interface clock frequency. Available for use at sample frequencies other than 48 kHz.

The second synthesizer circuit is similar to the first with a loop filter and amplifier that drives a varactor in the second oscillator. This oscillator has an output that is fed to a current-to-ttl converter to produces complementary OFFSET and (OFFSET).

Reference Output Generation. The AES Reference output signal is present when the AM700 is on. The reference clock frequency is the same as the main output clock frequency. The variable main output parameters (jitter, amplitude, cable simulator) do not affect Ref output. The audio data and channel status of the Reference signal is fixed.

Digital Receiver. A simplified block diagram of the digital receiver is shown in Figure 3–7. The following functional blocks receive the digital audio signal.

- Source selection. A solid-state FET switch selects the source of the digital audio signal.
- AGC. The input signal is applied to the AGC circuit to provide about a 5 V peak-to-peak signal at TP3 for any of the selected inputs.
- Auto-equalizer. Compensates for rolloff of the digital waveform from the AGC output at TP3. The compensated waveform is on TP19. The Auto Equalization circuitry provides a controllable amount of peaking to the leading edge (or top) of the digital square-wave signal. Rolled off signals are peaked to produce a flatter top signal while peaked signals are rolled off to produce a flatter top signal.

  With AGC and auto equalization, the AM700 is able to lock on to a wide dynamic range of input signals that may be applied from external sources.
- AES decoder. The AES decoder decodes the serial data stream and outputs data and clock signals to the Sample Transmitter.

- Data formatter. The Data Formatter creates the start and stop bits for the serial data from the AES Decoder. These bits control the formatting of the serial data into parallel data bytes in the Sample Transmitter.
- Sample transmitter. The sample transmitter arranges the serial data into eight-bit data bytes to be sent to the DSP circuit board.

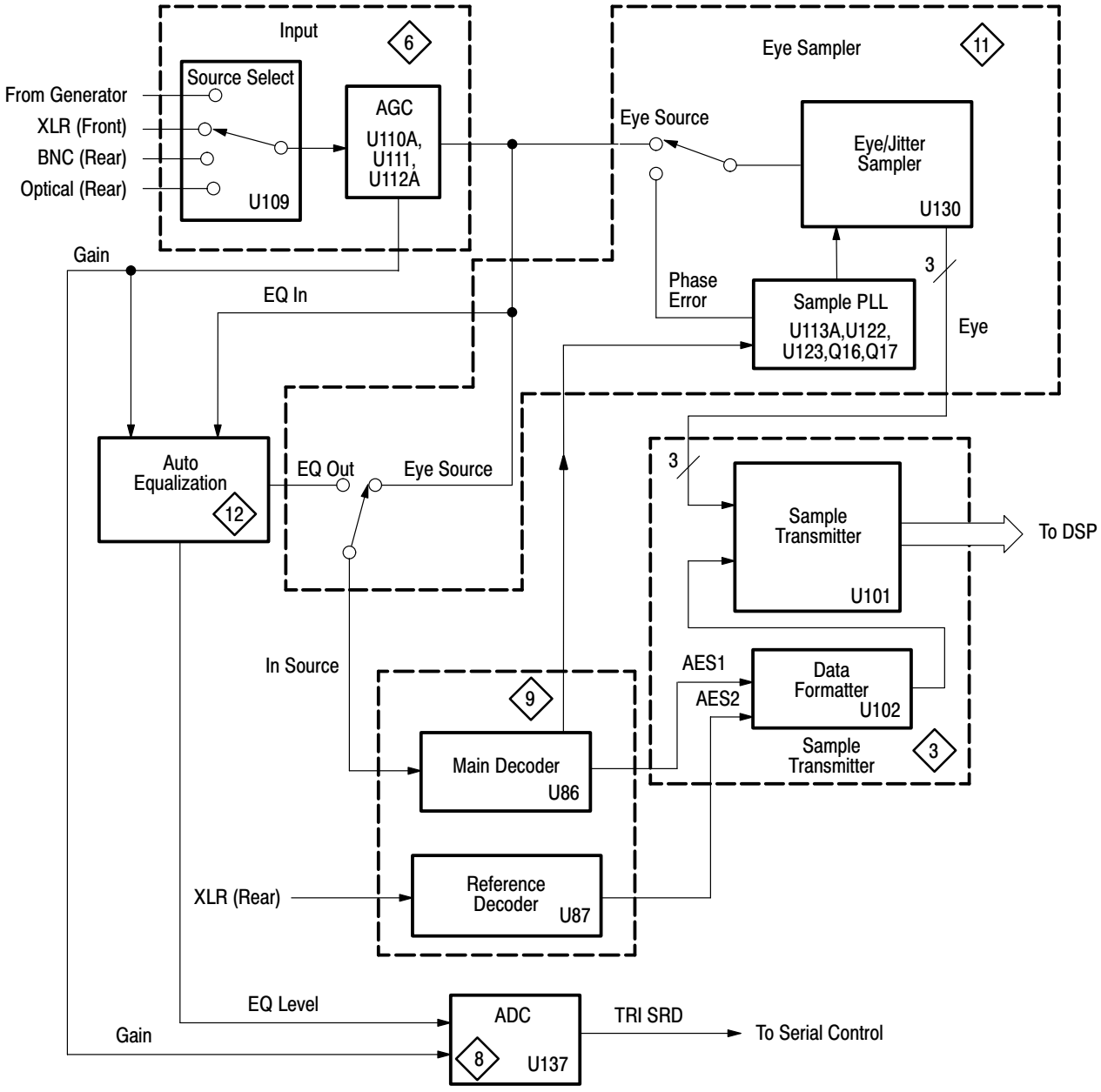


Figure 3–7: Digital audio receiver simplified block diagram

Digital Interface Tester Measurement Functions

The digital audio board has circuitry that supports the following interface measurements. These are the qualities of the serial data waveform itself and not the coded audio data.

- Amplitude. A DC level from the AGC circuit provides a measure of the input signal level.
- Cable loss. A DC level from the auto equalization circuit provides a measure of the signal degradation (rolloff) caused by the transmission path.
- Clock frequency and relative phase. A digital counter cycles through a series of measurements. These measurements provide the numbers for the Main Sample Frequency, the Reference Sample Frequency, and the Phase Difference (Main versus Ref) readouts in the Eye Diagram display.
- Eye diagram. Data for the eye diagram is generated by an equivalent-time sampling circuit. The eye diagram display will not appear if the eye/jitter phase-lock-loop circuit is not locked to a valid input signal (such as when the signal is too noisy, has too much jitter, or is outside the sample frequency range). The output of the sampler is sent to the DSP by the Sample Transmitter. The DSP plots the eye diagram and derives the Peak-to-Peak Jitter readout in the Eye Diagram display.
- Jitter spectrum. Data for the jitter spectrum display is generated by real-time sampling of eye/jitter phase-lock-loop phase error signal. The output of the sampler is sent to the DSP by the Sample Transmitter. The DSP performs a FFT on the data to produce the jitter spectrum display.
- LF Rejection 120 Hz/1200 Hz. The low frequency rejection of the eye/jitter phase-lock-loop circuit is selectable between 120 Hz and 1200 Hz. For the Eye diagram jitter components below the selected cutoff frequency are reduced. In Jitter Spectrum display, this filtering effect is compensated out by software to maintain the jitter spectrum flatness.
- X1/X8 Jitter Gain. With a low-jitter signal, the amplifier gain for the jitter spectrum display may be switched from unity to X8 gain to increase the jitter amplitude for better digitization thereby decreasing the noise floor. The X8 gain is compensated out by the software to maintain constant reference level in the jitter spectrum display.
- Equalization Bypass. In Jitter Spectrum mode only, the auto-equalization circuitry is bypassed. This provides a truer representation of the effects of transmission path induced jitter on an unequalized receiver.

Reference Receiver. The Reference Receiver, also shown as part of Figure 3–7, decodes the reference input digital audio signal and supplies timing signals for relative timing measurements. The Reference Receiver depends on the following circuitry for proper operation.

- Source Selection. A solid-state FET switch selects the source of the AES reference signal from either the AES Ref input or, when the main input selection is From Generator, the Reference output.
- The decoded data is applied to the DSP through the Data Formatter and Sample Transmitter just as for the main audio signal.

DSP Mode. The DSP Mode overrides the normal (AES) mode generator. Control of the main output is disabled. DSP mode provides a direct I/O path to the Digital Audio board DSP through the DSP port connector.

The DSP mode requires an external clock. If an external clock is not present in DSP mode, then all control and measurement of the interface parameters is suspended until returning to the AES mode.

Digital Signal Processor (diagram 1)

The following portion of the Digital Audio board circuit descriptions follows the layout of the schematic diagrams. Some information will be duplicated from the previous discussion, but is included again with references to the circuit schematic diagrams.. The Digital Audio board is composed of the Digital Signal Processor, the Digital Generator, and the Digital Receiver. A simplified block diagram of the DSP part of the digital audio board was shown previously in Figure 3–6. In the DSP board circuitry, there are local registers, an analog interface port, a DMA interface, and fast static memories that reside on the port A and port B processor buses. Refer to schematic diagram 1 of the A3 circuit board for the following DSP circuit description.

Digital Audio Board DSP

The DSP circuitry on diagram 1 is composed of the DSP chip, U4, address decoder U5, random-access memory SIMM U98, and the host interface buffers, U99 and U100.

The DSP chip, U4, is a 24-bit general purpose digital signal processor. Physically, it is a 132 pin flat-pack integrated circuit. It has a host interface for communications with the CPU of the AM700, a synchronous serial interface, a 24-pin data bus, a 16-pin address bus, and control pins for handling bus control and interrupts. The DSP also has an on-board phase-lock loop (PLL) circuit.

DSP Data and Address Buses. The data and address buses of the DSP provide access to external memory and other devices on the DSP bus. The address decoder, U5, provides the required chip selects so the DSP can address individual devices on the common bus. There are no other controlling devices on the data bus of the DSP so no provisions are needed to grant bus control away from the DSP.

DSP RESET. At power up, the DSP is held in reset until the power and PLL has stabilized. The RESET input is a Schmitt trigger. When (DSPRST) is asserted (low), the DSP is initialized and placed into the reset state. The DSPRST signal is widespread throughout the Digital Audio board.

Mode/(IRO) Lines. After the DSP leaves the reset state, the mode setting input pins are switched to interrupt request inputs (IRQA, IRQB, and NMI). IRQA and IRQB can be programmed to be level sensitive or negative edge triggered. NMI (non-maskable interrupt) is negative edge triggered and triggering occurs at a voltage level.

Analog PLL Pins. The DSP PLL has dedicated power and ground pins. These pins are connected to the common +5 V supply and the common digital ground for the DSP chip. The PLL output clock, CKOUT is a 50% duty cycle clock that is synchronized to the internal processor clock when the PLL is enabled and locked. The CKOUT polarity control pin (CKP) is strapped to ground through R7 to make the CKOUT polarity the same as the EXTAL DSPCLK signal. The PLL initialization input, PINIT, is pulled up to +5 V through R6 to permanently enable the PLL. During hardware reset, the high value of the PINIT pin causes the internal clocks to be derived from the PLL VCO output. After hardware reset, the state of the PINIT pin is ignored. When the PLL is locked to the proper phase and frequency of the EXTAL input clock, the PLOCK signal is asserted and the PLL Locked LED, DS1, will be on. This is a reliable indication of lock only after the hardware reset is exited.

Host Interface Buffers

The CPU and the DSP communicate through the host interface. Two buffers between the CPU and the DSP isolate the two devices from each other when they are not communicating. Data is passed both ways by U99, a bidirectional octal buffer. Control signals and addresses from the CPU are buffered by U100. The control signals and the addresses are separately enabled in U100. The control signals are permanently enabled, but the address bits are not enabled through U100 until the CPU places addresses on the address inputs pins and issues the (SBIT) signal. That same signal also enables the data buffer, U99, to pass data in the direction selected by the HR/(W) control bit from U100.

DSP RAM

The DSP RAM, a SIMM device, U98, provides the memory storage space needed for holding the processed digital data. Read and write control signals from the DSP control the direction of data flow. The RAM is enabled by the (RAM CE) signal from address decoder U5. The RAM chip is a 32 bit device, but only 24 data bits are used. The remaining bits are pulled up to +5 V through a pull-up resistor pack, R223.

Address Decoder

The DSP Address Decoder, U5, is a PAL device. It looks at nine selected DSP address lines and three of the Data and Address bus control pins, (DPS), (DDS), and X/Y, and decodes them to produce chip enable control signals: (RAM_CE), (SID_CE), (STX_CE), (PHASE_CE), (ENCJIT_CE), and (COUNT_CE). DSP RAM address lines RA15 and RA16 are also decoded here.

DSP Clock

A crystal clock circuit, Y1, supplies a 12.288 MHz OSC signal to the timing generator PAL circuit that produces the DSPCLK signal. That clock signal is multiplied by the DSP to provide an internal DSP clock of 39.74 MHz.

Jitter Interrupt

There is a interrupt to the DSP that is used when jittering the digital output signal. This interrupt comes at a constant rate to add jitter to the digital output signal for testing the jitter immunity of a device under test.

Synchronous Serial Interface (SSI) (diagram 2)

Interfacing the serial DSP port on the rear panel to the DSP SSI is done by U59, the SSI control PAL. The audio sample bits are generated directly at the DSP, and the control PAL outputs the digital signals with the surrounding bits that are required for digital signal formats. The control PAL selects whether the clocks are derived from the generator or the external port. When receiving or sending digital data through the DSP port, the clock to the SSI shift register is supplied by the external device.

Sample Transmitter (diagram 3)

The Sample Transmitter formats data from the Main and Reference receivers into a form that can be applied to the DSP.

Sample Transmitter

A simplified block diagram of the Sample Transmitter was shown previously in Figure 3–4. The formatted serial data is received from the Format PAL. That data is then arranged into eight-bit data bytes to be sent to the DSP. A block of nine bytes is sent to the DSP. The first byte defines the channel source of the data; the remaining eight bytes are 32 bits of left data followed by 32 bits of right data. A Start bit, TIDENT, goes high at the first byte, then low for the remaining bytes of the data block. The data is clocked into the DSP by the TCLK signal.

Phase Offset and Jitter Generator (diagram 4)

Refer to schematic diagram 4 of the A3 Digital Audio circuit board for the following discussion.

Jitter DAC

The Jitter DAC, U103, converts a jitter data byte into an analog signal for insertion into the Phase-Locked Loop. The effect of the insertion produces a high speed phase modulation of the digital signal that carries the digitized audio information.

Phase Shift PAL

The phase of the digital signal is another parameter of the digital signal that may also be adjusted by the user. A PAL, U104, supplies the data and clocks to the generator encoder PAL, U108. When a phase shift is added, U104 adjust the amount of phase shift that is applied to the digital signal. This is a fixed phase shift as opposed to the rapid shifting that is applied to jitter the signal.

Phase-Locked Loop

The phase-locked loop is composed of a phase comparator, loop filter, integrating amplifier, and a voltage-controlled oscillator. The output of the oscillator, U64, is converted to a TTL signal by the circuit formed by Q12 and Q13, and applied back to the Clock 0 input of the phase shift PAL, U104.

Generator (diagram 5)

A simplified block diagram of the Digital Audio Generator was shown previously in Figure 3–5. Refer to that illustration and to schematic diagram 5 of the A3 circuit board for the following generator circuit description.

Encoder PAL

The Encoder PAL, U108, generates the digital audio word and the VUCP (validity, user, channel status, and parity) bits that make the AES format signal. The AES formatted signal is used directly to drive the optical output circuit, but additional processing of the signal is needed to drive the XLR and Unbalanced output connectors. The Left and Right frames are interlaced in the serial digital stream. When jitter is applied, the Encoder PAL outputs the jitter signal data to the Jitter DAC, U104 (diagram 4), to add the programmed amount of shifting to the signal to produce the jitter effect.

Programmable Gain

Digital signal gain is controlled using a programmable current source to a differential amplifier circuit formed by Q7 and Q8. The programmable current source DAC, U107, receives 10-bit wide word that is the digital value of the output current needed for the gain wanted. The converted signal is the current source for the differential amplifier. The output of the amplifier if fed through a 20 MHz low-pass filter to operational amplifier U72. This filter provides a smooth transition (15 ns rise and fall time) that reduces a possible EMI source and preconditions the signal for better transmission characteristics through an audio cable. The signal for the Unbalanced output connector is taken from the output of U72, prior to the cable simulation filter.

Cable Simulation Filter

The cable simulator filter is a switchable low-pass filter that produces an effect simulating distortion of the signal that is inherent in cable transmission. It is a simple RC roll-off filter. When the filter is not in use, it is bypassed around the filter by U71, a solid-state switch.

Unity Gain Output Amplifier

The switched output of U71 is applied to a unity-gain amplifier, U106. This amplifier buffers the signal that is AC-coupled to the front-panel XLR connector through A2, the XLR board. A second output of the amplifier is the LOOPBK signal, a selectable input source to the digital circuitry. This loop-back path is used to directly apply the digital generator signal to the input of the digital audio board for testing purposes.

Digital Receiver Input (diagram 6)

A simplified block diagram of the Digital Audio Receiver was previously shown in Figure 3–7. Refer to that illustration and to schematic diagram 6 of the A3 circuit board for the following digital receiver circuit description.

Input

A solid-state FET switch, U109, is switched to select the source of the digital audio signal. The input signals are applied to the AGC circuit to provide about a 5 V peak-to-peak signal at the output of U111 (TP3) for any of the selected inputs. With AGC and auto equalization, the AM700 is able to lock on to a wide dynamic range of input signals that may be applied from external sources.

Frequency Offset (diagram 7)

The circuitry on this diagram allows tuning of the sample rate frequency. There are two synthesizers in series to produce a wide range of frequencies with fine resolution. The first synthesizer, U82, receives a clock frequency of approximately 8 to 12 MHz (12.228 MHz for a sample rate of 48 kHz). The synthesizer devices have a built in phase comparator. A loop filter and following amplifier, U39B, smooths the output of the synthesizer and drives the tuning varactor of the oscillator, U78. The oscillator output is fed back to the phase comparator of the first synthesizer and to an inverting amplifier, Q4. This amplifier converts the ECL level of the oscillator to a level of approximately 1.5 V p-p to drive the second synthesizer, U82.

The second synthesizer circuit is similar to the first with a loop filter and amplifier that drives a varactor in the second oscillator, U79. That oscillator output is fed to a current-to-ttl converter, Q14 and Q15, which produces complementary OFFSET and (OFFSET) output signals used for interface clock generation.

A/D, Frequency/Phase Counter, and Power Distribution (diagram 8)

The circuitry on this diagram covers several unrelated areas of the Digital Audio board. The A/D Converter, U137, is used to provide the values of equalization level and the AGC gain level back to the Serial Control PAL. From there, these values are read back to the DSP for use in the various measurements that require them for making calculations, one of those being the peak-to-peak amplitude of the input signal, for example.

Frequency/Phase Counters

These programmable counters, U139 and U140, are usually programmed to count the number of master clocks during a given interval. They may be used to provide a number for measuring the absolute frequency of the master clocks or the relative frequency difference between a reference and the master clock. These PALs also generate the SLOW CLOCK signal and the (DSPRST) signal.

Power Distribution

Several voltage regulators are shown in this diagram. They are the on-board regulators for the +12 V, –12 V, +5 V, –5 V, and –8 V sources. The input power for these regulators is obtained from the +15 V and –15 V sources which are also supplied to the Digital Audio board.

A +5 V reference source is developed by U138. This reference is used to produce two difference reference levels to the A/D converter, U124, that is part of the Eye Sampler circuit, shown in diagram 11.

The decoupling capacitors associated with the +5 V power to the various devices on the Digital Audio board are also shown in this diagram. The +5 V power to this board is fused by F3, a 2 A fuse. All of the input power lines are provided with additional decoupling circuits (LC filters) near the power supply connector, J30.

Decoders (diagram 9)

The Decoder circuitry contain the Main and Reference Decoders, the AES Reference Generator, and the Timing Generator.

The Main and Reference Decoders accept the serial data streams and decode the preambles to output the clock signals used to clock the serial data through the Sample Transmitter. The left and right data samples are both on the serial data line to the DSP. The word clock is a square-wave signal that is high for left channel data and low for right channel data. The data is separated later by the DSP.

The Reference Generator receives timing signals and produces an output that is encoded as a valid AES Reference signal. The + and – AES REF OUT signals are available at the rear panel AES REF connectors.

A separate Timing Generator circuit is a PAL that accepts various inputs including the ACQ clock, a TTL-level clock signal, and generates various timing signal to other portions of the Digital Audio board.

Serial Control (diagram 10)

Control signals throughout the Digital Audio board are developed in the Serial Control circuitry. The DSP writes control data to the Serial ID PAL. This PAL outputs a stream of serial data that defines the control states to be set. This data loaded into a chain of serial in/parallel out registers that hold the control data bits between updates. The last carry out of the register is applied to the Serial Status registers which provide read back path. Also applied to these Serial Status registers is the status outputs of both the Main and the Reference Decoders. The status of the decoders then may be read back for input to the DSP through the Serial ID PAL.

Eye Sampler (diagram 11)

The circuitry of the Eye Sampler is an equivalent time sampler used in the generation of the eye pattern and measurement of the jitter waveform. Either the incoming Eye Source or the phase error signal is selected for application to an A/D converter. The 8-bit parallel output of the A/D converter is applied to the Eye Sampler PAL where the equivalent time samples are chosen as 1 of 27 input samples. The samples are taken at 127 different phases of the input data to provide an envelope of samples that describe the incoming waveform when reconstructed. The outputs of the Eye Sampler are applied to the data formatter PAL (diagram 3) for formatting before being sent to the DSP by the Sample Transmitter.

A phase-lock loop (PLL) circuit generates the clock signal for the Eye Sampler. The INMCK signal (Input Master Clock) at 256 times the sample rate is applied to the phase comparator of the PLL. The PLL track the slow rate changes of the master clock. The faster changes that occur in the master clock (derived from the applied audio signal) is jitter. The control voltage to the VCO is filtered by an active low-pass filter circuit and buffered by a operational amplifier for application to the A/D converter when measuring jitter. With a low-jitter waveform, the amplifier gain may be switched from unity to X8 gain to increase the jitter amplitude for better digitization.

Auto Equalization (diagram 12)

The Auto Equalization circuitry provides a controllable amount of peaking to the leading edge (or top) of the digital square-wave signal. Rolled off signals are peaked to produce a flatter top signal while peaked signals are rolled off to produce a flatter top signal.

The input signal is applied to a low-pass filter circuit to remove the high frequency components. This removes any noise glitches from the signal and provides a uniform rolled off signal for processing. There are two variable gain stages used in the circuitry. The first is part of an AGC circuit to maintain a controlled signal amplitude. The second variable gain stage provides the gain versus frequency characteristics that are used to flatten the digital square-wave signals. The peaking amplifier adds its output to the signal based on the amount of roll-off or peaking of the input signal. If the input signal is a very good flat signal, no added roll-off or peaking is added by the variable gain stage.

Rear Panel Board (A4)

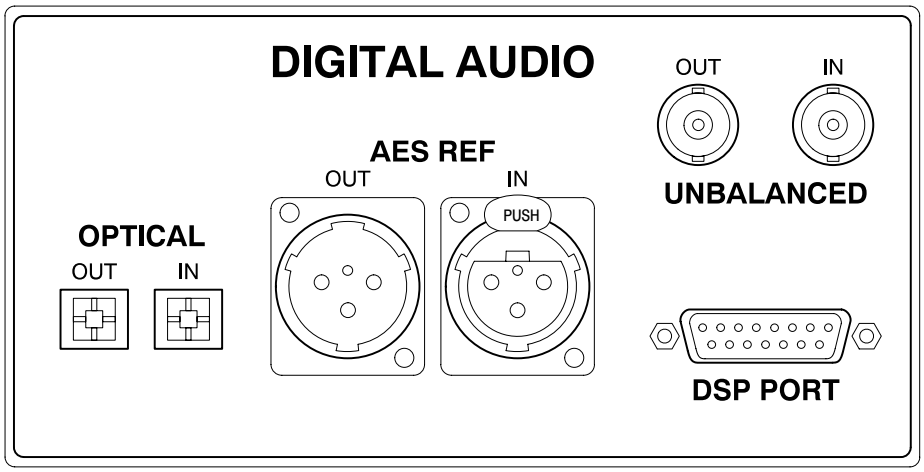


Figure 3–8: Digital audio connectors

The Rear Panel board seen in Figure 3–8 is schematically shown in a single diagram (A4, diagram 1). All the digital audio rear panel connectors interface to a single 32 pin connector and cable to the Digital Audio board.

AES REF Connectors

The rear panel board provides the interconnections for the various methods of connecting digital signals in and out of the AM700. These are: OPTICAL IN and OPTICAL OUT, AES REF IN and AES REF OUT, UNBAL AES IN and UNBAL AES REF OUT, and the DSP I/O port connector.

The TOSLINK™ optical connectors contain transducers to convert light to a TTL-level electrical signal and electrical to light for the in and out connectors respectively. The AES REF IN and OUT are standard XLR connectors, fed through isolation transformers. For the UNBAL AES REF IN and OUT, the connectors are BNC. All the input and output lines are filtered to reduce EMI effects on the signal lines.

DSP PORT

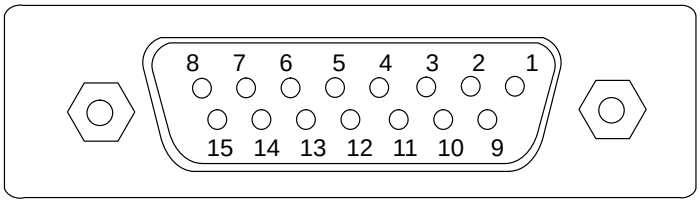
The user may connect a compatible digital microphone or other compatible digital signal source directly to the DSP for processing through the DSP Port connector (pinout shown in Figure 3–9). When the AM700 is receiving data, the external device supplies the Bit Clock, Frame Clock, and Receive Data. When sending data, the AM700 supplies Transmit Data that is synchronized with Bit and Frame Clocks of the external device. Rate 0, Rate 1, Rate 2, Flag 0, and Flag 1 are reserved for future use. The external device may be powered by the + and –12 V sources provided from the DSP Port connector. These sources are current

limited to about 150 mA. Digital devices requiring more power than available from these sources may be powered by an external power source.

The DSP port timing diagram is shown in Figure 3–9. The external device determines the sampling rate. The sampling rate to the AM700 must be no greater than 48 kHz, and the data must be 16-bit. Bit and Frame Clocks must always be "clean," with no extra transitions, while the AM700 is in DSP mode. For this reason, the AM700 should be set to AES mode when switching the sample rate of any external device attached to the DSP port. The maximum input voltage for the DSP port is –0.5 V to +5.5 V. For good noise immunity, the rise and fall time of the transitions should be less than 100 ns.

***NOTE**. The DSP generator must also be selected to permit the DSP to acquire input from the DSP port.*

DSP Port

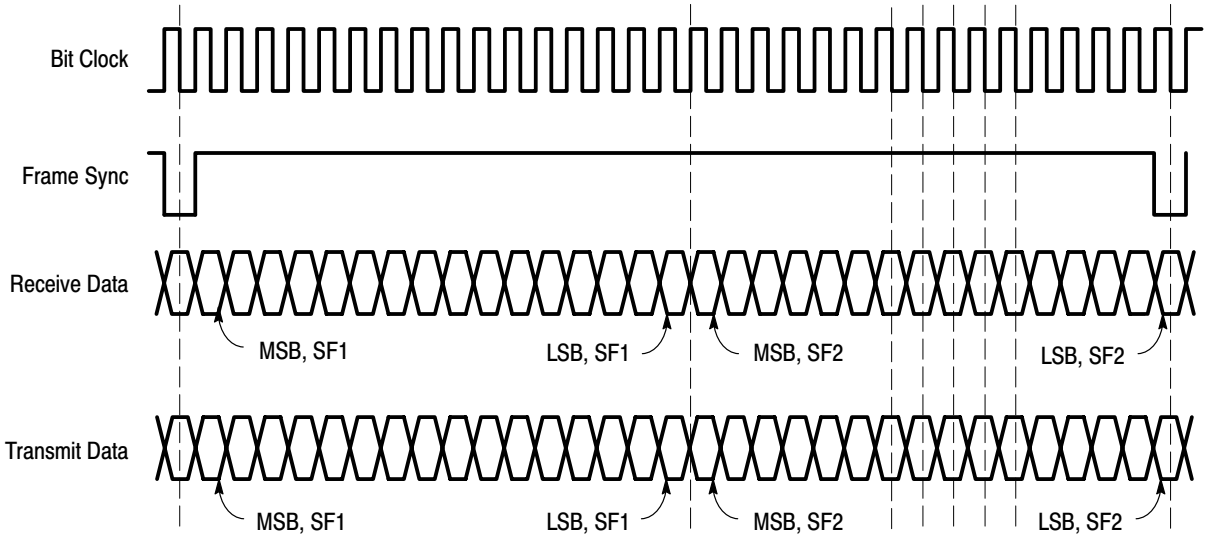


DB-15 FEMALE CONNECTOR

Pin 1	Bit Clock	Pin 9	Chassis Ground
Pin 2	Receive Data	Pin 10	Chassis Ground
Pin 3	Transmit Data	Pin 11	Chassis Ground
Pin 4	Rate 2	Pin 12	Frame Sync
Pin 5	Rate 1	Pin 13	Flag 1
Pin 6	Rate 0	Pin 14	Flag 0
Pin 7	+12V	Pin 15	Chassis Ground
Pin 8	–12V		

Figure 3–9: Digital signal processor port connector

***NOTE**. In order to meet radiated EMI regulations, the cable used to connect to the DSP port must be well shielded, and the connector housing must be conductive. The cable shield must be clamped by the housing where the cable enters the connector.*



NOTE: All Data is sampled on the FALLING edge of Bit Clock.

Receive Data and Frame Setup
Time Before Falling Bit Clock Edge = 25 ns

Receive Data and Frame Sync Hold
Time After Falling Bit Clock Edge = 40 ns

Signal Level –0.5 V to +5.5 V
Rise and Fall Time < 100 ns

Max Sample Rate = 48 KHz
Data Bits = 16

Figure 3–10: DSP port timing diagram

Analog Generator Board (A5)

A simplified block diagram of the analog generators is shown in Figure 3–11. The following block diagram description explains the blocks from a functional point of view. The schematic diagram description is given later.

Block Diagram Description of the Analog Audio Generators

There are two analog generators: High Resolution and High Bandwidth. The simplified block diagram is shown in Figure 3–11. An expanded block diagram of the DSP section of the generator is shown in Figure 3–12. Each generator has two channels of output. The High Resolution generator output channels are independent and can output completely different signals on either channel. The High Bandwidth Generator outputs the same signal on both channels.

Portions of the analog generator circuitry are floating and require a floating power supply to provide the operating voltages. Floating the generator helps break ground loops in a system composed of the generator, a device under test, and the analyzer. Prior to the flat panel display version of the AM700, the floating power supply was located on the generator board. With the flat panel display circuitry installed, the floating power supply is on the power supply board. Data and control signals between the floating and nonfloating portions of the circuitry are passed through opto-isolators.

DAC and Filtering Circuits. The high resolution data is 8 X oversampled before being applied to the right and left DAC for Ch A and Ch B analog signal conversion. The high bandwidth data passes through a sync and delay circuit to properly align the data for conversion. The DAC current output signal is converted to an analog voltage signal and filtered by the appropriate filter circuit. The high resolution signal path also contains a Low Distortion Mode filter that is selectable for use when lower signal distortion is needed from the analog generator.

Output Amplifiers. The output amplifiers have a positive and a negative amplifier section to produce the differential audio output signal. Each channel amplifier has an overload detector that senses an overload condition. If an overload occurs, and OVLD signal automatically switches in additional attenuation to protect the output amplifiers. The OVLD signal is also applied back to the DSP section for processing. The outputs of the amplifiers are protected by a clamp circuit that prevents an external voltage condition from damaging the output amplifiers.

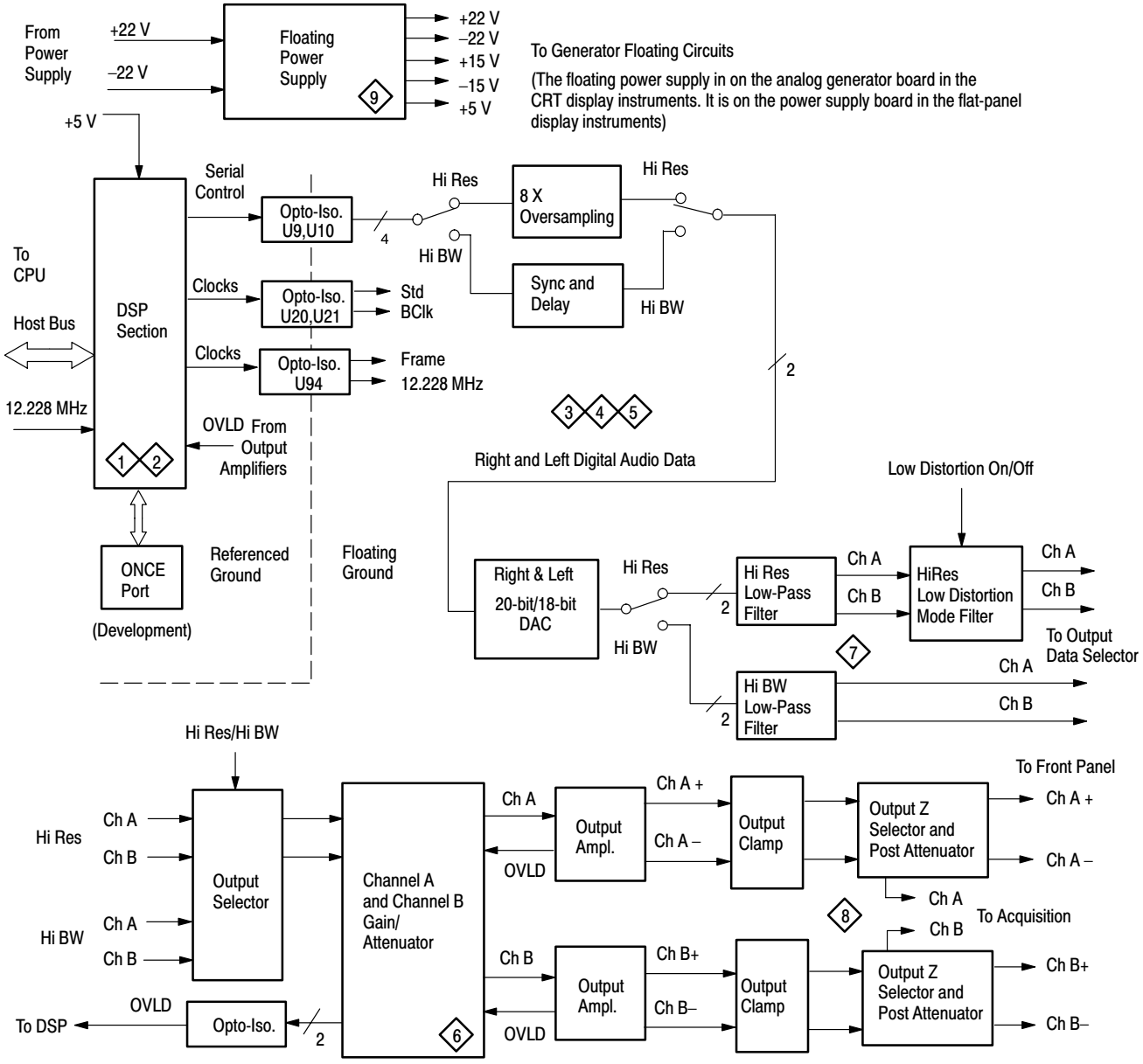


Figure 3–11: Analog generator simplified block diagram

Post Attenuator and Output Z Selector. The output impedance at this point is 5 Ω per side for a 10 Ω output source impedance. A post amplification attenuator providing 42 dB of attenuation is switched in when low amplitude signals are generated. This attenuator reduces the level of noise associated with the output amplifier so that the signal to noise ratio remains high at low output amplitudes. Direct application of the generator signals to the Acquisition board is taken from the circuitry at this low impedance point.

In the flat panel display version of the AM700, two small relay boards are used to completely isolate the internal generator signal from the cable to the Acquisition board when it is not being sent to the acquisition. This reduces the generator-to-acquisition crosstalk to –140 dB or below. Earlier versions of the AM700 used a relay T-switch on the Acquisition board to shut off the signal when it was not needed.

The other output impedance choices of either 150 Ω or 600 Ω are switched into the output path as selected by the user. Half of the output impedance minus the fixed 5 Ω per side is added to produce the total. For example, for a total of 150 Ω output impedance, 70 Ω additional impedance is added to each side.

Digital Signal Processor (Generator) (diagram 1)

Refer to schematic diagram 2 of the A5 analog generator circuit board for the following circuit description.

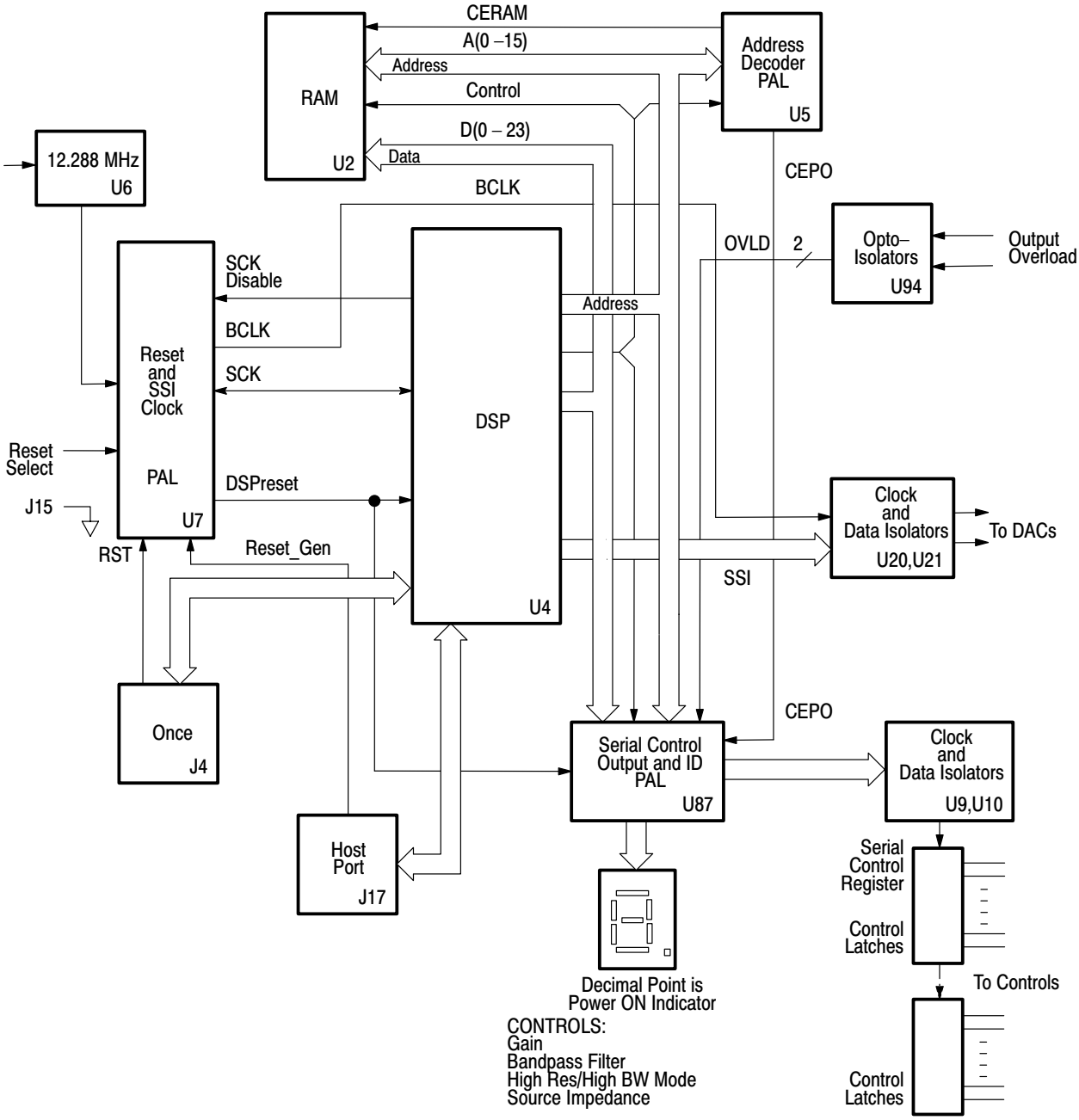


Figure 3–12: Analog generator DSP section block diagram

DSP

The generator DSP, U4, develops the digital data that represents the audio test signal to output from the front panel Analog Generator XLR connectors. It is programmed by the host CPU via the host interface. The data is clocked out serially to the generator DACs through the SSI (synchronous serial interface) of the DSP.

Reset and SSI Clock Pal

The Reset and SSI Clock Pal, U7, allows the output data to be clocked either directly from the DSP or from a divided version of the 12.288 MHz clock frequency. These two types of operation are the High Resolution mode and the High Bandwidth mode. The SCK DISABLE signal controls switching between the states as shown in Figure 3–13. The resulting waveforms of the clocks and data stream for the two modes is shown in Figure 3–14. The High Resolution mode sample rate is 48 kbits per second, and the High Bandwidth mode sample rate is 192 kbits per second.

Address Decoder

There are two chip enables and some memory addressing bits decoded by U5, the Address Decoder. The chip enable signals are used to enable the Serial Control Pal and the RAM, U2. The addressing bits (RA15, RA16, and RA17) are applied to the RAM to control the upper three bits of the RAM addresses.

RAM

The RAM, U2, holds the programming for the test signals. The data is loaded from the CPU through the DSP. Read and write control is provided from the DSP RD and WR outputs. The chip enable signal (CERAM) is developed from the Address Decoder, U5.

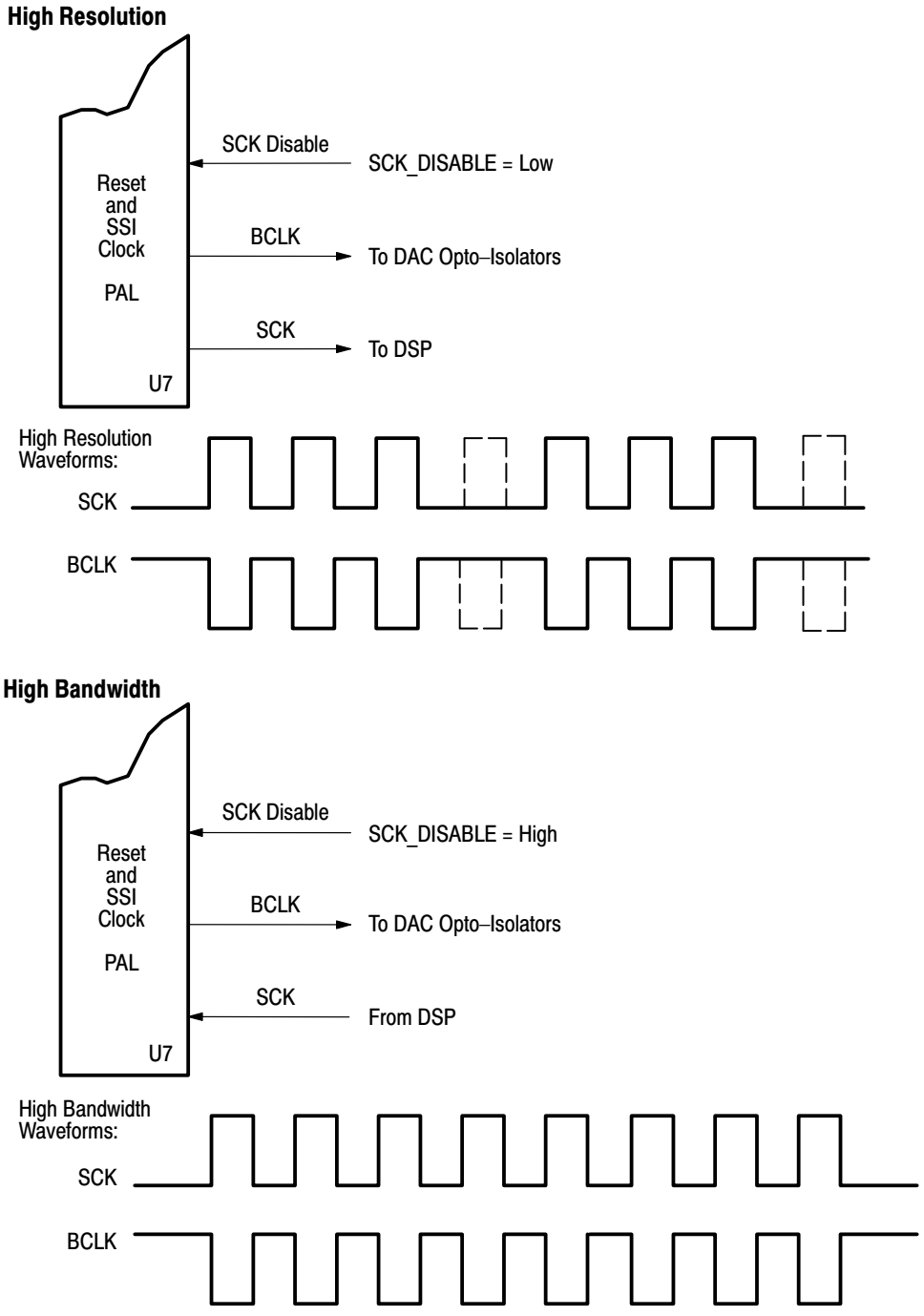
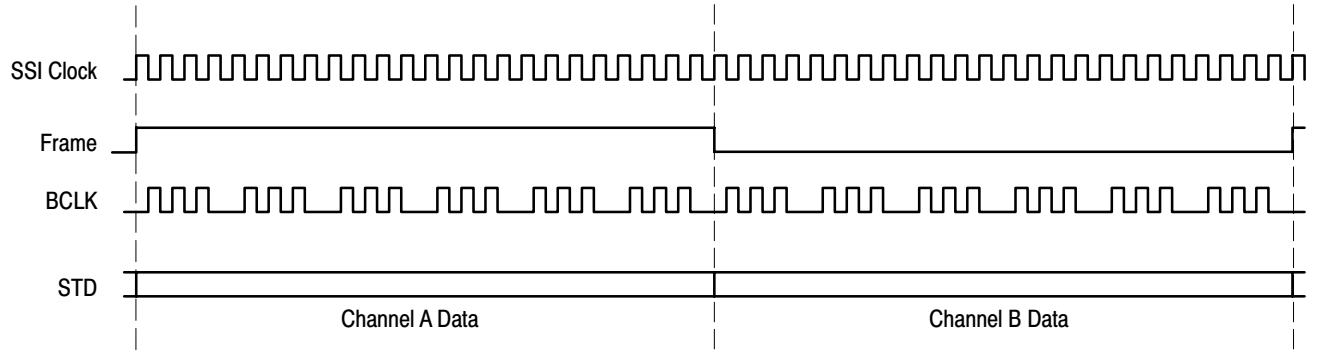


Figure 3–13: S-Clock disable used for DSP mode control

High Resolution mode



High Bandwidth mode

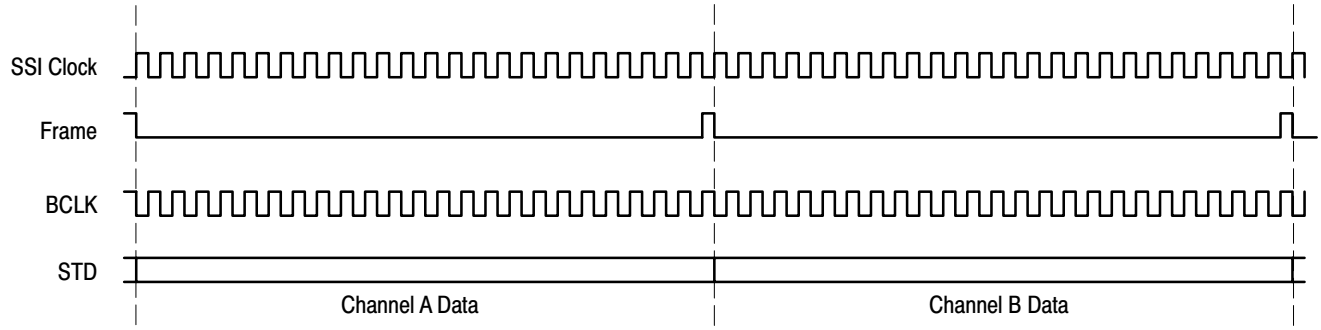


Figure 3–14: SSI clock, frame, B clock, and serial data waveform for High Res and High BW modes

Control and I/O (diagram 2)

Refer to schematic diagram 2 of the A5 analog generator circuit board for the following circuit description.

Serial Control PAL

The Serial Control PAL, U87, develops the controlling signals as a stream of control bits. The control bits are loaded into the Serial Control Register and latched to the outputs of the register for application to the various devices under control of the DSP. The serial data stream is buffered by U8 and isolated by U9. The clocking signal to the Serial Control Register is also isolated, but by U10. Whenever any control bit changes, the entire register is reloaded.

7-Segment LED. The Serial Control PAL also develops the segment-drive signals to DS2. This device is available as a diagnostic tool.

Host Port

Communication between the CPU and DSP is done through the host port, J17. A bidirectional buffer, U86, isolates the CPU and DSP busses from each other and controls the direction of data transfer.

Serial Control Register

The Serial Control Register receives control bits in a serial data stream from the Serial Control PAL. The register is composed of six, 8-bit serial input shift registers, for a total of 48 control signal outputs. These bits are used to control the switching for the Tunable Bandpass Filter, the A Channel and B Channel Gain/Attenuator selections, the generator output impedance choices, and also to provide control signals to other devices on the Analog Generator circuit board.

DACs and Current to Voltage Converters (diagram 3)

Refer to schematic diagram 3 of the A5 analog generator circuit board for the following circuit description.

Data and Clock Isolators

The clocks and serial data from the Generator DSP are buffered by U24 to provide drive the the Clock and Data Isolators, U20 and U21. These isolators maintain the floating capability of the Analog Generator.

Oversampling Filter

In High Resolution mode, this oversampling filter has interleaved left/right 16-bit serial data at 48 kilosamples/second applied. The filter deinterleaves the data into left and right 20-bit serial data outputs at 384 kilosamples/second. The data bits are clocked into the left and right DACs simultaneously by the bit clock signal, BCKO, at 12.288 MHz. When the complete frame has been received, the word clock signal, WCKO, tells the DACs to latch the word data and convert.

Data Shifter

In High Bandwidth mode, the interleaved serial data is received at 192 kilosamples/second. There are two paths for the data, a left data path through a 24-bit data shifter, and an undelayed right data path through U96B. The data shifter is formed by three, 8-bit serial-in, parallel-out, registers. The eighth bit of each is the only output used so the left channel data is delayed by 24 bit clocks from the right channel data to deinterleave the left and right data to the DACs.

Data Selectors

The Data Selectors, U39 on the left channel and U38 on the right channel, are driven to select data and clocks for the High Resolution mode or the High Bandwidth mode of generator operation.

DACs

Left and Right DACs are serially loaded with a 20-bit word by the bit clock signal. At the word clock, the data is converted to a current output that represents the value of the data word.

Current to Voltage Converters

The current output of the DACs is converted to a voltage level by the Current to Voltage (I-to-E) converter circuits, U19B on the left channel, and U13B on the right channel. The components on the minus inputs of the I-to-E converters filter conversion glitches from the DACs. The output voltage of these devices is applied to the DAC Low-Pass Filter circuitry for smoothing.

DAC Low-Pass Filters (diagram 4)

Refer to schematic diagram 4 of the A5 analog generator circuit board for the following circuit description.

Filter Paths

The low-pass filter for the A and B DACs (left and right) have two filter paths: a 20 kHz low-pass filter path and a 80 kHz low-pass filter path. These two paths are in the circuit all the time. The path selection is made at the input to the Gain/Attenuator circuitry (diagram 6).

20 kHz Low Pass Filter

The 20 kHz low-pass filter is used for the High Resolution mode generators. The generator output is up to 20 kHz. For high resolution signals, the filter is a 5-pole, linear-phase filter circuit. This means that the active devices serve to preserve the phase of the signal through the filter to 20 kHz. Output from the Low Pass Filter is applied to the Tunable Bandpass Filters (diagram 5).

80 kHz Low Pass Filter

Filtering for the High Bandwidth signal, which goes up to 80 kHz, is done by a hybrid, 11-pole elliptical filter. This filter introduces some DC offset, so the output is AC coupled to the next stage to eliminate any DC components from the filtered signal. Output from the 80 kHz low-pass filters is applied directly to the data selector in the Gain/Attenuator circuitry (diagram 6).

Tunable Bandpass Filters (diagram 5)

Refer to schematic diagram 5 of the A5 analog generator circuit board for the following circuit description.

Filter Paths

There are two paths for the left and right High Resolution generator signals relative to the Tunable Bandpass Filters. These are the bypass path and the path through the tunable filters. The choice is user selectable in the generator Advanced Analog Controls and is called “Low Distortion” mode when the bandpass filter is inserted. Either high resolution generator signal or both may be routed through the tunable filters.

Tunable Bandpass Filter

The Tunable Bandpass Filter is designed to attenuate the second and third harmonic distortion products from the DACs to improve the already low distortion characteristics of the high resolution generator signals. Filters are tunable in two bands for improved noise characteristics. The bands of filter operation are from 20 Hz to 750 Hz and from 750 Hz to 10 kHz.

The filters are constant-Q filters with a Q of 2.7. A constant-Q filter maintains a bandwidth that is a constant percentage of the center frequency of the filter. Second harmonics of the fundamental frequency are attenuated by 10 or more dB. Any third harmonic products are attenuated by 15 dB or more to attain the lower distortion output signal. Filter tuning tracks the generator fundamental frequency. When operating in Low Distortion mode, the filter components add slightly to the noise floor so that small amplitude output signals will become noise limited sooner than operating in the bypassed mode.

A Channel and B Channel Gain/Attenuators (Generator Output) (diagram 6)

Refer to schematic diagram 6 of the A5 analog generator circuit board for the following circuit description.

Relay Control Latches

Control signals for setting the state of the A and B Channel step attenuators, and the gain of the A and B Channel Amplifiers comes from the Serial Control Register (diagram 2). Those control signals used to drive relays are latched into two 8-bit registers, U25 and U75. The control signals used to set the attenuators are applied directly to those devices.

Data Selector

The selection between High Resolution data or High Bandwidth data is made by data selector U100 in the A Channel and U43 in the B Channel. The data selectors require a high output impedance to reduce distortion, so the outputs are buffered by U27B and U28B before being applied to the stepped attenuators. The buffer outputs are AC coupled to the stepped attenuators to eliminate any DC components that may have been introduced by various offsets in the preceding stages.

A and B Channel Step Attenuators

The attenuation selectors are U26 the A Channel and U31 in the B Channel. Attenuation settings are in 6 dB steps from 0 (no attenuation of the input signal) to 36 dB. Control signals for switching are applied from the serial control register (diagram 2). An additional control signal is applied through the logic circuitry on the A2 input of the data selectors. That is the overload indication signal, OVLD. When an overload condition on an output amplifier occurs, the stepped attenuator for the overload channel is switched to immediately add 16 dB of attenuation to the input signal.

A and B Channel Buffers

A Channel and B Channel signals from the stepped attenuators are applied to buffer amplifiers U27A (A Channel) and 28A (B Channel) to isolate the stepped attenuator stage from the output amplifiers and provide three gain ranges. The gain of these amplifiers is separately controlled by more 1-of-8 data selectors in the inverting input of the amplifiers (U29 in A Channel and U30 in B Channel). The input resistance and feedback resistance is selectable to provide unity, +6 dB, or +12 dB of gain for the amplifier in each channel.

A and B Output Amplifiers and Output Z Selectors (diagrams 7 and 8)

Refer to schematic diagram 7 and schematic diagram 8 of the A5 analog generator circuit board for the following circuit description.

A and B Output Amplifiers

The A and B Channel output amplifiers are identical in circuitry and operation. The single-ended channel signal is applied to the inverting input of the buffer amplifiers in the A and B Output Amplifiers (U49A and U55A respectively) circuitry. This inversion in the operational amplifier makes the overall amplifier be noninverting. The feedback signal is applied to the noninverting input of the input buffer amplifiers. A selectable feedback resistance is used to provide two overall gain settings for the output amplifier: unity and +6 dB. Each of the output amplifiers has a complementary-symmetry circuit arrangement to form a push-pull amplifier stage.

The differential output signal from the analog generator is produced by applying the output of noninverting half of the output amplifiers to a second, almost identical, unity-gain inverting amplifier whose output is the differential signal to the output of the noninverting half of the amplifier.

In the flat panel display version of the AM700, two small relay boards are used to completely isolate the internal generator signal from the cable to the Acquisition board when it is not being sent to the acquisition. This reduces the generator-to-acquisition crosstalk to –140 dB or below. Earlier versions of the AM700 used a relay T-switch on the Acquisition board to shut off the signal when it was not needed.

Overload Protection. If the output of either half of any output amplifier becomes overloaded, the voltage across the resistor in the output transistor of the amplifier increases to a level that turns on the LED of the Overload Indicator opto-isolator. The output of an active opto-isolator triggers a one-shot multivibrator. An overload indication will usually occur at the peak of the signal for a short duration of time.

The one-shot is used to lengthen the output pulse to permit time for the overload condition to be sensed by the processor. There are two outputs from the one-shot. One sets an Enable flag that is sensed by the processor. When the flag is set, a warning indication is displayed to warn the user that an overload condition exist.

The second output is the Overload signal that is applied to the attenuator setting selector of the overloaded channel. This immediately adds a factor of 16 attenuation to protect the output amplifiers in that channel from damage.

Output Impedance Selectors

The output impedance selection for the audio analog generator is done with solid-state relays using control signal from the serial control register (diagram 2). One-half of the total output impedance is in each side of the differential output. The straight-through path of the impedance selectors produces an output impedance of 10 Ω with 5 Ω in each side. The other choices are 600 Ω and 150 Ω. The resistance values that make up the 600 Ω and 150 Ω source impedances are selected to account for the 10 Ω in each side that is not able to be switched out of the output path. Either the 10 Ω or the 42 dB attenuator remains in the generator output path to protect it from a short circuit on the output.

Power and Floating Power Supply (diagram 9)

Refer to schematic diagram 9 of the A5 analog generator circuit board for the following circuit description.

Power Distribution

The incoming power to the A5 audio generator board is applied through J16. The fusing and decoupling circuitry for the various supplies to the board are shown in this diagram.

Floating Power Supplies

In LCD color flat panel display instruments, these supplies are located on the Power Supply board (A11), and the Generator board components for the floating supply, if present, will not be in use.

The floating power supply provides the isolated voltages to power the audio generator. This isolation permits the generator outputs to float with respect to chassis ground. A +22 V supply line provides power to the inputs of three switching power supplies, U81 (+15 V), U82 (+5 V), and U83 (–15 V). On the output of the switchers, the filter circuitry is referenced to the analog ground of the floating audio generator circuitry. To provide the –15 V output, the circuitry on the output of U83 is arranged in a buck-boost configuration that outputs negative voltage. The switching waveform is shown in Figure 3–15. The –15 V switching supply circuit provides approximately 150 mA to the load. The remaining load current, about 200 mA, is provided from the –22 V source through R359.

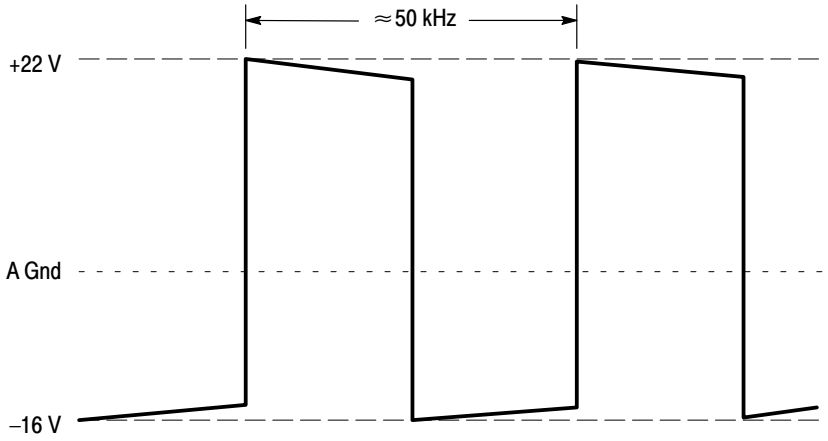


Figure 3–15: Switching waveform for –15 V floating power supply

Main/CPU Board (A6)

In the host CPU (simplified block diagram shown in Figure 3–16) there are two RS-232 ports, generator interface port, keyboard interface port, GPIB interface, free running counter, Host Interface, board registers, bus interface and memories for data and program storage.

CPU and DSP Bus Interface (diagram 1)

Refer to schematic diagram 1 of the A6 CPU board for the following discussion.

CPU The CPU, U64, has a 32 bit data bus and a 32 bit address bus. The address bus lines to the majority of the devices on the bus are buffered by four octal bus buffers, U80 through U83. The address bus to the front panel processor shared RAM is buffered by bidirectional data buffers on diagram 7. The disk drive addresses are also obtained from these address buffers. Both the data bus and the address bus are also connected to the DSP board for communication between the CPU and the DSP.

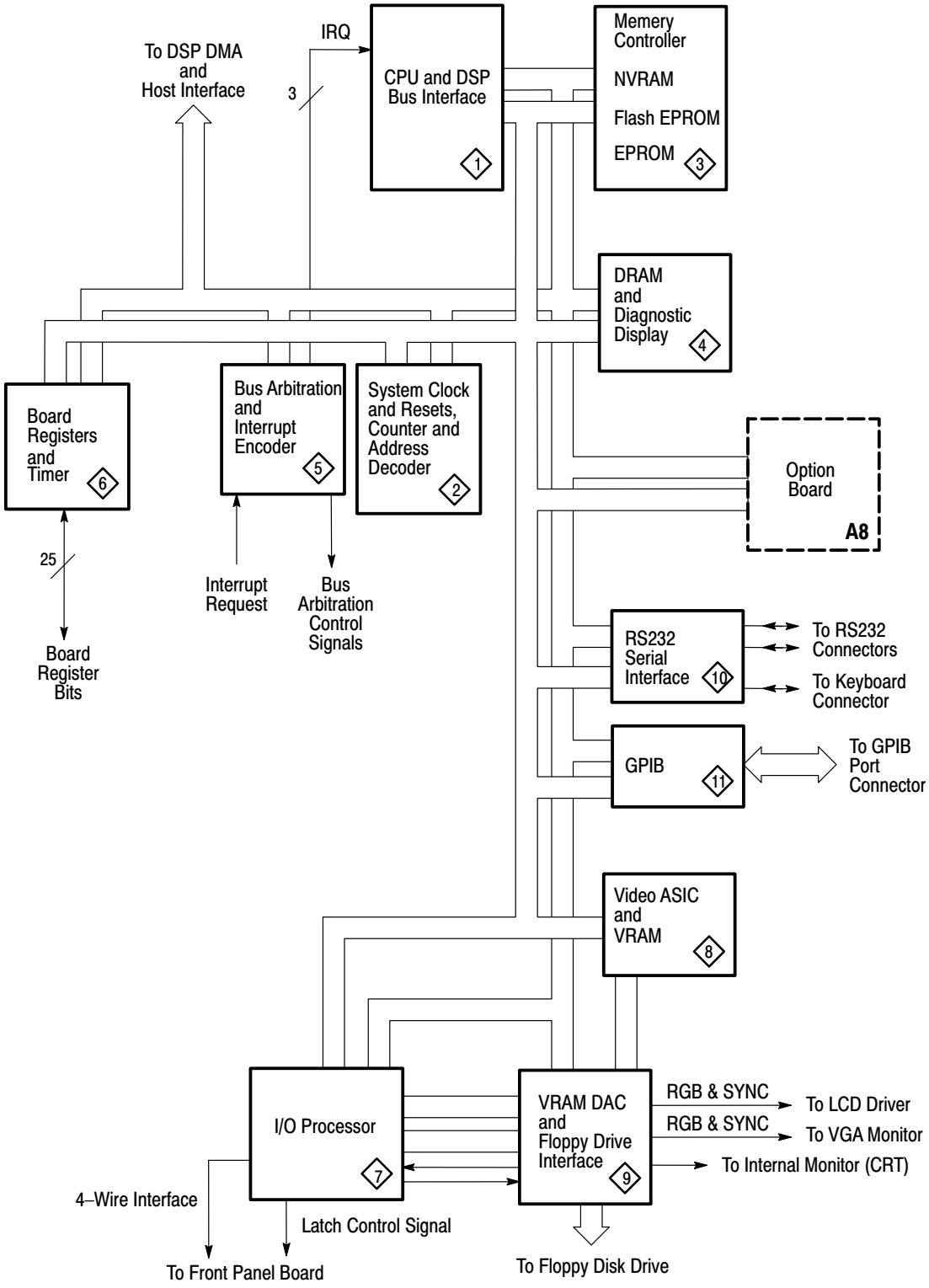


Figure 3–16: Simplified block diagram of the A6 CPU board

Interrupt Control

Interrupts to the CPU are multiplexed with the reset levels by U65. The three interrupt lines provide an indication of an interrupt condition. The states of the interrupt signals provide an encoding of the interrupt level as seen in Table 3–1. While the RST040L line to U65 is low, the interrupt lines are connected to all low inputs. At power up, after the power on reset is removed, all the interrupts are enabled. As the system operates, various interrupt masks are set to prevent higher priority activities of the CPU from being interrupted until they are finished. The sources of interrupts are discussed in the description of U51, the Interrupt Encoder, shown in schematic diagram 5.

When an interrupt is recognized, the CPU vectors to the appropriate address for the interrupt level that occurred and processes the interrupt handling routine found at that address.

Table 3–1: Interrupt level encoding

Requested interrupt level	Control line status			Interrupt mask level required for recognition
	IPL2	IPL1	IPL0	
0	High	High	High	N/A
1	High	High	Low	0
2	High	Low	High	0-1
3	High	Low	Low	0-2
4	Low	High	High	0-3
5	Low	High	Low	0-4
6	Low	Low	High	0-5
7	Low	Low	Low	0-7

CPU Board Memory Map

The system memory mapping of the CPU board is shown in Table A-2 of Appendix A.

CPU/DSP Host Interface

The Host Interface (HI) provides the communication path between the CPU and the DSP. The interface handles the following functions:

- Permits the CPU to transfer data to and from the DSP (there is no DMA access through the Host Interface).
- Provides the path for the CPU to bootstrap the DSP.
- Allows the DSP to interrupt the CPU using the Host Interrupt pin.
- Enables the CPU to interrupt the DSP by setting the appropriate bits in the Interface Control Status register.

System Clock and Resets, Counter, and Address Decoder (diagram 2)

Refer to schematic diagram 2 of the A6 CPU board for the following discussion.

System Clock

Three clock drivers, U47, U49, and U135, generate the various 25 MHz clocks used throughout the CPU. These clock drivers are synchronized by the output of Y2, a 12 MHz oscillator.

Reset

The power supply reset signal (PWRDY) is ANDed with the +5 V voltage, and the RST line from U20 by AND-gate U59A. When any of those lines is low, the CPU is reset. The output of U59A is applied to a clock driver, U47, to obtain added time on the actual reset to the CPU to make sure a reset is completed before the reset is released from the CPU. Assertion of the reset is the highest priority interrupt to the CPU.

The power on reset is used to prevent the CPU from random activity while the power is coming up to the correcting operating level. A manual reset caused by pressing the reset button may be used to reinitialize the CPU to recover from a failure. A manual reset is may be used in troubleshooting the AM700, and is not a normal operating control. A reset aborts any processing in progress when it is recognized. That processing is not recoverable.

When the reset is removed from the CPU, instructions are fetched from predetermined vectors to begin the reinitialization of the CPU. After these initial instructions are fetched, the program begins execution. If an access fault or address error occurs during this reset processing sequence, a double bus fault is generated, and the CPU halts operation.

Bus Halt Indicator

If the host CPU (MC68040) indicates that a double bus fault condition has occurred, LED (DS9) will light up. Hardware reset is required to restart the host CPU.

Host CPU Reset Functional Description

There are five input sources that can assert the RESET pin of MC68040 and DSP96002 and resetting its interface circuitry. They are the following:

- PowerUp Reset Controller
- Hardware Reset Dip Switch S6 SW3
- Host Processor Instruction Reset CMD
- Power Supply Ready Input
- Manual System Reset Button

Circuit blocks affected by the power up reset or manual reset are:

- DRAM error detection outputs are masked during and after the reset is deasserted,
- DRAM parity is set to even during and after the reset is deasserted, NVRAM is write protected during and after the reset is deasserted,
- FEPROM is write protected during and after the reset is deasserted,
- All interrupt signals (level 7 – level 1) are masked during and after the reset is deasserted, DSP96002 is in reset state during and after the reset is deasserted,
- MC68040 is in reset state during the time reset is active low, Broad Program Register(BPR) is reset during and after the reset is deasserted,
- Time-Out status bit is masked during and after the reset is deasserted. Circuit blocks affected by the Host CPU software reset are: DRAM error detection outputs are masked during and after the reset is deasserted,
- DRAM parity is set to even during and after the reset is deasserted, .NVRAM is write protected during and after the reset is deasserted,
- FEPROM is write protected during and after the reset is deasserted,
- All interrupt signals (level 7 – level 1) are masked during and after the reset is deasserted. The DSP (96002) is in reset state during and after the reset is deasserted and the Broad Program Register (BPR) is reset during and after the reset is deasserted.

Manual System Reset

Pressing the reset button resets both processors and their peripherals.

Counter

There is a free running 32-bit counter resident in the host CPU bus. It is a read only counter. The wrap around time is approx. 19.4 min. The address to the counter is $50000000.

Address Decoder

Four address lines, QADS24 through QADS27, are applied to U79, a 4-to-16 line decoder/demultiplexor, for decoding. Twelve outputs are used as chip selects and read or write enables. The remaining four outputs are not used. Those same address lines plus QADS28 through QADS31 are applied to U128 for decoding into additional chip selects and control signals.

Memory Controller, EPROM, FEPROM, and NVRAM (diagram 3)

Refer to schematic diagram 3 of the A6 CPU board for the following discussion.

EPROM

The EPROM is a 32-bit wide device, and the maximum memory allowed on board is 1 Mbyte. This memory is where the system boot-up code is loaded. It is read only memory, and data transfer type can be byte, word, or long word. The EPROM Address space for the possible memory sizes is shown in Table A-4 in Appendix A.

NVRAM

The NVRAM consists of a 32-bit wide static memory divided into two banks. Each bank consists of 512 Kbytes of memory. The maximum memory residing on board is 1 Mbyte. The memory interface allows either normal mode or burst mode access. The data transfer type can be byte, word, or long word.

The power to the NVRAM is backed up by the on-board battery, so memory content is protected against power failure and saved during power off. The memory interface monitors the battery supply voltage. In the event the battery voltage falls below the specified value for safe backup, a NMI interrupt in generated to interrupt the CPU.

After power up or any CPU reset, the NVRAM devices are write protected. Bit 0 of the Board Program Register must be set to a zero before storing data to NVRAM. If not, a write to these locations will not be stored. Table A-5 in Appendix A gives the NVRAM address mapping access by the CPU.

Flash EPROM (FEPROM)

There are two SIMM (single-inline memory module) sockets on the CPU board for Flash EPROM. The maximum memory permitted is 16 Mbytes. Data transfer type for read access to the FEPROM can be byte, word, or long word. The FEPROM memory is write protected. Memory mapping of the Flash EPROM accessed by the CPU is given in Table A-6 of Appendix A. The amount of flash memory available is identified by as shown in Table A-7 of Appendix A.

Writes to Flash EPROM. When the Flash EPROM is written to, it is set up for long word writes only. The steps that occur for a write (during programming of the FEPROM only) are the following:

BPR bit 1 is set to 0

The FEPROM is ready to program when BPR bit 13 becomes set to 1.

If these bits are not set correctly, a write to the FEPROM will have no effect.

Battery Backup

The +5 V source to the NVRAM is monitored by U57. A backup battery is used to maintain the stored memory of the NVRAM when the AM700 is powered off. That battery is monitored for a low voltage condition so that a low battery warning may be issued. When the battery is low, the NVBF interrupt is applied to the Interrupt Encoder. That is a level 7 interrupt, and while the instrument is running, it is masked to permit the CPU to maintain normal operation. At power up, all the interrupt levels are enabled, so a low-battery interrupt will be seen and the low-battery warning issued. The back-up battery must be replaced to prevent loss of stored information in the NVRAM during power off.

A replacement battery may be installed using the pins on the CPU board placed there for that purpose. After the replacement battery is installed, the lead to the on board battery must be immediately cut to prevent it from drawing current from the new battery.

DRAM and Diagnostic Display (diagram 4)

Refer to schematic diagram 4 of the A6 CPU board for the following discussion.

Dynamic RAM Controller

The Dynamic RAM Controller (DRC), U33, provides most of the logic for controlling the DRAM devices. The DRC requires initialization before it can function normally. The DRC must be programmed during the first write cycle that the CPU performs after reset.

Board Status Register

An Error Detection Circuit detects parity error during every read access by the host CPU. If an error is detected, the transfer error acknowledgement signal (TEA) goes active and terminates a bus cycle, and the CPU may enter access error exception. Both a DRAM parity check error and an illegal access will cause TEA to be active. If any one of the BSR bits (bit 0 – bit 3) is asserted low, it indicates a parity check error is detected. If illegal access occurred, BSR bit 16 will be asserted low.

After reset, BPR8 and BPR13 both are active low (‘0’).
BPR7 sets even parity or odd parity. After reset, even parity is set.

Table A-8 in Appendix A lists the address mapping accessed by the host CPU. Table A-9 in Appendix A list the DMA mapping accessed by the DSP.

Diagnostic Displays

The diagnostic displays are used to troubleshoot CPU kernel problems when the AM700 fails to boot. The segments of the diagnostic LED are turned on to indicate the failed area as indicated in Table 3–2.

Table 3–2: Diagnostic LED Definitions

LED	Description
0	reserved
1	reserved
2	on : Flash EPROM (bank 0) not found
3	on : Flash EPROM (bank 1) not found
4	on : Flash EPROM (bank 2) not found
5	on : DRAM not found
6	on : battery supply failure
7	on : hardware reset active

LED Display Register

This register is a write only octal latch which can be programmed to turn on or off the diagnostic 7-segment LED on the CPU board.

Watchdog Timer

A monitor chip, a DS1232, is used monitor software execution on the host bus. The monitor chip has an interval timer that forces the time-out signal to active state if the strobe input is not driven low prior to time-out. The watchdog timer is set to operate on time-out settings of approximately 600 ms. If the watchdog timer is allowed to time-out, then the TEA signal is driven to active state which signals the CPU that a bus error has occurred.

Bus Arbitration and Interrupt Encoder (diagram 5)

Refer to schematic diagram 5 of the A6 CPU board for the following discussion.

Interrupt Encoder

All levels of interrupts are applied to the Interrupt Encoder, U51. When an interrupt occurs, U51 determines the level of interrupt and encodes the interrupt signals to the CPU (IPL0 – IPL2) appropriately. The source of the interrupts and their level is shown in Table A-12 of Appendix A.

Board Registers and Timer (diagram 6)

Refer to schematic diagram 6 of the A6 CPU board for the following discussion.

Board Status Register (BSR)

The Board Status Register (BSR) is one of the two hardware registers used to indicate hardware status. It is a 32-bit read-only register composed of U85, U87, U90, and U126. The register outputs are on the CPU data bus and can only be read by the CPU. Bit assignments for the register are given in Table A-13 in Appendix A.

Board Program Register (BPR)

This Register is composed of four 8-bit registers, U86, U88, U92, and U125. The register bit states indicate various board status and control various board operations on the HOST CPU side. Its contents can be written and read. A bit mapping of the registers with signal names and descriptions of bit values is given in Table A-14 in Appendix A.

Board Code Register

This register, U78, holds the switch settings of dip switch S2.

Real Time Clock

The DS1286 device is a real time clock is used to keep track of the 'real time' and time-related activities. It comes with 50 bytes of user NVRAM. It contains an embedded lithium cell that can maintain data and real time for over ten years in the absence of Vcc. Refer to the manufacturer's data book for detailed information on this device.

Timer Registers and Addresses. Table A-15 of Appendix A lists the cross references of the Timer Registers and their addresses.

I/0 Processor (diagram 7)

Refer to schematic diagram 7 of the A6 CPU board for the following discussion.

Front Panel Processor

The Front Panel Processor, U110, handles all of the front panel controls, and through the Floppy Disk Controller, U105 (diagram 9), the data transfers to and from the floppy disk drive. Two clock signals are applied to the Front Panel Processor: the serial port clock, 3.6864 MHz, and the processor clock, 16.667 MHz. The processor clock must have a 4 V swing and a 50% duty cycle. A flip-flop, U121A, divides the 33.3333 MHz output of Y7 by two and buffers the signal. The output of the flip-flop has a nearly 50% duty cycle as needed by the processor.

Front Panel Processor RAM

The Front Panel RAM, U108 and U109, store the operating instructions for the I/0 Processor. These instructions are downloaded from the CPU at power up and whenever a new front-panel description is needed. Access to this shared memory is handled through a Bus Request/Bus Grant routine.

CPU to Front Panel Interface Buffers

The bus interface between the 16-bit Front Panel Processor data bus and the 32-bit CPU data bus is handled by buffers U94, U95 ,U96, and U97. Data is transferred between the two busses in 16-bit words. The two sets of buffers are enabled to select which 16-bits of the CPU long word are selected for transfer.

Front Panel PAL

Controlling signals for the operation of the Front Panel logic are produced by U106, a PAL (programmable array logic) device.

Video ASIC and VRAM (diagram 8)

Refer to schematic diagram 8 of the A6 CPU board for the following discussion.

Video RAM

The Video RAM is composed of four, 512 × 512, 8-bit memory devices, U117, U118, U119, and U120. Each memory has a 2 Mbit capacity, and the total memory provides for two pages of display. The CPU writes new information to one page of display while the other is being processed by the video ASIC (application specific integrated circuit), U103. The CPU reads or writes to the Video RAM through four, 8-bit bus buffers, U111, U112, U113, and U114. There are two modes of writing to the memory. One mode takes 20 writes to transfer enough data to display one line on the CRT, the other mode is a flash write used to rapidly clear the display. The Video RAM is partitioned in eight bit planes, and the bits of the display data from the CPU are stored interleaved across the eight bit planes.

Video ASIC

The Video ASIC, U103, processes the display data written to the Video RAM by the CPU. When the Video ASIC is reading data from the Video RAM, it gets the interleaved bits sequentially from each of the eight bit planes. The Video ASIC reformats the data to deinterleave the bits, and places the bits in a long, 64-bit FIFO (first in, first out) data pipeline. Pixel data bytes are then taken out of the FIFO in parallel and applied to the Video RAM/DAC, U37 and U15 (diagram 9), for conversion to analog display signals in the correct order for the raster display. Horizontal and Vertical Sync signals and Blanking are also produced by the Video ASIC.

Troubleshooting Hint

If a repeating bad pattern appears in the display, one of the Video RAM devices or one of the bus buffers to the CPU data bus may be defective. Missing pixels in the display may also be the result of a defective memory or buffer. A totally wrong display may be the result of a Video ASIC failure.

The data bits for a pixel to the Video RAM are interleaved across the eight bit planes of the memory, so the data bytes that are being written to memory have no correlation with the data bytes being sent to the Video DAC/RAM.

VRAMDAC and Floppy Drive Interface (diagram 9)

Refer to schematic diagram 9 of the A6 CPU board for the following discussion.

Video RAM/DAC

There are two identical Video RAM/DAC devices, U37 and U15. One, U37, produces the monochrome drive to the internal display monitor. The second, U15, provides RGB output to drive an external VGA monitor. Pixel data bytes from the Video ASIC are converted to analog at the IOR, IOG, and IOB outputs of the Video RAM/DAC. For CRT display systems, the Red and Blue outputs of U37 are terminated, and only the Green output is used to drive the monochrome display. That signal is sent to the Display Monitor board along with the Horizontal and Vertical Sync signals through connector J2. Test points (TP13, TP14, and TP15) are provided for checking these signals. In U15, all three color outputs plus the Horizontal and Vertical Sync signals are connected through EMI filters to the rear-panel VGA connector, J3. A single test point (TP16) is provided for checking the Green drive signal.

The Video RAM/DAC provides the RGB and sync signals to the LDC Driver for AM700 Audio Measurement Sets that have the LCD color flat panel display system.

CRT Display Brightness. The brightness of the internal display monitor and the external display monitor are controlled separately through the current references to the Video RAM/DAC devices. A digital to analog converter, U28, get brightness information from the CPU data bus. One output of U28 provides drive to the reference current source of U37 through U4A, and the other output provides drive to the reference current source of U15 through U4B. The internal display monitor brightness is adjustable from the front panel of the AM700. A suitable level is set for the external VGA monitor output, and the controls of the external monitor may be used to set it for the desired viewing brightness.

LCD Display Brightness. When the LCD flat panel display is installed, the brightness is a function of the backlight intensity. The display brightness is adjustable from the front panel control as is the CRT brightness, but the brightness level signal line is applied to the backlight inverter power control circuit on the LCD driver board. The control circuit has a brightness level adjustment that sets the extinguish level (no visible display) of the LCD display.

Floppy Drive Controller

The interface between the I/O processor, U110 (diagram 7), and the floppy drive is provided by U105, a single-chip controller. The controller handles the data transfers to and from a floppy disk using DMA after requesting access to memory from the I/O Processor. This allows the I/O Processor to continue its other tasks without further interruption for the data transfer.

RS232C Interface (diagram 10)

Refer to schematic diagram 10 of the A6 CPU board for the following discussion.

General Description

Two dual universal asynchronous receiver/transmitter (DUART) are used in this design. UARTA (U29) is used for the RS232 serial ports. UARTB (U39) channel A is setup for interfacing with the Audio Generator and channel B is used as keyboard interface.

The DUARTs themselves consist of eight major sections: internal control logic, timing logic, interrupt control logic, a bidirectional 8-bit data bus buffer, two independent communication channels, a 6-bit parallel input port, and a 8-bit parallel output port.

The operation of the DUARTs are programmed by writing control words into the appropriate registers. Operational feedback is provided by the status registers which are then read by the CPU.

Keyboard Interface. UART port B of U39 is configured as an interface for an AT type keyboard. XT type keyboard protocols are not supported. The protocol for serial data transmission is an 11-bit data stream composed of 1 start bit, 8 data bits, 1 odd parity bit, and 1 stop bit. When troubleshooting the keyboard interface, activity on the keyboard may be checked by observing the keyboard serial line at TP5 with an oscilloscope to check the data stream.

Keyboard Interface Register Setup. The register setup for interfacing with the keyboard is as follows:

- Clock-Select Register B
  Both receiver-clock and transmitter-clock selects External Clock Inputs.
- Output Port Register (OPR)
  Bits OP1, OP4, and OP6 are setup as general purpose outputs. A description of the port signals is given in Table A-19.

GPIB Controller and Host Interface (diagram 11)

Refer to schematic diagram 11 of the A6 CPU board for the following discussion.

General Purpose Interface Bus (GPIB) Controller

The GPIB interface provides a standard interface for communication between instruments and remote control of the AM700. Table A-20 provides the address information to the GPIB controller. Refer to the TMS9914A GPIB Controller Data Book for detailed information on the controller device.

DSP Board (A7)

In the DSP board circuitry, there are local registers, an analog interface port, a DMA interface, and fast static memories that reside in the processor's port A and port B buses. A simplified block diagram is shown in Figure 3–17.

The DSP (digital signal processor) accepts digital data (the digitized analog signal inputs) from either the Digital or the Analog input boards through sample transmitter/receiver ASICs. Communication with the Main/CPU is through a DMA ASIC. The digitized audio signal is serialized and converted to analog signals for driving the front panel headphone circuit. Control circuitry on the DSP circuit board provides signals to set up the acquisition gain, bandwidth, filters, etc., on the Analog Acquisition board.

The DSP has port A and port B memories to handle the processed data and commands. Instructions to the DSP are written to the Port B memory by the CPU. The DSP then runs the programmed instructions from the Port B memory.

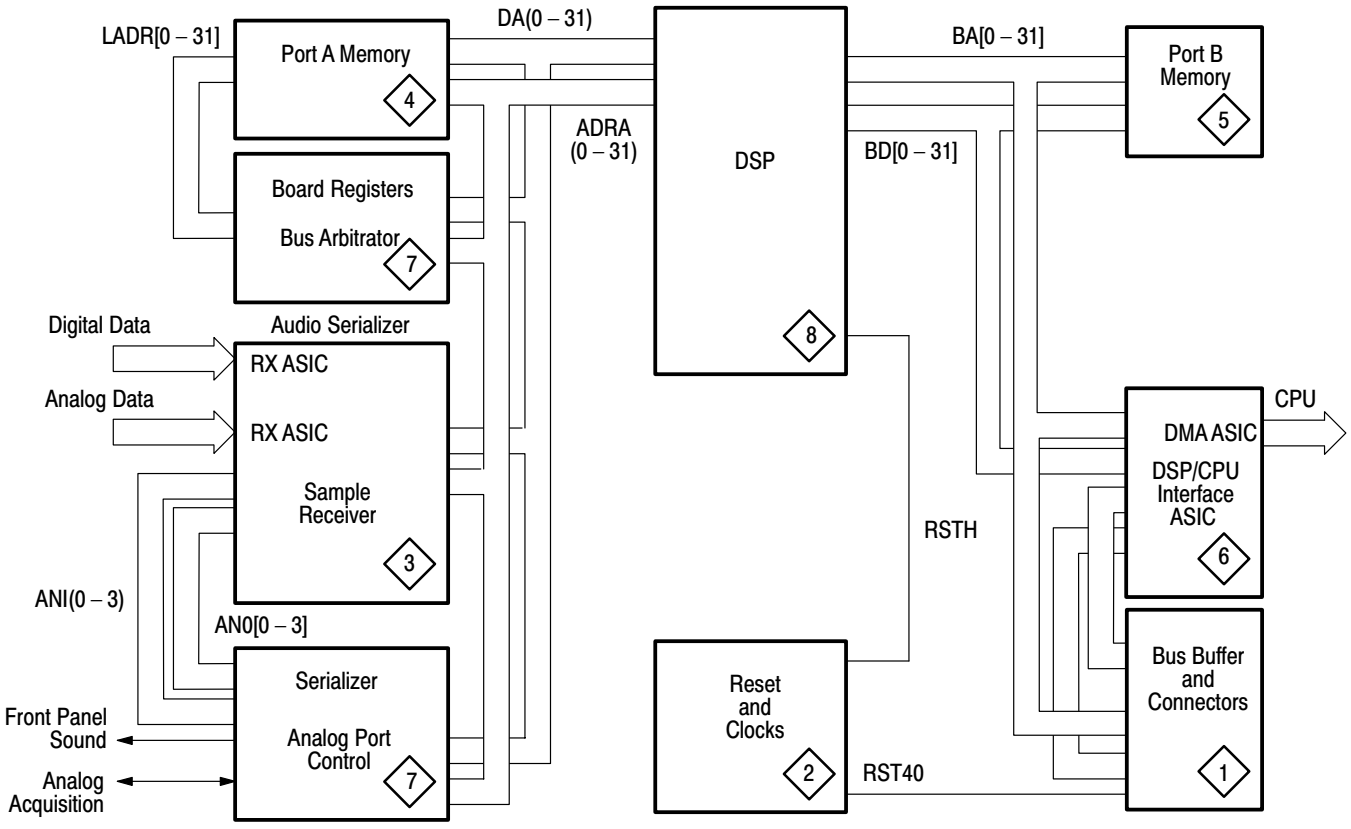


Figure 3–17: DSP board simplified block diagram

The DSP clock generator has 33.333 MHz applied as the reference frequency. The clock generator develops the various clock signals used throughout the DSP board.

Bus Buffers and Connectors (diagram 1)

The bus buffers handle the 32 bit data and address busses between the DSP and the main CPU.

Reset and Clocks (diagram 2)

Refer to schematic diagram 2 of the A7 DSP board for the following discussion.

System Reset

The System Reset logic circuitry has inputs of CPU RST, RSTON, RST, and input from the Master Reset switch S1, to develop the DSPRST signal to the DSP. A power-on monitor, U17, holds the RST signal low until the +5 V has stabilized. This hold the DSP in the reset condition until all the circuitry is ready to operate correctly. The Master Reset switch, S1, may be pressed to cause the DSP circuitry to be reset. Pressing the reset button, resets the DSP and its peripherals. The host CPU and its related circuitry are not affected by this reset.

DSP Reset Functional Description

There are five input sources that can assert the RESET pin of DSP and reset its interface circuitry. They are as follows:

- ONCE Interface reset (not used),
- Board Program Register BPR (bit 5),
- Power-Up Reset Controller,
- DSP Reset button,
- Port B host port reset.

The DSP is placed in the reset state upon initial application of power and will remain in this state until the CPU deasserts the reset pin of the DSP by writing a ‘1’ to bit 5 of the Board Program Register. Upon leaving the reset state, the processor bootstraps through Port B, the Host Interface.

Clock Generator

The DSP clock generator, U19, has 33.333 MHz from a divide-by-two circuit applied as the reference frequency. The clock generator develops the various clock signals used throughout the DSP board.

Sample Receivers (diagram 3)

Refer to schematic diagram 3 of the A7 DSP board for the following discussion.

There are two sample receivers, U10 and U11. One handles the analog samples and the other handles the digital signal. These sample receivers are identical to the sample transmitters. A single control bit, TX/$\overline{RX}$, defines the operating mode of the ASICs. In the sample receivers, this bit is wired low. The sample receivers accept 8-bit data from the acquisition system and formats it into 32-bit long words for application to the DSP. Each sample receiver handles two channels of input data. Output data is written to the shared RAM on Port A of the DSP. The DSP handles the signal processing and transfer of the processed data to the CPU for display in the running application.

A Memory (diagram 4)

Refer to schematic diagram 4 of the A7 DSP board for the following discussion.

The local memory residing on the Port A bus is organized in one bank of 128K × 32 of fast static memory. It can be expanded to 256K × 32. This memory is shared between the DSP and the sample receivers for transfer of the incoming data to the DSP for processing. The processed data is then transferred to the CPU through the host interface for display in the running application. Reads and writes to this memory is controlled by the bus arbitration control PAL, U55 (shown on diagram 7).

B Memory (diagram 5)

Refer to schematic diagram 5 of the A7 DSP board for the following discussion.

The local memory residing on the Port B bus is organized in one bank of 128K × 32 of fast static memory. It can be expanded to 256K × 32. Reads and writes to the B Port RAM are controlled by the B Port Memory Controller, U32. This memory is shared between the DSP and the CPU and is used for data transfers between the two through the DSP/CPU interface ASIC, U15 (shown on diagram 6).

DSP/CPU Interface ASIC (diagram 6)

Refer to schematic diagram 6 of the A7 DSP board for the following discussion.

The ASIC consists of the three functional blocks shown in Figure 3–18. They are the following: DMA interface, DSP Host Port interface, and local memory controller. There is a built-in 32-bit Address Holding Register (AHR) in the ASIC to set up various base addresses of the controlled functional blocks. The default value (after power up/during reset is active) is $010560CC. The AHR is a write-once/read-many register. It allows one write after reset.

The primary purposes of the host port bus interface is to allow the DSP to access the main memory (DRAM) resident on the CPU bus. Two types of access can be performed by the DSP processor: DMA access and Host Interface access. The interface circuitry is implemented on Port B of the DSP processor. A simplified block diagram of the functions is shown in Figure 3–18.

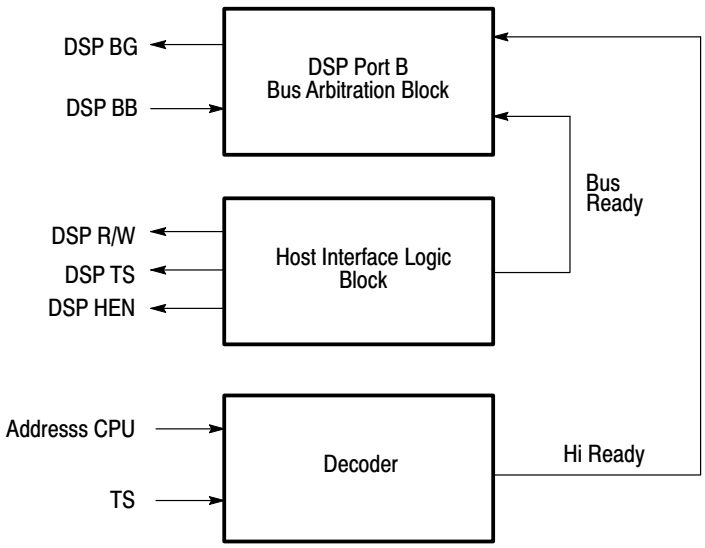


Figure 3–18: DSP/CPU host port interface

Board Registers, Bus Arbitrator and Audio Serializer (diagram 7)

Refer to schematic diagram 7 of the A7 DSP board for the following discussion.

DMA Process Reset Register (PRR)

This is an address trigger register. It resets the ASIC internal hardware interface and sets up for the next DMA transfer. The PRR is accessed at the beginning of each DMA transfer. Its default address is 5xxxxxxx (hex).

Register Definition

Both the DSP Status Register and the DSP Program Register reside in Port A. Their functional definitions are described as follows.

Status Register (SR). This is one of the two hardware register implemented to indicate various hardware status on the DSP side. This read-only register, U52 and U53, can only be read by the DSP. The register addresses are shown in Table A-25.

Program Register (DPR). The program register, U54 and U62, indicates various board status and control various board operations on the DSP side. Its contents can be written and read. It must be initialized by writing FFFFFFFF (hex) to the DPR after power-up or after a system reset has been active high. The register bits are defined in Table A-26.

Serializer

The function of the audio serializer, U49, is to provide two 16-bin serial data streams to drive the DAC that resides on the front-panel board. It is dual 16-bit parallel to serial converter. There is a 32-bit data register that can be accessed by the DSP to read (for diagnostic purposes only) or write the channel DACs. The upper 16 bits [bits(31 .. 16)] of data drive the right channel DAC. The lower 16 bits [bits(15 .. 0)] of data drive the left channel DAC.

To read back the data stored in the register by the DSP, SMOD1 and SMOD0 must be set to 1 prior to a read access by the DSP.

Bus Timer

This circuitry times the access to Port A and outputs the AFAULT IN flags as a 0 if an access fault is detected.

Version Number Pal

This register, U56, decodes the inputs to provide the hardware level version number. This PAL also outputs a level trigger (IRQC) to the interrupt register. The possible conditions that initiate the IRQC interrupt are shown in Table 3–3.

Digital Signal Processor (diagram 8)

DSP Interrupts Inputs Functional Description

The Interrupt Inputs and their respective sources are given in Table 3–3.

Table 3–3: Interrupt inputs and sources

Interrupt input	Type of interrupt	Interrupt source
IRQA	edge	Speaker Signal Interrupt
IRQB	edge	DMA Trigger
IRQC	level	Port A Bus Error Interrupt
	level	Port B Bus Error Interrupt
	level	Sample Receiver 0 Interrupt
	level	Sample Receiver 1 Interrupt

Front Panel Board (A9)

The Front Panel board has the user interface buttons and touch screen circuitry.

Control Register, Knobs, Beeper, and Resistive Touch Panel (diagram 1)

Diagram 1 shows the control register, the knob control circuitry, the beeper, and the resistive touch panel.

Control Register

The control register is formed by a series of shift registers that hold a total of 128 bits. These bits are loaded from the front-panel processor through U11A, The serial data, clock, and latch signals are all generated by the front-panel processor. When bit value changes are made by the front panel processor, the entire 128 bits are reloaded serially into the register string. The register string holds the control and readout bits of the touch panel, the large and small rotary knobs, the panel LED indicators, and all the front-panel buttons.

A change in state of the bits from the initial state caused by a front-panel control change (knob, touch panel, button press, etc.) is determined when the 128 bits are read back to the front panel processor through U11B. To increase throughput, the new data bits are loaded into the registers as the stored data bits are read out. The location of specific bits in the serial stream is fixed by the clock and latch signals generated by the front-panel processor. Not all 128 bits are used in the data stream. Unused bits are “don’t care” and ignored by the front panel processor.

Front Panel Knobs

The three rotating control knobs are continuous rotation, 2-bit rotary encoders. Their position and rotation information is grey-scale encoded. The A and B outputs of the encoders are square waves that are 90° phase shifted from each other. In the clockwise direction of rotation, the A output positive transitions leads the B output positive transitions. For counterclockwise rotation, the B output leads the A output.

An internal circuit in the PALs counts the number of transitions to determine the amount of rotation of the knobs, and the relative phase relationship between the A and B outputs indicates the direction of rotation. The Rotary Encoder PALs decode the information from the knobs into an 8-bit parallel data word. That data is applied to the parallel inputs of the serial shift registers in the PALs to become part of the 128 bit serial data stream.

Beeper

The 2.2 kHz beeper is controlled by a signal from the front panel processor. That signal, TOUT1, is turned on for a short length of time to indicate a touch (a short click) or a longer time to produce a warning alarm.

Touch Panel

The resistive touch panel provides much of the interface between the user and the applications. Front panel buttons are used to select applications and make numerical entries, but the menus that control much of the operation are accessed through the touch panel. The X and Y-axis coordinates of a touch on the panel provide specific voltage level outputs from multiplexer U29. Those voltage are digitized by A/D Converter U17. The 8-bit data word is applied to the parallel input pins of registers U14 and U15 to form part of the 128-bit serial data stream.

Headphone Amplifier and Speaker (diagram 2)

The Speaker is not enabled for the current version of firmware for the AM700. Audio signal monitoring is available using the headphone jack of the front panel. While monitoring the incoming audio signal, all measurements are suspended.

Left and right channel serial digital data is converted to left and right channel analog signals by a dual 16-bit D/A converter, U19. The analog audio is amplified by the Left and Right Channel amplifiers, U25A and U25B respectively. A further amplifier stage on both channels provides the volume control function for the stereo headphone output signal. Voltage followers on each channel isolate the headphone amplifiers from the external headphones. The voltage followers allow a wide range of headphone impedance to be tolerated.

Front-Panel LED Indicators (diagram 3)

There are four banks of LED indicators associated with the front panel. The indicators are behind the front panel labels and are turned to indicate an active front-panel button selection. Serial data to define the state of the LEDs is loaded into a series four of 8-bit registers, U33 – U36. The output bits of registers U34 - U36 are applied to line drivers U43 – U45 to drive the LEDs that are arranged in pairs. Only two, single LEDs are connected to U33, so a line driver is not used on its outputs. During power-on, the registers are reset. This reset turns on all the front-panel LEDs so that is a good point to check that all the LEDs are functional.

Front-Panel Push Buttons (diagram 4)

Each of the front-panel buttons is connected to one input of a bank of six, parallel/serial in – serial output shift registers, U37 through U42. The parallel inputs of the shift registers are normally high through pull-up resistors to +5 V. When a button is pressed, the associated input is pulled low. Periodically, at a rate fast enough to catch a button press, the data is latched (all the registers in the 128 bit shift register are latched at the same time). The entire serial data stream is then clocked through the registers to the Data Out port on the last register in the

string, U40. The data stream is applied to U11B (diagram 1) where it is read back to the CPU board. The front-panel processor determines the buttons that were pressed and initiates the appropriate action.

Picture Monitor Assembly (A10)

A simplified block diagram of the video monitor is shown in Figure 3–19. Refer to the A10 schematic diagram for CRT display versions of the AM700.

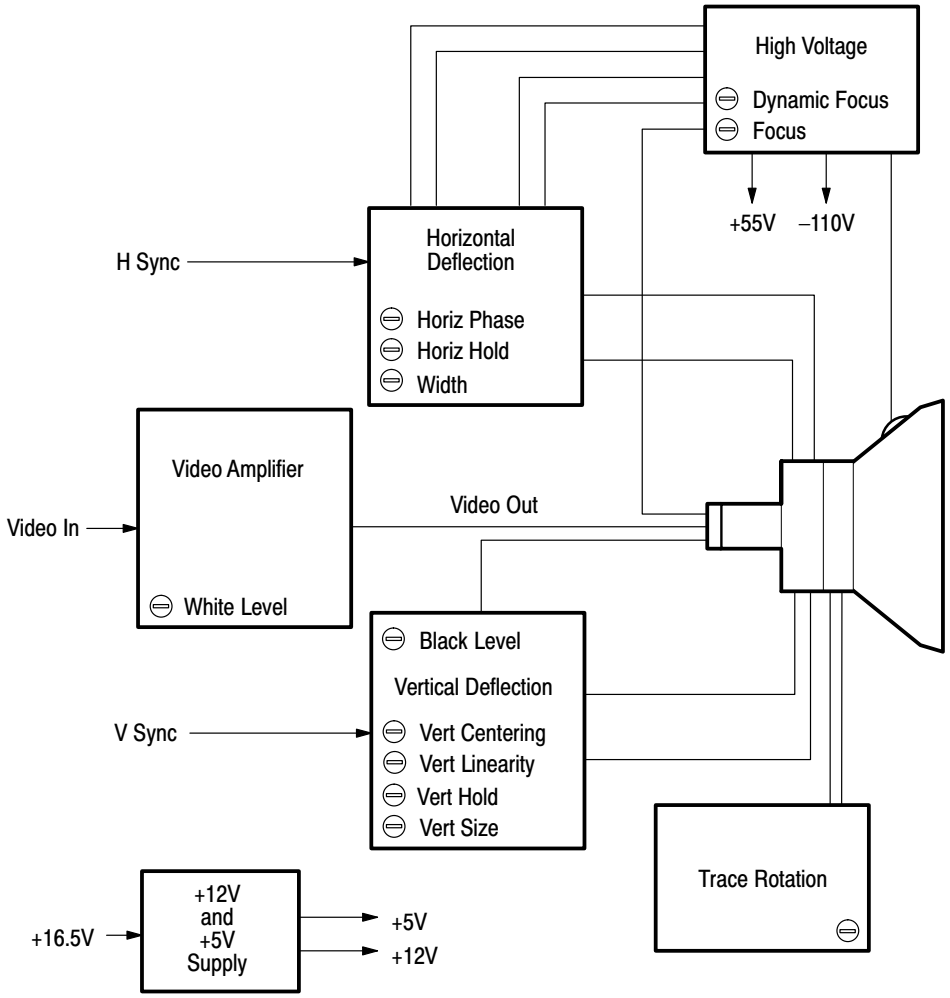


Figure 3–19: Picture monitor simplified block diagram

Video Amplifier

The Video Amplifier amplifies the incoming video signal to levels necessary to drive the crt. A cathode follower input circuit formed by Q1 and its associated biasing circuit provides impedance matching and current drive to the output video amplifier. In the output video amplifier (a cascode circuit), the video signal is inverted by Q2, a common emitter circuit. Its output current directly drives a common base amplifier, Q3, whose output drives the crt cathode. As the input video signal is increasing in amplitude, the inverted video signal drives the cathode negative with respect to its +50 V reference level thereby causing the beam current to increase.

+12 V and +5 V Supply

The incoming +16.5 V is applied to a 3-terminal regulator, U2, where it is converted to +12 V. A tap on the +12 V source supplies a +5 V Zener diode voltage regulator composed of VR1 and R1 to supply the +5 V source.

Vertical Deflection

The vertical deflection circuit provides the drive current to the vertical deflection yoke. A free-running oscillator circuit, U3, produce a ramp signal, and an amplified vertical deflection signal. The basic frequency of the oscillator is set to 60 Hz by the adjustment of R45, the Vert Hold potentiometer. The length of the ramp signal, and consequently the vertical synchronization, is set by the V Sync signal.

When the V Sync is received, the vertical ramp is terminated, and a new one begins. The RAMP OUT, pin 1, signal is applied to the AMP IN, pin 10, for amplification to drive the vertical deflection yoke. The output of U3 at pin 10 is inverted from the original ramp. The ramp retrace level is amplified to produce large amplitude pulses for retrace of the beam. The ramp between pulses is nearly flat, and the constant level voltage produces a ramp of current through the vertical deflection yoke. The vertical height of the display is set by the adjustment of R42, the Vert Size potentiometer.

A portion of the RAMP OUT signal from pin 1 is fed back through a shaping circuit to the RAMP GEN input on pin 12. The shape of the ramp fed back is adjustable by R48, the Vert Lin potentiometer, to set the vertical linearity of the raster. Vertical position is set with R57 which adjust the DC level on the vertical deflection yoke.

Blanking Amplifier. Blanking between vertical sweeps is produce by the blanking amplifier, Q6. In the interval between ramps, the level of the vertical deflection signal from U3, pin 4, rapidly rises toward +30 V to retrace the beam back to the vertical starting point. That rise is seen by Q6 via C41, and the transistor quickly saturates. The negative pulse at the collector of Q6 is AC coupled via C42 to the control grid of the crt to cutoff the beam current between vertical deflection ramps. In the output of the blanking amplifier, R64, the BLACK LEVEL adjustment, sets the black level of beam current between blanking pulses.

Spot Eliminator. An additional circuit formed by CR11, CR12, C44, and R66, produces an extra bias to the control grid to positively cut off beam current during turn on and turn off of the AM700. These pulses at turn on and turn off are transitory as the power supplies turn on and off. As the +55 V and –110 V voltage supplies come up, the voltage at the junction of C44 and R66 spikes negative to bias on CR12 and add a negative biasing pulse to the control grid. At the voltages stabilize, CR12 become reversed biased, and the extra circuitry is switched out of the control grid circuit. At turn off, the junction of C44 and R66 is setting at +55 V. Diode CR11 becomes biased on as the +55 V supply falls, and this negative pulse also biases on CR12 to pass the extra biasing pulse to the control grid.

Horizontal Deflection

The horizontal deflection circuit provides the drive current to the deflection yoke. A PLL (phase-locked loop) circuit, U1, produces the horizontal deflection signal. The frequency of the loop is synchronized to the incoming H Sync signal after setting the correct frequency with the Horiz Hold control, R20. Further amplification of the signal is done by Q4 and Q5 to provide the necessary levels to drive the horizontal deflection yoke. The other side of the horizontal deflection yoke is AC referenced to ground through L3 (a saturable reactor), L4 (the horizontal WIDTH control), and C17. Diode CR9 catches negative overshoots of the horizontal deflection signal.

A circuit from the output of Q5 to the SAW IN input of U1, pin 4, provides feedback to the PLL circuit. The Horiz Phase control, R15, in the feedback path, is adjustable to fine position the active picture area within the raster scanned width.

+20 V Boost Supply. A circuit composed of CR2, CR3, C18, C19, C20, R31, and a winding (pin7 to pin3) of T2 (in the high voltage supply) boosts the +12 V source to +20 V to supply the collector voltage for Q4. At the collector of Q5, the horizontal retrace pulses have a amplitude of approximately 320 V. The nearly constant voltage level between the retrace pulses produces a ramp of current to the horizontal deflection yoke.

High Voltage

The high voltage supply provides the crt anode voltage, the focus voltage, and the +55 V and –110 V sources. Drive to T2, the high voltage transformer, is provided through a set of taps on the multitap primary winding.

The crt anode voltage and the –110 V supply are taken from separate secondary windings in the transformer. A diode internal to the transformer module rectifies the high voltage for the crt. That voltage is also referenced to ground internally in the transformer module. The –110 V winding is rectified by CR7 and capacitively filtered by C24.

Focus Voltage and Dynamic Focus. The output of the focus voltage winding of T2 is rectified by CR6 and filtered by an RC π filter composed of C26, C27, and R33. The main focus voltage of about +600 V is set by FOCUS pot R36 via a DC restorer circuit composed of C28, CR8, and R38. Dynamic focusing, to optimize edge focusing of the crt, is applied from a series resonant LC circuit formed by L5 and C23 off the +55 V winding of T2. The dynamic focusing waveform approximates a negative-going parabola between the positive pulses of the winding output voltage. That waveform is AC coupled through C25 to the focus voltage. The dynamic focusing waveform is shaped by the adjustment of L5 to produce the best edge focus in conjunction with the setting of the FOCUS pot for best overall focus.

Trace Rotation

The Trace Rotation circuit drives a separate deflection coil on the neck of the crt. That winding produces a magnetic field that permits adjustment to horizontally level the raster. Differential deflection voltage is produced by the circuit formed by U5A, U5B, and U4. A voltage reference of +6 V is provided by U4, a precision voltage divider. That reference is applied to the non-inverting input of U5A. On U5B, the adjustable voltage from the Trace Rot potentiometer, R67, is applied to the non-inverting input of U5B. When the amplifiers are balanced, no current flows through the trace rotation coil.

When the Trace Rot pot is adjusted to unbalance the two amplifiers, the output of U5B at pin 2, is driven to return the balance to that amplifier. That change is coupled through R70 to the inverting input of U5A to produce an equal change in the opposite direction at pin 10, thereby producing a current through the trace rotation coil. Reversing the position R67 causes current in the opposite direction in the trace rotation coil. The overall adjustment range for trace rotation is approximately ±3.4°.

Power Supply Board (A11)

A block diagram of the power supply is shown in Figure 3–20. Refer to the illustration for the following functional block description of the power supply circuitry.

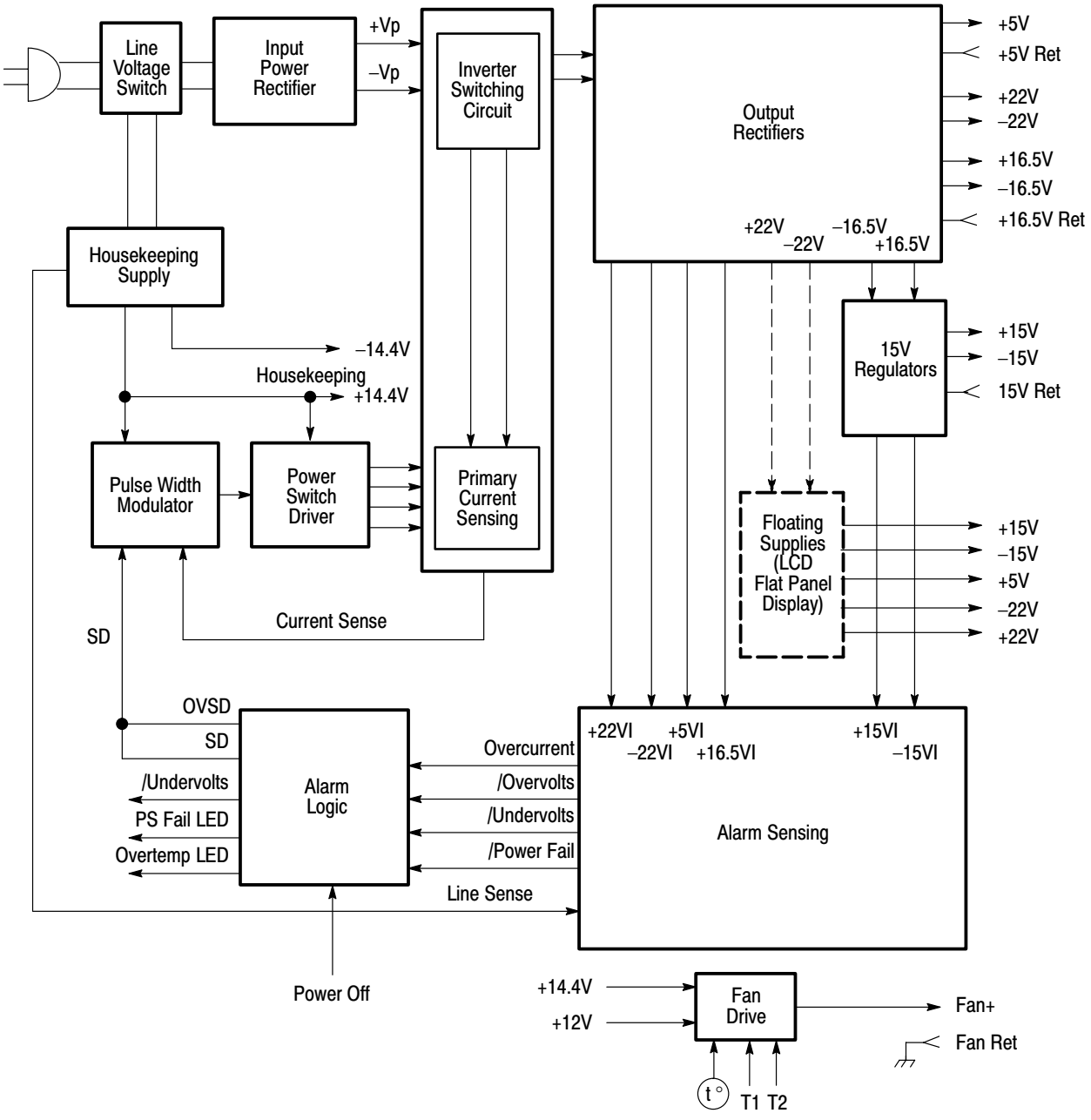


Figure 3–20: Power supply block diagram

Power Supply Functional Block Description

The power supply is an pre-regulator inverter switching supply composed of a primary rectifier, a housekeeping supply, the inverter switching circuit, output rectifiers, 15 V regulators, an alarm sensing circuitry that monitors for overvoltage, overcurrent, and over temperature conditions, and the alarm logic circuitry that shuts down the inverter switching circuitry in the event of a problem. Use diagrams 1 and 2 for assembly A11 to follow the descriptions of the block circuitry.

Input Power Rectifier. The Input Power Rectifier receives the mains AC voltage and rectifies it to provide the drive power to the inverter switching circuitry. A line voltage switch sets the supply to operate on a nominal voltage of either 115 VAC or 230 VAC. On 230 V operation, the primary rectifier acts as a full-wave bridge rectifier; for 115 V operation, the primary rectifier is configured as a full-wave voltage doubler.

The primary bridge rectifier is protected by the mains line fuse and surge suppressors. A mains line filter at the input of the power supply reduces conducted and radiated EMI from and to the AM700. Additional components in the rectifier output provide line filtering and common-mode noise rejection for further reduction of conducted electromagnetic interference. Input surge current and overvoltage protection components are included in the input rectifier circuit to prevent major component damage in the event that incorrect line voltage is applied to the AC input.

Housekeeping Power Supply. A second power supply provides the housekeeping (or keep-alive) power source. This supply provides power to the logic circuitry that controls the power supply STBY/ON logic circuitry. It is supplied via a transformer that is wired with the power line switch to provide the correct voltage to the primary for either line voltage. The rectifiers for the + and –14.5 V housekeeping supply are full-wave with capacitive filtering of the rectified voltages. The filtered voltages are regulated by 3-terminal regulators. Both sides of the transformer secondary are fused with self-healing fusing devices. One of the sensing signals (LINE SENSE) to the power supply logic circuitry is developed from the secondary of the housekeeping supply transformer.

Inverter Switching Circuit. This circuitry comprises the Pulse Width Modulator, the Power Switching Transistor Drivers, and the Inverter Switching FET that drive the power transformer.

Output Rectifiers. Secondary outputs of the power transformer are full-wave rectified and filtered to provide +5 V, +16.5 V, –16.5 V, +22 V, and –22 V. The +16.5 V and –16.5 V are further regulated to produce the +15 V and –15 V supplies to the AM700. The source voltage for the Fan Drive circuit is also provided by the +16.5 V supply.

±15 V Regulators. The + and –15 V regulators are similar in operation. Each regulator is a combined operational amplifier and FET current pass element with a feedback loop to the operational amplifier from the output voltage.

Alarm Sensing. The Alarm Sensing circuitry looks at the various supply voltages to check for undervoltage, overvoltage, overcurrent, and power fail conditions. The status of these conditions are the signals fed to the Alarm Logic circuitry.

Alarm Logic. Each of the Alarm Sensing outputs is monitored by the Alarm Logic circuitry. That circuitry also monitors the temperature sense signals. Depending on the state of the sense signals, the Alarm Logic circuitry can issue a shutdown signal (SD) to the Pulse Width Modulator to stop the power supply from operating. The Alarm Logic circuitry also drives the Over Temp LED and PS Fail LED front-panel indicators as feedback to the user of the existing problem.

Fan Drive. A separate Fan Drive circuit provides a temperature related drive voltage to the Fan. As the temperature rises, the fan is driven faster to compensate for the rise. The temperature sensing element for the voltage control is mounted on the 5 V power supply heat sink.

Floating Power Supply. In CRT display instruments, these supplies are located on the Generator board (A5). In LCD flat panel display instruments, the floating supplies are part of the power supply board.

The floating power supply provides the isolated voltages to power the analog audio generator. This isolation permits the generator outputs to float with respect to chassis ground. The +22 V and –22 V outputs of the power supply power a set of 3-terminal regulators that provide the +15 V, +5 V, and –15 V to the Generator board. Those voltages, along with the +22 V and –22 V voltages and the floating return line are connected to the Generator board through J12 on the power supply board.

Input, Inverter, and Regulators (diagram 1)

The following circuit descriptions follow the schematic diagrams and indicate the circuit components of the circuitry. Refer to schematic diagram 1 of the A11 power supply board for the following description.

Input Power

The AC mains voltage is applied to the preregulator power rectifier through a Line Filter (FL1), Fuse F1, and the Master Power Switch (S1) on the rear panel of the instrument. A bleeder resistor, R3, is placed across the input filter to discharge the filter capacitors when AC power is removed. The inrush of turn-on current is controlled by surge suppressor RT1. MOV RV1 and RV2 reduce noise spikes and help protect the input circuitry from a major overload in the event that an incorrect mains voltage is applied when the power supply is set to operate on 115 Vac. A spark gap device, E1, also acts to protect the circuitry that follows it by firing and causing the input fuse to open in the event of a major overvoltage. As a warning, neon indicator DS1 blinks when the primary power is up. Common-mode EMI filtering of the rectified voltage is provided by L3, C10, C11, C12, C13, and C14. Resistors R7 and R8 provide damping for the inductance of L3.

115 V/230 V Input Switching

The Line Selector switch, S2, converts the power supply from a bridge rectifier for 230 V operation to full-wave doubler for 115 V operation. When the Line Selector is set for 230 VAC operation, diode bridge CR1 is a conventional bridge rectifier. For 115 VAC operation, the top two diodes of CR1 and filter capacitors C7 and C8 act as a full-wave voltage doubling circuit. The rectified voltage is applied across both C7 and C8 on alternate half cycles of the input voltage. The output voltage is then taken across them in series so the output voltage is the sum of the voltages across each capacitor. The output voltage for either 115 V or 230 V operation is approximately 300 VDC. Bleeder resistor R5, across the filter capacitors, drains the capacitor charge when power is removed.

The switching action of S2 also switches the primary winding of T1 to produce the same voltage output from the secondary winding for either line voltage position to the housekeeping supply. For 115 V operation, the two primary windings are in parallel, and for 230 V operation the two windings are in series.

Jumper J2 is for testing purposes only. Troubleshooting should be attempted only by an experienced service person. Jumper J2 may be pulled to disconnect the input rectifier from the switching power supply. This permits a service person to determine if the input rectifier and regulator circuitry are functioning correctly without the load.

Pulse-Width Modulator and Control Circuits

PWM U1 is a pulse-width modulated, current-mode controller that drives the preregulator stage. The preregulator is controlled by the output of the +5 V supply. This makes +5 V the regulated output; the other voltages (–16.5 V, +16.5 V, –22 V, and +22 V) are set by the turns ratio of T5. The PWM uses the

+5 V output voltage and information about the current in L4 to control pulse-width modulation of the preregulator. On pins 8 and 9 of U1, C20 and R12 set the frequency of operation at approximately 100 kHz. Pin 2 of U1 is a +5 V, ±5 mV voltage reference.

The +5 V output of the supply is divided to 2.5 V by R21 and R22 and applied to the error amplifier that is internal to U1 at pin 6 (– pin). Pin 5, the + pin of the error amplifier, is the reference voltage for the error amplifier. The regulating point for the +5 V output is set by R14, a variable potentiometer that adjusts the reference voltage on pin 5. Compensation and feedback for the error amplifier is provided by C23.

Comp Out, pin 7, is also used for regulation sensing. That level is compared by U48 with a divided down Vref. The Comp Out level on the inverting input of U48 is normally higher than the input on the non-inverting input, so RDETECT will be low during normal operation. When the PWM reaches its drive limit, the output state of U48 switches to high. That high biases on CR32 to pass the RDETECT signal to the Power Supply Supervisor, U9. That device then issues a POWER FAIL signal to the CPU so that writing to the NVRAM is halted before the power supply goes out of regulation.

The current information of L4 from the Current Sensing circuit is applied as a trapezoidal-type waveform to U1 at pin 4. Transistor Q1 adds a small portion of the timing ramp on pin 8 to the current signal at pin 4 to improve noise immunity and to set the PWM correctly for current-mode operation. Both these signals, the +5 V feedback at pin 6 and the current signal with the added ramp at pin 4, must be present for U1 to work properly.

A shutdown signal, OVSD OR'ed with SD and applied to pin 16 of U1, is used to turn off the Pulse-Width Modulator. The SD signal is developed by the Shutdown Gate, U18B, in the Alarm Logic circuitry. The SD signal is high when the power STBY/ON switch is in STBY and for a number of irregular conditions of the power supply (overvoltage, over temperature, or overcurrent).

The OVSD (overvoltage shutdown) signal is developed by VR2, Q11, and U15B. The OVSD signal is low through inverter U16B unless the +5 V becomes high enough to fire Q11 (about 6 V) and remove the low from the OVSD signal line. The two signals are diode-OR'ed to provide the shutdown signal to U1. When neither the OVSD nor the SD signal is high, the shutdown inhibit is removed from U1 to permit the PWM to begin operation. If either signal is high, the associated diode (CR12 or CR13) conducts to bias on CR14. This pulls pin 16 of U1 high to inhibit it from running, shutting down the power supply.

Jumper J3 is for testing purposes only. It may be pulled to eliminate the SD signal for testing of the PWM during troubleshooting, but this also eliminates all the shutdown control by the control logic circuitry except for the overvoltage shutdown. Troubleshooting should be attempted only by an experienced service person.

By design, the voltage level required to shut off the PWM is low compared to the high logic level from the Shutdown gate. A diode clamping circuit formed by R24 and CR14 prevents the SD level from exceeding the forward bias drop of the diode, about 0.6 V. Capacitor C25 bypasses fast transients from the SD input.

Power Switch Driver

The pulse-width modulated outputs of PWM U1 are at pins 11 and 14. The output pulses are buffered by the high-current FET driver device, U6, whose output pins 12 and 13 drive the primary of T2. The secondaries of transformer T2 drive the gates of the pulse-width modulated switching FET, Q2 and Q3.

The leading edges of the pulses from U1, pins 11 and 14, are also used to trigger comparator U4A. The comparator output clocks U5A, a D-type flip-flop configured as a toggling circuit that changes state with clock. This circuit is used to derive the 50% duty cycle pulses which are also buffered by U6. These outputs drive the primary of T3 which, in turn, drives the gates of inverter switching FET Q6 and Q7.

Preregulator

The preregulator consists of T2, Q2, Q3, L4, CR23, C31, and C32. Parallel FET transistors, Q2 and Q3 are driven alternately, each at a 50 kHz rate. The gates of Q2 and Q3 are driven by the Pulse-Width Modulator (PWM), U1, through FET driver U6 and pulse transformer T2.

Current Sensing

Transformer T4 and transistors Q4 and Q5 form a current sense circuit that functions to sense the current in the step-down inductor L4. This circuit provides a scaled-down replica of the switching FET current to pin 4 of PWM U1.

Inverter

The inverter consists of T5, Q6, and Q7. FET transistors Q6 and Q7 are also driven alternately, each at 50 kHz, and provide a 50 kHz switching rate to the primary of T5. They are not pulse-width modulated, but driven at a 50% duty cycle, through pulse transformer T3. Drive to the pulse transformers, T2 and T3, is supplied by U6, a high-current FET driver device. The inverter is driven in a one-half bridge configuration. Capacitors C31 and C32 divide the full voltage at L4 by 1/2, and the voltage across each capacitor is alternately applied to the primary winding of transformer T5 through the switching action of Q6 and Q7. This configuration produces a self-correcting circuit action that equalizes the positive and negative voltage swings seen by the primary of T5 and keeps it out of saturation.

Output Rectifiers and Filtering

The approximately 180 V, square-wave voltage across the primary winding of switching transformer T5 is stepped down in two center-tapped secondaries to provide drive to the +5 V, ±16.5 V, and ±22 V rectifier and filter circuits. The 16.5 V secondary voltage supplies the +15 V Series-Pass Regulator.

Each of the secondary output voltages is full-wave rectified and filtered using choke input filter sections. The +5 V output uses two L-sections; the others use a single L-section filter.

±15 V Regulators

The + and –15 V regulator pass elements, Q8 and Q9, are complementary, with Q8 being a P-channel FET and Q9 an N-channel FET. In the +15 V regulator,U8A is referenced to the +5 V developed by U5. Operational amplifier U8B is referenced to ground. In both, the feedback signal from the output voltage is still applied to the non-inverting input of the amplifiers. With reduced loading of the supply, an increasing voltage (more positive on the +15 V or more negative on the –15 V) decreases the conduction of the pass elements thereby reducing the voltage. With more loading, the output voltage would tend to decrease and the operational amplifier output will cause the pass elements to increase conduction to counter the decreasing output voltage.

This complete linear regulator circuit, operational amplifier U8A and series-pass element Q8, may be viewed as an operational amplifier circuit with R45 acting as the feedback resistor and R46 as RIN. The closed loop gain of the circuit is then set by the ratio of the resistor values. Operational amplifier U8A has its non-inverting input pin supplied via the feedback resistor from the output of the series-pass element (the regulated +15 V). A 5 V reference voltage developed by U7, a band-gap reference device, is applied to the inverting input of U8A, pin 2. The output level of U8A then follows the feedback voltage and is non-inverted at this point.

The inversion occurs in the series-pass element, a P-channel FET. With reduced loading of the supply, an increasing voltage from U8A decreases the conduction of the pass element, Q8, thereby reducing the output voltage. With more loading, the output voltage would tend to decrease, and the operational amplifier output also decreases. This increases conduction in the series-pass element to counter the decreasing output voltage by suppling more current to the load.

From pin 1 of U8A there is a frequency response limiting feedback circuit formed by C49 and R47 back to the inverting input of the operational amplifier, pin 2.

Alarm Circuitry and Fan Drive (diagram 2)

This circuitry includes the out-of-limit sensing components, the shutdown logic circuitry, and fan speed control components. Refer to schematic diagram 2 of the A11 power supply board for the following circuit description.

Alarm Sensing

LED Indicators. LED indicators (DS2 through DS8 and DS13) are placed on the input voltage side of the Power Supply Supervisor, U9. These indicators provide a quick visual check to see if the expected input voltages to U9 are present if troubleshooting of the power supply ever becomes necessary.

Power Supply Supervisor. The Power Supply Supervisor, U9, monitors the +5 V, +15 V, and –15 V power supply voltages and the LINE SENSE input. If any of the voltages do not meet the expected level (over or under), the Power Supply Supervisor outputs the appropriate alarm signal (/OVERVOLTS, /PWR FAIL, and /UNDERVOLTS). Each of the positive voltages is monitored on a separate input. A resistive voltage divider sets the input voltage at 2.5 volts. The –15 V supply is monitored at pin 14 of U9.

The LS input of U9, pin 5, monitors the LINE SENSE signal from the house-keeping supply. That line also has diode-OR'ed signals from the Shutdown Logic Gate input and the PWM regulation detector. Any of those signals going low causes the Power Supply Supervisor to output the /PWR FAIL signal to the main instrument to warn it that power failure is imminent.

The supervisor also develops a voltage reference from pin 3. That voltage is used for the reference voltage in the overcurrent comparators and the power reset comparator.

The width of the valid range (tolerance) of input voltages is set by the voltage on pin 1 (LTH) to be 8%.

Power Reset Comparator. When the power supply is going down, it is important that the memory devices in the AM700 are not written with random data as the voltage decreases. There are two signals generated from the Alarm Sensing circuitry to aid in producing an orderly shutdown of the processor and memory devices.

These two signals are /PWR FAIL, a warning that the power supply is going down, and /PWR RESET, a signal that prevents further writing as the voltage continues falling to the off state. The /PWR FAIL signal is developed by the Power Supply Supervisor, U16, immediately as the power is turned off. The /PWR RESET signal is developed by comparator U20B as the voltage decreases to the point that an /UNDERVOLTS signal is generated by the Power Supply Supervisor. The time delay between the two events permits the processor to shutdown while the voltage level is still high enough to permit proper operation.

When the voltage is coming up, it is also important that the memory devices in the instrument are not written to randomly. The Power Reset Comparator has an RC timing circuit on its non-inverting input that prevents the /PWR RESET from going high for a period of time after the undervoltage condition is removed (see Figure 3–15). The delay permits the power supply voltage to stabilize before the processor is permitted to start operating.

Overcurrent Sensing

Each of the voltage outputs has a current sensing resistor of low ohmic value to provide overcurrent information to the Alarm Sensing circuitry. In the +5 V regulator, that resistor is R39. The total current to the +5 V load passes through R39. The +5 VI (current sense) level is compared to the +5 V (output) level by the +5 V overcurrent comparator, U11A, in the Alarm Sensing circuit. The other supplies have similar sensing resistors in their load current paths. The current sense voltage of each supply is compared against its output voltage to the load by individual comparators in the Alarm Sensing circuit. A marked difference between the two levels causes the associated comparator output to switch low to indicate an overcurrent condition.

Overcurrent Sense Comparators. Individual comparators for each of the power supply outputs monitor both the output voltage to the load and the voltage developed across a current sense resistor in each load path. If the difference between the two levels increases beyond design levels, the associated comparator switches states from a normal high to low. The low forward biases a diode in the OR'ed output line of the comparators to pass the overcurrent condition signal to the Alarm Logic circuit to cause the power supply to shutdown.

All the comparator circuits are the same with the exception of the +5 V comparator. The exceptions to that circuit will be discussed after the general description for the remaining comparators. The +22 V circuit is used as the example. In that circuit, U12B is the comparator. On the + (non-inverting) input, a voltage divider circuit formed by R93 and R96, has a divide ratio that produces approximately 8.32 V at pin 9 between the +22 V output and the –14.4 V housekeeping supply. (Notice that in the negative voltage supplies, the +14.4 V housekeeping supply is the reference.)

On the – (inverting) input, a voltage divider formed by R94 and R95 has a divide ratio that produces approximately 8.07 V at pin 10 between the +22 VI current sense voltage and the –14.4 V housekeeping supply. If the current in the +22 V load increases to the point that the +22 VI level rises to the point that the voltage on pin 10 exceeds the voltage on pin 9 of U12B, the comparator changes states, and the output on pin 7 goes to ground level. That ground level signal forward biases CR38 and pulls the common diode-OR'ed anode line to ground. That line is connected to the Overcurrent Comparator U17A.

In the +5 VI comparator, the voltage swing across the current sense resistor is very small. To improve the sensitivity of the comparator, VR1 holds a voltage drop of 5.6 V across a divider formed by R78 and R80. In the anode circuit of

VR1, resistor R79 provides the necessary drop to keep VR1 properly biased within its current limits. The result this circuit arrangement produces is that while the voltage divider sets the proper level on pin 5 of the comparator, any change in the +5 VI current sense level is transferred fully to the comparator; the junction of R78 and R80 follows the full voltage change because that is what the voltage drop across R79 is doing. Another difference is that the + input of U11A is connected to the +5 V supply through a single resistor rather than a voltage divider circuit as in the other overcurrent sense comparators.

Alarm Logic

The temperature sensing elements also provide input to the Over Temp Indicator Comparator, U10B, the Over Temp LED comparator, U10A, and the Over Temp Shutdown Comparator, U17B. The over temperature indicator circuit provides an advance warning that the temperature is too high, in advance of an actual over temperature shutdown.

Over Temperature Comparators. Resistors R118, R117, and R116 set up slightly different references to the comparators with the same reference applied to both U10A and U10B. When the voltage at the common inputs to the comparators drops to about 5.4 V, the output pin of comparators U10A and U10B will drop and DS10, the internal over temp LED, is turned on. That low is inverted by U28E and applied to the Over Temp LED signal line. That signal is read by the CPU and an over temperature warning message will be displayed. The user will then have a visual indication that an over temperature condition exists. The output of U13B is the /OVERTEMP signal that provides the CPU with an over temperature warning that causes a warning message to be shown in the display.

If the temperature continues to rise, the comparator input voltage continues to decrease. At about 4.4 V, the power supply temperature is high enough that a shutdown is necessary. At that point the output of U17B goes low and sends the over temperature alarm to U18A in the shutdown logic circuitry. Negative-logic NOR gate U18A (any low in gives a high out) also has the /OVERVOLTS signal from the Power Monitor, U9, as an input.

Shutdown Logic. A high output from U18A due to either an over voltage condition or an excessive over temperature condition fires SCR Q13 and applies a low to the shutdown gate U18B and the PS FAIL LED gate U18C. Once fired, the SCR latches the circuit in the shutdown state until the power supply is completely turned off to remove the housekeeping supply voltages.

The Shutdown Logic gate, U18B, has an input from U18A that is the combined over voltage and over temperature shutdown signal; an input from U17A that is the over current shutdown signal, combined from all the over current sensing circuits; and an input from U16D from the front panel STBY/ON switch. Any of these inputs going low generates a high SD (shutdown) signal to the Pulse-Width Modulator to turn off the switching signals to the Inverter FET.

Over Voltage Indicator. If an over voltage condition exists, the /OVERVOLTS signal from U9 is applied to both U18A as input to the shutdown logic circuit and to an over voltage indicator circuit. The /OVERVOLTS signal is inverted by U16A to fire SCR Q12. When that device fires, the over voltage indicator LED, DS10 turns on to assist in troubleshooting an error condition in event of a power supply over voltage problem. The SCR ensures that the indicator will remain on until the power supply is completely turned off to remove the +14.4 housekeeping supply voltage.

Overcurrent Comparator. The over current comparator, U17A, is referenced at 2.5 V from U9, pin 3. That reference is applied to the inverting input of U17A. Under normal conditions, the outputs from the overcurrent sensing comparators will not be active and VR3 will be conducting through CR43 and R133 to the +14.4 supply. This will hold the noninverting input of U17A at 6.2 V and the output of U17A will be high. The /OVERCURRENT signal is therefore high, and the overcurrent LED will be off. Both the PS FAIL LED gate, U18C, and Shutdown gate, U18B, will have a high signal on the over current input pins.

The over current signal input to U17A is formed by combining the outputs of the individual power supply over current comparators. When an over current condition on any power supply is detected, the common anode side of diodes CR35 through CR38 or CR46 is pulled low, but the + input of U17A remains higher than the – input until the voltage on C81 falls enough to cause the voltage at the junction of CR43 and VR3 to fall below the reference input voltage on the – input of U17A. The delay provided by the time constant of C81-R132 prevents an over current condition from being generated by the current inrush when the power supply first turns on.

The output of comparator U17A then goes down to ground level, and the over current indicator, DS12, turns on. That low from U17A also causes a shutdown (SD) to be generated from U18B to turn off the PWM, U1, and a high output from U18C, the PS FAIL LED gate. The high from U18C biases on Q14 to cause the PS FAIL LED signal to switch high.

When the PWM shuts down, the over current signal from the individual power supplies will be removed, but the shut down signal must not be removed from the PWM for a short period of time. This is done by the time it takes C81 to change it charge state through R133.

While C81 changes charge level rapidly through R132 for an over current condition, that path is not connected when the power supply shuts down and the over current condition goes away. Through R133, the voltage across C81 rises more slowly to a level that causes the comparator to again switch its output high. That delay is how long the PWM remains off before it tries to restart. The difference between the two times (run to off) is about 1:5 and the over current indicator LED, DS12, will blink.

Fan Drive

The variable-speed fan is powered from a thermally controlled +16 to +28 V supply. A graph of the fan drive voltage versus the temperature is shown in Figure . Temperature sensing is done by RT2, a thermistor mounted on the 5 V heat sink. There are provisions for two additional temperature sensing elements in the main instrument, one of which is connected to the Main CPU heat sink. Thermistor RT2 has a negative temperature coefficient, so as the temperature rises, the voltage at the junction of R97 and RT2 decreases. When the temperature gets high enough that the voltage biases on CR39, the input to U14A begins to follow the temperature changes. The three temperature sense inputs are diode-OR'ed at the non-inverting input of U14A, a voltage follower operational amplifier. The highest sensed temperature controls the input to U14A by biasing off the diodes that have a higher voltage on their cathodes.

The output of U14A is summed with the voltage feedback from the output of the fan power supply. The feedback signal varies the output switching signal from U15, a Pulse-Width Modulator. Without the temperature feedback through R101, the feedback through R102 sets the output voltage to minimum, at about +16.5 V. The added temperature feedback modifies that provided from the fan drive circuit to vary the duty cycle of the drive signals to Q10 in proportion to the temperature. The output of U14A decreases as the temperature increases, so the feedback voltage at pin 2 of U15 decreases. This makes the Pulse-Width Modulator output turn Q10 on for longer periods of time to increase the drive voltage to the fan.

The Fan Drive circuit, composed of Q10, L10, CR42, and C75, is a boosted power supply to produce the variable drive voltage to the fan. The pulse width modulator and Q24 are powered from the +16.5 V supply, but the boosted voltage to the fan can be up to 28 VDC. When Q10 conducts, energy is stored in the magnetic field of L10. As Q10 shuts down, the energy must be returned to the circuit. The voltage on the anode of CR42 increases due to the inductive rise and the diode is biased on.

The energy is rapidly transferred to C75 and CR42 becomes reverse biased to remove the inductor from the circuit. Until the next pulse of energy from L10, the stored charge of C75 supplies the drive voltage to the fan. The Pulse-Width Modulator and feedback circuit controls the fan drive voltage within a range of +16 to +28 VDC. If Q10 remains off, the voltage on C75 will reduce to below the +16.5 V supply and CR42 will again become forward biased through L10, so the minimum output drive voltage to the fan is approximately +16 VDC.

Jumper J4 is a servicing jumper. When it is removed, the ground reference to the feedback input is removed, and the PWM shuts off. The fan drive then reduces to minimum. Jumper J4 is for testing purposes only. It may be pulled to eliminate the feedback signals from the input of U15. Troubleshooting should be attempted only by an experienced service person.

STBY/ON Switch Circuit

The front-panel STBY/ON switch controls the POWER OFF logic signal to the shutdown circuitry. The master power ON/OFF switch to the power supply is located on the rear panel of the instrument. When the front-panel STBY/ON switch is in the ON position, the POWER OFF signal line is pulled low. This low is inverted by U16D and applied to the Shutdown Logic Gate, U18B, to allow the PWM to start operating if no other shutdown condition exists.

With the STBY/ON switch is in the STBY position, the POWER OFF control line is pulled high by R120 back to the +14.4 V supply. This high is inverted by U16D, and U18B applies a SD signal to the PWM that prevents it from outputting drive signals to the inverter switching FET.

Also, with the POWER OFF control line high, diode CR45 is forward biased by the high POWER OFF signal. This removes the /UV LED signal as a control signal from the PS FAIL LED gate so the PS FAIL LED signal does not go high with the STBY/ON switch in the STBY position.

Power Supply Failure Warning. A second output developed from U18D is the /POFF signal. A low /POFF signal forward biases CR31 in the LINE SENSE input signal line to the Power Supply Supervisor, U9, to pull the line sense input (pin 5) of that device low. The Power Supply Supervisor then outputs the /PWR FAIL signal to the main instrument to provide immediate warning that the power supply is going down. Another input to this same signal line is the RDETECT signal through CR32 from the PWM, U1. This signal detects when the PWM is out of regulation and also causes the Power Supply Supervisor to issue the power failure imminent signal to the main instrument. This warning to the main instrument also occurs when the master power ON/OFF switch is turned off.

Disk Drive Assembly (A12)

The disk drive of the AM700 is a purchased assembly. It is interfaced to the AM700 by the Front Panel Processor, U110, and a dedicated floppy disk controller device, U105, located on diagram 9 of the A6 MAIN/CPU Board. When reading and writing data to a floppy disk, the floppy disk controller handles the transfer using DMA after requesting memory access from the Front Panel Controller. A schematic diagram is not provided for the disk drive assembly.

LCD Driver Board (A13)

The LCD Driver board (block diagram shown in Figure 3–21) digitizes the analog RGB output signals from the video display circuit into the correct digital drive signals for the LCD display. The pixel format of the display is standard VGA: 640 (H) × 480 (V). Signals output to the display are the following: 4-bits each of R,G,B (red, green, and blue), vertical sync, horizontal sync, sampling clock, enable signal, and two +5 V supply voltages. The horizontal display start is delayed to meet the required timing for the LCD display. Both the horizontal and vertical sync signals are negative sync.

Color A/D Converters

Each analog signal (R, G, and B) is processed identically. The three signals are applied to separate analog-to-digital converters (U9 Red, U10 Green, and U11 Blue). An operational amplifier associated with each ADC provides for color gain and offset control. The analog signal is sampled by the ADC at the 25 MHz delayed clock rate. The four bits just below the MSB (most-significant bit) of the 8-bit ADC are used for the digital data to the LCD, effectively providing a gain of two for the color signals.

Digital Color Data Latches

The digital data bits are clocked through two 8-bit latches, with the green and blue data using all 8-bits of latch U13. The four bits of the red data are clocked through latch U12. The remaining four bits of latch U12 and PAL U1 are used to process the horizontal and vertical sync signals to provide delayed sync signals. These signals are synchronized with the digital color information. Data is clocked through the latches by a delayed 25 MHz clock signal.

LCD Brightness Control

The brightness control signal from the CPU board (derived from the setting of the front-panel brightness control) is applied to the backlight inverter power control circuit. A two-stage amplifier circuit (U4A and U4B) sets the intensity of the LCD display by controlling the backlight inverter output voltage to the backlight lamps. The second stage of the amplifier also provides a gain adjustment (BRT R24) to set the level that turns off the backlight (no display). A diode network on the output of the second stage shapes the slope of the BRT control to be more exponential. The +13 VLCD power source is obtained from the +15 V supply through two diode drops and some additional LC filtering.

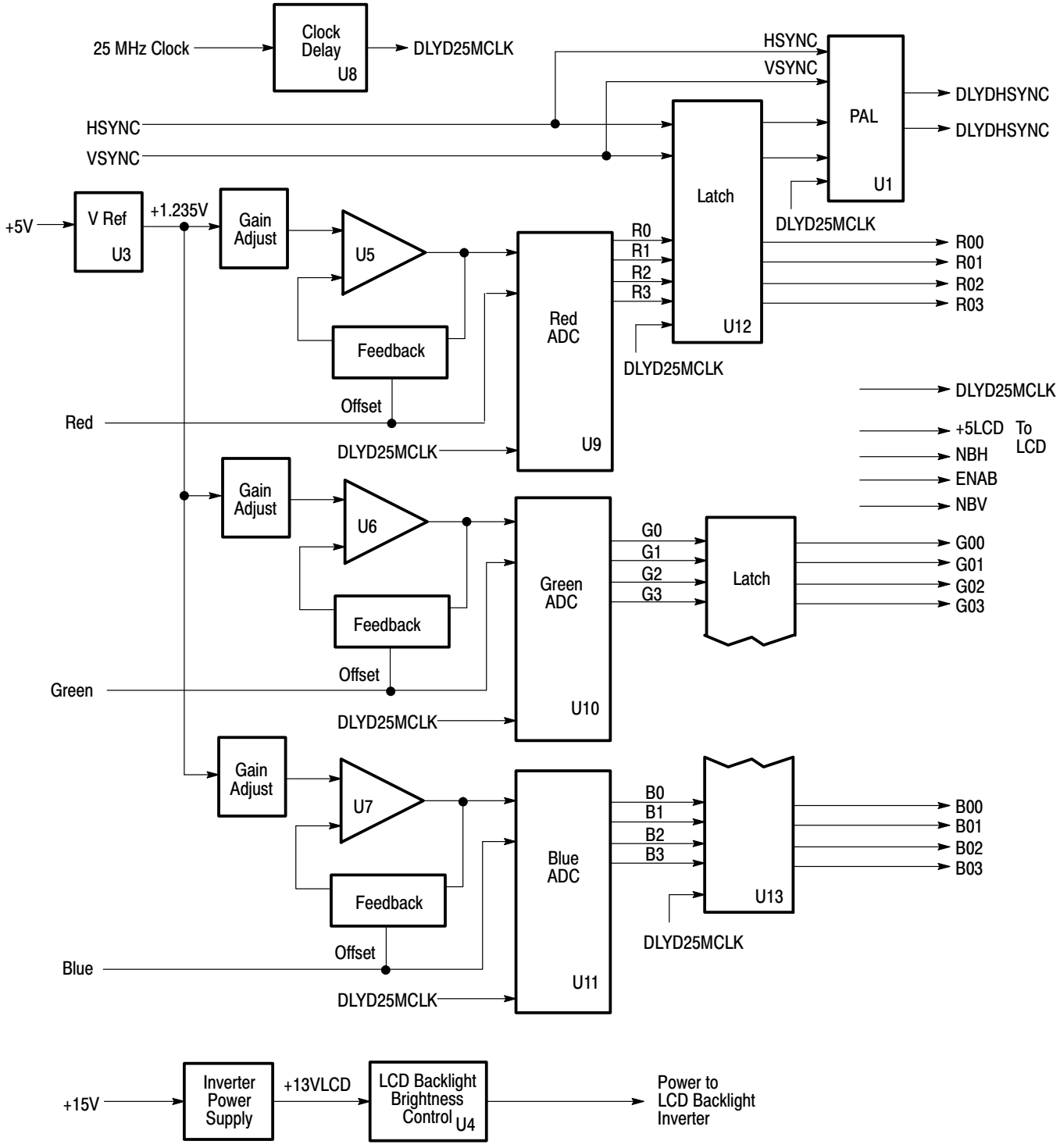


Figure 3–21: LCD driver board block diagram

LCD Flat Panel Display (A14)

The flat-panel display is a thin-film transistor device. Drive signals to the display are the 12-bit data (4 bits per color), four timing signals, and the +5 VDC supply voltage for the transistor array.

LCD Backlight

Backlighting for the LCD display is provided by two cold cathode florescent tubes. The two tubes, one at the top and one at the bottom, are arranged to provide edge lighting to the LDC display. The lamps require a kickoff voltage of 800 to 900 V_{RMS} to turn on. They draw about 4 mA and have a power consumption of approximately 1.6 W. Tube life is approximately 10,000 hours, and the end of life (time for a replacement) is defined as the point when the maximum brightness reduces to 50% of the original value or when the kickoff voltage (voltage needed to turn on the lamps) exceeds a maximum of 900 V_{RMS} at 0° C. Replacement backlight tube sets can be ordered from Tektronix. See the replaceable electrical parts list section for the part number and ordering information.

LCD Backlight Inverters

The backlight inverters are small switching supplies that provides the high voltage level AC required to power the two LCD display back lights. One version of display has both inverters on a single circuit board; a newer version uses two separate circuit boards for the two inverters. The maximum voltage output from an inverter is approximately 800 to 900 V_{RMS} at a typical frequency of 35 kHz. Backlight brightness is controlled by a control circuit on the LCD driver board. The control circuit uses the brightness control level from the CPU (derived from the front panel brightness control) to adjust the brightness of the backlight tubes. The backlight extinguish level is set by an adjustment in the backlight inverter control circuit (BRT R25) to turn off at about the 8 to 10% brightness setting.

Performance Verification

These functional checks are used to validate that the AM700 Audio Measurement Set is operating normally. They do not check each of the performance requirement given in the *Specification* section of this manual.

As part of these procedures you will run the diagnostics procedures to ensure those portions of the instrument tested by the diagnostics routines are performing correctly.

Test Equipment Required

The test equipment needed to perform the verification procedures is listed in Table 4–1. Use the test equipment shown or an equivalent to do the verification. If the example test equipment is not available, check the Minimum Specification column to determine if you can use another piece of test equipment. If you use other test equipment, the controls and connectors for that equipment may be different from those called out for the example test equipment. Refer to the appropriate operator's manuals for operation of the test equipment.

Table 4–1: Required test equipment

Equipment required	Minimum specification	Purpose	Example
Precision Audio Analyzer		Precision audio signal measurements and signal generation for verification procedures	ShibaSoku AM51A Audio Analyzer
Sine-wave Generator	Frequency Accuracy: ±0.01%; level flatness: (20 Hz to 80 kHz): ≤0.05 dB; level accuracy (20 Hz to 80 kHz): ≤0.02 dB; residual distortion: 0.0010% (–100 dB)		***NOTE:*** *The Tegam SG5010[1] may be used as a signal source for functional checks.*
Distortion Analyzer	Balanced input, THD residual typically 0.002%, 22 Hz to 80 kHz bandpass	Check generator signal distortion	ShibaSoku AM51A Audio Analyzer. Tegam AA5001A[1] or AA501A[1]
Frequency Counter	Accuracy and resolution to 8 decimal places, or used with an external reference (WWV, Loran C, or GPS) that will improve the accuracy to 8 decimal places. 20 Hz to 80 kHz range.	Check generator frequency accuracy	Tegam DC503A[1] or equivalent
RMS Meter	Accuracy 1%, resolution 5 digits; balanced input	Check generator amplitude accuracy and flatness	Fluke 8506A or 8505A–09

Table 4–1: Required test equipment (cont.)

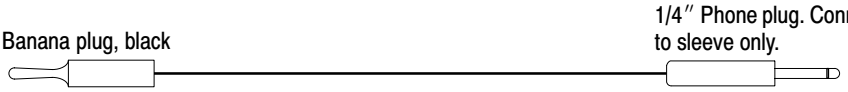
Equipment required	Minimum specification	Purpose	Example
Digital Audio Measurement Set	Tektronix AM700	Provide digital audio test signals and measure digital audio test signals	Tektronix AM700 Audio Measurement Set
Personal Computer	PC-DOS or MS-DOS 3.0 or higher, 386, 3.5 inch disk drive. Serial RS-232 port.	Provide for remote control of the AM700.	
Serial printer with RS–232C interconnection cable	24-pin dot matrix with RS-232C serial interface	Check RS–232C operation serial printer output	Epson LQ series serial printer or Hewlett-Packard LaserJet with serial input.
GPIB controller with standard GPIB cable		Check GPIB remote operation	Guru II+ Tektronix product number S3FG100
Interconnection audio cables for test equipment.	XLR to XLR	Signal interconnection	Supplied with test equipment
Impedance Transformer	110 Ω to 75 Ω impedance matching	Match AES ref out to 75 Ω system	Canare 110 Ω to 75 Ω matching transformer. Part number BCJ–XJ–TRA
Interconnection Cables	See Figure 4–1	Connect AM700 inputs and outputs to various test equipment.	Customer fabricated. See Figure 4–1 for diagram.
Audio Cables (2)	Standard XLR female to XLR male	Signal Interconnection	Customer provided
Attenuator	10X 75 Ω BNC	Signal attenuation for digital signal connection to oscilloscope	Tektronix part number 011-0061-00
Termination	Feed through 75 Ω BNC	Signal termination for digital signal connection to oscilloscope	Tektronix part number 011-0103-02
Termination	75 Ω BNC, 0.025%	Signal termination	Tektronix part number 011-0102-01
BNC T connector		Signal interconnection	Tektronix part number 103-0030-00

[1] **A Tegam TM500 or TM5000 power supply is required to power the plug-in module.**

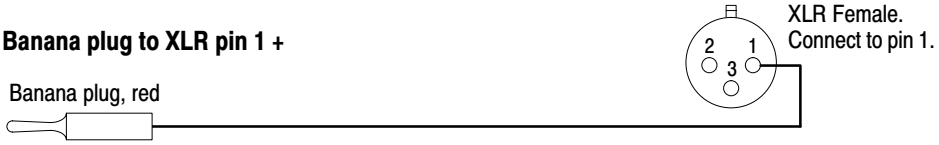
Fabricated Test Cables

Several of the test cables to make the connections from the XLR connectors of the AM700 to the different connectors of various test equipment are fabricated specifically the AM700 verification and adjustment procedures. If the verification procedures you want to perform call for one of these cables, you must fabricate it or a similar cable to make the connections. Figure provides a guide for use in making the special connector cables.

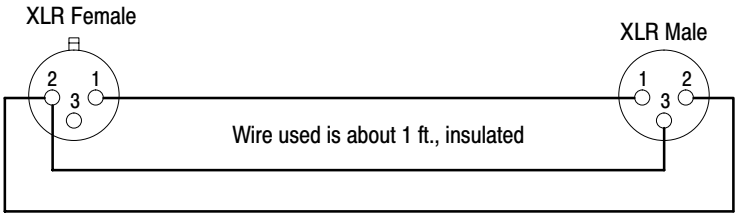
Banana plug to phone plug ground



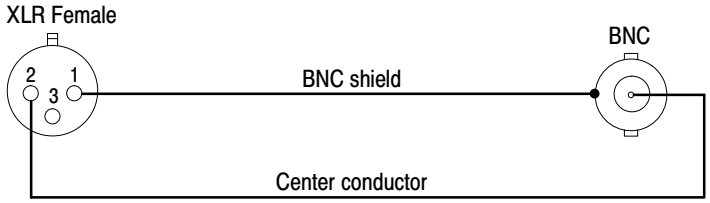
Banana plug to XLR pin 1 +



Common mode cable



XLR to BNC cable



Use a BNC coaxial cable. Cut off one end and connect to the XLR female.

3-way XLR cable

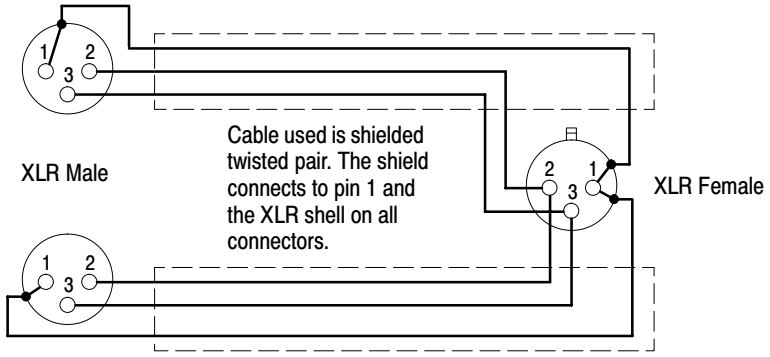
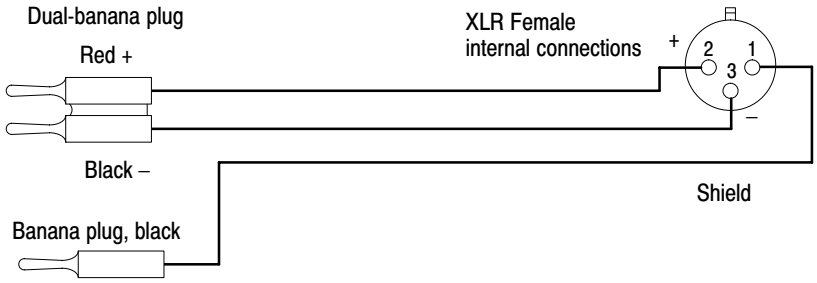
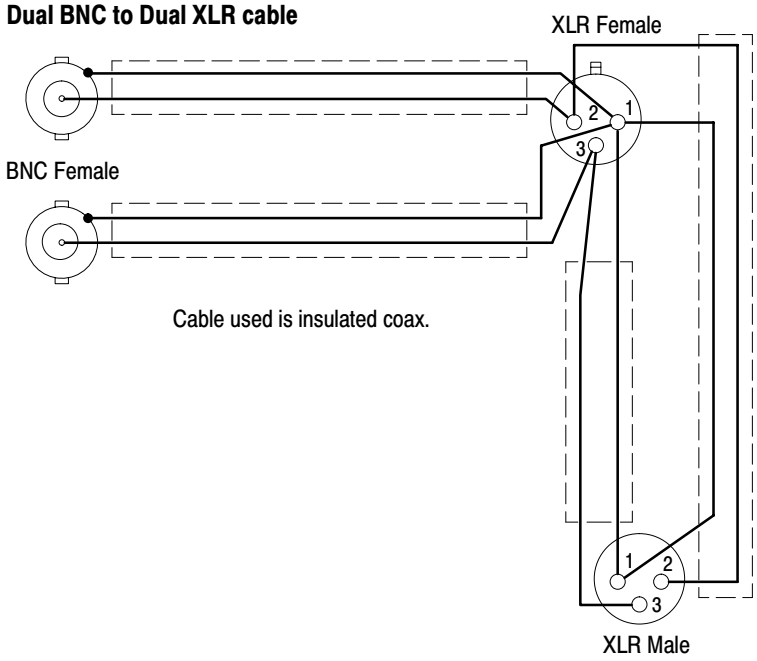


Figure 4–1: Interconnection cables

Triple Banana to XLR cable



Dual BNC to Dual XLR cable



Dual BNC to 110 Ω XLR female

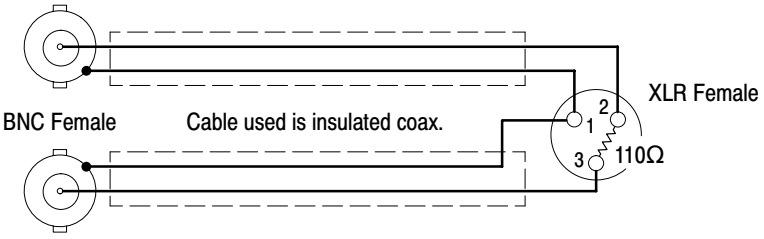


Figure 4–1: Interconnection cables (cont.)

Verify Power Supply Operation

Check the power supply at the appropriate line voltage setting for its normal use.

Check 115 V Power Supply Operation

1. Check that the Line Selector switch is set for 115 V operation.
2. Connect a 115 V power source.
3. Set the rear panel supply push button on/off switch S1 to the on position.
4. Press the Stby/On switch to turn on the AM700 (Green Indicator seen in switch).
5. Check that the instrument powers up normally and that the fan is exhausting air.

Check 230 V Power Supply Operation

1. Check that the Line Selector switch is set for 230 V operation.
2. Connect a 220 V power source.
3. Set the rear panel supply push button on/off switch S1 to the on position.
4. Press the Stby/On switch to turn on the AM700 (Green Indicator seen in switch).
5. Check that the instrument powers up normally and that the fan is exhausting air.

If the power supply does not come up normally, refer the AM700 to a qualified service person for corrective maintenance. A troubleshooting and checkout procedure for the power supply is given in the *Maintenance* section of this manual. If the fan is not exhausting air, do not continue to operate the AM700 until it has been repaired.

Power On Diagnostics

1. On power on, press and hold in the Limits button.
2. Release the Limits button after the AM700 beeps twice. The AM700 will now run a suite of diagnostic tests before it loads an application.
3. Check that the power-on diagnostics pass as the tests run.

Analog Generator Checks

Initial checks list actual button presses and screen touches (soft keys) in detail to assist you in becoming familiar with the user interface operation of the AM700. As you progress through this procedure, some assumptions about your familiarity are made to reduce the instructions. As an example you may see the instruction to "make sure the generator is in High Bandwidth mode" where it is assumed that you know how to do that without explicit instructions.

Analog Generator High Resolution and High Bandwidth Mode Operation

1. If the AM700 is not on, turn it on and wait until it initializes with the FFT application running. If already on, skip to step 2.
2. Press the Configure button and touch the Input Selection soft key to display the Input Configuration control panel as shown in Figure 4–2.

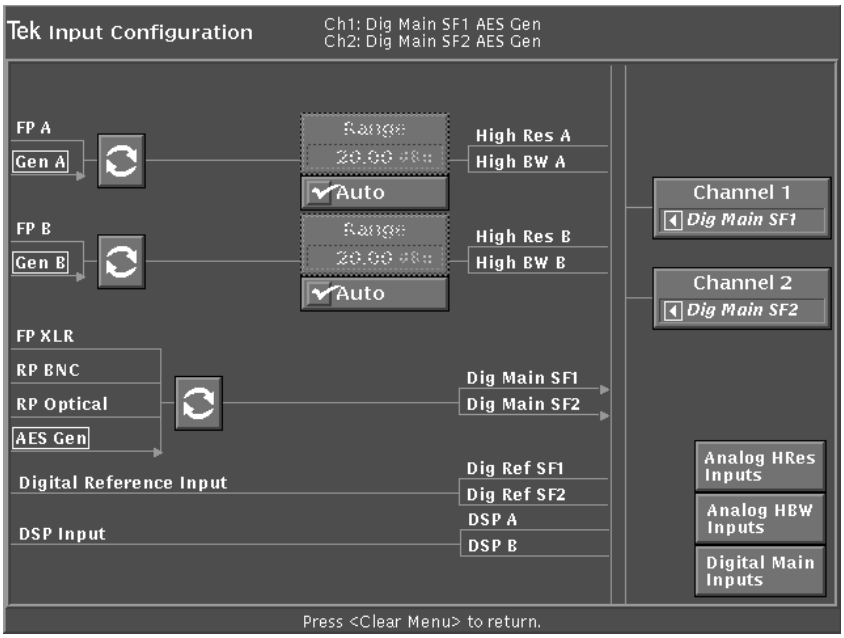
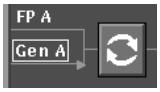


Figure 4–2: Input configuration control panel

***NOTE**. Ch 1 and Ch 2 are measurement channels of the AM700. Any of the input channels of the AM700 may be connected to either or both measurement channels using the Input Selection controls.*

3. Select the generator as the acquisition input source for CH A and CH B (normal default is FP A and FP B) by touching the double arrow symbol next to the generator choice.



This control toggles the generator selection between the two available choices: connection to the front panel XLR connectors or direct connection from the A and B analog generators. Press the Clear Menu button.

4. Press the Control button in the Generator section of the control panel (see Figure 4–3) to display the generator selection screen as shown in Figure 4–4.

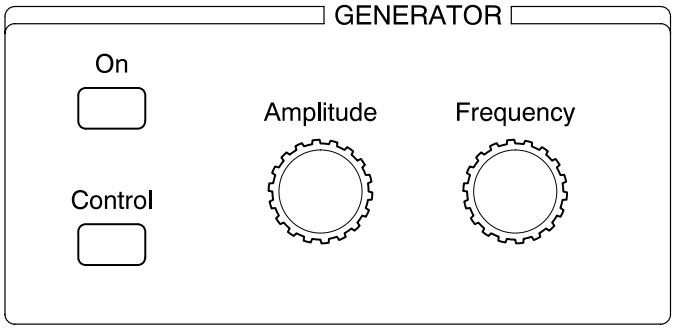


Figure 4–3: Audio generator controls

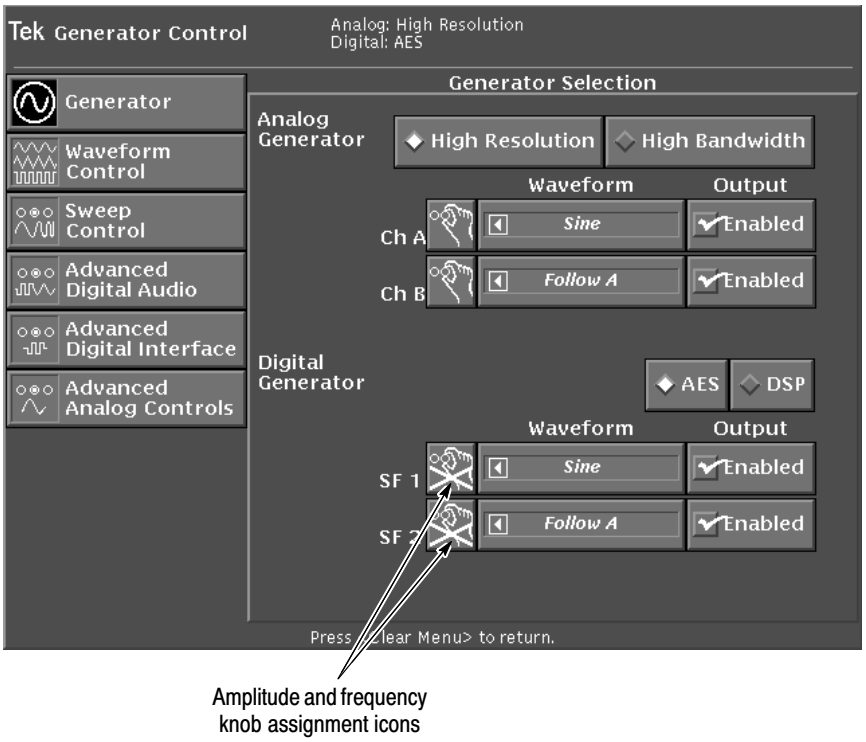


Figure 4–4: Generator control display

5. Check that the analog generator is set to High Resolution, Ch A is set to Sine, Ch B is set to Follow A, and both generator outputs are enabled as shown in Figure 4–4. Also check that the control knobs for setting the generator frequency and amplitude are assigned to the analog generator.

6. Touch the Waveform Control icon on the left side of the screen to display the Waveform Control screen as shown in Figure 4–5.

7. Set the Analog A generator (Ch A) to output a frequency of 1 kHz by touching the Frequency edit box to highlight it. Enter a 1 on the numerical key pad and then kHz in the units keys for 1 kHz.

8. Touch the Amplitude edit box to highlight it. Enter a 0 on the numerical key pad followed by dBu in the units keys for an amplitude of 0.0 dBu.

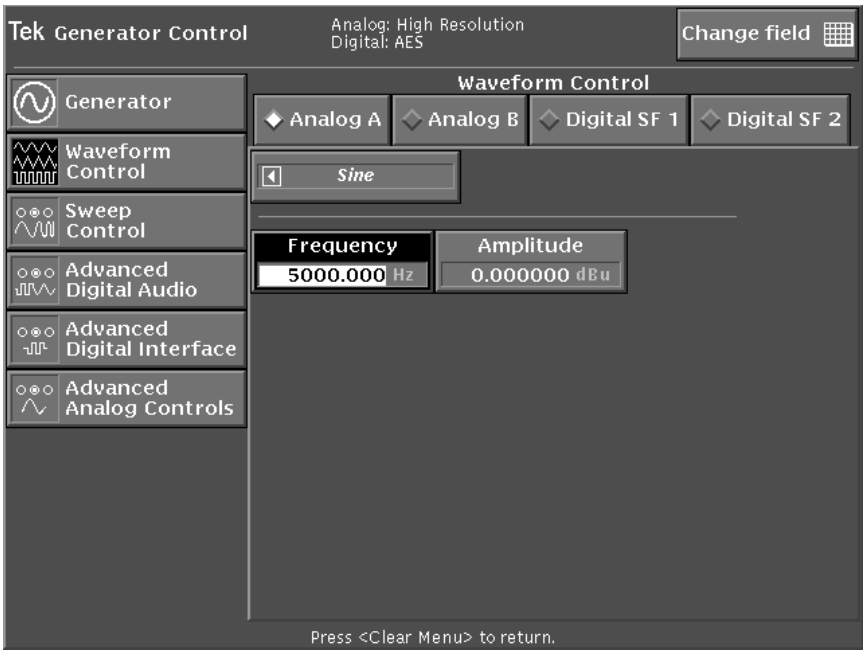


Figure 4–5: Waveform control display

9. Press the On button in the Generator controls section (see Figure 4–3) to turn on the generator. The On label is backlighted when the generator output is on. Press Clear Menu to return to the FFT Analyzer display.

10. Touch the second view window icon is the upper left hand corner of the screen (see Figure 4–6) to turn on both FFT display windows.

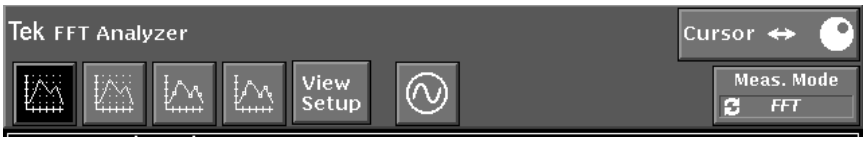


Figure 4–6: View window icons

11. Check the FFT display to see that the generator is producing a signal from the Analog A and the Analog B outputs and check that the noise floor is –100 dB or lower. Push and hold the Rescale button on the front panel to rescale the FFT display to fill the view window. (A quick press and release of the Rescale button rescales the active view only. Holding down the Rescale button rescales all the view windows.)

12. In the Generator controls section of the front panel (see Figure 4–3), press the Control button.

13. In the Generator Control menu (see Figure 4–4), select the High Bandwidth generator mode. The Analog B generator is automatically set to Follow A.

14. Touch the Waveform Control icon (on the left side of the screen), and set the generator for a frequency of 10 kHz at an amplitude of 0.0 dBu. Press the Clear Menu button.

15. Check the FFT display to see that the generator is producing a signal on Ch 1 and Ch 2, and check that the noise floor is –100 dB or lower.

Analog Generator Outputs

1. In the Generator controls section, press the Control button to display the generator selection menu as shown in Figure 4–4.

2. Set the analog generator to High Resolution.

3. Touch the Waveform Control icon to display the waveform controls menu shown in Figure 4–5. Make sure Analog A is the selected generator. Select Analog A if it is not the selected generator.

4. Touch the Amplitude readout box, and press the Units button in the key pad area to change from dBu to V. Each press of the Units button steps to the next available units choice; step as needed to get the units set to V.

5. Set the Analog A generator for a sine wave output at a voltage of 3.5 V and a frequency of a 120 Hz.

6. Set Analog B to Sine by touching the Waveform edit box (now reading “Follow A”) and turning the large control knob until Sine has the box around it. Make the selection either by touching Sine or pressing the Enter key in the key pad area.

7. Make Analog B the selected generator and set Ch B for same initial settings of frequency and voltage so the Analog A and Analog B generators have the same signal output. Reselect Analog A as the controlled generator.

8. Connect the Analog A output of the generator to the input of the external RMS meter. Use the dual banana to XLR connector to connect to the RMS meter + and – connectors. Use the single banana connector to connect to the RMS meter ground connection. The adapter cable wiring is shown in Figure 4–7.

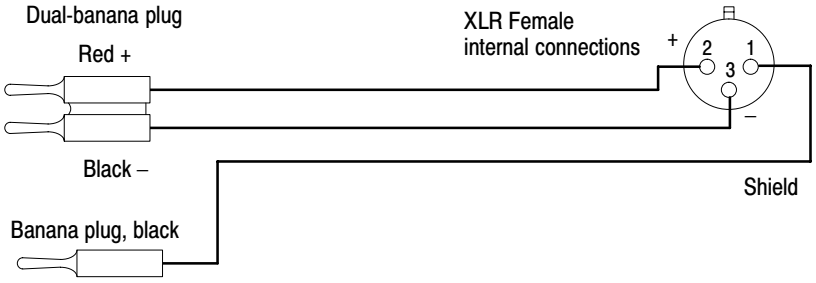


Figure 4–7: Cable for generator output level check

9. Set the external RMS meter as follows:

Measure mode to LEVEL
Measurement units to voltage (V)
Input impedance 200 kΩ or greater

10. Check that the Level reading is 3.5 V ±1.0% (3.465 V to 3.535 V).

11. Set the generator voltage to the settings given in Table 4–2 and check the Level reading for ±1.0% accuracy at each generator setting.

Table 4–2: Generator test voltages at 120 Hz

Generator voltage setting	RMS meter reading (Ch A)	RMS meter reading (Ch B)
24.5 V		
16 V		
8 V		
4 V		
2 V		
1 V		
0.5 V		
0.25 V		
0.125 V		
62.5 mV		

12. Disconnect the Analog A generator and connect the Analog B generator output to the input of the RMS meter.

13. Repeat the checks of step 10 and step 11 for the Analog B generator. To change the frequency and amplitude of the Analog B generator, press the Control button in the Generator front-panel control section. Touch the Waveform Controls icon; then Touch the Analog B soft key. The Amplitude and Frequency edit boxes will now control the Analog B generator output.

Analog Generator Check

These checks verify the functionality of the analog generator at a low, a mid, and a high frequency at each attenuator step.

1. Make the analog generator initial settings.

a. Set Units to volts to match the digital voltage meter.

b. Voltage settings 2.000 V rms

c. Initial Frequency setting 120 Hz

d. Make sure the generator is still in High Res Mode.

e. Set the signal to sine wave.

f. Set the Ch B generator to Sine (not Follow A) so Ch A and Ch B are checked independently.

g. Touch the Advanced Analog Controls icon and set the output impedance to 10 Ω (see Figure 4–8). Set the output impedance by touching the Output Impedance edit box to display a popup menu of the choice. Turn the main control knob to select 10 Ω and touch the edit box again or press the Enter key in the key pad to make the selection.

2. Check the RMS voltage with the RMS meter at 120 Hz. These are the reference values. RMS amplitude accuracies at other frequencies are measured with respect to those measured at 120 Hz.

The specification for amplitude accuracy at 120 Hz with signal amplitudes from +13.9 dBu to –16.1 dBu is ±0.1 dB (typically within ±0.05 dB). From less than –16.1 dBu to –34.1 dBu it is ±0.15 dB (typically within ±0.1 dB). For signal input amplitudes less that –34.1 dBu down to –52.1 dBu, the amplitude accuracy is ±0.25 dB

3. Disconnect the test cable from the Analog A generator output and connect the BNC to XLR female adapter cable between the Analog A output and the frequency counter. The cable wiring is shown in Figure 4–9.

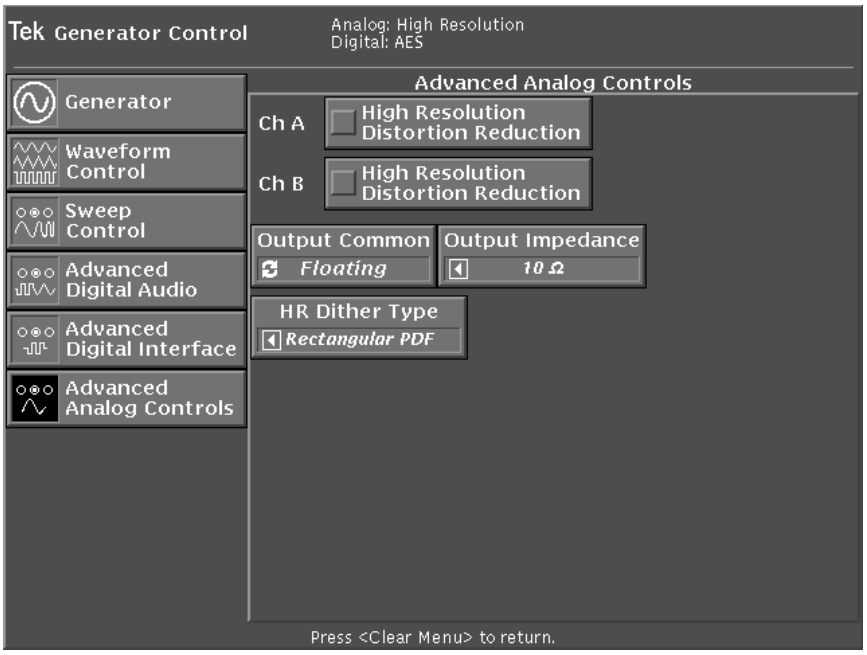


Figure 4–8: Advanced analog controls display

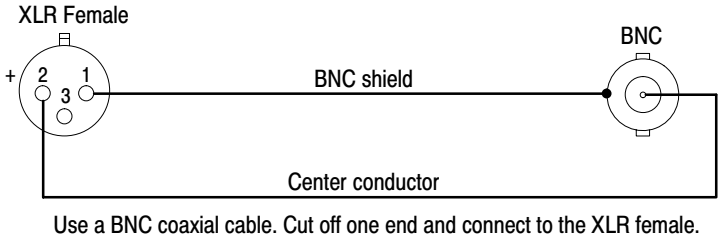


Figure 4–9: Generator frequency check cable

4. Set the generator frequency to 10 kHz and check the AM700 generator frequency accuracy is within ±0.01% (9999 to 10001) using the frequency counter.

5. Disconnect the frequency counter and reconnect the RMS meter test cable to the Analog A generator output.

6. Set the frequency and amplitude to the values shown in Table 4–3 and check the amplitude accuracy with the RMS meter. Ch A and Ch B (Analog A and Analog B) amplitude reading should be within ±0.3 dB (≈3%) of each other.

The measured RMS voltage should be within 0.1 dB (≈1%) of the generator setting at 120 Hz (the reference frequency). The measured RMS voltage at 10 Hz and 1 kHz should be within ±0.1 dB (≈1%) of the measured RMS voltage at 120 Hz. At 20 kHz, the measured RMS should be within +0.1 to –0.2 dB (≈+1% to –2%) of the measured RMS voltage at 120 Hz.

Table 4–3: High resolution generator checks

Voltage	Channel	120 Hz (reference frequency)	10 Hz	1 kHz	20 kHz
24.5 V	Ch A Voltage				
	Ch B Voltage				
8 V	Ch A Voltage				
	Ch B Voltage				
4 V	Ch A Voltage				
	Ch B Voltage				
2 V	Ch A Voltage				
	Ch B Voltage				
1 V	Ch A Voltage				
	Ch B Voltage				
0.5 V	Ch A Voltage				
	Ch B Voltage				
0.25 V	Ch A Voltage				
	Ch B Voltage				
125 mV	Ch A Voltage				
	Ch B Voltage				
62.5 mV	Ch A Voltage				
	Ch B Voltage				

Check Low Distortion Mode

1. In the Generator Controls, set the generator to High Resolution Mode if not already in that mode.
2. Use the Frequency and Amplitude edit boxes in the Waveform Control screen to set the Ch A and Ch B frequency to 1 kHz at 3.5 V.
3. Set the external distortion analyzer measurement bandwidth to Audio or 22 kHz. Check the THD + N using the external distortion analyzer. (It should be about 0.005%.)
4. Press the Control button in the generator section if the Generator Control panel is not still displayed.

5. Touch the Advanced Analog Controls icon to display the screen shown previously in Figure 4–8.
6. Select High Resolution Distortion Reduction mode for Channel A and Channel B. The selection indicator box is checked when selected.
7. Check that the Channel A and Channel B THD + N reduces to approximately 0.0025%.
8. Turn off Low Distortion Mode for Ch A and Ch B.

Check High Bandwidth Generator

1. Press the Generator Control button.
2. Touch the High Bandwidth box under Generator selection (see Figure 4–4 on page 4–8.
3. Touch Waveform Control.
4. Select the Analog A generator for edit if not already selected. Set Analog A to Sine, Frequency to 1 kHz (you will see 0.996 kHz), and Amplitude to 3.5 V. Make sure that the Analog A Generator output is on.
5. Check the RMS amplitude at 1 kHz with the RMS meter.
6. Check the THD + N at 1 kHz for a reading of 0.01% or less using the distortion analyzer.
7. Set the generator frequency to 9 kHz.
8. Check the frequency accuracy is within 0.01% (8999.1 to 9000.9) with the frequency counter.
9. Set the frequency and amplitude to the values shown in Table 4–4 and check the amplitude accuracy with the external RMS meter. At 117.1 Hz (this is as close to 120 Hz as the setting resolution of the high bandwidth generator permits), the measured values should not differ by more than approximately 1.5% (approximately 0.15 dB) from the set value at signal input levels from +13.9 dBu down to –34.1 dBu. At input signal levels from less than –34.1 dBu to –52.1 dBu, the amplitude accuracy at 120 Hz should be within ±0.25 dB (approximately ±2.5%).

   At 11.719 Hz and 20 kHz, the measured amplitude values should not deviate from the 117.1 Hz measured values by more than +1%. At 80 kHz the measured amplitude values should not deviate from the 117.1 Hz measured values by more than +5% to –10% (typically this will be near –5%). At 70 kHz, the typical amplitude accuracy is near –3%.

Table 4–4: High bandwidth generator checks

Voltage	Channel	117.1 Hz (reference frequency)	11.719 Hz	20 kHz	80 kHz
24 V	Ch A Voltage				Do not check 80 kHz at 24 volts.
	Ch B Voltage				
8 V	Ch A Voltage				
	Ch B Voltage				
4 V	Ch A Voltage				
	Ch B Voltage				
2 V	Ch A Voltage				
	Ch B Voltage				
1 V	Ch A Voltage				
	Ch B Voltage				
0.5 V	Ch A Voltage				
	Ch B Voltage				
0.25 V	Ch A Voltage				
	Ch B Voltage				
125 mV	Ch A Voltage				
	Ch B Voltage				
62.5 mV	Ch A Voltage				
	Ch B Voltage				

10. Repeat step 9 for Analog B if you want. For a simplified test you can check the Analog B output at 80 kHz only. This works because the output amplifier for Analog B is independently checked to 20 kHz in the High Resolution generator check procedure.

Check Generator Noise Floor

***NOTE**. The generator noise floor is difficult to measure accurately under most conditions. The following method is an approximate measurement method.*

1. Set the generator to High Resolution Mode if not already selected.
2. Check that the generator source resistance is set for 10 Ω.
3. Set the generator output amplitude to 0.0 Volts.
4. Measure the residual noise floor using a 400 Hz to 22 kHz measurement bandwidth or A weighting.

5. Check that the RMS level is equal to or less than –115 dBu (or –115 dBm without a 600 Ω load).
6. Set the generator to High BW mode. Make sure the output amplitude is still at 0.0 Volts.
7. Check that the RMS level is equal to or less than –95 dBu (or –95 dBm without a 600 Ω load.

Check Analog Generator Output Impedance

1. Press the Analyzer Application button. It takes about 20 seconds for the Analyzer mode to be loaded and calibrated.
2. If not connected, connect the front panel Analog Out A and B XLR connectors to the Analog In A and B XLR connectors.
3. Touch the RT icon soft key to display the real-time measurements, if not already selected.

***NOTE**. Ch 1 and Ch 2 are measurement channels of the AM700. Any of the input channels of the AM700 may be connected to either or both measurement channels using the Input Selection controls.*

4. Touch the Ch 1 Level soft key. A box appears around the reading in the display.
5. Press the mV/kHz button in the keypad (see Figure 4–10) to change the units to mV and press Enter.

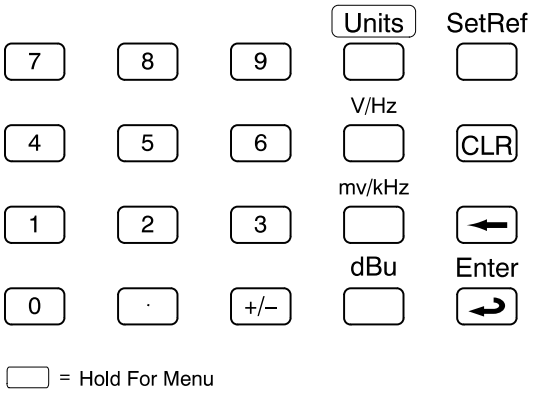


Figure 4–10: Keypad entry buttons

6. Press Ch 2 Level soft key. A box appears around the reading in the display. If the Ch 2 readings are not displayed, push the Menu button, and touch Ch 2 in the Enables menu to enable the Ch 2 measurements. Press Clear Menu.

7. Press the mV/kHz button in the keypad to change the units to mV and press Enter.
8. Press the Configure button.
9. Touch the Input Selection soft key.
10. Make sure the input selection for Ch A and Ch B are set to FP A and FP B, not Gen A and Gen B.
11. Set the Impedance for FP A and FP B to 600 Ω by touching the Impedance edit box and turning the control knob to scroll through the impedance choices until 600 Ω is displayed in the edit box. (This test assumes that the input resistors are within tolerance.)
12. Press the Clear Menu button.
13. Press the Control button in the Generator controls. Check that the generator is set to High Resolution mode.
14. Touch Waveform Control and make sure both Analog A and Analog B generators are set to 1 kHz.
15. Set the Amplitude of both analog generators to 1.015 V.
16. Touch the Advanced Analog Controls soft key.
17. Touch Output Impedance soft key.
18. Ensure that the generator source impedance is set to 10 Ω. Press the Clear Menu button.
19. Touch the generator status icon.

20. Touch A:Sine Level. Press and release the Units button until the units change to V. Turn the main control knob to set generator amplitude for a RT level readout of approximately 1 V.
21. Press the Control button in the Generator section of the front panel.
22. Touch Advanced Analog Controls soft key and set the output impedance to 150 Ω. Press the Enter button.
23. Press the Clear Menu button.
24. Check to see that the Level reading dropped to approximately 800 mV (816.8 mV) (within a few percent).
25. Press the Control button in the Generator controls.

26. Touch the Advanced Analog Controls soft key.

27. Touch the Output Impedance soft key.

28. Select 600 Ω and press the Enter button.

29. Press Clear Menu button.

30. Check to see that the Level reading dropped to approximately 500 mV (509.9 mV) (within a few percent).

Check Follow Mode

1. Set the B analog generator to follow mode.

2. Set the A analog generator to 5 V at 8 kHz.

3. Check the B generator output for 5 V at 8 kHz

Check Generator Float

1. Press the Control button in the generator section.

2. Touch Waveform Control and set the generator output to 0.0 Volt.

3. Touch the Advanced Analog Controls icon.

4. Check that the Output Common is set to ground. (Touching the Output Common selection area toggles between Ground and Floating.)

5. Connect the ohmmeter ground to the AM700 chassis ground through the special banana plug to phone plug adapter cable shown in Figure 4–11.

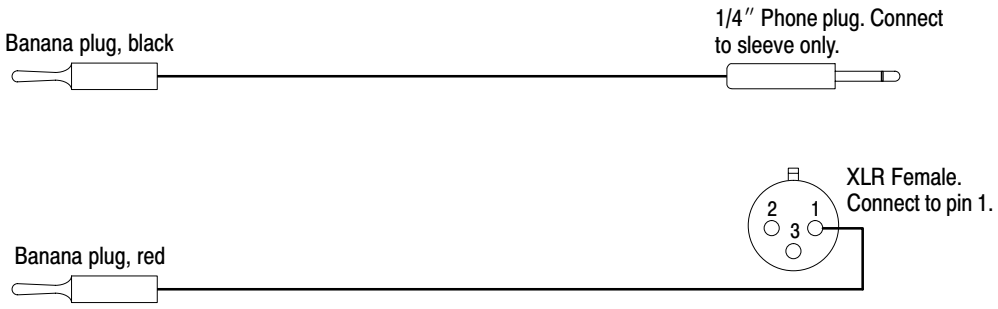


Figure 4–11: Impedance check adapter cables

6. Connect the ohmmeter + lead to the XLR output through the banana plug to XLR female adapter cable shown in Figure 4–11. It is only necessary to check one output; ground and float are the same for both.

7. Use an ohmmeter to check that pin 1 of the XLR output is approximately 0 Ω to 10 Ω to ground (typically less than 5 Ω).

8. Set the generator output to Floating.

***NOTE**. There is a difference in the floating impedance between the CRT version instrument and the flat panel display instrument.*

9. Flat panel display version: Check that pin 1 of the XLR output is approximately 825 Ω to ground.
10. CRT display version:
    a. Turn the power off.
    b. Check that pin 1 of the XLR output is approximately 1 kΩ to ground.
11. Disconnect the test equipment from the AM700.
12. Turn the power back on.

Check Audio Analyzer Operation

These checks verify the operation of the Audio Analyzer attenuator and gain stages using 120 Hz (the reference frequency) plus a low, a medium, and a high frequency. This is done in both the High Res mode and the High BW mode.

Check High Res Mode

1. If not already in Audio Analyzer mode, push the Analyzer button in the Applications grouping of buttons (see Figure 4–12).

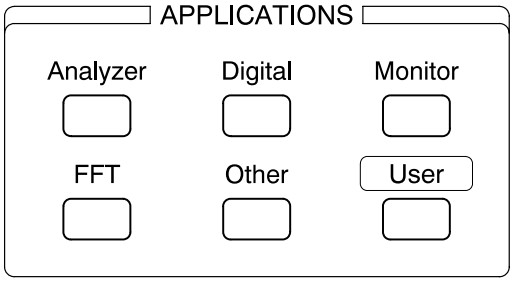


Figure 4–12: Applications buttons

2. Press the Configure button, and then touch the Input Selection soft key in the screen display.
3. Set the generator to analyzer connection to internal (Gen A and Gen B) and select the High Res A/D Converter as shown in Figure 4–13.

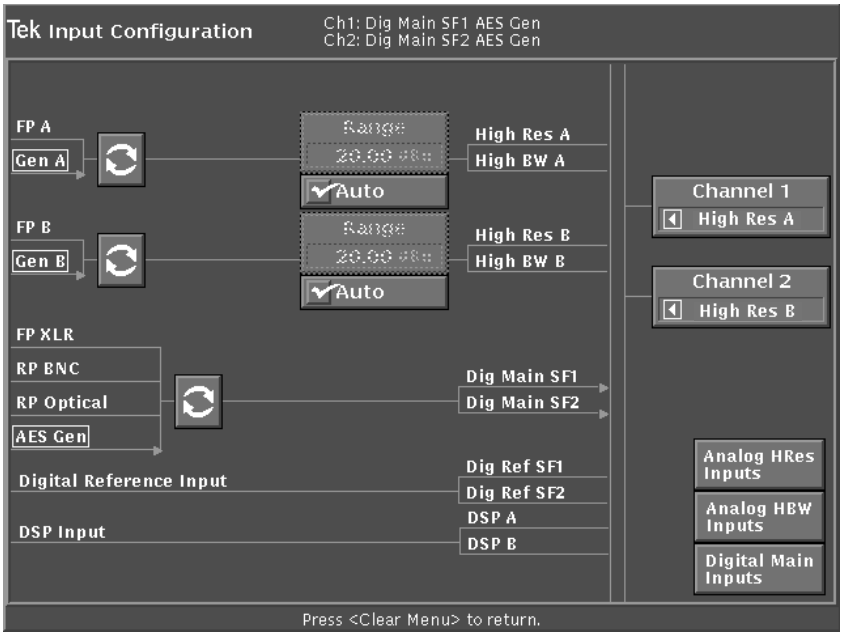


Figure 4–13: Input Configuration control panel

4. Press the Clear Menu button.
5. Press the Control button in the Generator section of the front panel.
6. Set the A analog generator to High Res mode, with a sine-wave signal output as shown in Figure 4–4 on page 4–8.
7. Set the B analog generator to Follow A mode. Touch the Waveform Control soft key and set Analog A Frequency to 1.00 kHz and Amplitude to 3.50 V. Press the Clear Menu button.
8. Turn on the RT display window and turn off the other display windows as shown in Figure 4–14.
9. Set the Level Units to Volts to match the generator units for amplitude settings.
10. Press the Menu button, and touch the Input soft key to display the Input Configuration menu.
11. In the Input Configuration menu, set the input ranges to manual for Ch A and Ch B by deselecting the Auto range in the Input Configuration control panel (shown in Figure 4–13). (The check mark is removed from the ✓ **Auto** choice, and the manual Range edit fields are not grayed out.)

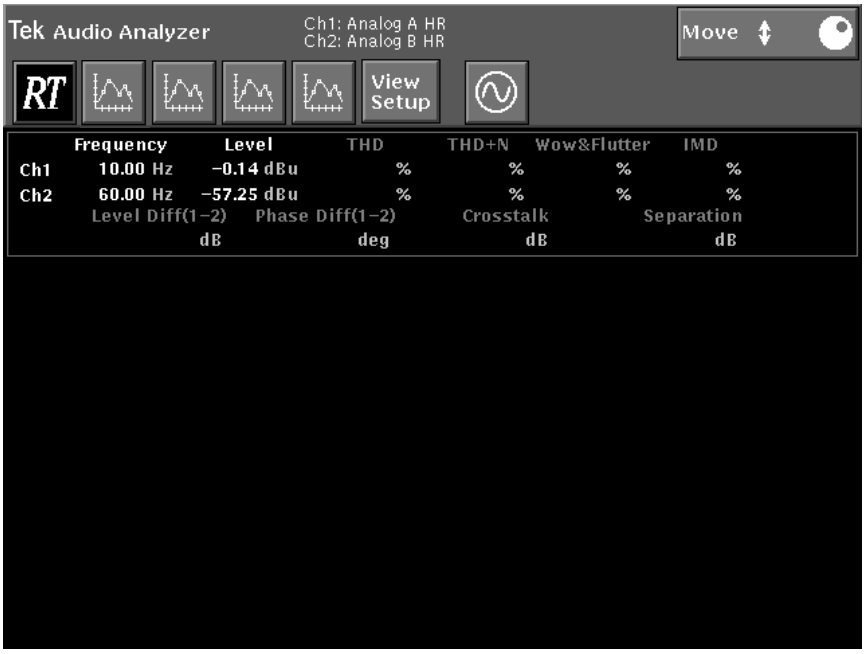


Figure 4–14: Audio Analyzer graphical display with real time (RT) view visible

12. Touch the number area in the Range edit field of Ch A, press the Units button in the keypad (see Figure 4–15), and press the V/Hz button to select V as the units for the input range.

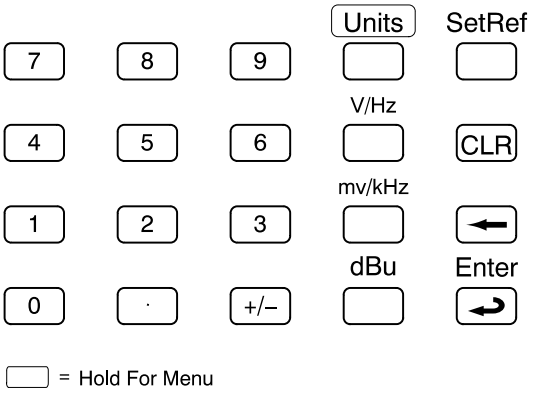


Figure 4–15: Keypad entry buttons

13. Use the key pad to set the input range to 3.88 V.

14. Repeat step 12 and step 13 for Ch B.

15. Press the Menu button, touch Enables, and enable the THD measurement. Channel 1 and Channel 2 must also both be enabled. Deselect any of the other enables that may be selected. Press Clear Menu.

16. Check the frequency measurement and THD + N at 3.5 V and 1 kHz for both Ch A and Ch B in the RT display window. The THD + N reading should be approximately 0.005%.

17. Set the frequency and amplitude to the values shown in Table 4–5 and check the amplitude reading in the RT display window.

For inputs greater than 1 mV (–57.8 dBu) to 10 mV (–37.8 dBu) the accuracy with respect to 120 Hz should be within ±1 dB. From greater than 10 mV (–37.8 dBu) to 1.946 V (_8 dBu), the accuracy with respect to 120 Hz is ±0.1 dB, typically ±0.05 dB from 50 Hz to 10 kHz. For input amplitudes greater that 1.946 V (+8 dBu) to less than 64 V (+36 dBu) for input frequency below 20 kHz and to less than 16 V (+26 dBu) for input frequencies from 20 to 80 kHz, the amplitude accuracy with respect to 120 Hz is ±0.15 dB (typically ±0.05 dB from 50 Hz to 10 kHz).

Manually change the Analyzer input range as you change the generator amplitude at 1 kHz or 120 Hz to verify manual ranging. Otherwise, leave Auto Range on. The easiest way to manually change the range is to push the Menu button to display the Analyzer menus. Then touch Input under the Main Menu pop-up. This puts Input Range controls on the right hand side of the display as shown in Figure 4–16. If you touch the ✓ **Auto** graphic, the check mark disappears, and the max full-scale value of the selected range appears.

For either Ch A or Ch B, if you touch the range value (for example 8.00 dBu), if becomes highlighted, and the main control knob will then change it in 6 dB steps. The units can be changed to Volts by pushing the Units button in the key pad area.

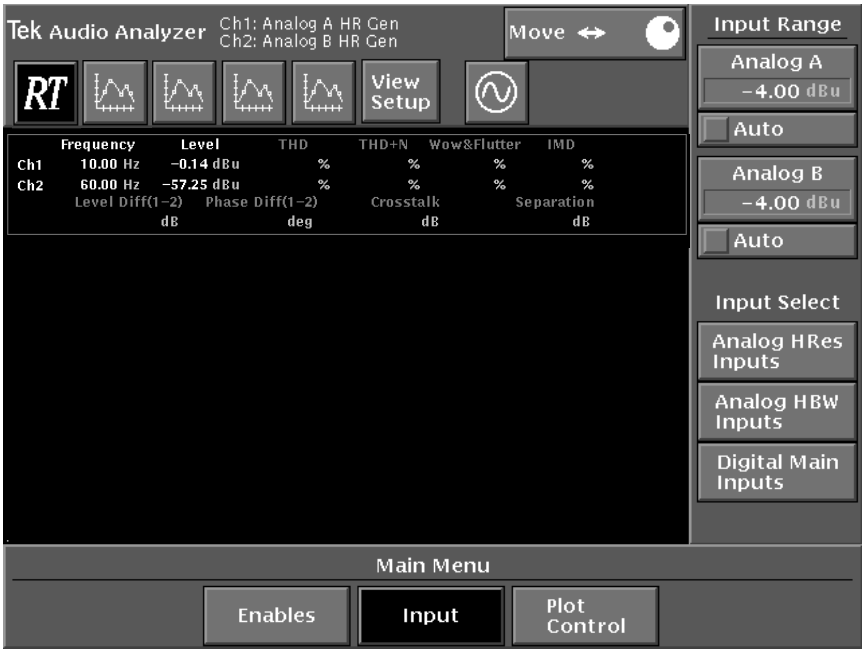


Figure 4–16: Audio Analyzer main menu with input range and input select submenus

Table 4–5: High resolution analyzer checks

Range	Voltage applied	CH 1 amplitude reading	CH 2 amplitude reading
Manual Range	**At 120 Hz (reference**		
122.75 V (+44 dBu)	(24.5 V)		
61.52 (+38 dBu)	(24.5 V)		
30.83 V (+32 dBu)	(24.5 V)		
15.45 V (+26 dBu)	15. V		
7.74 V (+20 dBu)	7.5 V		
3.88 V (+14 dBu)	3.75 V		
1.95 V (+8 dBu)	1.875 V		
974.95 mV (+2 dBu)	0.9375 V		
488.54 mV (–4 dBu)	0.469 V		
244.62 mV (–10 dBu)	0.234 V		
123.02 mV (–16 dBu)	117 mV		
61.51 mV (–22 dBu)	58 mV		

Table 4–5: High resolution analyzer checks (cont.)

Range	Voltage applied	CH 1 amplitude reading	CH 2 amplitude reading
Auto Range (CH A and CH B)	**At 10 Hz**		
	24 V		
	14.8 V		
	7.4 V		
	3.7 V		
	1.8 V		
	0.9 V		
	0.45 V		
	0.225 V		
	110 mV		
	55 mV		
Auto Range (CH A and CH B)	**At 1 kHz**		
	24 V		
	14.8 V		
	7.4 V		
	3.7 V		
	1.8 V		
	0.9 V		
	0.45 V		
	0.225 V		
	110 mV		
	55 mV		
Auto Range (CH A and CH B)	**At 20 kHz**		
	24		
	14.8 V		
	7.4 V		
	3.7 V		
	1.8 V		
	0.9 V		
	0.45 V		
	0.225 V		
	110 mV		
	55 mV		

Check High BW Mode

1. Press the Menu button and touch Input Selection soft key.
2. If not already done, in the Input Configuration control panel, set the generator to analyzer connection to internal. Set the Ch 1 and Ch 2 analyzer inputs to High BW mode by touching the Analog HBW Inputs soft key.
3. Set the CH A and CH B input ranges to manual (Auto unchecked).
4. Set the analog generator to High BW mode (this automatically sets the B generator to follow mode).
5. Check the frequency measurement and THD + N at 3.5 V and 1 kHz for both CH 1 and CH 2 in the RT display window. THD + N should be less than or equal to 0.003%, typically less than or equal to 0.0015%.
6. Set the frequency and amplitude to the values shown in Table 4–6 and check the amplitude reading in the RT display window. Manually change the analyzer input range as you change the generator voltages until you are satisfied that the manual ranging works. You can select Auto Range at any time to finish the checks. The amplitude measurement accuracy with respect to 120 Hz is are defined in the *Specification* section.

***NOTE**. Keep in mind that the analog generator you are using may have some high frequency rolloff (verified earlier in this procedure for the AM700 generator). This step checks the analyzer functionality and is not a check of its specified measurement accuracy to determine if readjustment is required. The specified accuracy for 80 kHz is ±1 dB or ≈ 10% relative to the 120 Hz level measurement.*

Table 4–6: High bandwidth analyzer checks

Voltage	Channel	120 Hz (reference frequency) (117.19 Hz)	11.719 Hz	20 kHz	80 kHz (79.993 kHz)
24 V	Ch 1 Level				Do not check 80 kHz at 24 volts. The AM700 generator is specified to a maximum of 19.45 V at 80 kHz.
	Ch 2 Level				
15.2 V	Ch 1 Level				
	Ch 2 Level				
7.6 V	Ch 1 Level				
	Ch 2 Level				
3.8 V	Ch 1 Level				
	Ch 2 Level				

Table 4–6: High bandwidth analyzer checks (cont.)

Voltage	Channel	120 Hz (reference frequency) (117.19 Hz)	11.719 Hz	20 kHz	80 kHz (79.993 kHz)
1.9 V	Ch 1 Level				
	Ch 2 Level				
0.95 V	Ch 1 Level				
	Ch 2 Level				
0.475 V	Ch 1 Level				
	Ch 2 Level				
0.238 V	Ch 1 Level				
	Ch 2 Level				
120 mV	Ch 1 Level				
	Ch 2 Level				
60 mV	Ch 1 Level				
	Ch 2 Level				

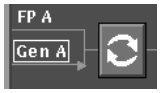
Check FFT Analyzer Operation

This operational check of the FFT Analyzer checks:

- Averaging
- Noise Floor
- High Resolution BW (20 kHz)
- High BW (80 kHz)

Check FFT Analyzer

1. Select the FFT Analyzer if it is not already selected.
2. Set the High Resolution generator for 5 kHz at –50 dBu.
3. In the Input Configuration menu, select the generator as the acquisition input source for CH A and CH B (normal default is FP A and FP B) by touching the double arrow symbol next to the generator choice.



4. Set the Input Select to High Resolution Analog Inputs.
5. Set Average on.
6. Touch the Menu soft key; then touch the Windows soft key. Select the Kaiser Bessel FFT window.
7. Check that the display is as shown in Figure 4–17. If you push, or have already pushed, Rescale, the –50 dBu amplitude will be set to the top of the FFT display screen and the bottom of the trace will be set to the bottom of the FFT display screen.

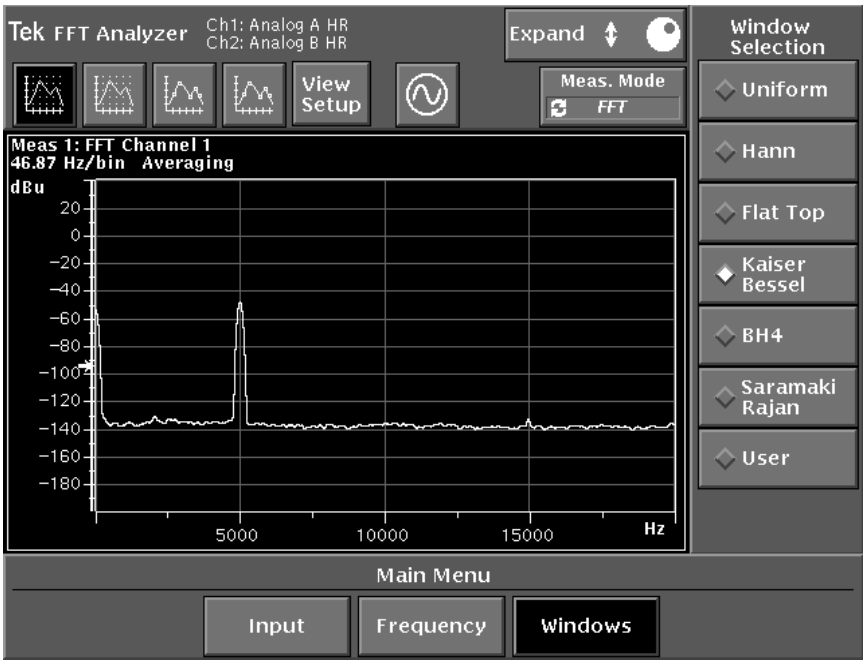


Figure 4–17: FFT Analyzer Window menu display

8. Check that the noise floor is below –120 dBu.

Check Harmonic Content

1. Set the High Resolution generator to an amplitude of 0 dBu and a frequency of 1 kHz.
2. Looking at the generator output with the High Resolution FFT, check to see that any harmonics of the fundamental are –85 dB or lower relative to the fundamental. The third harmonic may be worse than the second harmonic, but it is typically –90 dBu or lower relative to the fundamental.
3. Press the Control button in the Generator controls area of the front panel. Touch the Advanced Analog Controls soft key.
4. Turn on the High Resolution Distortion Reduction mode of the generator and observe that the distortion products and the noise floor diminish.
5. Turn off the High Resolution Distortion Reduction mode.

Check Acquisition Noise Floor

1. Disconnect the generator from the inputs to the measurement channels.
2. Set the input impedance for 600 Ω.
3. Check that the noise floor of the FFT display is always below –120 dBu and mostly below –130 dBu.

Check Autorange Function

1. Press the FFT Application button (if the FFT Analyzer is not already operating).
2. Connect the A and B Analog generator outputs to the Ch A and Ch B input connectors.
3. Press the Configure button.
   a. Touch the Input Selection soft key.
   b. Touch the source “toggle” icon soft key to select FP A and FP B.
4. Set the Ch A and Ch B Input ranges to Auto. Press Clear Menu
5. Press the Control button in the Generator controls.
   a. Press the Ch A Waveform soft key.
   b. Select the Multitone signal and press the Enter button. Multitone signals are used for this test because they are the most difficult for the autorange circuitry to process.
   c. Set the generator output amplitude to 0 dBu.
   d. Press the Clear Menu button.
6. Touch the Generator icon soft key (at the top of the display area). This displays the Generator status view window.

***NOTE**. The 0 dBu amplitude of the multitone signal applies to the RMS sum of the tones, not to the individual tone amplitudes.*

7. Using the Amplitude knob, slowly increase the generator output amplitude (seen in the Generator status view window) until the auto range detects an over-range condition (the word “clip” should appear momentarily in the top right section of the display). This should occur at about + 2 dBu and again between +7.9 and +8.1 dBu.
8. Decrease the amplitude from +8.1. The auto range should down range between +7.1 to +7.3 dBu. Auto ranging is accompanied by the sound of relays clicking inside the AM700.
9. Check to see that the auto range does not “hunt” for an acceptable range when auto ranging occurs.

Check Analog Acquisition Noise Floor

1. Press the Menu button.
   a. Touch the Analog HRes Inputs soft key (if the FFT Analyzer is not presently in High Resolution mode).
2. Press the Configure button.
   a. Touch the Input Selection soft key.
   b. Touch the source “toggle” icon soft key to select Gen A and Gen B.
   c. Press the Clear Menu button.
3. Press and hold the Average button.
   a. Touch the Processing soft key.
   b. Select Hold Maximum and press the Processing soft key to enter your selection.
   c. Press the Average button to activate Hold Maximum (Averaging).
   d. Press the Rescale button.
4. Touch the View 2 icon soft key to display the second view.
   a. Touch the view 2 screen area to change active window to view 2.
5. Press and hold the Average button.
   a. Touch the Processing soft key.
   b. Select Hold Maximum and touch the Processing soft key.
   c. Press the Average button to turn on averaging in view 2.
   d. Press the Clear Menu button.
   e. Press the Rescale button.
6. Check the generator output amplitude to ensure that it is still at +7.1 dBu from the previous procedure. Set the generator output amplitude for +7.1 dBu if it is not.
7. Check to see that the average noise floor is –90 dBu or lower. The noise floor is limited by the generator.
8. Check that there are no harmonics or noise spurs greater than –80 dBu.
9. Turn the generator off and press the Average button to clear the Hold Maximum trace. Then, press the Average button again to start a new Hold Maximum trace.
10. Observe that the Hold Maximum noise floor is below –120 dBu.

11. Press the Average button to turn off Hold Maximum in the active view.
12. Touch the view 1 screen area and and press the Average button. Observe that the noise floor with no averaging is less than –130 dBu.

Input Impedance Verification

These checks verify the input impedances of the Audio Analyzer on channel A and channel B.

Set Up the Generator

1. Set the external generator to output a 1 kHz sine wave, and set the generator output to 0.775 V.
2. Set the source resistance of the generator to 600 Ω.

Set Up the AM700 Audio Analyzer

1. If not already in the Audio Analyzer application, start the Audio Analyzer application.
2. Make sure that the input configuration is using High Resolution mode.
3. Set the AM700 input configuration for Front panel A and B.
4. Set the input range for channels A and B to +2 dBu (0.95 V).
5. Set the Input Impedance for channels A and B to 200 kΩ.

Verify Ch B and Ch B Input Impedance

1. Connect the output of the external generator to the Channel A input of the AM700.
2. The input should read approximately 0 dBu.
3. On the AM700, set the Input Impedance to 600 Ω.
4. Check to see that the measured level has dropped to approximately –6 dBu.
5. On the AM700, set the Input Impedance to 150 Ω.
6. Check to see that the measured level has dropped to approximately –14 dBu.
7. Verify Channel B is the same manner as Channel A.

Verify CRT Display Operation

AM700 Setup

1. Press Analyzer. When the Analyzer application has loaded, select all four graph view windows for display. Do not select the RT view window.

Check Display Focus

1. Check the focus in the center of the screen.
2. Check the focus at the corners of the screen.

   The focus should not be objectionable in any area of the screen.

Check Size, Linearity, Trace Rotation, and Centering

1. Check that the display width in the center is approximately 5 inches (12.8 cm).
2. Check that the display height in the center is approximately 3.75 inches (9.52 cm).
3. Check that the view windows for the four views are the same size vertically.
4. Check that the display is vertically centered with approximately the same spacing at the top and bottom of the viewing area.
5. Check that the display is horizontally centered with approximately the same spacing at the left and right sides of the viewing area.
6. Check that the display is aligned so the four graph view windows are approximately square and the horizontal border lines of the view windows are parallel to the top and bottom of the AM700 bezel.
   a. Straight edges should be relatively straight with minimal bowing.
   b. Boxes should have relatively square corners.

Check Display Intensity Control

1. Press and hold in the Display button.
2. Check that the display brightness is set for 70% (this is the power on default brightness level setting).

3. Rotate the large control knob counterclockwise to decrease the display intensity to 0%.
4. Check that the display is completely dimmed.
5. Release the Display button then press and hold it in again.
6. Check that the display brightness is now set for 90%.
7. Rotate the large control knob clockwise to increase the brightness to 100%, then release the Display button.
8. Select the FFT Analyzer.
9. As the FFT Analyzer application is loading, check the application name display for even illumination and for phosphor burns.
10. Check that there are no retrace lines visible.
11. Return the display brightness level to 70%.

NOTE. *Minor deviations of the display from exact alignment do not affect the accuracy of the measurements. Readjustment of the display monitor should not be attempted for any minor deviations. They should be noted for the next regular scheduled alignment. Major deviation from alignment indicates a display monitor problem and should be referred to a qualified repair facility for corrective action.*

Verify Flat Panel Display Operation

1. Press FFT. When the FFT application has loaded, touch View Setup, select the Spectrogram display, and then touch the Accept Changes soft key.
2. Check that there are no streaks or color smears of red, green, or blue.
3. In the UTILITIES front panel selections, press the Configure button.
4. Verify that the **Configuration options:** display has no streaks or color smears. If there are any color streaks or smears, the ADC gain for the associated color may need adjustment.
5. In the UTILITIES front panel selections press and hold in the **Display** button.
6. Use the large control knob to set the **Adjust brightness:** level to 10%.
7. Check that the backlight for the LCD display just turns off (no visible display at 10% brightness). If there is a visible display or if the display is dimmed at too high a percentage of brightness, the internal BRT level may need adjustment.

***NOTE**. The backlight display brightness decreases slowly with use. At an average of four hours of use per day, the display brightness decreases to about 50% of the original brightness after 3.5 years or about 5000 hours of total use time. If the brightness level become too dim, it is time for a backlight replacement.*

8. Release the Display button, and then press it again to return to the default brightness level.

Verify Digital Generator

These checks are done using one AM700 Audio Measurement Set (the test AM700) as a signal source or measurement instrument for the AM700 being tested (the DUT).

Clock Rate Range and Accuracy

1. Turn power on both AM700 Audio Measurement Sets.
2. After FFT application is initialized, make the following choices for both measurement sets:
   a. Press the Configure button.
   b. In the Configure menu, touch the State Saving soft key.
   c. Touch the Factory Default soft key and select Factory Defaults.
3. Set the DUT and the test AM700 as follows:

Press	Digital button
Touch	Eye Diagram icon
Press	Menu button
Touch	Digital Audio soft key
Set	Sample Rate = 48 kHz
Touch	Interface Timing soft key
Set	Mode = From Audio

4. Connect the DUT Digital Out to the test AM700 Digital In.
5. Check that the test AM700 Main Sample Freq. = 47999.76 to 48000.24 Hz.
6. Check that the test AM700 Peak to Peak Jitter reading is 0.05 UIp-p or less.
7. Set the DUT: Interface Timing as follows:

   Mode = Variable
   Var Freq = 30 kHz to 52 kHz

8. Check that the test AM700 eye diagram stabilizes, and the Main Sample frequency follows the variable frequency of the DUT as it is changed in step 7.
9. Check that the test AM700 has a Peak to Peak Jitter reading of 0.08 UIp-p or less when the DUT Var Freq = 52 kHz.
10. Set the DUT as follows:

Touch	Jitter Generation soft key
Set	Long Cable Simulation = ON

11. Check that the test AM700 Main Channel Equalization reads 5 or 6 dB.

12. Set DUT as follows:

Set	Long Cable Simulation = OFF

13. Connect the DUT to the test AM700 as follows:

DUT Digital Out signal to the test AM700 Digital In connector
DUT AES REF OUT to the test AM700 AES REF IN connector

14. Touch the Interface Timing soft key, and then touch the Clock Phase Offset soft key. Press the Units button until the units are set to UI.

15. Set the DUT Clock Phase Offset to: –1, +1, –64, and +63.5. Check that the test AM700 Phase Diff. reads the same as the DUT. (Note that –64 yields +64.)

Check Main Output Residual Jitter

1. Connect the DUT the the test AM700 as follows:

DUT Digital Out to the test AM700 Digital in
Test AM700 AES REF OUT to DUT AES REF IN

2. Set the DUT as follows:

Touch	Interface Timing soft key
Select	Mode = From Ref

3. Set the test AM700 as follows:

Mode = From Audio

4. Check that the test AM700 has a Peak to Peak Jitter reading of 0.08 UIp-p or less. If reading is >0.09, check again with the test AM700 sample rate at 44.1 kHz.

Ref Output Residual Jitter

1. Connect DUT AES REF OUT to the test AM700 Digital In.

Set DUT: Mode = From Audio

2. Check that the test AM700 Peak to Peak Jitter reading is 0.03 UIp-p or less.

3. Set DUT:

Mode = Variable
Var Freq = 52 kHz

4. Check that the test AM700 Peak to Peak Jitter reading is 0.08 UIp-p or less.

Check High Frequency Jitter Tolerance

1. Connect the test equipment as follows:

   DUT Digital Out to the test AM700 Digital In.
   DUT BNC OUT to DUT BNC IN.
   Test AM700 Digital Out to DUT AES REF IN.

2. Set DUT:

   Input = RP BNC; Mode = From Ref.

3. Set the test AM700:

Press	Jitter Generation soft key
Select	Generate Jitter Sine soft key
Touch	Jitter Ampl
Set	Jitter Ampl = 0.12 UIp-p
Press	Jitter Freq
Set	Jitter Freq = 30 kHz

4. Increase the test AM700 Jitter Ampl in steps of 0.01 UI until the test AM700 Eye Diagram looses lock. Check that Jitter Ampl is at least 0.17 UI. (spec is 0.12, typical is 0.3 UI).

Static Phase Difference

1. Connect DUT Digital Out to a dual channel oscilloscope through the special adapter cable shown in Figure 4–18.

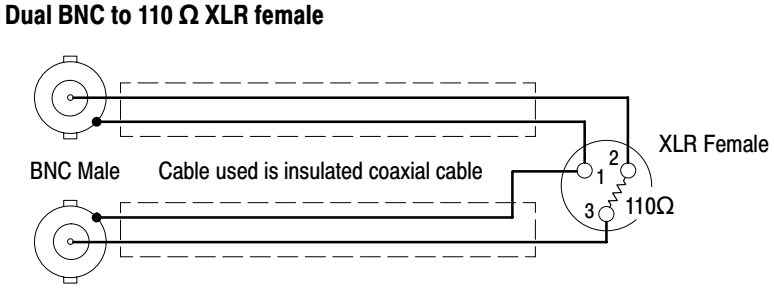


Figure 4–18: Dual BNC to 110 Ω XLR adapter cable

2. Connect the AES REF OUT of the DUT to the CH 3 (or trigger input) through a 110 Ω impedance transformer; a 10X, 75 Ω attenuator; and 75 Ω BNC feed through termination.

3. Press Interface Timing soft key.

Set	Mode = From Audio
Set	Clock Phase Offset to 0.00 UI (Unit Interval)

4. Setup the oscilloscope to view the signal. Typical settings are as follows:

Time/Div	50 ns/div
Volts/Div	1 V/div
Trigger	Normal
Trigger Source	CH 3 (trigger input)
Trigger Level	Auto
CH 1 and CH 2	On

5. Check on the oscilloscope, that the time from REF zero crossing to Main zero crossing is less than 50 ns.

Output Level

1. Connect DUT Digital Out to a differential oscilloscope inputs using the 110 Ω XLR to dual BNC adapter cable shown in Figure 4–18.
2. Set the oscilloscope controls for ADD, INVERT ON, and set CH 1 and CH 2 OFF.
3. Set DUT:

Touch	Interface Amplitude soft key
Set	XLR Output for the following: 0.01 Vp-p 0.1 Vp-p 1 Vp-p 5 Vp-p 8 Vp-p 10 Vp-p

4. At each setting, check that the oscilloscope reads the same (±10 mV ±5%).
5. Disconnect the Digital Out signal from the oscilloscope.
6. Connect DUT Unbalanced Out to the oscilloscope input using a 75 Ω BNC coaxial cable and a 75 Ω feed through termination. On the oscilloscope, turn off ADD and INVERT.
7. Set the DUT as follows:

Touch	Interface Amplitude soft key
Set	BNC Output for the following: 0.02 Vp-p 0.2 Vp-p 1 Vp-p 2 Vp-p

8. For each voltage setting in step 7, check that the oscilloscope reads the same (±2 mV ±2%).

9. Connect DUT AES REF OUT to the differential oscilloscope inputs using the 110 Ω XLR-to-dual-BNC adapter.

10. Check for 4.9 to 5.9 Vp-p.

Phase Jitter Generation

1. Connect the DUT as follows:

   AES REF OUT XLR connector to the oscilloscope CH 3 trigger input using 110 Ω to 75 Ω impedance matching transformer.

2. Connect DUT Unbalanced Out BNC to the oscilloscope CH 1 input using a 75 Ω coaxial cable and a 75 Ω feed through termination.

3. Set the DUT controls as follows:

Touch	Interface Timing soft key
Select	Mode = From Audio
Touch	Jitter Generation
Select	Generate Jittered Sine
Set	Jitter Ampl = 0.5 UIp-p
Set	Jitter Freq. = 1 kHz
Press	Generator On button to Off

4. Set scope with delay or mag for 20 ns/div and measure width of jitter using delta-delay or cursors. It should be 81 ns ±8 ns. (73 to 89 ns).

5. Set DUT Jitter Freq = 10 kHz

6. Check for a jitter width of 81 ns ± 8 ns. (73 to 89 ns).

7. Set DUT Jitter Freq = 20 kHz

8. Check for a jitter width of 81 ns ± 8 ns. (73 to 89 ns)

9. Set DUT Jitter Freq = 30 kHz

10. Check for a jitter width of 81 ns ± 16 ns. (65 to 97 ns)

11. Set DUT Jitter Freq = 50 kHz

12. Check for a jitter width of 81 ns ± 16 ns. (65 to 97 ns)

13. Set DUT Jitter Ampl = 0.09 UIpp, Jitter Freq = 1 kHz

14. Check for a jitter width of 14.6 ns ± 1.5 ns. (13.1 to 16.1 ns)

Digital Receiver

The following check verify the operation of the Digital Receiver hardware.

Receiver Interface Parameter Measurements

1. Connect the DUT as follows:

   Digital Out to Digital In
   UNBALANCE OUT to UNBALANCE IN

2. Set DUT controls as follows:

Press	Digital button
Touch	Icon Eye Diagram soft key
Press	Configure button
Touch	Input Selection soft key
Select	FP XLR, Clear Menu button
Press	Menu button
Touch	Interface Ampl soft key
Select	XLR Output = 0.15 Vp-p

3. Check that the Main Channel Level follows the XLR Output as shown in Table 4–7.

Table 4–7: Main output and XLR output test

	Main channel level measurement	
XLR output V	Minimum V	Maximum V
0.15	0.102	0.207
0.50	0.400	0.610
2.00	1.67	2.33
5.00	4.22	5.78
7.25	6.14	8.37
8.00	6.77	8.50

4. Select DUT Rear Panel BNC Connector as follows:

Press	Configure button
Touch	Input Selection soft key
Select	RP BNC
Press	Clear Menu
Set	BNC Output = 0.03 Vp-p

5. Check the Main Channel Level as indicated in Table 4–8.

Table 4–8: BNC output and main output test

BNC output	Main channel level	
	Min	Max
0.03	0.013	0.052
0.10	0.072	0.132
0.50	0.412	0.592
1.00	0.837	1.17
2.00	1.69	2.32

Check Clock Rate

1. Set DUT controls as follows:

Press	Digital Audio soft key
Set	Sample Rate = 48 kHz
Press	Interface Timing soft key
Set	Mode = From Audio

2. Check that Main Sample Freq is 47999.760 to 48000.240 Hz.
3. Set the DUT as follows:

   Mode = Variable
   Var Freq = 30 kHz

4. Check that eye diagram stabilizes.
5. Set the DUT as follows:

   Var Freq = 52 kHz

6. Check the that eye diagram stabilizes.

Check Static Phase Difference

1. Set the DUT as follows:

   a. Press the Configure button, touch the Input Selection soft key, and select the AES Gen.

   b. Touch the Eye Diagram icon, press the Menu button, touch the Digital Audio soft key, and make the following selection:

      Sample Rate = 48 kHz

   c. Touch the Interface Timing soft key and make the following selection:

      Mode = From Audio

d. Set the Clock Phase Offset to the following values:

0, 0.5 UI, –0.5 UI, 63.5 UI, and –64 UI

2. Check that the Phase Diff. on the test AM700 reads the same as the values in step 1, part d ±1 UI.

***NOTE**. 64 UI = –64 UI just as 180° = –180°)*

Check Phase Jitter (Jitter spectrum flatness)

1. Connect the test AM700 as follows:

Test AM700 Digital Out to DUT Digital In

2. Set the AM700 as follows:

Touch	Jitter Generation soft key
Touch	Generate Jittered Sine soft key
Set	Jitter Ampl = 10 UI
Set	Jitter Freq = 50 Hz

3. Setup controls for DUT as follows:

Press	Configure button
Touch	Input Selection soft key
Select	FP XLR
Press	Clear Menu button
Touch	Icon Jitter Spectrum
Touch	Eye/Jitter Detection soft key
Select	120 Hz
Select	Gain = x1
Press	Configure button
Touch	Input Selection soft key
Select	FP XLR
Press and hold	Average button
Set	Avg. Count = 8
Release	Average button
Press	Average button on

4. Zoom in and use the cursor to measure the spectrum at the generated frequency (47 Hz).

a. Check for a reading in the range from 18 to 22 dBUI.

b. Repeat the measurements as indicated in Table 4–9.

Table 4–9: Phase Jitter 1

Jitter ampl = 10 UI	Test AM00	Test AM700: Jitter freq =		
		50 Hz	200 Hz	1 kHz
D	1x, 120 Hz	18 – 22	18 – 22	19 – 21
U	1x, 1200 Hz	18 – 22	18 – 22	19 – 21
T	8x, 1200 Hz	18 – 22	18 – 22	N/A

c. Set the test AM700 Jitter Amplitude = 0.32 UI, and use the cursor to measure as indicated in Table 4–10.

Table 4–10: Phase Jitter 2

Test AM700	Test AM700: Jitter freq. =					
Jitter ampl =0.32 UI	50 Hz	200 Hz	1 kHz	10 kHz	30 kHz	50 kHz
1 x, 120 Hz	–12 to –8	–12 to –8	–11 to –9	–12 to –8	N/A	N/A
1x, 1200 Hz	N/A	N/A	–11 to –9	–12 to –8	N/A	N/A
8x, 120 Hz	–12 to –8	–12 to –8	–11 to –9	–12 to –8	–12 to –8	–12 to –8
8x, 1200 Hz	–12 to –8	–12 to –8	–11 to –9	–12 to –8	–12 to –8	–12 to –8

Check Jitter Spectrum Noise Floor

1. Connect the test AM700 as follows:

   Test AM700 AES REF OUT to DUT Digital In.

2. Calibrate the DUT as follows:

Press:	Configure button
Touch	System Setup soft key
Touch	Calibrate soft key
Touch	Calibrate Now soft key
Touch	Accept Changes soft key

3. Set the DUT as follows:

   LF Rej = 120 Hz
   Jitter Gain = x8
   Avg. = 8

4. Zoom in and use the cursor to measure the spectrum at 50 Hz.
5. Check that the reading is below –40 dBUI.
6. Scroll through spectrum up to 1 kHz.
7. Check that any spurs found are below –40 dBUI.

8. Press the Rescale button and check that any other spurs found are below –40 dBUI.

Check Peak-to-Peak Jitter Measurement Accuracy

1. Connect the test AM700 as follows:

   Test AM700 Digital Out to DUT Digital In (XLR)

2. Set the DUT controls as follows:

Press	Digital button
Touch	icon Eye Diagram soft key
Press	Menu button
Touch	Eye/Jitter Detection soft key
Select	LF Rejection = 120 Hz
Select	Jitter Gain = x1

3. Do a calibration of the DUT as follows:

Press	Configure button
Touch	System Setup soft key
Touch	Calibrate soft key
Touch	Calibrate Now soft key
Touch	Accept Changes soft key

4. Set the test AM700 controls as follows:

Press	Jitter Generation soft key
Select	Generate Jitter Sine
Set	Jitter Ampl = 0 UIpp
Press	GENERATOR On button

5. Record the peak-to-peak jitter from the DUT. This is “120 Hz residual” (0.03–0.05 UI). The specification is 120 Hz residual: 0.03 – 0.045 UI (p-p jitter).

6. Set the DUT LF Rejection to 1200 Hz, “1200 Hz residual” The specification is 1200 Hz residual: 0.03 – 0.045 UI (p-p jitter).

***NOTE**. If the residual peak-to-peak jitter exceeds 0.05 UI, change the sample frequency on the test AM700 to 44.1 kHz as follows: press the Menu button, touch the Digital Audio soft key, touch the Sample Rate soft key; rotate the large knob to select 44.1 kHz, and press enter to make the change. Reset the sample rate to 48 kHz when you are done with the checks.*

7. Set the Test AM jitter amplitudes and frequencies and DUT LF Rejection as indicated in Table 4–11, and check that the Jitter measurement is within the measurement accuracy range shown. Record the measurements in the table.

a. Do the checks for 120 Hz LF Rej at a jitter amplitude of 0.2 UI first from 500 Hz to 30 kHz; then make the 1200 Hz Lf Rej check at 30 kHz (1200 Hz LF Rej is only checked at 30 kHz).

b. Set the jitter amplitude to 0.65 UI and make the 1200 Hz LF Rej check; then switch the LF Rej to 120 Hz to make the check from 30 kHz down to 500 Hz jitter frequency.

Table 4–11: Test AM700 jitter measurement accuracy

Test settings	Measurement accuracy range	Test AM jitter frequency			
		500 Hz	2 kHz	5 kHz	30 kHz
Test AM Jitter Ampl = 0.2 UI					
DUT LF Rej: 120 Hz	0.17 UI to 0.32 UI				
LF Rej 1200 Hz	0.17 UI to 0.32 UI	Not checked	Not checked	Not checked	
Test AM Jitter Ampl = 0.65 UI					
DUT LF Rej = 120 Hz	0.6 UI to 0.7 UI				
LF Rej = 1200 Hz	0.6 UI to 0.7 UI	Not checked	Not checked	Not checked	

Check Eye Diagram Residual Jitter

1. Set the DUT as follows:

a. Touch the Eye Diagram soft key (Icon).

Press	Configure
Touch	Input Selection
Select	FP XLR

b. Touch the Digital Audio soft key.

Set	Sample rate = 48 kHz

c. Touch the Interface Timing soft key.

Set	Mode = From Audio
Set	Offset = 0

d. Touch the Eye/Jitter Detection soft key.

Select	120 Hz

2. Connect the DUT as follows:

DUT AES REF OUT to DUT Digital In

3. Check that the peak-to-peak jitter is 0.03 UIp-p max.

***NOTE**. If the residual peak-to-peak jitter exceeds 0.05 UI, change the sample frequency on the test AM700 to 44.1 kHz as follows: press the Menu button, touch the Digital Audio soft key, touch the Sample Rate soft key; rotate the large knob to select 44.1 kHz, and press enter to make the change. Remake the check. of step 3. Reset the sample rate to 48 kHz when you are done with the checks.*

Check Input and Output Impedance

Check the Digital Out and AES REF Out as follows:

1. Set the DUT as follows:

   a. Touch Interface Ampl soft key.

   Set XLR Output = 5.00 Vp-p

2. Connect the AES REF OUT to the differential oscilloscope input using an unterminated dual BNC to dual XLR cable adapter (shown in Figure 4–19).

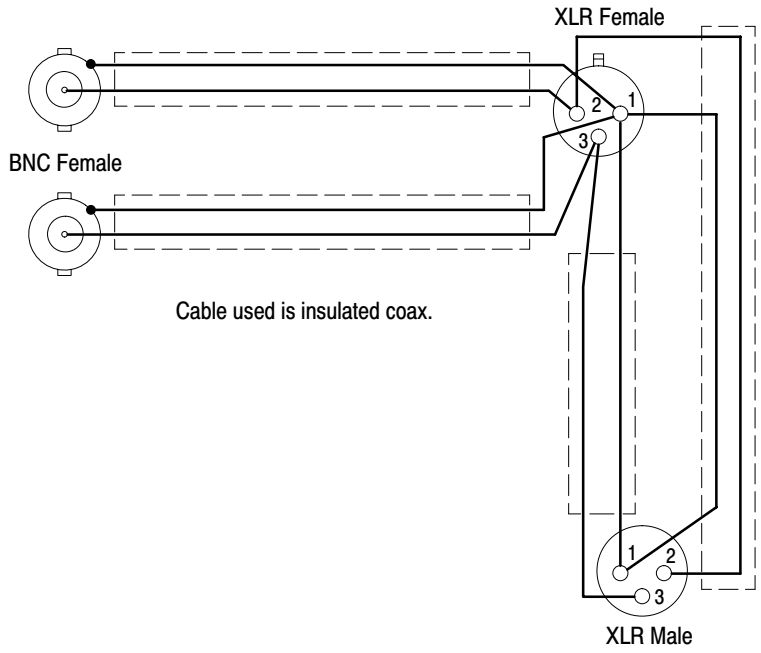


Figure 4–19: Dual BNC to dual XLR cable adapter

3. Record the open-circuit output level as measured from the oscilloscope. Ignore the overshoot caused by the cable, and measure at the center of tilt (if tilt is present in the signal display).

4. Connect a precision 110 Ω resistor between pin 2 and pin 3 of the open end of the dual XLR adapter cable or use the 110 Ω XLR to BNC cable adapter

shown in Figure 4–20 to make the connection from the XLR connector to the oscilloscope inputs.

5. Measure the terminated-output level using the oscilloscope.
6. Calculate the ratio of the input-terminated level to open-circuit level.
7. Check that this ratio is in the range of 0.45 to 0.55.

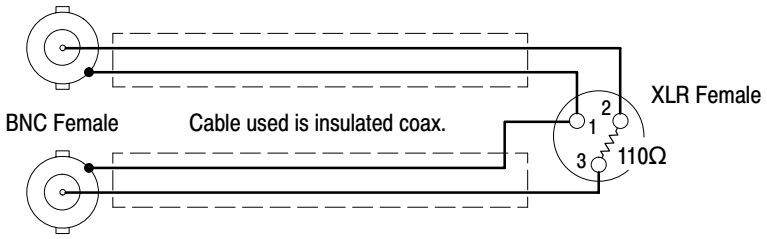


Figure 4–20: Dual BNC to 110 XLR female adapter cable

8. Measure the terminated-output level.
9. Calculate the ratio of the input-terminated level to open-circuit level.
10. Check that this ratio is in the range of 0.45 to 0.55.
11. Connect the front panel Digital Out signal to the differential oscilloscope input using a non-terminating adapter.
12. Repeat step 3 through step 10 for the Digital Out signal.

Check the Digital In and AES REF In impedance as follows:

1. Record the terminated Digital Out signal level measured by the oscilloscope.
2. Remove the precision termination and connect the free end of adapter to the Digital In connector.
3. Measure the signal level with the oscilloscope.
4. Calculate the ratio of the input-terminated level to the precision-terminated level.
5. Check that this ratio is in the range of 0.95 to 1.05.
6. Repeat the check for the AES REF In connector.

Check the UNBALANCE OUT AND IN impedance as follows:

1. Connect the UNBALANCE OUT connector to the oscilloscope with 48 inch or shorter 75 Ω cable.
2. Record the open circuit output level as measured with the oscilloscope.
3. Terminate the cable at the oscilloscope using BNC tee connector and 0.025%, 75 Ω termination.
4. Record the terminated output level.
5. Calculate the ratio of the input-terminated level to open-circuit level.
6. Check that this ratio is in the range of 0.48 to 0.52.
7. Remove the precision termination and connect the open end of the tee to the UNBALANCED IN connector with a 75 Ω cable.
8. Calculate the ratio of the input-terminated level to the precision-terminated level.
9. Check that this ratio is in the range of 0.98 to 1.02.

Check the OPTICAL IN and OPTICAL OUT as follows:

1. Set the DUT for as follows:
   - **a.** Touch the Icon Eye Diagram soft key.
   - **b.** Set the Eye/Jitter Detection to 120 Hz.
   - **c.** Press the Configure button.
   - **d.** Touch the Input Selection soft key.
   - **e.** Select RP Optical.
   - **f.** Press the Clear Menu button.
2. Connect a 1-meter plastic optical fiber cable from the OPTICAL OUT connector to the OPTICAL IN connector.
3. Check for normal eye with 0.08 UIp-p or less jitter with a Main Channel Level in the range of 2 V to 3 Vp-p.

***NOTE**. If the residual peak-to-peak jitter exceeds 0.08 UI, change the sample frequency on the test AM700 to 44.1 kHz as follows: press the Menu button, touch the Digital Audio soft key, touch the Sample Rate soft key; rotate the large knob to select 44.1 kHz, and press enter to make the change. Remake the check of step 3. Reset the sample rate to 48 kHz when you are done with the checks.*

Check the DSP Port

The following procedure checks that the DSP port functions to provide direct input and output of digital signals to and from the DSP.

DSP Port Test

1. Connect a DSP PORT test cable on the rear panel from the test AM700 to DUT.
2. On a PC, use Edit to make a file called `"dport.on"` which contains the following command line to switch the DSP to the transmit mode:

   scpi INT: SOUR:DSP:TMODE on

***NOTE**. This has to be an ASCII text file, so use EDIT instead of a word processor that may add formatting or control characters. You can also use a Windows tool such as Note Pad to write this file. There is no front panel control to make this switch.*

3. Save the file to a 3.5 inch floppy disk labeled “dtest” and remove it from the PC disk drive.
4. Insert the 3.5 inch floppy disk labeled “dtest” into the the test AM700.
5. Setup the the test AM700 using the following procedure:
   - **a.** Press the Storage button, and touch the left Drive soft key to switch to dos. (This should display the files in the floppy disk.)
   - **b.** If not already done, touch the right Drive soft key to select nvram.
   - **c.** Touch function/ (on the right side); then touch Change Directory.
   - **d.** In the DOS directory list, touch the dport.on file name.
   - **e.** Press the Copy soft key, then OK. Wait for about 1 second, and then press the Clear Menu button.
   - **f.** Press the GENERATOR Control button, touch the AES soft key in the menu, and then press the Clear Menu button.
   - **g.** Press the Function button, and select the dport.on function name.
   - **h.** Touch the Run Function soft key, and wait for 1 sec.
   - **i.** Select the FFT application.

6. Set the AM700 (DUT) under test as follows:

a. Press the GENERATOR/Control button, touch the DSP soft key, and then touch the Waveform Control soft key. Make the following selections:

Select	Digital SF 1 Sine Frequency = 1 kHz Amplitude = 0 dBu
Select	Digital SF 2 Sine Frequency = 5 kHz Amplitude = 0 dBu

b. Press the Clear Menu button.

c. In the GENERATOR control panel, press the Generator On button.

d. Press the FFT button, and then press the Configure button.

e. Touch the System Setup soft key, and then touch the Conversion Standards soft key. Make the following selection:

Digital Audio Sampling Rate = Interface Clock

f. Touch the Accept Changes soft key.

7. Set the the test AM700 as follows:

a.	Press	GENERATOR/Control button
	Touch	DSP soft key
	Touch	Waveform Control soft key
b.	Select	Digital SF 1 Sine Frequency = 10 kHz Amplitude =0 dBu
c.	Select	Digital SF 2 Sine Frequency = 15 kHz Amplitude = 0 dBu
d.	Press	Clear Menu button
e.	Press	GENERATOR On button

f. Press the FFT button, and then the Configure button. Touch the System Setup soft key; then touch the Input Selection soft key. Make the following selections:

Channel 1 = DSP A
Channel 2 = DSP B

g. Press the Clear Menu button, and then the Configure button. Touch the System Setup soft key, and then the Conversion Standards soft key. Make the following selection:

Digital Audio Sampling Rate = Interface Clock

h. Touch the Accept Changes soft key.

i. Turn on Channel 2 on the test AM700 (press icon Channel 2).

8. Set the DUT as follows:

a. Press the Configure button, and then touch the Input Selection soft key. Make the following selections:

Channel 1 = DSP A
Channel 2 = DSP B

b. Press the Clear Menu button.

c. Turn on Channel 2 on the DUT (press icon Channel 2).

d. Check that the DUT FFT shows the following displays:

Channel 1 displays 10 kHz signal
Channel 2 displays 15 kHz signal

e. Check that the test AM700 FFT shows the following displays:

Channel 1 displays 1 kHz signal
Channel 2 displays 5 kHz signal

Check Digital Interface Tester (DIT) Functionality

1. Reset the AM700 setting to Factory Default as follows:
   a. Press the Configure button.
   b. Touch the State Saving soft key, and then touch Factory Defaults.
2. Press Configure button.
   a. Press the Input Selection soft key.
   b. Press the source “toggle” icon soft key to select AES Gen for DigMain SF1 and SF2.
   c. Press Clear Menu button.
3. Press MENU button.
   a. Press Digital Main Inputs soft key to select DigMain SF1 &SF2 acquisition inputs.
   b. Press Clear Menu button.
4. Press ON button in the Generator control panel.
   a. Press the Rescale button.
   b. Check to see that the FFT shows a sine wave being generated.
5. Press the Digital Application button.
   a. When the Digital Application starts, check to see that the bit activity display is active on bits 4 through 27 and 30 through 31.
   b. Touch the 1/0 icon soft key.
   c. Check to see that the Channel Status Data is displayed.
   d. Press the eye height icon soft key.
   e. Check to see that the eye height diagram is displayed on the screen.
   f. Press jitter spectrum icon soft key.
   g. Check to see that the jitter spectrum is displayed.
   h. Press the Menu button.
   i. Touch the Jitter Generation soft key.
   j. Touch the Generate Sine soft key.
   k. Touch the Eye/Jitter Detection soft key.

l. Touch the Jitter Gain soft key to select X8 gain.

m. Press the Average button.

n. Press the Rescale button.

o. Check to see that the largest spike in the jitter spectrum is lower than –45 dBUI.

Check Disk Drive and File Transfer Operation

This procedure checks that the disks drive functions for file transfers.

1. Insert a blank MS DOS formatted, 1.44 Meg disk in the AM700 disk drive.

2. Press the Storage button on the front panel to display the Storage Manager control screen shown in Figure 4–21.

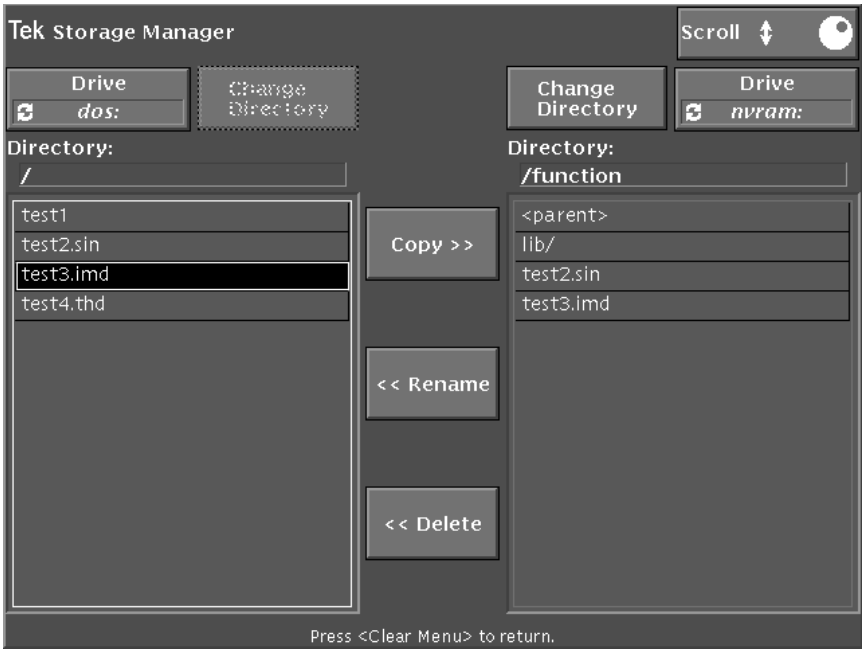


Figure 4–21: Storage manager control screen

3. Touch Drive on the right side of the Storage Manager screen to select the *nvram:*.directory.

4. On the right side of the Storage Manager screen select the function directory. This done by first touching the directory name to shift the knob focus to that side. Once the focus is shifted, you can use the large knob to make further selections by scrolling through the list.

5. With the function/directory highlighted, touch the Change Directory soft key to go into that directory. You will then see a list of files if any are stored there.

6. Touch a file name in the function files display area to make sure the knob focus is on the right side, and use the large control knob to select a file to be transferred to the disk.

7. Touch Drive on the left side of the Storage Manager to select *dos:* A list of the directories and files at the top level of the disk directory will be displayed.

8. Touch Copy to copy the file from *nvram:/function* to *dos.*

9. Check that the name of the file you copied appears in the *dos*: directory.

10. Touch the file name in the *dos:* directory file list.

11. Touch the Delete soft key. You will get a notifier asking if you really want to delete the selected file. Touch OK to delete the file. Check that the file is deleted from the *dos:* directory.

Alternate Disk Drive Verification V1.02 Firmware

A more intensive check of the disk drive can be done using the low level diagnostics function when the AM700 has V1.02 or above firmware installed. Use the following procedure to perform the disk drive stress test.

1. Turn the AM700 off.

2. Hold in the Menu button and turn the AM700 back on.

3. When the AM700 beeps twice, the low-level diagnostic start up mode has been recognized. Release the Menu button.

The AM700 then resets and displays the AM700 STARTUP MENU choices shown in Figure 4–22.

```
          Low Level Diagnostic Interface
         --- AM700 STARTUP MENU ---

       Key          Selection
       ____________________________________
        H ... Diagnostics -HELP- Menu
        R ... Instrument -RUN MODES- Menu
        D ... Low Level -DIAGNOSTICS- Menu
        U ... -UTILITIES- Menu
        F ... -FIRMWARE- Date Codes
       ____________________________________
        = ... Reprint     @ ... Abort Menu
       ____________________________________________
        Input your selection:
```

Figure 4–22: AM700 startup menu

4. In this menu, select “D” (Low Level Diagnostics Menu) and press select to access the Low Level Diagnostics menu shown in Figure 4–23.

```
          Low Level Diagnostic Interface
         --- LOW LEVEL DIAGNOSTICS---

Select a diagnostic to execute from the list below:
        Key          Selection
        ____________________________________
        A ... CPU Diagnostic
        B ... Digital Audio Diagnostic
        C ... Display Diagnostic
        D ... DSP Diagnostic
        E ... Generator Diagnostics
        F ... Floppy Diagnostic
        ____________________________________
        = ... Reprint     @ ... Abort Menu
        ____________________________________
        Input your selection:
```

Figure 4–23: Low level diagnostics menu V1.02 firmware

5. Select F “Floppy Diagnostic” and press the Select button to display the Floppy Diagnostic choices shown in Figure 4–24.

```
          --- FLOPPY DIAGNOSTIC ---

Configure CUSTOM RUN MODE parameters and the test
sequence as desired.

        Key          Selection
        ──────────────────────────────────────
        S ... -Sequence- Type      (CUSTOM)
        1 ... Advance Mode         (MANUAL)
        2 ... Result Display Mode  (SHOW ALL)
        3 ... Result Logging Mode  (DISABLED)
        B ... -BUILD- New Test Sequence
        ──────────────────────────────────────
        = ... Reprint     @ ... Abort Menu
        ──────────────────────────────────────
        Input your selection:
```

Figure 4–24: Low level diagnostic OVERALL RUN MODE menu

6. Select “B” Build a New Test Sequence and press the Select button to display the floppy drive test choices available in the diagnostic as shown in Figure 4–25.

```
                Low Level Diagnostic Interface
                  --- Floppy Diagnostic ---

Build a new CUSTOM TEST SEQUENCE by selecting test from
those listed. (Tests prefaced with "UI:" require USER
INTERACTION)
        Key          Selects/Unselects
        ──────────────────────────────────────
        A ... UI: Disk Status Query
        B ... UI: Disk Format
        C ... UI: Drive Stress Test
        ──────────────────────────────────────
        = ... Reprint     @ ... Abort Menu
        + ... Select All  - ... Un-Sel All
        ! ... Done Selecting
        ──────────────────────────────────────
        Selection(s): *** NONE ***
```

Figure 4–25: Build CUSTOM TEST SEQUENCE menu for disk drive test

7. Select “C” Drive Stress Test and press the Select button.

8. After you have made the test selections you want in the custom list, highlight the ! (Done Selecting) and press Select. This returns to the next higher level menu where the choice to run the tests in the custom list you have just made becomes available.

9. Select “R” Run Test Sequence and press the Select button to begin the drive stress test. You have to insert a MS DOS formatted 1.4 Meg diskette into the AM700 disk drive to do this test.

The drive stress test take some time to do as it writes to the 80 tracks and verifies the test. The track being written is indicated in the display. When the testing is complete, the test results are displayed. A passing test result is shown in Figure 4–26.

```
                    Floppy Diagnostic
 Test                  measmt   unit    min    max     result

 Drive Stress Test
   Track Write ----       0    errors  ------   0   - Pass -
   Track Read -----       0    errors  ------   0   - Pass -
   Track Seek -----       0    errors  ------   0   - Pass -
   Data Verify ---        0    errors  ------   0   - Pass -
=====================================================
         ==>> CURRENT TEST SEQUENCE COMPLETED <<==
            ==>> Press any key to Continue <<==
```

Figure 4–26: Floppy diagnostic drive stress test results

Check Headphones, GPIB, and Hardcopy

These final checks verify the head phone audio output and volume control, the operation of the GPIB interface for remote control, and the hard copy function to print to an external printer.

DUT Under Test Setup

In the Input Configuration menu select GEN A and GEN B input sources and press the Generator On button to turn both generators on.

Check Headphone Function

1. Press the Control button in the Generator control panel area.
   a. Touch the Knobs icon soft key for Ch A to attach the generator knobs to controlling the A channel of the generator.
   b. Press the Clear Menu button.
2. Press and hold the ON button in Sound controls.
   a. Touch the Listen to: soft key to select the Analog input signal.
   b. Turn the Volume (knob) fully counterclockwise.
   c. Press the ON button in the Sound controls.
3. Adjust the Amplitude knob for maximum generator output.
4. Listen to the head phones and adjust Volume.
5. Check to see that there is sound on both channels.
6. Adjust the Frequency knob and listen for the frequency to change.
7. Press the ON button in Sound to turn the listen mode off.
8. Press the Clear Menu button.

Check GPIB Remote Control Operation

1. Turn off the AM700.
2. Connect the GPIB port to an appropriate GPIB controller.
3. Configure the GPIB controller to talk to the AM700 at address 1 (this is the default address selection for the AM700).
4. Power on the AM700.
5. Press the Configure button on the front panel and touch the System Setup choice.

6. Configure the GPIB address for address 1 and the GPIB mode for Talk/Listen as shown in Figure 4–27, if it is not already setup that way.
7. Touch Accept Changes to apply the change and exit back to the application.
8. From the GPIB controller, send the *ID? command to check for proper configuration. If the AM700 responds with its identification, the GPIB interface is operational.
9. Send several more commands and change applications to exercise the interface enough to confirm operation.

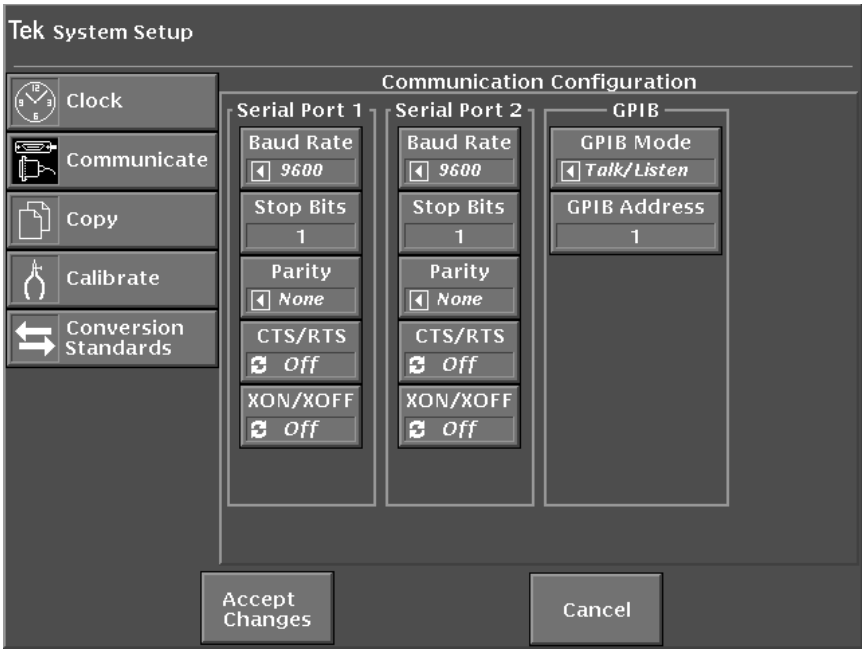


Figure 4–27: GPIB setup in the communications configuration screen

Check Hardcopy Operation

1. Connect a Epson or Epson-compatible 24-pin serial printer to COM 1 and a PostScript compatible laser printer to COM 2.
2. Configure the AM700 Serial 1 and Serial 2 ports as needed for the connected printer. This includes the baud rate, stop bits, parity, and flow control (CTS/RTS and XON/XOFF) (see Figure 4–27).
3. Configure the Copy Format for an Epson (24-pin) printer and set the Copy Destination to the Serial Port 1 (the one that has the Epson printer connected to it).
4. Press Accept Changes to clear the menu (this activates the changes you have just made).

5. Press and release the Copy front panel button to send a hard copy to the printer.

6. Press and Hold the Copy front panel button to display the Copy Configuration menu (see Figure 4–28).

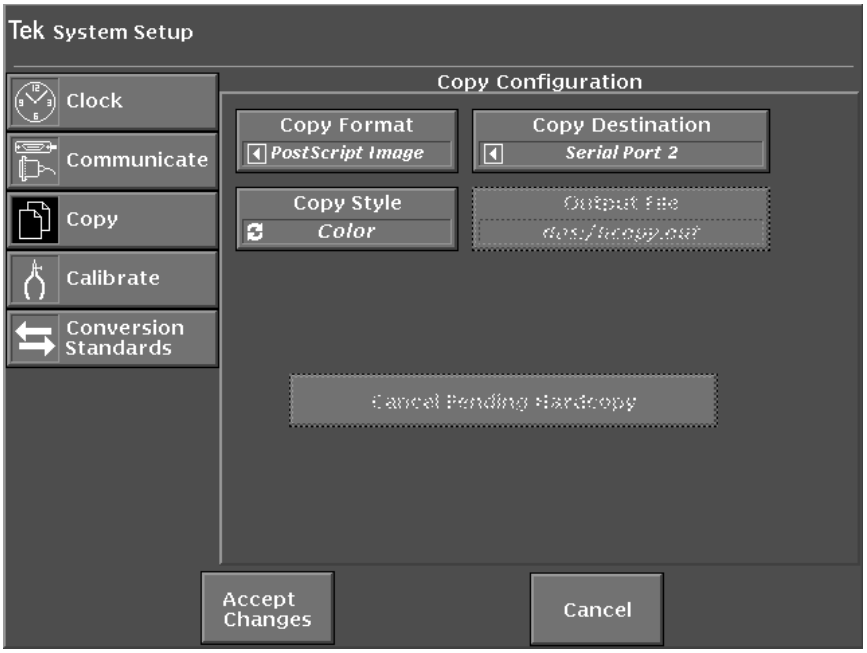


Figure 4–28: Copy configuration menu

7. Configure the Copy Format to PostScript Image and the Copy Style to Gray Scale.

8. Configure the Copy Destination for Serial Port 2 for the laser printer.

9. Touch the Accept Changes soft key to make the selections and clear the menu.

10. Press and release the Copy front panel button to send a hard copy to the laser printer.

***NOTE**. You may make further checks such as printing to a color printer or sending a file to disk and printing from the disk file, to more fully exercise the hard copy function.*

Adjustment Procedures

The procedures in this section are designed to adjust the circuitry of the AM700 Audio Measurement Set to return it to specified accuracy.

Test Equipment Required

The test equipment needed to perform the adjustment procedures is listed in Table 5–1. Use the test equipment shown or an equivalent to do the adjustments. If the example test equipment is not available, check the Minimum Specification column to determine if you can use another piece of test equipment. If you use other test equipment, the controls and connectors for that equipment may be different from those called out for the example test equipment. Refer to the appropriate operator's manuals for operation of the test equipment.

Table 5–1: Equipment required list

Equipment	Minimum specification	Purpose	Example
Analog oscilloscope	Dual Channel, 50 Ω input termination, 300 MHz BW, external triggering	Viewing video signals	Tektronix 2465
Digital audio signal measurement set	Digital audio signal source and digital audio signal analyzer	Provide digital audio signals to the AM700 being adjusted.	Tektronix AM700 (Test AM)
Digitizing oscilloscope		Make voltage and frequency adjustments	Tektronix TDS540
Digital multimeter		Make voltage adjustments	Tektronix Digital Multimeter DM2510[1]
RMS meter	Accuracy 1%, resolution 5 digits; balanced input	Making generator output adjustments	Hewlett-Packard HP3458A or Fluke 8506A or 8505A–09
Precision Audio Analyzer	Frequency Accuracy: ±0.01%; level flatness: (20 Hz to 80 kHz): ≤0.05 dB; level accuracy (20 Hz to 80 kHz): ≤0.02 dB; residual distortion: 0.0010% (–100 dB)	Provide precision audio signals and make precision audio measurements.	ShibaSoku AM51A Audio Analyzer
Photometer	Visible light level up to 300 fl.	Adjust brightness level of the CRT display.	Tektronix J17 Lumacolor meter with Tektronix J1803 Luminance Head
Adjustment tool	Flat-tip screwdriver, 3/16 inch tip.	Adjust variable adjustment controls	
Interconnection cable	XLR female to dual-banana	Signal interconnection	Customer fabricated

Table 5–1: Equipment required list (cont.)

Equipment	Minimum specification	Purpose	Example
Interconnection cable	Coaxial cable, 50 Ω, 42 inches, BNC connectors	Signal interconnection	Tektronix part number 012–0057–01
Adapter connector	Female BNC to hook clip connectors.	Signal interconnection: acquisition board test points to audio analyzer inputs	Tektronix part number 013–0076–00
WWV Receiver or precision frequency standard	Accuracy 1×10^{-12}	Provides accurate frequency reference for the digital frequency counter	HP105B Quartz Frequency Standard Rubidium oscillator frequency standard
Digital frequency counter	Accuracy and resolution to 8 decimal places, or used with an external reference (WWV, Loran C, or GPS) that will improve the accuracy to 8 decimal places. 20 Hz to 20 MHz range.	Adjust sample clock frequency	Tektronix DC5010[1]
Test probes and meter cables for test equipment	Supplied with test equipment		
Extender cable set	Tektronix fabricated extender cables	For troubleshooting and adjustments with the circuit boards removed from the AM700	Tektronix part numbers not available as of this printing
Universal Load Unit		Provide power supply load for factory service adjustment and repairs	
Monitor Test Fixture	Tektronix fabricated fixture	Provides mounting attachments for aligning the CRT display monitor out of the instrument	Not available to customers
VGA Distribution Amplifier	VGA signal splitter with at least two VGA outputs	VGA signal source for CRT monitor alignment	Communications Specialties Inc., Quadsplit VGA Distribution Amplifier
Video source interconnection cable	VGA connector to J2 connector	Connects the VGA video output from the PC to J2 on the CRT display module	Tektronix part number not available as of this printing
Test Jumper	Jumper wire with square pin connectors, 0.1 in spacing	Connects power supply temperature sense pins for CRT alignment procedure	Customer supplied
AM700 crt_test program	Tektronix test program	Provides test patterns for CRT alignment	Tektronix part number not available as of this printing
CRT Test Graticules		Provides alignment points for CRT alignment patterns	Tektronix part number not available as of this printing
Computer	IBM Compatible Computer–486DX 33 MHz	Run test programs	
Adhesive	Clear RTV silicone compound	For attaching CRT geometry alignment magnets	

Table 5–1: Equipment required list (cont.)

Equipment	Minimum specification	Purpose	Example
Set of geometry correction magnets	Tektronix adjustment magnets	Geometry alignment for the CRT monitor	Blue (strongest); Tektronix part number 119–1616–00 Green; Tektronix part number 119–1863–00 Red; Tektronix part number 119–1615–00 Yellow; Tektronix part number 119–4341–00

[1] **A Tegam TM500 or TM5000 power supply is required to power the plug-in module.**

Table 5–2: AM700 adjustments

Board name	Circuit board	Circuit no.
Analog Acquisition board	A1A1	
CHA Input & A1A4 & A1A5 Attenuator Boards A Compensation		C335
CHB Input & A1A2 & A1A3 Attenuator Boards B Compensation		C333
Frequency Adjust		R340
A MSB		R252
B MSB		R245
Digital Audio Board	A3	
Generator PLL Freq Adjustment		L1
Frequency Offset Frequency Adjustment		L5
Frequency Offset Frequency Adjustment		L7
Eye Sampler Frequency Adjustment		L16
Generator Level		R483
Generator Board	A5	
A DAC Gain (Left)		R24
B DAC Gain (Right)		R18
Display Monitor	A10A1	
Focus		R36
White Level		R4
Black Level		R64
Vertical Position		R57
Vertical Hold		R45
Vertical Linearity		R48

Table 5–2: AM700 adjustments (cont.)

Board name	Circuit board	Circuit no.
Vertical Size		R45
Horizontal Hold		R20
Horizontal Phase (centering)		R15
Trace Rotation		R67
Power Supply	A11	
+5 V Adjust		R14
LCD Driver Board	A13	
Red Offset (omitted)		R37
Green Offset (omitted)		R39
Blue Offset (omitted)		R41
Red Gain		F6
Green Gain		R7
Blue Gain		R9
BRT		R24

Preparation for Adjustment

1. Turn off the AM700 using the rear power power switch. Disconnect the power cord from the AC mains connector, and remove the cabinet from the AM700. See the *Remove and Replacement Procedures* in the *Maintenance* section for cabinet removal instructions.

2. For the LCD flat panel display versions of the AM700, it may be necessary to remove two shield from the Analog Acquisition board to make measurements. Do this while the power is off.

CAUTION. *Dangerous voltages exist in the power supply. Observe the proper safety precautions when servicing the power supply. Read the Servicing Safety Summary for general safety precautions.*

3. Reconnect the power cord to the AC mains.

Power Supply Verification

The power supply adjustment is not accessible when the supply is installed in the AM700. The power supply is adjusted either using a load unit (in manufacturing) or during servicing using the correct extender cables. It is not a normal customer adjustment. Under normal conditions, the power supply should not require adjustment. The verification procedure determines if there is a problem with the power supply that requires servicing.

Test Equipment Required

The following test equipment is needed to verify and adjust the power supply:

- Test oscilloscope with 1X probe
- Digital voltmeter

Verification Procedure

1. Turn on the AM700 and wait for the initialization to finish.
2. Use an oscilloscope with a 1X probe to check the power supply voltages and ripple as shown in Table 5–3.

   a. Input Coupling AC
   Trigger Auto
   Volts/Div 50 mV

Table 5–3: Power supply voltages and ripple tolerances

Voltage	Tolerance	Range	Max Load	Ripple (mV)	Noise (mV)
+5 V	0 to +2%	5.0 to 5.1 V	20 A	50	100
+15 V	2%	14.70 to 15.3 V	3 A	20	100
–15 V	2%	–15.3 to 14.7 V	2 A	20	100
–16.5 V	5%	–17.33 to –15.68 V	2 A	50	100

   b. Check the +5 V on the main CPU board at J33 pin 1. Pin 2 is ground.

   c. Check the +15 V on the main CPU board at J33 pin 3. Pin 4 is ground.

   d. Check the –15 V on the main CPU board at J33 pin 5. Pin 4 is ground.

   The –16.5 V source is not accessible with the instrument assembled.

If any of the supplies are out of tolerance, the power supply may have a problem and should be replaced. See the *Remove and Replacement Procedures* in the *Maintenance* section to remove the power supply from the AM700. You can also contact your nearest Tektronix representative to arrange for your AM700 to be returned to Tektronix Factory Service for repair.

Factory Service Adjustment

This procedure is provided for factory service to check for proper operation to determine if repairs or adjustment are needed.

Test Equipment Required

The following test equipment is needed to verify and adjust the power supply:

- Test oscilloscope with 1X probe
- Digital voltmeter
- Universal load unit

1. Remove the power supply from the AM700 and connect it to the power load unit.
2. Connect the plus (+) lead of the DVM to TP25, +5 V, and connect the ground (–) lead to TP4 (analog ground) (see Figure 5–1).

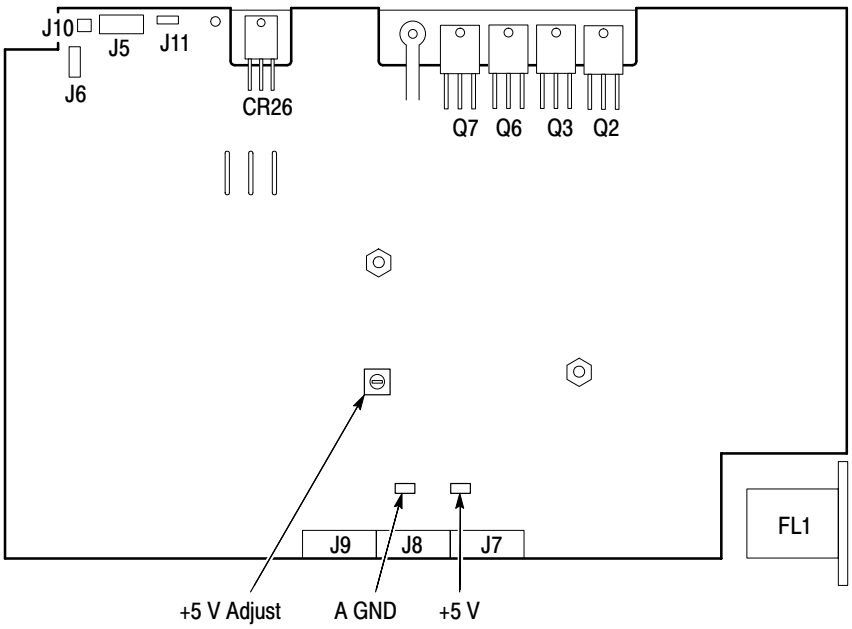


Figure 5–1: Power supply +5 V test points and adjustment locations

CAUTION. *Make sure the Line Selector switch is set to the correct operating voltage range before applying power to the supply. The power supply can be damaged if operated with the incorrect voltage range.*

3. Slowly increase the voltage to the power supply to the nominal mains supply level (115 Vrms on low range or 230 Vrms on high range) to determine if the power supply is operating normally.

4. Do the power supply verification procedure using the oscilloscope to check for proper power supply operation.
5. Adjust R15 (+5 V adjust) for 5.05 V on the DVM.
6. Vary the input voltage from 90 Vrms to 132 Vrms on low range or 180 Vrms to 253 Vrms on high range to verify normal power supply operation over the specified input voltage range.

Acquisition Board Adjustment

A pair of shields over portions of the acquisition board circuitry may have to be removed to make the necessary measurements.

Test Equipment Required

The following test equipment is needed to make the adjustment to the acquisition board:

- Precision audio analyzer with XLR interconnection cables
- Alignment tool
- Male to male BNC coaxial cable, 50 Ω, 42 inches long
- BNC to hook clip adapter

Test Assembly

1. Connect one generator output of the precision audio analyzer to the Ch A XLR input of the AM700.

Adjust the High Bandwidth A/D MSB for Channels A and B

1. Set the generator output of the precision audio analyzer for a 20 kHz sine wave at an amplitude of 15 V. See Figure 5–2 for the test point and adjustment locations.
2. Set the AM700 input configuration for Front Panel Channel A and Channel B.
3. Set the input configuration for the High Bandwidth acquisition channel.
4. If not already in the FFT application, start the FFT application and select View 1 for display.
5. Set the AM700 for 15 averages for each of the two channels.

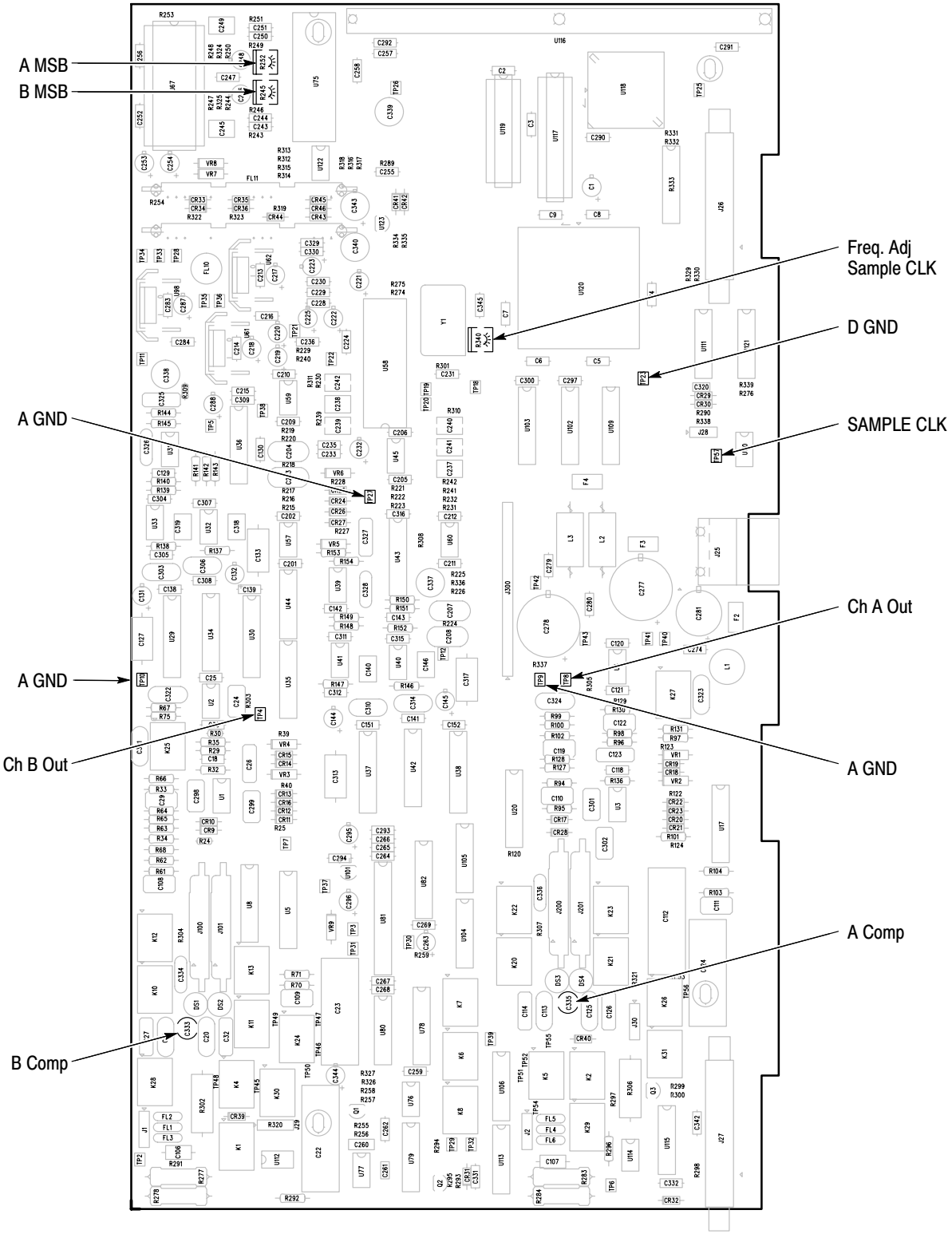


Figure 5–2: Acquisition board test points and adjustment locations

6. Press Rescale in the System Control front panel selections.
7. While observing the FFT, adjust R252 until the null point is reached for the second and third harmonics.
8. Move the test signal from the Channel A input to the Channel B input and select View 2 for display.
9. Press Rescale in the System Control front panel selections.
10. While observing the FFT, adjust R245 until the null point is reached for the second and third harmonics.

Adjust the Attenuator Compensation for Channels A and B

1. Set up AM700 as follows:
   - **a.** Press the Configure button.
   - **b.** Touch the Input Selection soft key.
   - **c.** Use the source “toggle” icon to set the AM700 input source for FP A and B.
   - **d.** Set the input attenuation for Ch A and Ch B to +14 dBu (3.88 V).
   - **e.** Connect the output of the audio analyzer to the Channel A XLR analog input of the AM700.
   - **f.** Using 50 Ω coaxial cable and a BNC to hook clip adapter, connect INPUT A of the audio analyzer to TP8 **(**Ch A OUT) and TP9 (AGND) of the AM700 analog acquisition board.
2. Set up the precision audio analyzer as follows:
   - **a.** Set the generator output of the audio analyzer for a 1 kHz sine wave at an amplitude of 1 V.
   - **b.** Set the audio analyzer input mode to A UNBAL and the input termination to A 600 Ω OUT.
3. On the audio analyzer, press the MEAS key, and then the RELATIVE LEVEL key to set the reference to 0.00 dB.
4. Set the generator output of the audio analyzer for a 80 kHz sine wave at an amplitude of 1V.
5. Adjust compensation capacitor C335 so that the relative level on the audio analyzer reads 0.08 dB ±0.01 dB.
6. Connect the output of the audio analyzer to the Channel B input of the AM700.

7. Using 50 Ω coaxial cable, connect the INPUT A of the audio analyzer to TP4 (CHB OUT) and TP10 (AGND) of the AM700 analog acquisition board.
8. Set the generator output of the audio analyzer for a 1 kHz sine wave at an amplitude of 1 V.
9. On the audio analyzer, press the RELATIVE LEVEL key to set the reference to 0.00 dB.
10. Set the generator output of the audio analyzer for a 80 kHz sine wave at an amplitude of 1 V.
11. Adjust compensation capacitor C333 so that the relative level on the audio analyzer reads 0.08 dB ±0.01 dB.

Sample Clock Adjustment

1. Using the 50 Ω coaxial cable and a BNC to hook clip adapter, connect input B of the digital frequency counter to TP23 (DGND) and TP57 (SAMPLE CLK) of the AM700.
2. Connect the WWV reference to input A of the digital frequency counter.
3. Adjust R340 (Sample Clock Adj) until the sample clock frequency readout bounces between 12.28801 MHz and 12.28802 MHz.

NOTE. *The WWV reference is used as an external clock to the digital frequency counter to adjust the sample clock frequency.*

Display Monitor Adjustment (for CRT display monitor)

The following adjustment steps are used to align the CRT display. These adjustments include those needed for factory service alignment after repairs to the display monitor module and a shorter procedure for alignment of the installed display monitor.

Use the procedures in the *Remove and Replacement Procedures* in the *Maintenance* section beginning on page 6–73 to remove the display monitor assembly for repair and reinstallation. Use the long adjustment procedure after the repaired display monitor is reinstalled, especially for a replacement of the CRT or deflection yoke.

For a normally operating installed display monitor assembly, perform the verification procedure of the CRT display (*Verify CRT Display Operation* on page 4–33) to determine the extent of adjustment needed, if any. Use the shorter adjustment procedure on page 5–18 to make minor adjustments to the CRT after a verification check indicates the need for adjustment. Make only those adjustment needed to align the display monitor assembly.

Test Equipment Required

4. The following tools are required during the CRT display adjustment for a complete CRT alignment after changing the CRT, the deflection yoke, or the display monitor circuit board.

- Video source interconnection cable
- VGA Distribution amplifier.
- Photometer
- CRT test graticule
- Geometry correction magnets

Blue	119–1616–00 (strongest)
Green	119–1863–00
Red	119–1615–00
Yellow	119–4341–00

- Clear RTV silicone adhesive (for magnet attachment)
- 0.1 inch spacing shorting jumper
- Test oscilloscope
- Small flat head screw driver for adjustments
- 3.5 inch diskette with the Tektronix CRT test pattern file.
- Personal computer with 3.5 inch floppy disk drive.

Preparation to Align

The following procedure requires removal of the instrument cabinet and some of the circuit board assemblies to remove and replace the CRT display monitor assembly. The procedure assumes that a part of the CRT display monitor assembly is being replaced for a factory service repair. Refer to the *Remove and Replacement Procedures* in the *Maintenance* section of this manual and the exploded views given in the *Replaceable Mechanical Parts* section to assist you if necessary.

When replacing the entire CRT display monitor assembly with a prealigned exchange assembly, make only those adjustments needed to satisfy the requirement of the verification procedure referred to in the preceding paragraphs.

1. Remove the CPU, the DSP, the Digital audio board, and the power supply shield

a. Disconnect the flexible floppy disk drive cable on from J42 on the CPU board by lifting the side latches on the housing first (see Figure 5–3).

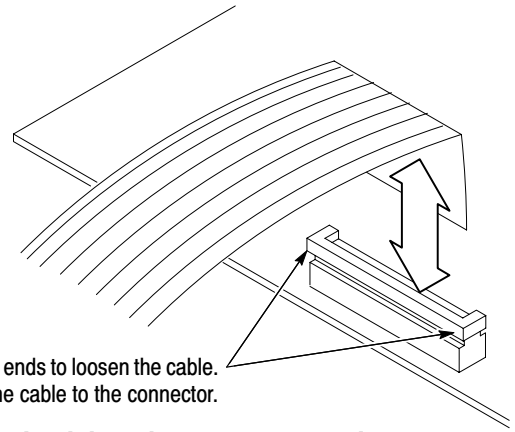


Figure 5–3: Disk drive flexible circuit board connector operation

NOTE. *Do not pull on the cable to force it out of the connector. This will weaken the connection.*

b. Remove the three circuit board mounting screws around the fan and flexible cable connector and the rear panel screws holding the CPU board. Note: there is one screw in the rear panel that is different from other screws; it has a built-in (captive) washer. Use the correct screw at this location when reassembling the CPU board.

c. Disconnect all the cables attached to CPU, DSP, and Digital Audio circuit boards that come from the other circuit boards.

d. Pull the CPU and DSP assembly forward gently about 1/4 inch. The boards should come out as a single assembled unit. Set them aside on an

ESD free table or work station so they will be safe from ESD (electrostatic discharge) damage.

CAUTION. *The back-up battery on the CPU needs to be protected from being accidentally shorted.*

e. Remove the two screws from Digital Audio board, and then lift the circuit board gently away from the plastic posts. Put this board on an ESD free table to protect it from damage until it is ready to be reinstalled.

f. Remove all the screws holding the power supply shield, (that is the large shield between the Digital audio board and the power supply board). The front of the shield is pushed into the groove in the front casting. Use a flat head screwdriver to aid in loosening the shield from the groove. Lift the shield out and put it aside.

Turn on Procedure After a Repair

After replacing the CRT, the deflection yoke, or the display monitor circuit board, use the following procedure to start up the display monitor for alignment.

1. Insert a shorting jumper on pins 9 and 10 of J5 of the power supply. (This jumper enables the power supply to operate without the normal cable attached to this connector.)
2. Leave the power supply cables on J7 and J9 (power to Acquisition and Generator boards) on the power supply connected. (This provides enough loading for proper regulation of the power supply.)
3. Disconnect the trace rotation coil on the display monitor circuit board at J7.
4. Apply power to the AM700 and verify that the fan blows air out of chassis.

Yoke Alignment

The following procedure for yoke alignment should be required only if the CRT or deflection yoke has been changed in a repair.

CAUTION. *High voltages are present on the display monitor circuit board and around the CRT. Use extreme caution not to contact the high voltage anode lead, the high voltage transformer, or the anode connection to the CRT while the power is applied to the AM700.*

1. Install the test graticule on the front of the CRT.
2. Check that a free-running raster is present on the display.
3. Adjust the raster size to fill the display area (Width L4, Vert. Size R43)

4. Center the display using the beam centering rings.

NOTE. *The centering rings cause some distortion to the display. Adjust the centering rings for the least amount of distortion and the best centering.*

5. Repeat step 3 and step 4 until the full screen display is correctly centered.
6. Loosen the yoke retaining screw and rotate the deflection yoke so that the raster is parallel to the bottom of the front chassis casting.
7. Tighten the screw on the retaining ring, making sure the yoke is all the way up against the CRT.
8. Adjust R64 (BLACK) until the raster just disappears from screen.
9. Fine adjustment of the CRT geometry may require several correction magnets. Use of the magnets for adjustment is given in the *Factory Service Geometry Fine Adjustment* procedure on page 5–17.

Check and Adjust Free-running Display

1. Adjust horizontal and vertical scan rates.
   a. Connect the CH1 oscilloscope probe to TP1 (horizontal retrace). See Figure 5–4 for test point and adjustment locations.
   b. Adjust R20 (H HOLD) for 31.469 kHz at TP1–31.78 ms. Within the range of 31.68 kHz to 31.88 kHz is acceptable.
   c. Connect the CH1 oscilloscope probe to TP2 (vertical retrace).
   d. Adjust R45 (V HOLD) for 55 Hz at TP2–18.2 ms. Within the range of 18.1 ms to 18.3 ms is acceptable.

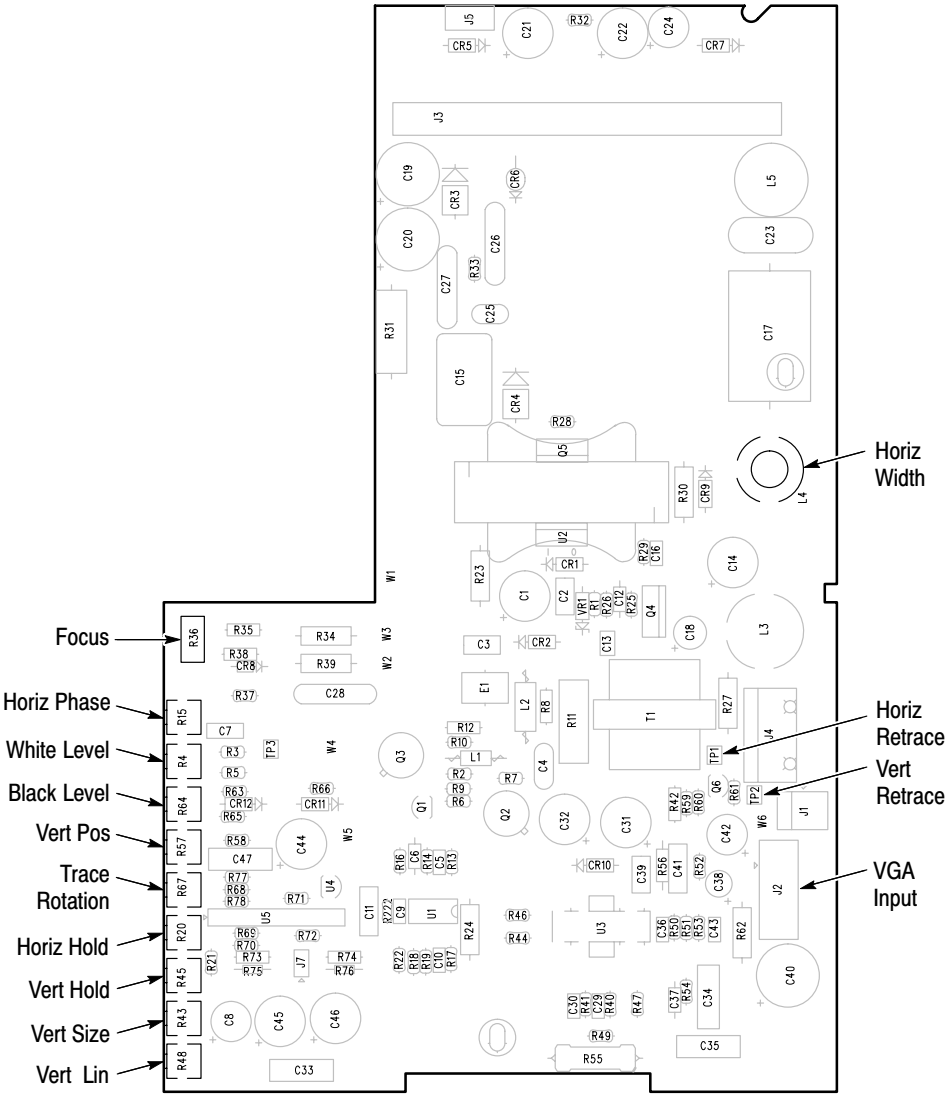


Figure 5–4: CRT display monitor board adjustment locations

Adjust the CRT Display with a Test Pattern VGA Signal Applied

Adjust the size and linearity of the CRT display using the following procedure.

1. Connect a video source cable to J2 on monitor board and install the test CRT graticule.
2. Connect the other end of the video source cable to the VGA output connector of the VGA signal distribution amplifier.
3. Connect the VGA output of the PC to the input of the VGA distribution amplifier, and connect one output of the distribution amplifier to the VGA display monitor.

4. Insert the Monitor adjustment disk to in the PC, and run the program to display cross hatch pattern.

5. Make the display monitor size and linearity adjustments.

   a. Adjust L4 (HORIZ WIDTH) so that the width of the test pattern is as wide as the test graticule.

   b. Adjust R43 (V SIZE) so that the height of the test pattern is as tall as the test graticule.

   c. Adjust R57 (V CENTER) to center the test pattern vertically in the test graticule.

   d. Adjust R15 (H PHASE) to center the test pattern horizontally in the test graticule.

   e. Adjust R48 (V LIN), if needed, so that the squares of the test pattern are all the same size and that the circle is round not squashed.

***NOTE**. Magnets are added to yoke assembly at the factory to square up the corners of the display. The magnets are secured with RTV silicone adhesive and should not require replacement or relocation under normal operation. In the event that a new CRT is installed, some adjustment to the magnets may be required for the best adjustment of the corners.*

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   f. Interaction between these adjustments requires a recheck of part a through part e for best size and linearity.

   g. Remove the test graticule.

6. Adjust black and white levels

   a. Adjust R64 (BLACK), if needed, until the retrace lines just disappear (second box on upper left just turns invisible).

   b. Display the full-white test pattern.

   c. Adjust R4 (WHITE), if needed, for 95 to 105 fl at 70% brightness with the touch screen removed.

   d. Check for approximately 190 to 260 fl at 100% brightness.

7. Adjust focus

   a. Display the full screen of the “small e” test pattern.

   b. Adjust R36 (FOCUS) if needed, for the best focus possible in the center of the screen.

c. Adjust L5 (Dynamic Focus) for best possible focus at the corners of the display.

d. Recheck the white level adjustment.

8. Adjust trace rotation

a. Install the crt test graticule.

b. Display the crosshatch test pattern.

c. Connect the trace rotation coil from the yoke to J7 on the display monitor circuit board.

d. Adjust R67 (TRACE ROT) as needed, to square the test pattern with the test graticule.

Factory Service Geometry Fine Adjustment

The following procedure requires the placement and positioning of the geometry adjustment magnets around the crt yoke and instrument chassis.

1. Display the crosshatch test pattern.

WARNING. *The CRT anode voltage is a potential shock hazard. Use extreme care when working near the anode connection and any of the high voltage leads to the anode.*

2. Position the correction magnets on the yoke coil and on the CRT along the front edge and middle section for the best linearity.

Some trial and error positioning and placement of the magnets may be necessary until the absolute errors are less than 1.5% or 0.075 inch horizontally and 0.06 inch vertically. Because the placement and rotation of the magnets in combination pulls or diverts the electron beam in a manner that is not entirely predictable, noting the effect produced by the different strength of magnet used or location and polarity of the magnet may help reaching the best combination for good overall linearity.

Magnets specified to use are listed in Table 5–1 at the beginning of the procedure.

3. Use clear silicone adhesive to hold magnets permanently, It may take 30 minutes to few hours depending on the type of silicone adhesive being used.

4. This completes the alignment of the CRT display assembly. Turn off power and disconnect any equipment connected to monitor board.

CRT Display Adjustment

The following procedure is used to make the CRT alignment adjustments on an installed display monitor. It is used to compensate for the minor changes that can affect the CRT adjustments over time.

1. Perform the verification procedure of the CRT display (*Verify CRT Display Operation* on page 4–33) to determine the extend of adjustment needed. Make only the adjustments needed as indicated from the verification procedure.
2. It may be necessary to remove the disk drive assembly if the adjustments located beneath it have to be accessed. Remove the disk drive assembly. Leave it off until after the CRT adjustments are checked for centering, height, width, and linearity.
3. Make the following display monitor adjustments as determined in step 1.
   - **a.** Adjust L4 (WIDTH) so that the width of the Analyzer display at the center is 5.04 inches (12.80 cm).
   - **b.** Adjust R43 (V SIZE) so that the height of the Analyzer display at the center is 3.78 inches (9.60 cm).
   - **c.** Adjust R57 (V CENTER) to center the display vertically in the between the top and bottom edges of the CRT opening in the bezel.
   - **d.** Adjust R15 (H PHASE) to center the display horizontally between the left and right edges of the CRT opening in the bezel.
   - **e.** Adjust R48 (V LIN), if needed, so that the two top view window squares and the two bottom view window squares are the same size vertically.
   - **f.** Interaction between these adjustments requires a recheck of part a through part e for best size and linearity.
   - **g.** Adjust R36 (FOCUS) if needed, for the best focus possible in the center of the screen.
   - **h.** Adjust R67 (TRACE ROT) as needed, to make the top and bottom edges of the display parallel to the top and bottom edges of the CRT opening in the bezel.
4. Turn off the power to the AM700 and reinstall the disk drive assembly if it was removed.
5. Restore power to the AM700 and select the Analyzer application.
6. Examine the top, bottom, and sides of the display to determine if there is excessive bowing or wowing of the edges.

***NOTE**. Magnets added to yoke assembly and around the CRT at the factory are used to square up the corners of the display. The magnets are secured with silicone adhesive and should not require replacement or relocation under normal operation. Some careful repositioning of the magnets around the front edge of the CRT may be required for the best adjustment of the corners of the display.*

7. If the edges are not flat, observe where geometry adjustment magnets, if any, are installed on the AM700 chassis around the face of the CRT.

8. Remove any magnet nearest an area that bowing or wowing is excessive. Try placing a new magnet in the same location with different strength, rotation or position to improve the geometry.

Some trial and error positioning and placement of the magnets is necessary to reduce the absolute geometry error (variations in straightness of the sides and corners of the display) to less than 1.5% or 0.075 inch (1.9 mm) horizontally and 0.06 inch (1.52 mm) vertically. Because the placement and rotation of the magnets in combination pulls or diverts the electron beam in a manner that is not entirely predictable, noting the effect produced by the different strength of magnet used or location and polarity of the magnet may help reaching the best combination for good overall geometry.

Magnets specified to use are listed in Table 5–1 at the beginning of this section.

9. Use clear RTV silicone adhesive to hold magnets permanently. It may take 30 minutes to few hours to set depending on the type of silicone adhesive being used.

10. This completes the alignment of the replacement display monitor assembly. Turn off the power and reinstall the equipment cabinet. See the *Cover Removal and Replacement* procedure beginning on page 6–55 in the *Maintenance* section of this manual for the cover replacement steps.

LCD Driver Board Adjustment (for LCD flat panel display)

The following adjustment steps set up the offset and gain for the red, green, and blue analog to digital converters; and adjust the brightness level of the LCD panel backlighting.

Test Equipment Needed

The following test equipment is needed:

- Test oscilloscope with probes
- Adjustment tool

Preparation for the LCD Driver Adjustments

1. On the LCD Driver board, set the Offset potentiometers, R37, R39 and R41, to fully clockwise (CW). (Note: these adjustment may be absent from your circuit board.)
2. Center the settings all the Gain potentiometers (R6, R7 and R9).
3. Center the BRT potentiometer (R24).
4. Disconnect the cable from J8 (VGA cable).
5. Turn on the AM700. The AM700 initializes and starts the FFT application.

Adjust ADC Gain

1. Set the test oscilloscope

Vert Mode	CH 1 On
CH 1 Volts/Div	1 V
CH 1 Input Coupling	DC
A Sec/Div	400 ns
A Trig Mode	Auto Lvl
A Trig Source	CH 1
Slope	+ (plus)
Vertical Position	Trace on center horizontal graticule

2. Touch View Setup in the FFT application.
3. Touch Spectrogram in the View Types choices.
4. Touch Accept Changes
5. Connect the oscilloscope probe tip to the MSB of the Red ADC at TP6. See Figure 5–5 for test point and adjustment locations.
6. Adjust the Red Gain potentiometer, R6, until the trace goes high with pulse trains.
7. Back off the adjustment of R6 to the point the trace stays at a constant low level. (Voltage at TP2 will be ≈ +1.4 V).

8. Move the oscilloscope probe tip to the MSB of the Green ADC at TP7.

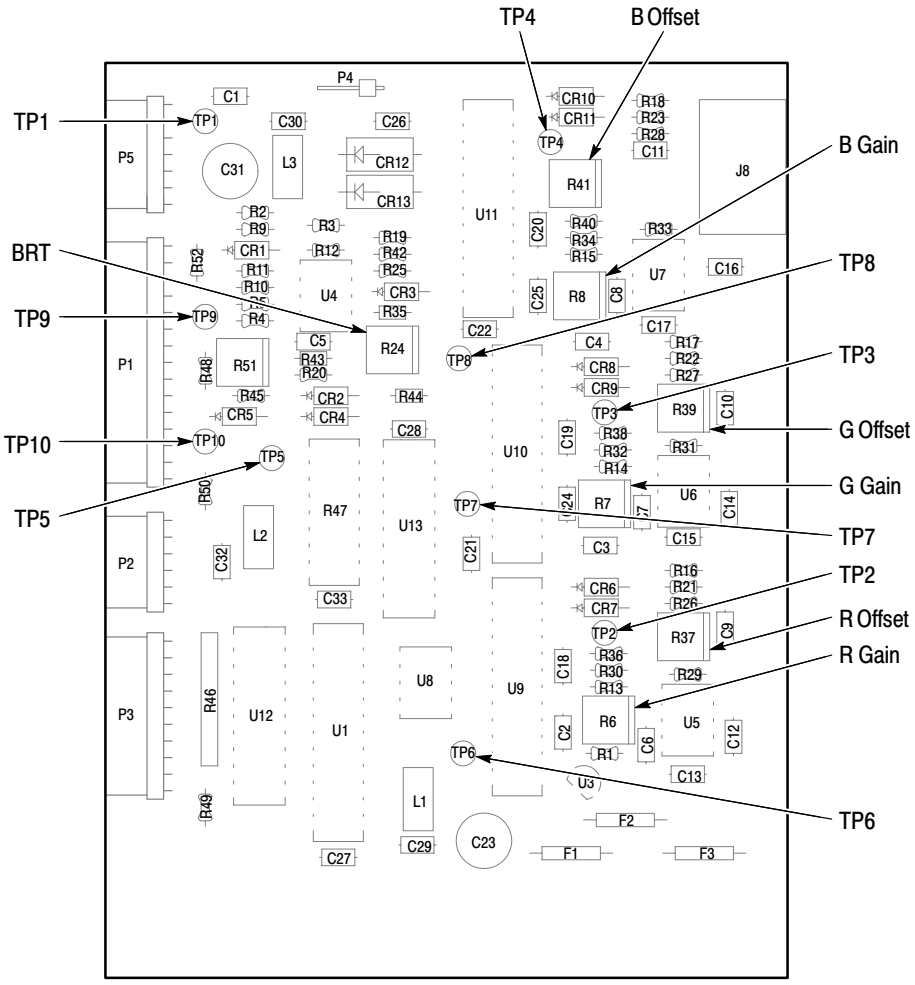

Figure 5–5: LCD display driver test points and adjustment locations

9. Repeat the adjustments of step 6 and step 7 using the Green Gain potentiometer, R7. (Voltage at TP3 will be ≈ +1.4 V.)

10. Move the oscilloscope probe tip to the MSB of the Blue ADC at TP8.

11. Repeat the adjustments of step 6 and step 7 using the Blue Gain potentiometer, R9. (Voltage at TP4 will be ≈ +1.4 V.)

Fine Adjustment of the ADC Gain

1. Observe the Spectrogram display. There should be no streaks or color smears in the Spectrogram color legend. If there are any streaks or color smears, adjust the associated color offset potentiometer slightly (R6 for Red, R7 for Green, and R8 for Blue) to eliminate them.

Verify the Gain and Offset Adjustments

1. In the UTILITIES front panel selections, press the Configure button.
2. Verify that the Configuration options: display has no streaks or color smears. If any are present repeat the Fine Adjustment of the ADC Gain procedure.
3. Press the Clear Menu button to remove the Configuration options: display.

Adjust Brightness

1. In the UTILITIES front panel selections press and hold in the Display button.
2. Use the large control knob to set the Adjust brightness: level to 10%.
3. Adjust the BRT potentiometer, R24, so the backlight for the LCD display just turns off (no visible display). (The voltage at TP1 BRIGHTNESS will be approximately 3.5 V).
4. This completes the adjustments of the LCD Driver board.

Analog Generator Board Adjustment

These adjustment steps set the DAC gain for the correct level of output signal for Channel A and Channel B of the analog generator.

Test Equipment Required

The following test equipment is needed:

- Precision digital multimeter or RMS meter
- XLR to banana connector adaptor cables
- Adjustment tool

Set up Test Equipment and the AM700

1. Set up the precision digital multimeter.
   a. Set the AC frequency band of the digital multimeter for 20 Hz for the lowest expected frequency and 10 kHz for the highest expected frequency.
   b. Set the digital multimeter for ACV auto ranging.
   c. Set the Terminals switch on the front panel to Front.
   d. Using the XLR-to-banana interconnection cable, connect the banana connector to the front terminals of the precision multimeter: HI-to-HI, LOW-to-LOW, and GND-to-GUARD.
   e. Set the Guard switch on the front panel to OPEN.
   f. Connect the female XLR connector to Ch A OUT of the AM700 to the input of the precision multimeter.
2. Set up AM700 Analog Generators
   a. In the Generator Control Panel, press the Control button. This displays the Generator Control menu screen.
   b. Check that the Analog Generator is set for High Resolution mode. If not, touch the High Resolution soft key to select it.
   c. Set the CH A Waveform for Sine if it is not. Do this by touching the Waveform soft key to display a pop-up list of available generator signals. Use the large control knob to highlight Sine, then touch the pop-up list or press Enter, in the keypad area, to select that choice.

***NOTE**. Both channels A and B must be set for sine. Channel B must not be set for follow A.*

d. Set the CH B Waveform for Sine as well. Touch the CH B Waveform soft key and use the large control knob to highlight Sine, the touch the pop-up list as before to accept that choice. (Do not use Follow A. This will make the B generator signal the same as generator A, but it will not fully exercise the B generator signal generation path.)

e. Check that both Ch A and Ch B are enabled (a check mark in both Enabled soft keys). If not, enable them.

f. Touch the Waveform Control soft key (located on the left side of the screen) to display the Waveform menu choices.

g. Select Generator A by touching the Analog A soft key.

h. Touch the Frequency soft key to select that parameter for editing. Use the keypad to enter 1000 Hz (or 1 kHz). Press enter or touch the Frequency soft key to accept this value.

i. Touch the Amplitude soft key to select that parameter for editing. Use the key pad units keys to select V (volts) as the unit for the amplitude.

j. Set the Amplitude to 1.0 V using the key pad, the touch the Amplitude soft key or press enter to accept this value.

k. Select Generator B by touching the Analog B soft key and repeats parts h through j to set Generator B for a 1 kHz, 1 V sine-wave signal.

l. Press the Control button to turn off the Generator Control Menu screen display.

m. In the Generator Control panel, press the ON button to turn the generators on.

3. Adjust the A DAC GAIN, R24, of the Analog Generator for an amplitude of 1.000V ± 0.0001V. See Figure 5–6 for the adjustment locations.
4. Move the XLR connector from Ch A OUT to Ch B OUT.
5. Adjust the B DAC GAIN, R18, of the Analog Generator for an amplitude of 1.000V ± 0.0001V.
6. Disconnect the test equipment from the AM700.

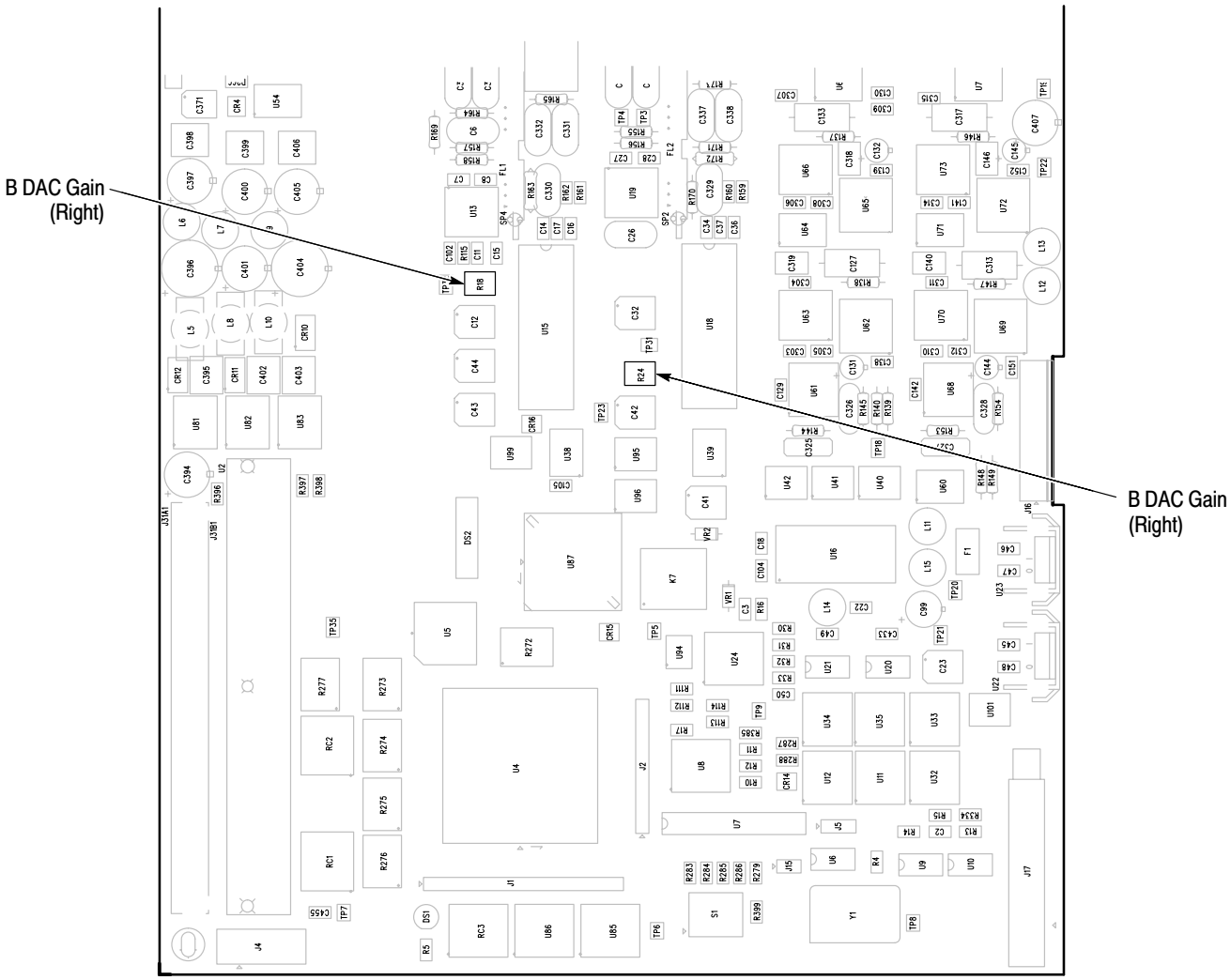

Figure 5–6: Generator board adjustment locations

Digital Audio Board Adjustments

The following adjustments set the control voltage of the phase-lock-loop circuits and sets the digital generator amplitude.

Test Equipment Required

The following test equipment is needed:

- Digital voltmeter
- Test oscilloscope
- BNC cable, 75 Ω
- BNC termination, 75 Ω
- Alignment tool
- Extender cables for Digital Audio circuit board
- Insulated work surface

Mechanical Setup

1. The PLL adjustments can be checked with the Digital Audio board installed. Test points pins are accessible from the side of the instrument with the cabinet removed. Adjustment of the PLL frequency control coils would not normally be required unless a repair affecting the frequency determining components of the oscillators is made.

CAUTION. *The following Digital Audio Board adjustment procedure should only be done by a qualified service person working in an approved anti-static work station. Adjustments require the removal of the Digital Audio board from the instrument, and operation with extender cables installed to make the signal and power interconnections to the AM700.*

2. With the Digital Audio board removed from the AM700, place the board on an insulated surface and connect it to the AM700 using extender cables. The remove and replace instructions are provided in the *Maintenance* section of this manual.

Set up the AM700

1. Press the Digital front panel button and power on the AM700 to start it with the Digital application running.
2. Press the Configure button.
3. Touch the Save State soft key.
4. Touch the Set Factory Defaults soft key.
5. Verify that you want to restore the factory defaults.
6. Press Configure again. Touch the Input Select soft key.
7. Set the Input for AES generator.
8. Press Clear Menu.
9. Select the Eye Diagram icon.
10. Press the Menu button.
11. Touch the Interface Timing softkey.
12. Set the Clock Frequency Offset to 10 ppm.

Adjusting the Phase-Locked Loops

1. Set the DVM to measure DC voltage.
2. Connect the + lead of the DVM to pin 4 of J33. Connect the – lead to pin 1 or pin 10 of J33 (ground) (see Figure 5–7). Check for a voltage of 7 V to 8 V.

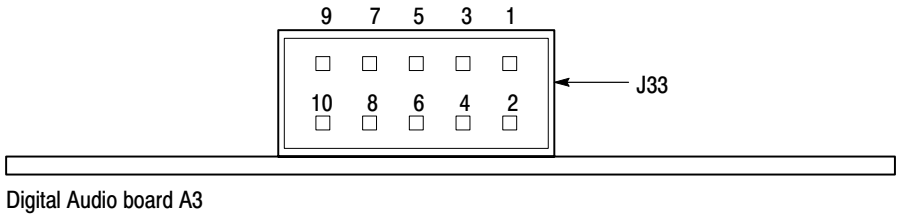

Figure 5–7: Pin arrangement for J33, the PLL voltage test points

3. Adjust L5, Frequency control for U78 in the Frequency Offset circuit, for a voltage of 7 to 8 V. See Figure 5–8 for the adjustment locations.
4. Connect the + lead of the DVM to pin 5 of J33. Check for a voltage of 7 V to 8 V.
5. Adjust L7, Frequency control for U79 in the Frequency Offset circuit, for a voltage of 7 V to 8 V.
6. Connect the + lead of the DVM to pin 2. Check for a voltage of 7 V to 8 V.

7. Adjust L1, Frequency control for U64 in the Generator PLL circuit, for a voltage of 7 V to 8 V.

8. Connect the + lead of the DVM to pin 6 of J33. Check for a voltage of 7 V to 8 V.

9. Adjust L16, Frequency control for U123 in the Eye Sampler circuit, for a voltage of 7 V to 8 V.

10. Turn off the power to the AM700, disconnect the power cord from the AC source, and disconnect the test leads and extender cables from the Digital Audio board.

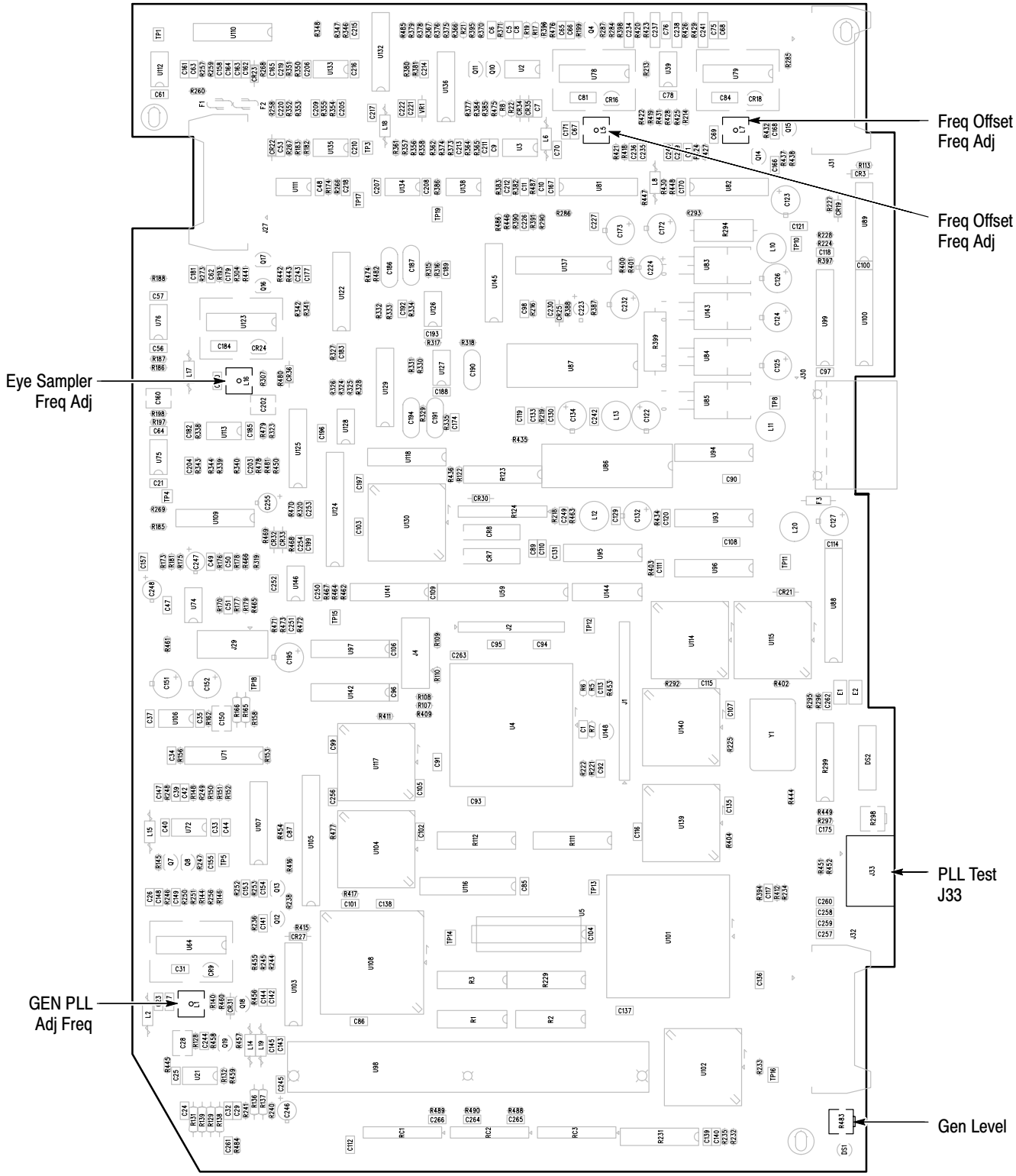

Figure 5–8: Digital audio board test points and adjustment locations

Adjusting the Digital Generator Level

1. Connect the AES Unbalanced Out signal to Ch 1 input of the test oscilloscope through a 75 Ω BNC coaxial cable and a 75 Ω BNC termination.
2. Set the oscilloscope for 0.2 V/div to view a 1 V p-p square wave signal and auto trigger on the input signal.
3. Adjust R483, Generator Level, for a 1 V p-p square wave (5 div ±0.25 div).
4. Disconnect the test equipment from the AM700.

This completes the internal adjustment procedure of the AM700. Reinstall all boards and install the cabinet.

User Calibration

After the AM700 is completely assembled, do the following user calibration steps.

Calibrate the Touch Screen

1. Power on the AM700, if it is not already on, and run the FFT application (the default startup application).
2. After the AM700 has booted and the FFT application is running, press the OTHER front panel button, in the applications selection.
3. Using the large knob on front panel, highlight PanelCal Touch Panel Calibration.
4. To start application, press the Enter key pad button, and follow the instructions on the AM700 monitor.
5. After you finish the touch screen calibration procedure, the screen displays the paint screen. You can touch the screen at various points and the screen will highlight where touched. You can use this screen to check any suspected inoperative locations on the touch screen.
6. When the calibration has been completed, select the FFT application by pressing the FFT application front panel button.

Analog Calibration

1. If the AM700 is on and warmed up you may do this procedure now; otherwise turn on the AM700 and permit it to warm-up for 15 to 20 minutes.
2. Select either FFT or Audio Analyzer to do the analog calibration.
3. Press the **Configure** front panel button after the application is loaded.
4. Touch the **System Setup** soft key and select **Calibrate**.
5. Touch the **Calibrate Now** soft key.

6. After the calibration has finished, press Clear Menu. Then, select Digital as the application to load.

Digital Calibration

1. With the Digital Application running, press the Configure front panel button and again touch the System Setup soft key.
2. Select Calibrate and touch the Calibrate Now soft key.
3. After the calibration has finished, press Clear Menu**.**

This completes the adjustment procedure for the AM700.

Functional Check

You can perform the functional checks in the *Verification Procedure* to verify the operation of the instrument.

Maintenance

This section discusses the various options available for servicing the Tektronix AM700 Audio Measurement Set. It also contains instructions for preventive maintenance, general troubleshooting, and corrective maintenance. If the instrument does not function properly, troubleshooting and corrective measures should be taken immediately to circumvent additional problems.

Service Options

A number of servicing options are available. These servicing options should be investigated as to which will be the most time efficient and cost effective. The instrument may be returned to Tektronix for repair and/or recalibration. Certain modules are available on an exchange basis. If an exchange module for a module needing repair is available, repairs can be made at the customer's repair facility. See the Board Exchange Program section beginning on page 6–49 for information on the exchange program. Repair of the modules in the AM700 can require a highly skilled technician with the proper test equipment. Component level servicing by the customer is not recommended while the instrument is under warranty.

Tektronix maintains service centers around the world to provide quick turnaround repair and recalibration services. When this service is used, the instrument should be tagged and repackaged according to the following instructions.

Repackaging

If the instrument is to be shipped to a Tektronix Service Center for service or repair, attach a tag to the instrument showing:

1. Owner (with complete address) and the name of the person at your firm that can be contacted.
2. Instrument serial number and a description of the service required.

Repackage the instrument in the original manner to provide adequate protection. If the original packaging is not available or is unfit for use, repackage the instrument as follows:

1. Obtain a corrugated cardboard carton whose inside dimensions are at least six inches greater than the dimensions of the instrument to allow room for cushioning. The shipping carton should have a test strength of at least 275 pounds.

2. Surround the instrument with polyethylene sheeting to protect the finish.
3. Cushion the instrument on all sides by tightly packing dunnage or urethane foam between the carton and the instrument. Allow three inches on all sides for cushioning.
4. Seal the carton with shipping tape or an industrial stapler.

Static-Sensitive Components

This instrument contains electrical components that are susceptible to damage from static discharge. Static voltages of 1 kV to 30 kV are common in unprotected environments. Table 6–1 shows the relative static discharge susceptibility of various semiconductor classes.

Table 6–1: Static susceptibility

Relative Susceptibility Levels[1]	Voltage
MOS and CMOS	100 – 500 V
ECL	200 – 500 V
Schottky Signal Diodes	250 V
Schottky TTL	500 V
HF Bipolar Transistors	400 – 600 V
JFETs	600 – 800 V
Linear microcircuits	400 – 1,000 V (est.)
Low-Power Schottky TTL	900 V
TTL	1,200 V

1 **Voltage equivalent for levels (voltage discharged from a 100 pF capacitor through a 100 Ω resistance).**

Observe the following precautions to avoid damage:

- Minimize handling of static-sensitive components.
- Transport and store static-sensitive components or assemblies in their original containers, on a metal rail, or on conductive foam. Label any package that contains static-sensitive components or assemblies.
- Discharge the static voltage from your body by wearing a wrist grounding strap while handling these components. Servicing static-sensitive assemblies or components should be done only at a static-free work station by qualified personnel.
- Nothing capable of generating or holding a static charge should be allowed on the work station surface.

- Keep the component leads shorted together whenever possible.
- Pick up the components by the body, never by the leads.
- Do not slide the components over any surface.
- Avoid handling components in areas that have a floor or work surface covering capable of generating a static charge.
- Use a soldering iron that is connected to earth ground.

***NOTE**. A 2% RMA flux content solder is recommended for making repairs in this instrument. Cleaning of rosin residue is not recommended. Most cleaning solvents tend to reactivate the rosin and spread it under components where it may cause corrosion under humid conditions. The rosin residue, if left alone, does not exhibit these corrosive properties.*

- Use only special antistatic, suction, or wick-type desoldering tools.

***CAUTION.** Any repair procedures should be performed only by qualified service personnel. Performing these procedures incorrectly could damage the instrument. Refer all repair and replacement procedures to a qualified service technician.*

AC Mains Voltage Selection Procedure

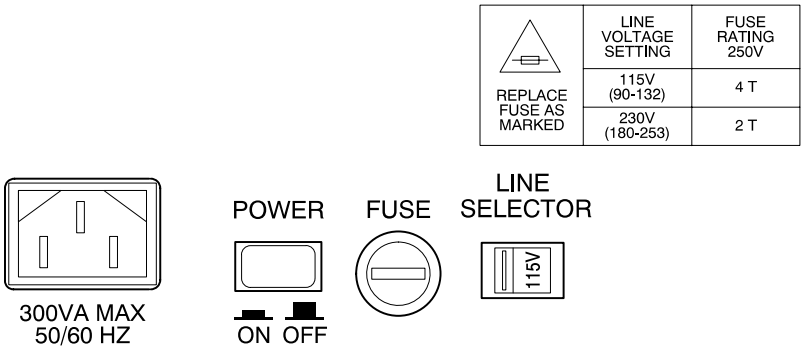

Figure 6–1: Rear panel Fuse, Power connector, On/Off Switch and Line Selector

The voltage range selection switch and fuse holder are located in the lower left corner of the AM700 rear panel (see Figure 6–1). The AM700 is shipped from the factory set for the operating voltage of the destination nation (115 VAC or 230 VAC). If the setting is not correct, it must be changed before connecting the power cord to the power source.

1. Turn off the rear-panel power switch and disconnect the power cord from the mains supply.
2. Set the voltage range selection switch (located on the rear panel of the AM700) to the correct position for operation.

Instruments are shipped with the power cord most appropriate for the country of destination. Available power-cord option information is given in Table 1–1 in the *Specifications* section on page 1–3. Contact your Tektronix representative or local Tektronix field office for additional power-cord information.

CAUTION. *When changing the line voltage selector switch you must also change the fuse to provide proper protection for the operating voltage in use.*

The mains fuse provides protection in the event of a major failure of the AM700 power supply. Two sizes of fuses are specified, one for 115 V operation and the other for 230 V operation. See the *Fuse* specification in the *Specification* section for the correct fuse rating to use for each voltage range.

3. Replace the fuse with the correct one, as indicated on the rear panel, for the new mains voltage selection.

CAUTION. *Use only the power cord and connector specified for your product. Use only a power cord that is in good condition with a proper safety ground connector.*

4. Replace the power cord with the correct one for use with the local mains outlets.
5. Turn on the rear power switch, then the front power switch to operate the AM700.

Preventive Maintenance

Preventive maintenance consists of cleaning, visual inspection, performance checking, and, if needed, readjustment. The preventive maintenance schedule established for the instrument should be based on the environment in which it is operated and the amount of use. Under average conditions, scheduled preventive maintenance should be performed every 2000 hours of operation.

Tools Required

- Clean, non-abrasive cloth.
- Non-abrasive liquid glass cleaner.
- Isopropyl alcohol.
- Static-free vacuum cleaner with small brush attachment.

CAUTION. *Cleaning and general care of the AM700 should be performed only when the instrument is powered off and the power cord removed from electrical mains.*

Cleaning

The instrument should be cleaned often enough to prevent dust or dirt from accumulating. Dirt acts as a thermal insulating blanket that prevents effective heat dissipation, and can provide high-resistance electrical leakage paths between conductors or components in a humid environment.

Exterior. Clean the dust from the outside of the instrument by wiping with a soft cloth or small brush. A brush is especially useful to remove dust from around the selector buttons, knobs, and connectors. Hardened dirt may be removed with a cloth dampened in water that contains a mild detergent. Abrasive cleaners should not be used.

Touch Screen. Clean the touch screen with a soft, lint-free cloth dampened in denatured alcohol.

Interior. Clean the interior of the instrument by loosening the accumulated dust with a dry, soft brush. Once the dirt is loosened remove it with low-pressure air (high-velocity air can damage some parts). Hardened dirt or grease may be removed with a cotton-tipped applicator dampened with a solution of mild detergent and water. Abrasive cleaners should not be used. If the circuit board assemblies must be removed for cleaning, follow the instructions for removal/replacement under the heading of Corrective Maintenance.

After cleaning, allow the interior to thoroughly dry before applying power to the instrument.

CAUTION. *Do not allow water to get inside any enclosed assembly or component. Do not clean any plastic materials with organic cleaning solvents, such as benzene, toluene, xylene, acetone, or similar compounds, because they may damage the plastic.*

Visual Inspection

After cleaning, carefully check the instrument for defective connections, damaged parts, and improperly seated transistors or integrated circuits. The remedy for most visible defects is obvious; however, if heat-damaged parts are discovered, extensive repairs requiring a board exchange may be necessary to restore the equipment to normal operation.

Determining the Software Version

Operation of this instrument is dependent on the software, which is loaded in Flash EPROM. It is possible that an instrument may contain older software and therefore not be performing up to the level expected. It may save considerable time and troubleshooting effort to determine which software version the instrument contains. The User Manual that was shipped with the instrument contains the software version level when the instrument was first delivered. However, it is possible that the instrument was upgraded, or possibly a particular instrument was missed for a field upgrade and therefore does not perform up to expectation. Prior to servicing it is wise to determine that the instrument has software that matches the level specified at the front of the User Manual.

Finding the Version Number. The version number and release date for the software contained in the instrument's Flash EPROM is displayed on the CRT every time a new application is started.

Updating Operating Firmware. Firmware upgrades to the operating system of the AM700 may be made from time to time. To update the firmware loaded in the instrument, see the instructions later in this section of the manual or the instructions that are provided with the upgrade materials.

Performance Checks and Readjustments

Instrument performance should be checked after each 2000 hours of operation, or every 12 months. This will help to ensure maximum performance and assist in locating defects that may not be apparent during regular operation. The Verification and Adjustment Procedures are included in this manual.

Major Assembly Interconnection

Signals and power supply voltages are passed through the instrument by a system of interconnecting cables. The connector holders and cables are keyed to prevent incorrect installation in most cases. A triangular key symbol is used to identify pin 1 on the circuit board to assist in aligning the correct pins on the mating connector.

Corrective Maintenance

The following procedure is designed to assist in isolating problems, which in turn expedites repairs and minimizes down time.

1. Ensure that the malfunction exists in the instrument. This is done by making sure that the instrument is operating as intended by Tektronix (see the Operating Instructions) and by checking that all connected signal sources are actually providing a signal. Use the generator to analyzer internal routing capability of the AM700 to verify that the AM700 is operating correctly.

2. Determine the nature of the problem. Attempt to make the determination of whether the instrument is out of calibration or if there has been a component failure. Once the type of failure has been determined, proceed on to identify the functional area most likely at fault.

3. Visually inspect the suspect assembly for obvious defects. Check for broken or loose components, improperly seated components or cable connections, overheated or burned components, chafed insulation, and other visible defects. Reseat any obvious loose components or connectors and replace or repair defective cables. Overheated components indicate a serious problem. A defective assembly requiring repairs should be repaired using the Board Exchange Program (if the assembly is available in the exchange program).

4. Repair to some defective assemblies is supported by a board exchange procedure. Component-level repairs should not be attempted by the user as damage to an assembly by a non-Tektronix service person will void the warranty. The result is full board cost for repairs instead of the more economical board exchange. The circuit board assemblies are assigned assembly numbers for identification in the instrument and for ordering replacement assemblies. Removal and replacement procedures for the assemblies are found later in this section of the service manual. Refer to *Board Exchange Program* on page 6–49 for information of the exchange program.

NVRAM State Clearing

In the event that the AM700 should ever go into continuous reset mode or lockup, it may be caused by an invalid instrument state that is stored in NVRAM. If this is the case, the problem is cleared by removing the stored states from NVRAM; restoring factory defaults does not clear the problem. To clear the NVRAM, use the following procedure to enter the diagnostics mode and run the utility provided for this task.

***NOTE**. Clearing the NVRAM also deletes all user-saved files. If you have control of the AM700 enough to use the memory manager, you may transfer those user files to DOS for later restoration to the AM700. This may not be possible if the AM700 is constantly resetting.*

1. Turn off the AM700.
2. Press the MENU front-panel button and hold it in while turning on the power to the AM700. Continue holding in the MENU button until the AM700 beeps twice. You may release the MENU button after the beeps. The AM700 then starts up in the low-level diagnostics mode with the following menu displayed:

```
   --- AM700 STARTUP MENU ---

 Key    Selection
--------------------------------
H ... Diagnostics -HELP- Menu

R ... Instrument -RUN MODES- Menu

D ... Low Level -DIAGNOSTICS- Menu

U ... -UTILITIES- Menu

F ... -FIRMWARE- Date Codes
------------------------------------
 = ... Reprint       @ ... Abort Menu
------------------------------------

Input your selection:
```

3. Use the large knob to select U, then press the Select front-panel button to enter the choice. This brings up the Utilities Menu. There is a difference between the menus for V1.0/V1.01 firmware and V1.2 firmware. The first Utilities menu shown is for V1.2 firmware. It has more choices than the V1.0/V1.01 firmware Utilities menu, shown second.

```
      --- UTILITIES MENU ---

Key     Selection
----------------------------------------
E ...   - ERROR LOG -   utilities

N ...   - NVRAM -   utilities

I ...   - Change Display -   INTENSITY

F ...   Reprogram   - Flash EEPROMS -

D ...   Calibrate  - LCD DISPLAY -
----------------------------------------
 = ... Reprint       @ ... Abort Menu
----------------------------------------

Input your selection:

      --- UTILITIES MENU ---

Key     Selection
----------------------------------------
E ...   - ZERO -   System NVRAM

F ...   Reprogram   - Flash EEPROMS -

I ...   - Change Display -   INTENSITY
----------------------------------------
 = ... Reprint       @ ... Abort Menu
----------------------------------------

Input your selection:
```

4. Use the large control knob to select N (Z for V1.0 and V.01 firmware), then press the Select front-panel button to enter your selection. This brings up the NVRAM Utility.

```
   --- NVRAM UTILITIES MENU ---

Key     Selection
----------------------------------------
C ...   - CLEAR -   System NVRAM
----------------------------------------
 = ... Reprint       @ ... Abort Menu
----------------------------------------

Input your selection:
```

5. Use the large control knob to select C, then press the Select front-panel button to enter your selection. This brings up the CLEAR SYSTEM NVRAM Utility.

```
                CLEAR SYSTEM NVRAM UTILITY

                =========================

### WARNING -- Zeroing system NVRAM will destroy: ###

--- All user files: setups, functions,
    GPIB addr, COMM port settings, etc
--- Instrument saved state settings
--- Instrument console info
--- Diagnostics Error log
--- Custom Diagnostic sequences

After NVRAM has been cleared, the instrument will be reset to
the Diagnostics Startup Menu, and Diagnostics NVRAM will be
re-initialized. The instrument's NVRAM will be reset to its
factory default configuration when the instrument itself is
run.

### Press - MENU BUTTON - to zero NVRAM, any other to abort ###
```

6. After the NVRAM is zeroed, you may use the menu choices and Select button to back out of the menu and select an application to start from the Instrument – RUN MODES – Menu (a choice in the AM700 STARTUP MENU) or you may turn the AM700 off and back on again to restart the applications.

Power Supply Status Indicators

The voltages produced by the main power supply are monitored by LED indicators as shown in Figure 6–2 or Figure 6–3. During normal operation all the green LED indicators should be on. Error conditions (over temperature, over voltage, under voltage, and over current) are indicated by red LED indicators. These indicators may be seen through the ventilation holes in the side of the power supply housing when the cover of the AM700 is removed. When only the rear power switch is on, the AM700 is in standby mode; and only the +14.4 and –14.4 green indicators are on (these are the housekeeping supplies). The red UV (undervolts) LED is also on in the standby state.

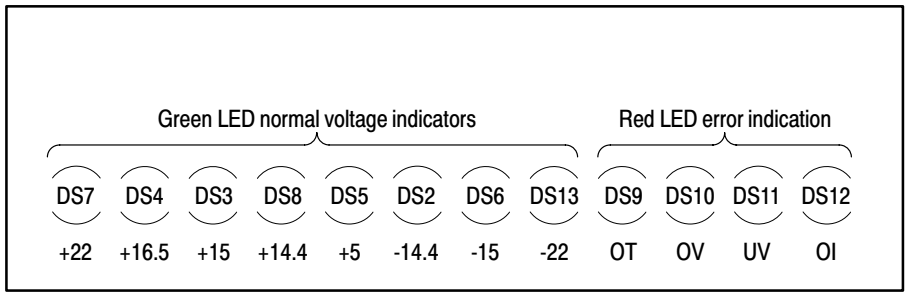

Figure 6–2: Power supply status indicators for the CRT display power supply

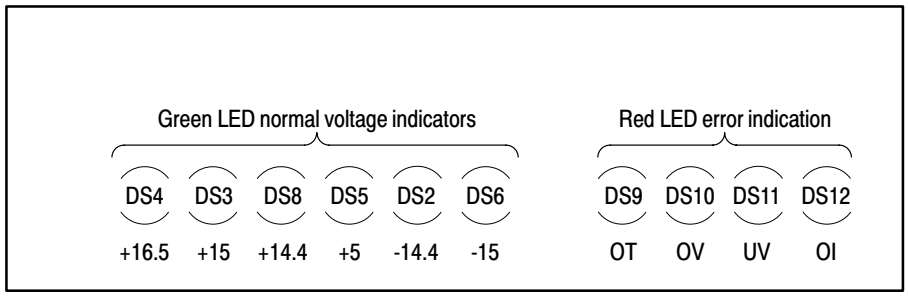

Figure 6–3: Power supply status indicators for the flat panel display power supply

Diagnostics

Diagnostics in the AM700 are divided into two sets, low level and high level. The distinction between the two types is based upon the operating system; those diagnostics that run before the instrument's operating system is booted are referred to as low level; those that run as applications executed by the operating system are referred to as high level. The instrument pauses noticeably when the operating system is booting, so messages are displayed indicating when this boot is occurring to aid the user in differentiating between high- and low-level diagnostics.

Grouping of diagnostics within the two sets is by circuit board. Within a circuit board diagnostic are one or more tests; associated with each test is a main pass/fail result and, where applicable, one or more sub-results. The purpose of this format is to present all the information used within a test to determine its ultimate pass/fail status. There is another diagnostic tests grouping, the Overall Run mode. The three choices are: Power Up mode, Auto Reset mode, and User-Interactive mode. These are discussed later in this section in *Selecting an Overall Run Mode*.

Starting at firmware version 1.02, the normal powerup skips all diagnostics for a quick start up of operation. Diagnostics can be configured to run automatically during a normal instrument powerup, or you can access the diagnostics to run at power on. All the low-level and high-level diagnostics can be forced to run at power up by holding in the Limits button while turning on the power. Certain power-up modes can be selected by pressing and holding certain front-panel buttons during power up (referred to as 'backdoor boot modes'). For example, holding the Menu button in while turning on the power causes the AM700 to enter the low-level diagnostic interface. Another example is that holding one of the application buttons in while turning on the power starts up the selected application.

Interactive diagnostics provide the service person choices to control the tests that run and the manner in which they run. In the user interactive mode, any or all tests within a group of tests can be selected for execution. From the front panel, choices are made in the displayed menu by highlighting the choice with the control knob and then pressing the Select button to actually make a change to the highlighted selection. The diagnostic menu choices will not respond to presses to the touch screen.

Diagnostics displays can be routed to one of the instrument serial ports for viewing on a terminal. This is useful if a malfunction does not permit the testing progress and results to be displayed on the AM700 CRT. A special setting of the boot switch is used to route the diagnostic test displays to the serial ports.

***NOTE**. Diagnostics can also be controlled and executed remotely through the serial port. This method is most useful if the display system is inoperative or in a service environment for programmed troubleshooting of the AM700.*

During execution, diagnostics give positive feedback of progress, indicating results as they are gathered. During power-up execution, these results are presented in minimal fashion; a test which passes shows only its main result, whereas one that fails also shows the sub-results that caused the failure. During looping and user-interactive modes, results display options are available to either show only the main test results or all the test results.

To facilitate quick appraisal of diagnostics results, the information is presented in a uniform format. Each line consist of fields arranged under a heading shown at the top of the instrument/terminal screen. The heading line looks something like the following:

```
"Test___measmt___unit___min____max___result".
```

A brief description of the content of each field follows:

Field	Description
Test	In a main result, the name of the test. In a sub-result, noted by an indentation from the associated main result, a description of what was evaluated to determine the main result.
measmt	A measured value, presented in integer, hexadecimal, or engineering scientific notation. If a value is not appropriate, the field is filled with one of the following: "–" no value "<" underrange indicator ">" overrange indicator
unit	Where appropriate, a description of the units of the measured value; otherwise, filler chars.
min	The minimum acceptable value for a passing result.
max	The maximum acceptable value for a passing result
result	In general, –Pass– or *FAIL*. can also be one of: --NA-- not applicable *??*not tested

Because a rigidly formatted output excludes much useful information, any main or sub-result line can have associated with it one or more lines of indented commentary. Whereas sub-result lines are indented one level of indentation from their associated main results, comments will be indented two levels from their associated main results, whether they are actually associated with the main result or the sub-result.

Accessing the Diagnostics Menus

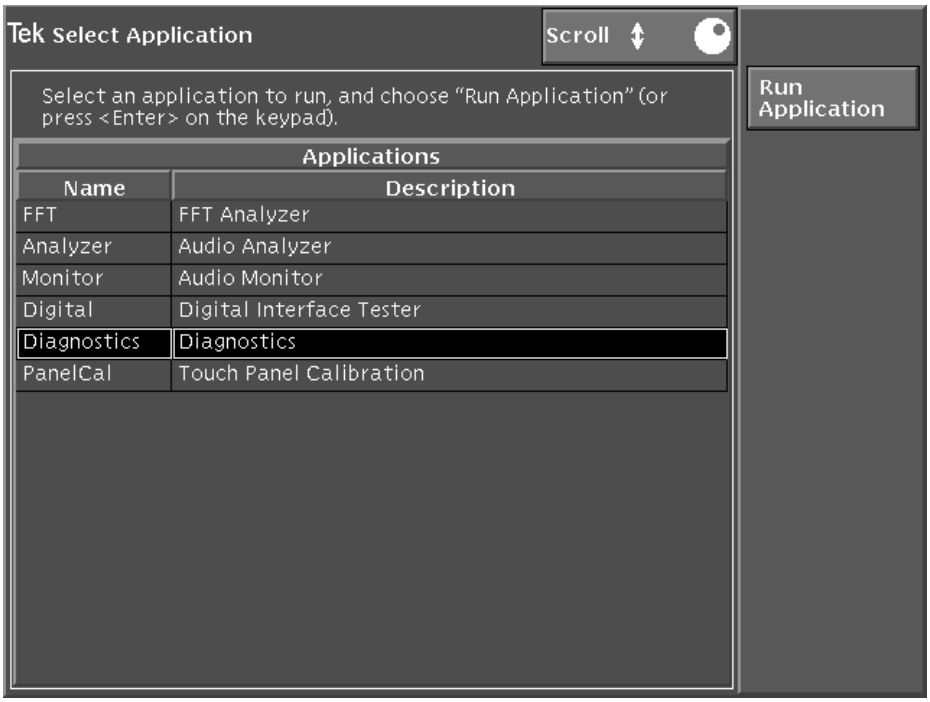

Figure 6–4: Entering the user-interface diagnostics

An overview of the AM700 Diagnostics Menus is shown in Figure 6–5. As previously mentioned, there are two ways to access the Low Level diagnostics menu. With the AM700 running, the diagnostic menu is displayed through the Other Applications menus. Press the Other front-panel button to display the application selection menu shown in Figure 6–4. Use the large control knob to highlight the Diagnostics application; then, touch the Run Application soft key.

The diagnostic operation begins with the High Level Diagnostic Interface Main Menu shown in Figure 6–6. In this menu, use large control knob to highlight the "R" (Instrument Run Modes menu) and press the Select button.

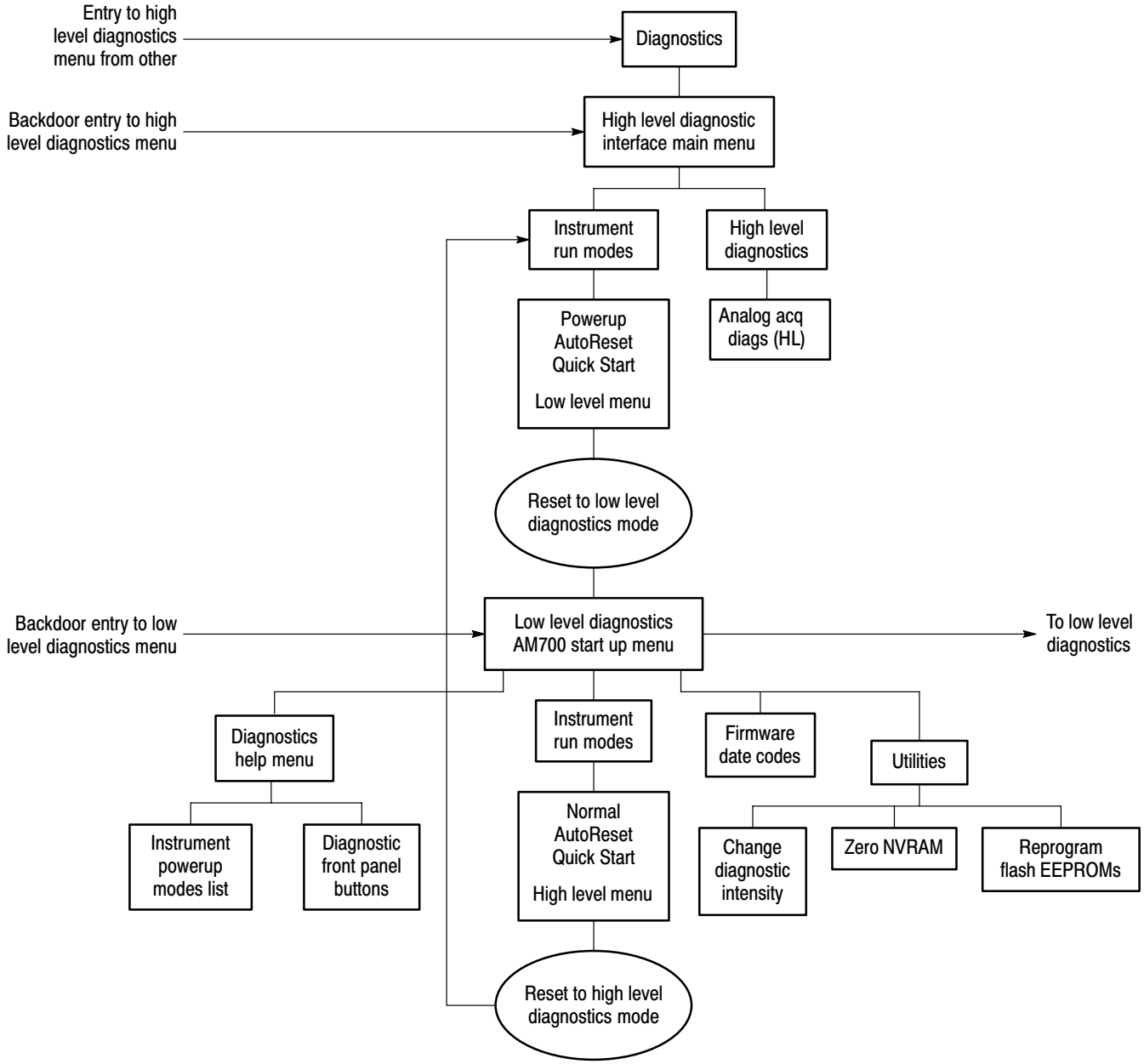

Figure 6–5: AM700 diagnostics menus overview

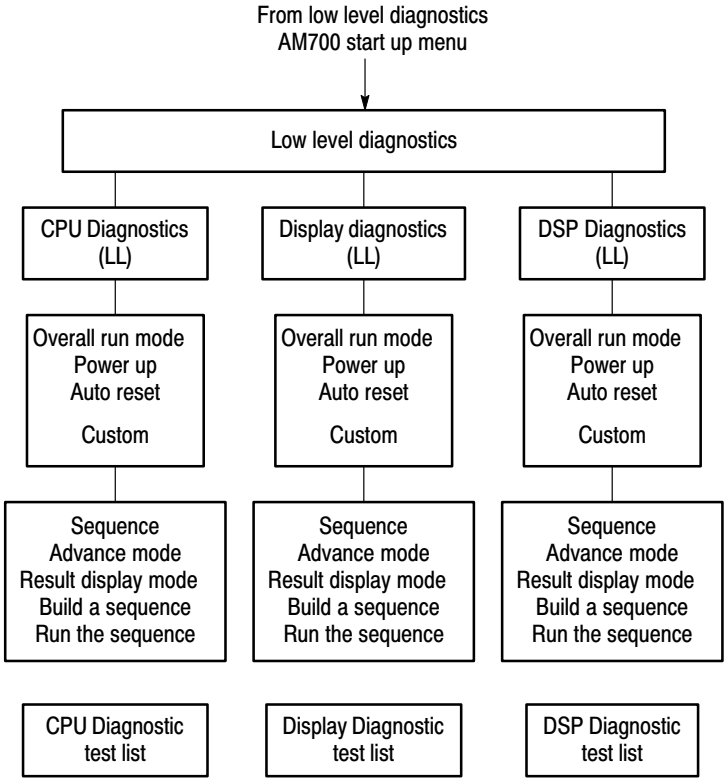

Figure 6–5: AM700 diagnostic menus overview (cont.)

```
          High Level Diagnostic Interface
                --- MAIN MENU ---

Key          Selection
_____________________________________
 R ... Instrument -RUN MODES-
 D ... High Level -DIAGNOSTICS- Menu
_____________________________________
 = ... Reprint     @ ... Abort Menu
_____________________________________
 Input your selection:
```

Figure 6–6: High level diagnostics main menu

In the Instrument Run Modes menu (shown in Figure 6–7 for V1.02 firmware and in Figure 6–8 for V1.0/V1.01 firmware) highlight the “L” (Low Level Menu) and press the Select button again.

```
                High Level Diagnostic Interface
              --- INSTRUMENT RUN MODES ---
     NOTE: Modes marked (R) will RESET the instrument.

 Key     Selection
_____________________________________________________________
  D ... -DIAGNOSICS- ....... (R) run powerup diagnostics
  A ... -AUTORESET- ........ (R) run all diagnostics
  Q ... -QUICK START- ...... (R) skip all diagnostics
  L ... -LOW LEVEL MENU- ... (R) run Low Level Diags Infc
-------------------------------------------------------------
  = ... Reprint                       @ ... Abort Menu
-------------------------------------------------------------
  Input your selection:
```

Figure 6–7: Instrument run modes in V1.02 firmware

```
                High Level Diagnostic Interface
              --- INSTRUMENT RUN MODES ---
     NOTE: Modes marked (R) will RESET the instrument.

 Key     Selection
 ------------------------------------------------------------
  N ... -NORMAL- ........... (R) run powerup diagnostics
  A ... -AUTORESET- ........ (R) run all diagnostics
  Q ... -QUICK START- ...... (R) skip all diagnostics
  L ... -LOW LEVEL MENU- ... (R) run Low Level Diags Infc
 ------------------------------------------------------------
  = ... Reprint                       @ ... Abort Menu
 ------------------------------------------------------------
  Input your selection:
```

Figure 6–8: Instrument run modes in V1.0/V1.01 firmware

The AM700 then resets and displays the AM700 STARTUP MENU choices shown in Figure 6–9.

```
          Low Level Diagnostic Interface
         --- AM700 STARTUP MENU ---

        Key          Selection
        ------------------------------------
         H ... Diagnostics -HELP- Menu
         R ... Instrument -RUN MODES- Menu
         D ... Low Level -DIAGNOSTICS- Menu
         U ... -UTILITIES- Menu
         F ... -FIRMWARE- Date Codes
        ------------------------------------
         = ... Reprint     @ ... Abort Menu
        ------------------------------------
         Input your selection:
```

Figure 6–9: AM700 startup menu

The second method of accessing the Low Level diagnostics menu starts with the power off. This method is referred to as the “backdoor boot modes.” Press and hold the Menu button while turning on the power. After the AM700 beeps twice to acknowledge the startup mode, release the Menu button. The AM700 then initializes directly into the Low Level diagnostics mode as shown in Figure 6–9.

In this menu, select “D” (Low Level Diagnostics Menu) and press select to access the Low Level Diagnostics menu shown in Figure 6–10 (V1.02) or Figure 6–11 (V1.00/1.01).

Low Level Diagnostic Interface

The Low Level Diagnostics menu changed between V1.0/V1.01 firmware and V1.02 firmware. The V1.02 firmware menu adds more diagnostic choices shown in the menu in Figure 6–10. The V1.0/V1.01 Low Level Diagnostic menu choices are shown following the V1.02 menu in Figure 6–11.

```
          Low Level Diagnostic Interface
         --- LOW LEVEL DIAGNOSTICS---

Select a diagnostic to execute from the list below:
        Key          Selection
        ____________________________________
        A ... CPU Diagnostic
        B ... Digital Audio Diagnostic
        C ... Display Diagnostic
        D ... DSP Diagnostic
        E ... Generator Diagnostics
        F ... Floppy Diagnostic
        ____________________________________
        = ... Reprint     @ ... Abort Menu
        ____________________________________
        Input your selection:
```

Figure 6–10: Low level diagnostics menu V1.02 firmware

```
          Low Level Diagnostic Interface
         --- LOW LEVEL DIAGNOSTICS---

Select a diagnostic to execute from the list below:
        Key          Selection
        ____________________________________
        A ... CPU Diagnostic (LL)
        B ... Display Diagnostic (LL)
        C ... DSP Diagnostic (LL)
        ____________________________________
        = ... Reprint     @ ... Abort Menu
        ____________________________________
        Input your selection:
```

Figure 6–11: Low level diagnostics menu for V1.0/V1.01 firmware

The low-level diagnostics consists of sets of tests that check the CPU (central processing unit), the Display system, and the DSP (digital signal processor) circuitry. The tests made in each of the circuits are shown in Tables 6–2, 6–3, and 6–4. These tests are all run at power-on in V1.0/V1.01 firmware unless they are intentionally bypassed by the user. They are skipped in V1.02 firmware unless they are specifically selected by the user. Additionally, diagnostics tests for the Digital Audio board, the Generator board, and the Floppy disk controller are provided in V1.02 firmware. The tests shown in the tables are the main test heading only. Each of the tests has additional subtest that are used by servicing to further narrow the suspected failure error if a diagnostic failure occurs during testing.

Usually, this power up running of diagnostics will be the only use of diagnostics for the user. A service person can use the diagnostics to assist in determining if a board or board set is faulty before doing a board swap to effect repairs to the AM700. The normal use of the diagnostic tests is for factory testing prior to shipment to the customer and repair testing of the boards returned in the board exchange program.

Table 6–2: CPU diagnostic (LL)

Test	measmt	unit	min	max	result
Board Program Reg					–Pass–
Board Status Reg					–Pass–
Spurious Interrupts					–Pass–
Bus Error Detect					–Pass–
Dynamic RAM					–Pass–
Parity Detect					NA
Can't test parity on 32-bit DRAM					
NVRAM (read only)					
Flash EEPROM					–Pass–
Real Time Clock					–Pass–
RTC Interrupt					–Pass–
FP Ct'l ID Reg					–Pass–
FP RAM: CPU side					–Pass–
GPIB Controller					–Pass–
GPIB Interrupt					–Pass–
Serial Interrupt					–Pass–
Timer Interrupt					–Pass–
DUART 1 (serial)					–Pass–
DUART 2 (kybd)					–Pass–

Table 6–3: Display diagnostic (LL)

Test	measmt	unit	min	max	result
Video ASIC					–Pass–
Video RAM					–Pass–
Video Interrupt					–Pass–
Int'l Brite DAC					–Pass–
Ext'l Brite DAC					–Pass–
Int'l RAM DAC					–Pass–
Ext'l RAM DAC					–Pass–

Table 6–4: DSP diagnostic (LL)

Test	measmt	unit	min	max	result
DSP Addr Hold Reg -					–Pass–
DSP Host Interface					–Pass–
DSP Host Interrupt					–Pass–
DSP Internal RAM					–Pass–

Table 6–5: Digital audio diagnostic (LL)

Test	measmt	unit	min	max	result
Host Interface					–Pass–
HW Version					–Pass–
Internal Ram					–Pass–
External Ram					–Pass–

Table 6–6: Generator diagnostic (LL)

Test	measmt	unit	min	max	result
Host Interface					–Pass–
HW Version					–Pass–
Internal Ram					–Pass–
External Ram					–Pass–

The tests for the floppy drive require user interaction. A 3 1/2 inch diskette must be inserted to perform the testing done. As the Table 6–7 indicates, a formatted disk can be queried to check its status. The status query returns the number of heads, the number of tracks, the sectors per track, the bytes per track, the number of sectors, and the bytes per sector for the disk. You can also format a diskette for MS DOS 1.44 Mbytes and perform a disk stress test to check for read and write errors to the diskette.

Table 6–7: Floppy diagnostic (LL)

Test	measmt	unit	min	max	result
Disk Status Query					–Pass–
Disk Format					–Pass–
Disk Stress Test					–Pass–

Selecting an Overall Run Mode

After you select one of the diagnostics to execute, you get a further choice of how you want to run it. The choices are shown in Figure 6–12 as P, A, or C, (power up, auto reset, or custom mode respectively). The menu for each of the diagnostics: CPU, Generator, Digital Audio, Display, DSP, and Floppy Disk are all the same at this point. The diagnostic selected determines which is to be interactively run.

Power Up mode runs the power-up diagnostics as at normal power on with an abbreviated go/no-go test of the circuitry.

Auto Reset Mode runs all the power up diagnostic tests plus any “AutoReset” tests available for the given diagnostic. No additional auto reset test are available as of this printing.

The Custom choice permits you to select a single diagnostic test or build a selected set of diagnostic tests to run. This mode allows access to any or all of the available diagnostic tests and any User-Interactive diagnostic tests.

```
          Low Level Diagnostic Interface
         --- LOW LEVEL DIAGNOSTICS---

   Select an OVERALL RUN MODE from the list below:

          Key          Selection
          ____________________________________
          P ... -POWER-UP- Mode
          A ... -AUTO-RESET- Mode
          C ... -CUSTOM- Mode
          ____________________________________
          = ... Reprint     @ ... Abort Menu
          ____________________________________
          Input your selection:
```

Figure 6–12: Low level diagnostic OVERALL RUN MODE menu

Custom Run Mode Choices

The Custom Run Mode menu shown in Figure 6–13 or Figure 6–14 permits configuration of the diagnostic testing sequence. You can select the Power Up, the Auto Reset, or a Custom run mode.

```
          Low Level Diagnostic Interface
         --- CPU Diagnostic (LL) ---

    Configure CUSTOM RUN MODE parameters as desired,
   build/edit sequence,   then select "RUN" to begin execution
          Key          Selection
          ____________________________________
          S ... -SEQUENCE- Type     (CUSTOM)
          1 ... Advance Mode        (MANUAL)
          2 ... Result Display Mode (SHOW ALL)
          3 ... Result Logging Mode (DISABLED)
          B ... -BUILD- New Test Sequence
          ____________________________________
          = ... Reprint     @ ... Abort Menu
          ____________________________________
          Input your selection:
```

Figure 6–13: Custom run mode menu V1.02 firmware

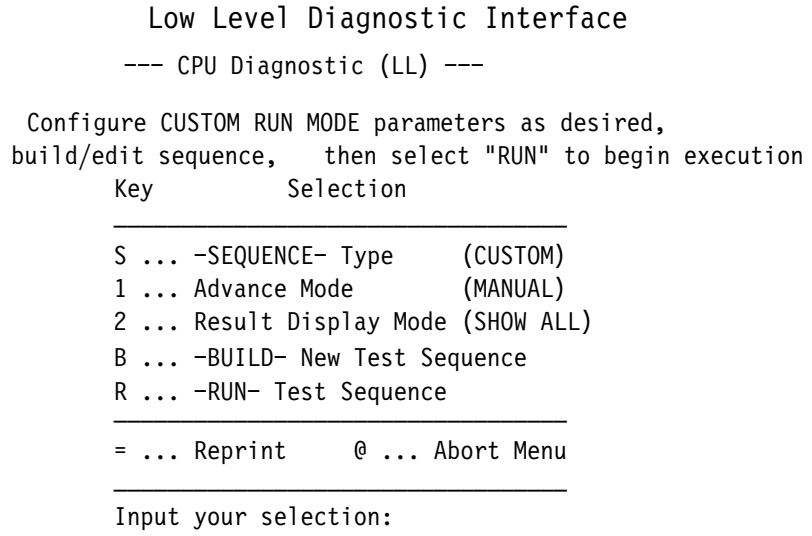

Figure 6–14: Custom run mode menu V1.0/V1.01 firmware

You can select how the diagnostic advances to the next test as Automatically, Advance on Pass, Advance on Fail, or Manually. You can select how the results are displayed from the choices of Show All, Show Main Results, or Show Minimum Required Results. In V1.02 firmware, how the results are logged is also selectable from a choice of Log the Main Results, Log all the Test Results, Log the Minimum Required Results, and Disable Results Logging. To build a custom testing sequence, select B (Build) to display the entire list of diagnostics for the selected board. In Figure 6–15, Display Diagnostics was the selected set of tests.

***NOTE**. After you finish making the selections for a test sequence to perform and make the choice of Done Selecting, the display returns to the next higher selection window. Two new lines are added to the choices: E . . . Edit Test Sequence and R. . . Run Test Sequence.*

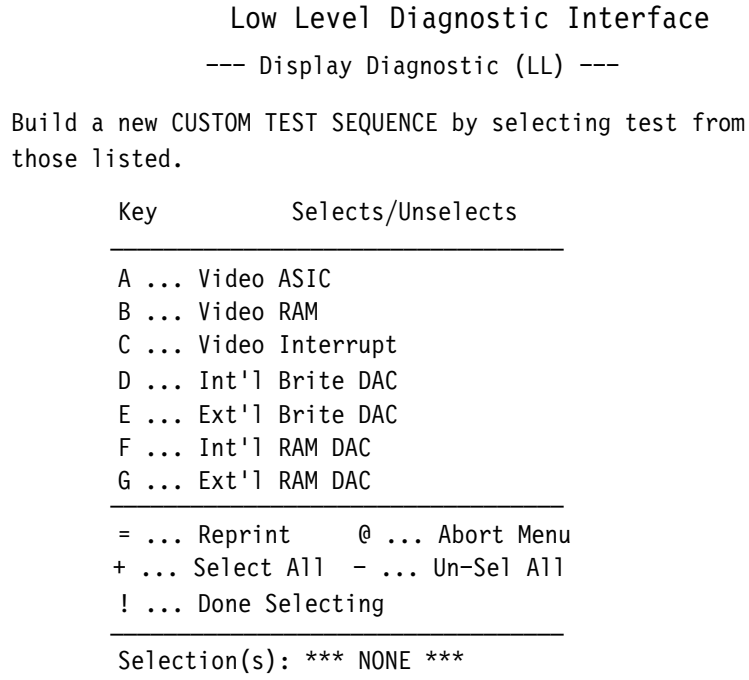

Figure 6–15: Build CUSTOM TEST SEQUENCE menu for display

When the menu first appears, there are no selections made as indicated in the figure. To add a test to the list, rotate the large control knob to highlight the choice, then press the Select button. The selected choices are indicated by opening and closing angle brackets around the key letter and shown in the selections list. You can select all the choices in the list by highlighting the + and selecting it. All the choices can be unselected by highlighting the – and selecting it.

After you have made the test selections you want in the custom list, highlight the ! and press Select. This also returns to the next higher level menu where the choice to run the tests in the custom list you have just made is available. When you run the tests, all the selected major test headings and the test results are shown along with the sub-test that run as part of the diagnostics.

***NOTE**. The Custom selections are not remembered when exiting the Custom Run Mode menu and returning. You will have to remake any custom selections you previously made if you want to build the same testing sequence again.*

Using a Keyboard to Run Diagnostics

The AM700 supports the use of AT-type keyboard as an input device for making any inputs normally accepted from the front panel keypad. For diagnostics, the keyboard is used together with exporting the diagnostic output messages to an external terminal. This permits the diagnostic tests to be run and the results viewed either when there has been a major failure of the AM700 display system or in the production area of manufacturing for automated testing prior to shipment of the product.

Diagnostic Keystrokes

In the diagnostic menus that are displayed, the controlling keys are given in the column labeled “Key.” Other controlling keys are the =, used to reprint the screen, and the @ key, used to abort the menu and return to the next higher level in the menu tree. Another is the ! key, used in the Custom Run Mode menu to report that the editing is done. When the AM700 display is operational, menu selections are made by rotating the large control knob to highlight the choice to make, then pressing the Select button to actually make the choice. The control knob rotates through the menu choices in either direction. Some Front Panel buttons can be used to make the selections directly as shown in Figure 6–16.

```
                Low Level Diagnostic Interface

              DIAGNOSTIC FRONT PANEL BUTTON USES
              ==================================
Some Front Panel buttons may be used in place of moving the
hilight cursor and pressing the <Select> button. Below are
some common diagnostic menu selections and their Front Panel
button equivalents.

         Key                FR-PNL BUTTON
         ____________________________________
         SPC (Pause) ..... Freeze
         RET (Continue) ..... Enter
         '@' (Abort) ..... Clear Menu
         '=' (Reprint) ..... Menu
         '+' (Select All) ..... Units
         '-' (Un-Sel All) ..... CLR
         '!' (Done Selecting)... Enter
         '0' -- '9' ..... "0" thru "9"

         -#- Press Any Key to Continue -#-
```

Figure 6–16: Front panel diagnostic selection buttons

Diagnostic Help Menu

One of the menu choices in the AM700 START UP MENU is the diagnostic help menu. The help menu has two choices: List special instrument power up modes and list diagnostic front panel button uses. Figure 6–16 lists the front panel buttons that can be used directly to make menu selections. These keystrokes are in lieu of highlighting the menu choice and pressing the Select button when one of the listed key choices is available in a menu.

Backdoor Boot Modes

The other choice in the diagnostic help menu provides a list of the special power up modes that are accessible through pressing and holding certain of the front panel buttons at power on. These are referred to as the "backdoor boot modes." The choices are shown in Figure 6–17 or Figure 6–18 depending on the firmware version in your AM700.

```
                Low Level Diagnostic Interface

              SPECIAL INSTRUMENT POWER-UP MODES
              ================================
These modes are accessed by powering up the instrument with
the indicated button(s) held in. The instrument will beep
twice and recognize the mode about 5 seconds after power-up,
after which the buttons must be released. The Boot Switches
MUST be set to default (all closed) to access these modes.

       POWER-UP MODES          BUTTON(S) TO HOLD IN
       ----------------------------------------

       DIAGNOSTIC HELP ..... 1 & 2 & 3
       SET DISPLAY INTENSITY .... Display
       LOW LEVEL DIAGS INFC ..... Menu
       HIGH LEVEL DIAGS INFC .... Menu & Rescale
       LOW LEVEL LOOP ..... Freeze
       RUN DIAGNOSTICS ..... Limits
       QUICK START FFT ..... FFT
       QUICK START ANALYZER ..... Analyzer
       QUICK START DIGITAL ..... Digital
       QUICK START MONITOR ..... Monitor
       UPDATE FIRMWARE ..... Configure and Storage

       -#- Press Any Key to Continue -#-
```

Figure 6–17: Special power up boot modes for V1.02 firmware

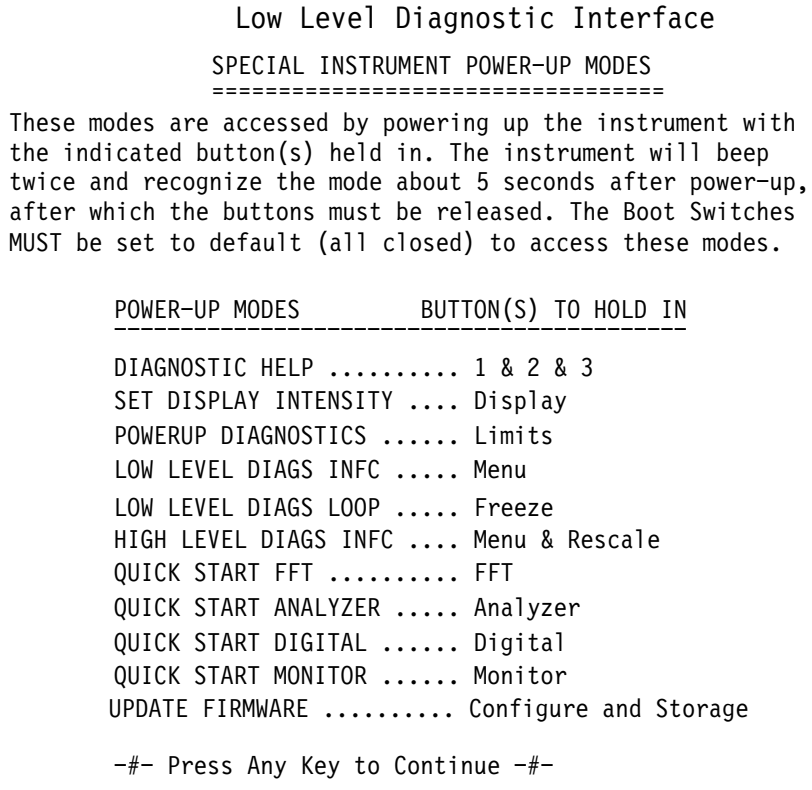

Figure 6–18: Special power up boot modes for V1.0/V1.01 firmware

Viewing Diagnostics on a Remote Terminal

To view the diagnostics results on an external terminal, section 3 of switch S2 on the CPU board, must be in the open position. This routes the diagnostic output to the serial ports. A terminal or PC with terminal emulation must be connected to either COM1 (serial port 0) or COM2 (serial port 1), and the baud rate of the AM700 must be set to match that of the terminal (see Table 6–8).

Baud Rate Selection

The baud rate selection as controlled by AM700 Boot Code is determined by the setting of a pair of jumpers, J11 and J13, located on the CPU board. The jumper settings are shown in Table 6–8. Serial ports are configured for 8-bits data, with no parity, 1 stop bit, and Xon/Xoff flow control when transmitting (control_S to stop, control_Q to continue).

Both ports will be initialized to run at the selected baud rate.

Table 6–8: Baud rate setting for diagnostic output to the serial ports

RATE	J11	J13
38400 (factory setting)	off	off
9600	off	ON
1200	ON	off
19200 (default baud rate)	ON	ON

BOOT UP Diagnostics

The following information is a description of the Power-up Diagnostics and is provided to aid in troubleshooting a power-up diagnostic failure. Boot steps signal their starting by writing the indicated signal value to the Diagnostic LED display.

***NOTE**. Switch segment 2 of switch S3 on the CPU board must be in the UP (OPEN) position to see these values on the Diagnostic LED display.*

Signal values are:

All LED segments on for step 0, just after CPU reset instruction.

“1” through “F” for steps 1–15.

“0” through “.F” for steps 16–31 (currently ends at 19).

Exception errors occurring during step 1 (Address space probe) will:

Display an error message sequence on the Diagnostic LED display,decoded as follows:

An “E” will precede the exception number (0–255).

A “P” will precede the Probe step number (see Table 6–9).

Numbers are shown as a sequence of decimal digits, separated by decimal points (to allow detecting repetition of digits), most significant digit to least significant.

For example, a bus error (exception 2) occurring during probe step 15 would display the following sequence:

```
"E", "2", "P", "1", ".", "5".
```

If the error is considered critical:

Jump to the startup code (warm reboot).

Otherwise:

Continue testing

Exception errors occurring during steps 2 through 16 will:

Display an error message sequence on the Diagnostic LED display, 2 times through.

The error message is decoded as follows:

An “E” precedes the exception number (0–255).

A dash/minus sign precedes the boot step number.

Numbers are shown as a sequence of decimal digits, separated by decimal points (to allow detecting repetition of digits), most significant digit to least significant.

For example, a divide by zero error (exception 5) occurring during boot step 15 would display the following sequence twice through.

```
"E", "5", "-", "1", ".", "5"
```

Jump to the startup code (warm reboot).

Exception errors occurring after step 16 will:

Display an error message on the instrument screen (or to the serial port).

Wait for user acknowledgement.

Do a warm, quick reboot (skips RAM and ROM tests).

Bus Probe Table

Table 6–9: Bus probe checks

Probe Step	Probe Address	Data to Write	Access Size	Access Type	Critical Error?
Board Program Register:					
1	0x13000000	0xffffffff	32-bit	write	Yes
2	0x13000000		32-bit	read	Yes
Board Status Register					
3	0x12000000		32-bit	read	Yes
Boot Switches					
4	0x14000000		32-bilt	read	Yes
NVRAM					
5	0x04000000		32-bit	read	No
Video RAM					
6	0x0c000000	0x00000000	32-bit	write	No
7	0x0c000000		32-bit	read	No
Video ASIC					
8	0x0c800000	0x00000000	32-bit	write	No
9	0x0c800000		32-bit	read	No
Front Panel Shared RAM:					
10	0x0e000000	0x0000	16-bit	write	No
11	0x0e000000		16-bit	read	No
Front Panel Control Register:					
12	0x0e800000	0x00	8-bit	write	No
13	0x0e800000		8-bit	read	No
DUART 1 (RS-232 infc):					
14	0x10000000	0x00	8-bit	write	Yes
15	0x10000000		8-bit	read	Yes
DUART 2 (keyboard infc):					
16	0x11000000	0x00	8-bit	write	No
17	0x11000000		8-bit	read	No
GPIB Infc:					
18	0x15000000	0x00	8-bit	write	No
19	0x15000000		8-bit	read	No

Table 6–9: Bus probe checks (cont.)

Probe Step	Probe Address	Data to Write	Access Size	Access Type	Critical Error?
Real Time Clock:					
20	0x17000030	0x00	8-bit	write	No
21	0x17000030		8-bit	read	No
DSP-CPU Infc ASIC (Address Holding Register)					
22	0x19000000	0x010560cc	32-bit	write	No
23	0x19000000		32-bit	read	No
32-bit Counter					
24	0x1a000000		32-bit	read	No
Flash EEPROM Base Address:					
25	0x20000000		32-bit	read	No
96k Host Infc:					
26	0x60000000	0x00000000	32-bit	write	No
27	0x60000000		32-bit	read	No

Diagnostic Displays

The diagnostic displays are used to troubleshoot CPU kernel problems when the AM700 fails to boot. The segments of the diagnostic LED are turned on to indicate the failed area as indicated in Table 6–10.

***NOTE**. Switch segment 2 of switch S3 on the CPU board must be in the DOWN (Closed) position to see these values on the Diagnostic LED display.*

Table 6–10: Diagnostic LED definitions

LED	Description
0	reserved
1	reserved
2	on : Flash EPROM (bank 0) not found
3	on : Flash EPROM (bank 1) not found
4	on : Flash EPROM (bank 2) not found
5	on : DRAM not found
6	on : battery supply failure
7	on : hardware reset active

LED Display Register

This register is a write only octal latch which can be programmed to turn on or off the diagnostic 7-segment LED on the CPU board.

BOOT Steps

The following is a description of the boot diagnostic steps that are performed at power up. In normal operation, these steps happen very rapidly, and the step numbers will not be in the LED long enough to determine the boot step that is occurring. If the boot steps hang so that a number is visible, that number indicates the boot step that hung the processor. That information may be used to provide information on what steps and hardware correctly passed and where to start looking for a problem.

***NOTE**. The numbers are 1–9, A–F, and then repeat 1–3, for the boot steps.*

1. **Reset the CPU.**
   - **a.** Use the CPU reset instruction to reset the microprocessor and all hardware resettable from the CPU's reset line.
   - **b.** Flash ALL diagnostic LED segments on and off-twice.
   - **c.** Set the CPU status register to 0x2700, to run in Supervisor mode with all interrupts masked (except NMI's).
   - **d.** Write 0x00000000 to the Main CPU's vector base register
   - **e.** Read the initial stack pointer value from address 0 and set the CPU stack pointer (sp) and frame pointer (a6) registers to this value
   - **f.** The DRAM is not set up until later, so the initial stack pointer is set to a non-existent DTACK'd location 1K above the Diagnostic LED register. The exception stack frames can be "safely" written there until the DRAM is tested.
   - **g.** Supervisor mode is always running, so the USP register is available to pass the boot step number to the "core" exception handler.
   - **h.** Later, when enough DRAM is verified, the stack is moved to the DRAM, and the Access Error vector is redirected to a more informative handler (see step 8).
   - **i.** Write 0 to the CPU Cache Control Register (cacr) to disable the cache.
   - **j.** Invalidate the cache entries and flush all ATC entries.
   - **k.** Probe the CPU address space for bus errors.
     - **i.** Encode the 8-bit boot step number into the USP LSByte.
     - **ii.** Write "1" on the diagnostic LED display.
     - **iii.** Step through the Bus Probe table (see Table 6–9) and probe for access errors.

l. If any “critical” errors occur, jump back to the startup code.

2. Read the DRAM size bits from the Board Status Register (BSR).

a. Encode the 8-bit boot step number into the USP LSByte.

b. Write “2” on the diagnostic LED display.

c. Read the DRAM size bits from the Board Status Register.

3. Initialize the DRAM controller.

a. Encode the 8-bit boot step number into the USP LSByte.

b. Write “3” on the diagnostic LED display.

c. If DRAM status bits indicate 16 Meg is present:

Write 0 to address 0x42b20980 to initialize the DRAM Controller for 16 MΩ.

Else (assume 8 Meg present):

Write 0 to address 0x40b20980 to initialize the DRAM Controller for 8 MΩ.

d. Test for presence of the DRAM.

Do a 32-bit read at address 0x30000100.

Write back the inverse of what was read.

Precharge the bus by writing what was read to the diagnostic LED address, 0x18000000, and waiting a while.

Do another 32-bit read at address 0x30000100.

If the same data as the first read is returned, no DRAM was found.

Flash “3” on the diagnostic LED display –several– times.

Jump back to the startup code.

Since a location that may not yet have been written is being read, there can be a parity induced access error (exception 2) here if the Board Program Register fails to mask parity exceptions. There may also be a bus error induced access error from the reads or writes to DRAM. It will be necessary to physically probe the hardware to determine the actual cause.

4. **Read boot diagnostic status from the DRAM.**

   a. Encode the 8-bit boot step number into the USP LSByte.

   b. Write “4” on the diagnostic LED display.

   c. Read the boot diagnostics status from DRAM.

   Since a location that may not yet have been written is being read, we could get a parity induced access error (exception 2) here if the Board Program Register fails to mask parity exceptions. There may also be a bus error induced access error on the read. It will be necessary to physically probe the hardware to determine the actual cause.

5. **Test the DRAM data bus.**

   a. Encode the 8-bit boot step number into the USP LSByte.

   b. Write “5” on the diagnostic LED display.

   c. For each of the 32 data lines, 0–31:

   Write a test pattern with just that line HIGH to 0x30000100:
   0x00000001, 00000002, 00000004, 00000008, 00000010,
   0x00000020, 00000040, 00000080, 00000100, 00000200,
   0x00000400, 00000800, 00001000, 00002000, 00004000,
   0x00008000, 00010000, 00020000, 00040000, 00080000,
   0x00100000, 00200000, 00400000, 00800000, 01000000,
   0x02000000, 04000000, 08000000, 10000000, 20000000,
   0x40000000, 80000000

   Write the inverse pattern to the diagnostic LED register, to precharge the data bus with the opposite of what expect to read back.

   Verify that we read back the test pattern from 0x30000100.

   d. If that pattern test passes, do the test again using a pattern with just the data line under test LOW:

   0xfffffffe, fffffffd, fffffffb, fffffff7, ffffffef,
   0xffffffdf, ffffffbf, fffffff7f, fffffeff, fffffdff,
   0xfffffbff, fffff7ff, ffffefff, ffffdfff, ffffbfff,
   0xffff7fff, fffeffff, fffdffff, fffbffff, fff7ffff,
   0xffefffff, ffdfffff, ffbfffff, ff7fffff, feffffff,
   0xfdffffff, fbffffff, f7ffffff, efffffff, dfffffff,
   0xbfffffff, 7fffffff

   e. If either test fails, indicate the bad line (d0–d31) by showing a “d” and then the hex char “0”–”.F” (0–31) on the diagnostic LED display.

f. If any bad data lines were found, jump back to the startup code.

If there is an access error on this step, it will likely be caused by a write access; it is also possible to get parity induced access errors here, if the Board Program Register fails to mask them.

6. Test the DRAM address bus.

a. Encode the 8-bit boot step number into the USP LSByte.

b. Write “6” on the diagnostic LED display.

c. Copy all BootInfo info from start of DRAM to a region that should not get corrupted if the Address Bus is working, for later restoration.

The storage region is from 0x30000204 to 0x300003fc.

This will work as long as the BootInfo structure is less than or equal to 504 bytes in length.

d. Zero each DRAM location whose address has one address line high and the others low, or one address line low and the others high:

0x30000004, 30000008, 30000010, 30000020, 30000040, 30000080,
0x30000100, 30000200, 30000400, 30000800, 30001000, 30002000,
0x30004000, 30008000, 30010000, 30020000, 30040000, 30080000,
0x30100000, 30200000, 30400000 (stop here if 8 Meg)
(0x30800000 if 16Meg), (0x31000000 if 32 Meg)

0x3XXffff8, 3XXffff4, 3XXfffec, 3XXfffdc, 3XXfffbc, 3XXfff7c
0x3XXffefc, 3XXffdfc, 3XXffbfc, 3XXff7fc, 3XXfeffc, 3XXfdffc,
0x3XXfbffc, 3XXf7ffc, 3XXefffc, 3XXdfffc, 3XXbfffc, 3XX7fffc

If 8 Meg:

XX is 07
0x306ffffc, 305ffffc, 303ffffc.

If 16 Meg:

XX is 0f
0x300efffc, 30dffffc, 30bffffc, 307ffffc.

If 32 Meg:

XX is 1f
0x31effffc, 31dffffc, 31bffffc, 317ffffc, 30fffffc.

e. Write 0xFFFFFFFF to the first and last DRAM location.

0x30000000 is first
0x3XXffffc is last, where:

XX is 07 if 8 Meg
XX is 0f if 16 Meg
XX is 1f if 32 Meg

f. Check each of the zeroed locations for non-zero content. A non-zero content indicates a misdirected write.

g. Indicate bad address lines by showing "A" and then the hex char "0"–"F" (0–31) on the diagnostic LED display.

h. After all lines have been tested, if any of address A2 through A20 failed, jump back to the startup code.

i. Otherwise, restore BootInfo and continue testing.

7. If not skipping, test the boot RAM, the malloc pool RAM, and the "FLASH COPY" RAM.

a. Encode the 8-bit boot step number into the USP LSByte.

b. Write "7" on the diagnostic LED display.

c. Copy the first two long words of DRAM into registers.

NOTE. *Parity error detection must be disabled during the previous Copy, because locations which may not have been written yet are being read.*

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d. Enable Parity Error Exceptions via the Board Program Register (BPR) (unless a 32-bit DRAM is being used).

e. Using registers only:

Write each long word's address into its own location.
Read back and verify each, aborting test if error occurs.
Write the inverse of each long word's address into its own location.
Read back and verify each, aborting test if error occurs.

f. Disable Parity Error Exceptions through the BPR (unless a 32-bit DRAM is being used).

g. If an error occurred during read back, flash "7" on the Diagnostic LED display –several– times and jump to the startup code.

h. Otherwise, restore the first two long words in the DRAM and continue testing.

8. **Move stack and frame pointers to the DRAM.**
   - **a.** Encode the 8-bit boot step number into the USP LSByte.
   - **b.** Write “8” on the diagnostic LED display.
   - **c.** Set registers SP and a6 to the BOOT STACK PTR in DRAM (0x3015fffc if DL’d code; else 0x301fffc).
9. **If not skipping, test Boot ROM CRC.**
   - **a.** Encode the 8-bit boot step number into the USP LSByte.
   - **b.** Write “9” on the diagnostic LED display.
   - **c.** Calculate a 32-bit CRC for all but the last long word of Boot ROM and compare the value to the last word.
   - **d.** If CRC’s don’t match, flash 9 on the Diagnostic LED display several times.
10. **Copy data segment from ROM to DRAM.**
    - **a.** Encode the 8-bit boot step number into the USP LSByte.
    - **b.** Write “A” on the diagnostic LED display.
    - **c.** Call the C startup routine to do the copy.
11. **Upgrade the exception handler.**
    - **a.** Encode the 8-bit boot step number into the USP LSByte.
    - **b.** Write “B” on the diagnostic LED display.
    - **c.** Write 11 to step code (in Boot RAM).
    - **d.** Copy the reset vectors from the ROM table to the RAM and one set of the rest of the RAM vectors.
    - **e.** Change the VBR (Vector Base Register) to use the RAM vector table for use with the “dumb” exception handler.
12. **Initialize linkage to external libraries.**
    - **a.** Write “C” on the diagnostic LED display.
    - **b.** Write 12 to step code (in Boot RAM).
    - **c.** Call the application-specific initialization routine.

13. **Boot according to application-specific modes.**

    a. Write “D” on the diagnostic LED display.

    b. Write 13 to step code (in Boot RAM).

    c. If BootInfo–>flashStat says to try starting upgraded code from flash:

    If the upgraded code starts up, it will do boot steps 14 through 19. If it fails to startup because the flash was bad, it will signal by flashing the step code (“D”) twice on the diagnostic LED display.

    If it fails to startup because the target DRAM is bad, it will signal by flashing the step code (“D”) several times on the diagnostic LED display.

    If upgraded code from the flash is not used, continue booting from Boot ROM; call DctlStart(), to do boot steps 14 through 19.

14. **Determine Boot mode.**

    a. Write “E” on the diagnostic LED display.

    b. Write 14 to step code (in Boot RAM).

    c. If starting in “cold” or “warm” start mode:

    Read the boot switch settings.
    Try to match setting to a boot mode in the application-supplied Boot table, or use default mode.

    d. If starting in “hot” start mode, try to find given boot mode in the application-supplied boot table. If not found, use the default mode.

15. **Determine Boot function and I/O mode.**

    a. Write “F” on the diagnostic LED display.

    b. Write 15 to step code (in Boot RAM).

    c. Based on the boot mode found in step 14 part c, scan the application-supplied boot table for the appropriate boot function and I/O mode. If no match is found, use defaults.

16. **Set I/O mode and initialize the I/O interface hardware.**
    - **a.** Write ".0" on the diagnostic LED display.
    - **b.** Write 16 to step code (in Boot RAM).
    - **c.** Set the Dio Infc to use the appropriate I/O mode.
    - **d.** Call the Dio Infc initialization function to setup the I/O hardware.
17. **Initialize the smart exception handler.**
    - **a.** Write ".1" on the diagnostic LED display.
    - **b.** Write 17 to step code (in Boot RAM).
    - **c.** Switch exception vector handling from the dumb handler to the smart one.
    - **d.** Set handler modes to generate long exception reports and terminate.
18. **Do application-specific hardware initialization.**
    - **a.** Write ".2" on the diagnostic LED display.
    - **b.** Write 18 to step code (in Boot RAM).
    - **c.** Call an application hardware initialization routine, which will:

      Disable bus error reporting.
      Write the default value (0x010560cc) to the DSP ASIC. Address Holding Register, so it can't be accidently changed.
      Setup the Video ASIC for the AM configuration.
      If using serial I/O, clear the instrument screen memory.
      Restore bus error reporting.
19. **Do an application-specific boot.**
    - **a.** Write ".3" on the diagnostic LED display.
    - **b.** Write 19 to step code (in Boot RAM).
    - **c.** Call the boot function found in step 15.

Digital Audio Board Semiautomated Testing

This information describes a set of tests used to perform a semiautomated test of the digital audio board. These test, shown in Table 6–11, are done at the factory or customer service using an AM700 work station with the proper test equipment and test programs to run the checks on the AM700.

Table 6–11: Digital audio circuit board testing

Test name	Test description
Test Group 0	Check power supplies (three terminal regulator outputs) and adjust 12.288 MHz crystal oscillator Y1.
Test Group 1	These are low level tests, mostly read and write tests of all writeable registers.
1.1 host_com Requires functioning dsp kernel and host port	Downloads tap 6.56k. Dsp kernel includes: +5 V through fuse F3 DSPCLK 3.072 MHz from U115 pin 19 U115 pin 13 12.288 MHz from Y1 (DSPRST) J2 pin 11 high from U140 pin 18 U140 pin 27, pin 42, and 43 or'ed resets all high U5 Address Decoder pal, U98 SIMM Most of the resistors and capacitors Host port includes: U99, U100, U144. Host cable
1.2 board_id	Reads board ID from pal U117. Board ID may change with future board versions.
1.4 bbang_rw	Writes then reads the trigger bit in U117
1.5 flags_rw	Reads the flag bits which are pulled low if XLR and rear panel cables are plugged in. Prompts operator to remove and attach cables.
1.6 stx_rw	Writes then reads all r/w registers in the sample transmitter U101 with several bit patterns.
1.7 stx_eye_pattern	Puts eye sampler U130 in test mode to generate a fixed data pattern which is connected serially to Sample Transmitter U101. The DSP board receives the data, and it is checked for the correct pattern.
1.8 pshift_r/w	Writes then reads the phase shift register in U104 with several bit patterns.
1.9 counter_rw	Writes then reads the two bit control register in Counter U139 and U140 with a few bit patterns.
1.10 serial_chain	Shifts a 32 bit pattern through the serial control/status chain and checks that the pattern doesn't change. Requires U117 for control. U95, U96, U97, U142, U141, U93, and U94 form the chain.
1.11 dsp_channel	Sends a sequence of bit patterns from the 56k dsp, through the sample transmitter, out the sample cable to the DSP board. Checks that received bits are same as sent bits. Sample transmitter U101 is put into dsp mode by STX/DSP line from U141 pin 2.
1.12 led_w	Writes an dynamic pattern to the LED display. Requires U116, R299, DS2.

Table 6–11: Digital audio circuit board testing (cont.)

Test name	Test description
Test group 2	Generator adjustments and functional checks.
2.1 adj_synth_1 This is the first pll of the frequency offset circuit.	Locks pll 1 to 12.288 MHz. Operator adjusts L5 to give correct vco control voltage. Pll 1 consists of programmable synthesizer U81, error amplifier U39B, resonant tank CR16/L5, and oscillator IC U78. OFFSET_IN is 12.288 MHz from Y1, through U115 pin 5 and U114 pin 36. Serial control lines OFFSET_SEL0 and OFFSET_SEL1 (U96 pins 7 and 6) – must both be low to route this clock through U114 and U115.
2.2 adj_synth_2 This is the second pll of the frequency offset circuit	Pll 2 locks to pll 1, so pll 1 should be verified first with test 2.1. Adjust L7 to give correct vco control voltage. Pll 2 consists of programmable synthesizer U82, error amp U39A, resonant tank CR18/L7, oscillator IC U79. Buffer Q4 amplifies the signal from pll 1.
2.3 freq_offset_response	This test alternately programs plls 1 and 2 to generate 8.192 MHz and 12.288 MHz. (These are master clock frequencies for 32 and 48 kHz sample rates.) The operator observes the changing vco control voltages on an oscilloscope to check for expected settling time of a few ms. Settling time depends on the R's and C's around U39A and U39B. If pll 1 is out of spec, pll 2 can appear to be bad until pll 1 is fixed. The plls are programmed serially through U117.
2.4 freq_offset_unlock_flag	This test checks that the out-of-lock flags for pll 1 and pll 2 are operational. Pll's 1 and 2 are programmed for 48 kHz, allowed to settle, and the unlock flag cleared. The unlock flag then is checked to verify initial lock. The pll's are re-programmed for 32 kHz, which causes them to momentarily loose lock. The unlock flag is read to verify that the out of lock condition was latched, and then cleared and re-read to verify that lock has been re-established. The flags, LD0 and LD1, originate at U81 pin11 and U82 pin 11. They are latched in U102 where the two are combined into one output, SYNTH_UNLOCK, which the 56k reads serially through U94 pin 4. SYNTH_UNLOCK from U102 pin16 is cleared under software control by ER_CLEAR from U96 pin15.
2.5 freq_offset_range This test checks that the VCOs in pll's 1 and 2 can be tuned to the minimum and maximum required frequencies.	The default clock (12.288 MHz) drives pll 1, which is programmed to generate 6.39 MHz. Pll 2 is programmed to multiply the output of pll 1 by one, so it generates 6.39 MHz also. This is the lowest frequency that the VCO's are expected to generate, and corresponds to a sample rate of 25 ks/s. The out-of-lock flags are checked to see that the plls are locked. The test is then repeated with pll 1 programmed for 14.87 MHz, which is the highest frequency the VCO's must generate, and corresponds to a sample rate of 58 ks/s. The frequency of pll 1 VCO is set by CR16 and L5. Coil L5 was adjusted in step 2.1. The capacitance of CR16 depends on the output voltage of U39B. At 25 ks/s, U39 pin 7 should measure about –1 to 0 volts. At 58 ks/s, U39 pin 7 should measure about 9 to 10 volts. Pll 2 VCO is identical and its frequency is set by CR18, L7, and the output of U39A. Note that the minus supply for dual op-amp U39 comes from a resistive divider and is about –3 volts.

Table 6–11: Digital audio circuit board testing (cont.)

Test name	Test description
Test group 2	Generator adjustments and functional checks.
2.6 adj_gen_pll This is the pll that does jitter generation and phase shift of the generator output. This test locks the pll to 12.288 MHz. The operator adjusts L5 to give correct vco control voltage.	The generator pll consists of a phase comparator contained in U105, error amp U21B, integrator U21A, resonant tank Cr9/L1 and oscillator IC U64. Jitter dac U103 changes the lock phase by injecting an analog offset into the error amp input. Phase-shift PAL U104 changes the lock phase by putting a programmable digital phase shift in the feedback loop divider. U105 (pcomp) output signals at pins 25 and 26 should be narrow pulses (less than 20 ns) with a 1.3 µs period. Pin 17, "slow", should be low, saturating Q18. U105 (pcomp) input signals PHMCK, PHWCK should be square waves at 12.288 MHz and 48 kHz, respectively. PHCBL should be a narrow pulse (barely visible on a scope) with a 40 msec period. The output of U103, the jitter dac, should be dc at mid-scale, not contributing to any offset. U104 (pshift) pin 13 should be a legal ttl clock signal at the VCO frequency (12.288 MHz if this test passes). Pins 14 and 15 are outputs of U104 and should be pulses at the frequency of pin 13 divided by 256 and 16, respectively.
2.7 gen_pll_response This test slowly toggles the frequency of the input clocks to the generator pll between 32kHz and 48kHz sample rates. The operator checks the vco control voltage at the output of U21 to see that the loop re-locks at 48 kHz within 8 msec.	U105 pin 17, "slow", should be low, saturating Q18. Other components which affect the settling time include the error integrator capacitor, C28, varactor CR9, and all of the resistors which affect the analog loop gain (all those around U21A and U21B).
2.8 gen_pll_unlock_flag	This test checks operation of the unlock flag for the generator pll. It first checks that the flag indicates lock at 48 kHz. Then it switches the generator frequency to 32 kHz and back to 48 kHz. The (latched) flag is then checked for unlock. The command to clear the flag is then sent, and the flag is checked for re-lock. The signal being tested (PH_UNLOCK) comes from U105 (pcomp) pin 6. Whenever U105 thinks it's unlocked, it sets pin 6 high. The high level persists until pin 16 (ER_CLEAR) is brought high momentarily to clear it. PH_UNLOCK is read serially by the 56k through U94.3. ER_CLEAR comes from U96.15.
2.9 gen_pll_range	This test checks the locking frequency range of the generator pll. It locks the pll to 25 kHz first, then to 58 kHz. The PH_UNLOCK flag is read in each case to verify locking. The lock range depends on the correct setting of L1 in step 2.6, and on the characteristics of varactor CR9. The voltage at the output of error integrator U211 needs to be able to swing from around –9 to +9 volts. "Slow" should be off (Q18 saturated).

Table 6–11: Digital audio circuit board testing (cont.)

Test name	Test description
Test group 2	Generator adjustments and functional checks.
2.10 adj_gen_lvl	This test sets the generator for normal operation while the operator adjusts R483, GEN LEVEL for 1 Vpp output into 75 ohms. R483 sets the reference level on gain dac U107. This sets the current in the Q7/Q8 switch and thus the voltage swing on R246. The ttl AES_OUT signal from U108 pins 36 and 39 steers the current through either Q7 or Q8. The signal on R246 is then amplified by U72 and scaled by R150 and R461. It is sent as UNBAL_OUT to the rear panel board, where it is further scaled by fixed resistors.
2.11 cable_simulator	This test switches on the cable simulator so the operator can check for rise time of 100 ns to 200 ns at TP18. The cable simulator consists of R152, R156, C42, C34. It is switched into the circuit by U71 when pin 6, RED_BW_SEL is low. RED_BW_SEL is controlled by the 56k through the serial control output, U141 pin 3.
2.12 phase_shift_range	This test exercises the phase shifter part of the generator pll. While the operator watches to see that phase shift is actually occurring, the test checks that the pll stays locked as the phase is shifted. Most of the functionality for this test is contained in U104. When the 56k writes a phase shift value to U104, it signals U105 through pll_setl (U104) to put the loop into “slow” mode by switching off Q18 and Q19. The new phase value is then applied to the counters internal to U104 and the loop “slowly” shifts to the new phase. Since the step in phase is kept small, the loop stays locked. When the loop settles at the new phase value, it returns to non-slow mode.
Test group 3	Receiver tests, Generator tests which require the receiver.
3.1 adc_zero	This checks operation of the slow adc U137 by programming it to measure one of its grounded inputs, and checking that the returned value is within 5mV of ground. U137 gets its reference from U138. It requires a continuous clock which it gets through CLK1536 from U115 pin 14. It communicates serially with the 56k through three control lines, (ADC), SCCLK, and SCTD which come from U117 pins 26, 14, and 31, respectively.
3.2 input_level_cal	This test internally connects the generator to the receiver and varies the generator output level to check that the input level measurement is within range. The input level is determined by measuring the control voltage in the agc loop. U109 selects the LOOPBK input which is buffered by U75, amplified by variable-gain amp U110A, and amplified more by U111. The output of U11 is peak-detected by CR22 and CR23, and the resulting dc level is balanced against the –12 V supply by divider R259 and R260. If the peak value exceeds about +2.5 V, integrator U112’s output moves downward reducing the gain of U110A. In this way, the voltage at U112 output represents the gain needed to keep the peak of the agc’d signal at 2.5 V. This voltage is measured by the slow adc. Input selector U109 is controlled by four outputs from the serial control chain.

Table 6–11: Digital audio circuit board testing (cont.)

Test name	Test description
Test group 3	Receiver tests, Generator tests which require the receiver.
3.3 input_level_linearity	This test checks the accuracy of the input level measurement circuit described in 3.2 above for all external inputs, and at several amplitude levels. Same description as 3.2 above. These considerations apply to 3.2, too: Since the measurement involves a peak detector, this test is sensitive to overshoot on the signal being measured. This test is also sensitive to square-wave symmetry of the signal. Since all inputs are ac-coupled, an a-symmetry in time (duty factor other than 50%) will cause the peak value of the waveform to change.
3.4 agc_response	This test connects the generator internally to the receiver and steps the generator level back and forth between two levels as the operator observes the acg loop's transient response. This time constant is determined by all the gain setting parts in the agc loop: R259, R260, R268, R257, and C161.
3.5 opto_level	This test measures the receiver signal level from the optical input by measuring the agc control voltage. The operator connects the optical output to the optical input. The optical input to the agc loop is selected by U109 under control of the OPTO_EN signal from the serial control chain. The agc loop operates as described in input_level_cal, 3.2, above. OPTO_IN is the signal from the optical receiver on the rear panel board. The optical receiver's ttl output is either high or low depending on whether the light level crosses a threshold. This means that this test should always measure the same amplitude regardless of source intensity or cable length, as long as the light level crosses the receiver threshold. On the generator side, the rear panel optical transmitter is driven by the OPTO_OUT signal from U108 pin 39.
3.6 adj_ej_pll	This test internally connects the generator to the receiver so the operator can adjust the center frequency of the eye sampler pll. The pll consists of programmable synthesizer U122, phase error amp U113A and B, resonant tank CR24/L16, and oscillator IC U123. The oscillator's 12.288 MHz ecl level output is fed back to U122 pin 4. The pll locks to the INMCK input at U122 pin 1. This is 12.288 MHz ttl from the main decoder, U86 pin 19. U86 pin 9 requires an AES signal, which comes from U129 pin 3. U129 selects EYE_SOURCE, U129 pin 2, which comes from TP3.

Table 6–11: Digital audio circuit board testing (cont.)

Test name	Test description
Test group 3	Receiver tests, Generator tests which require the receiver.
3.7 eq_level_test	This test internally connects the generator to the receiver and checks static operation of the equalizer with the generator's cable simulator off and then on. The equalizer's input is the agc'd input signal from TP3. If the input signal resembles a square wave with a flat top, then the equalizer does nothing to it and it is reproduced at TP19 with an amplitude of about 4 Vp-p. If the input signal, TP3, is rolled off in the way the cable simulator does, then the equalizer applies peaking to keep the output (TP1) square. The amount of equalization applied is represented by the voltage EQ_LEVEL from U3A pin 1, which is read by the slow adc U137. The only other input to the equalizer is GAIN from TP1. If the input signal level is below minimum spec, then this level rises enough to cause VR1 to conduct, which then disables the equalizer by pulling U132B pin 5 above approximately 2 V. This is to prevent large noise at the equalizer output when there is no input.
3.8 eq_response	This test internally connects the generator to the receiver and checks dynamic operation of the equalizer by continuously toggling the generator's cable simulator off and on. EQ_LEVEL, U3A pin 1, is monitored at J33 pin 8 for correct transient response. See test 3.7 above for a description of static operation of the equalizer. The dynamic time constants are set by any of the gain-setting resistors in the control loop, and by C211 and C11 on U3A and U3B.
3.9 main_lock	This test internally connects the generator to the receiver and checks the locking operation of the main decoder U86. It checks for lock, then pulses MAIN_RELOCK to force U86 out of lock. It then waits 0.5 sec to check that the receiver has re-locked. If it hasn't, it pulses MAIN_RELOCK again. The cycle repeats up to 3 times. The test fails after the 3rd unsuccessful try. U86 pin 9 should be an AES signal. Lock status is encoded in the state of U86 pins 4, 5, and 6 which go to the DSP through the serial control chain. MAIN_RELOCK and ER_CLEAR come from the serial control chain.
3.10 jitter_dc_test	This test internally connects the generator to the receiver and checks operation of the receiver phase counter U139 and U140. Phase of the main input is measured with respect to the phase of the reference input. The generator phase is set to 0, +5 UI, and –5 UI with respect to the reference generator. The test checks that the same value is measured by the receiver phase counter. Inputs to the counter in U139 and U140 are INMCK, INCBL, REFMCK, and REFCBL. They come directly from the main and reference decoders. Each decoder must be operating normally to generate these signals. They should AES signal inputs,* _RELOCK signals should be low. *MCK is 12.288 MHz ttl clock signal, *_CBL is a pulse with a 40 msec period.

Table 6–11: Digital audio circuit board testing (cont.)

Test name	Test description
Test group 3	Receiver tests, Generator tests which require the receiver.
3.11 ej_path_test	This test internally connects the generator to the receiver and checks that a fixed level of generated jitter is detected by the receiver's eye/jitter loop. A large jitter level is checked with jitter gain set to 1, and a smaller level is checked with jitter gain set to 8. The operator measures the detected jitter at U124 pin 9. This test checks operation of the low-pass filter, U126A/B and U127A/B, the switched gain amplifier, U128B and U125, and the signal selector, U129. It also exercises the jitter generator part of the generator pll, U103 and inductors L14/19.
3.11.1 js_lf_test	This test internally connects the generator to the receiver and applies a self-calibrated amplitude of low frequency jitter. The operator adjusts the center frequency of the eye/jitter loop to set the varactor operating point for correct loop gain.
Test group 4	Reference input tests.
4.1 ref_lock	This test internally connects the generator to the receiver and checks the locking operation of the reference decoder, U87. It checks for lock, then pulses REF_RELOCK to force U87 out of lock. It then waits 0.5 sec to check that the receiver has re-locked. If it hasn't, it pulses REF_RELOCK again. The cycle repeats up to three times. The test fails after the third unsuccessful try. U87 pins 9 and10 should be an AES signal. Lock status is encoded in the state of U87 pins 4, 5, and 6 which go to the 56k through the serial control chain. REF_RELOCK and ER_CLEAR come from the serial control chain.
Test group 5	System data path tests.
5.1 cs_checksums	This test internally connects the generator to the receiver and checks the data path all the way to the DSP board by looking for the correct channel status checksum in the acquired data record. Test 1.7, stx_eye_pattern, has already checked operation of the data path from U102 to the DSP board which is connected to J12. This test exercises the AES data path into U102 for the first time. Inputs to U102 for the main aes path begin with "IN" on the schematic. Inputs to U102 for the reference aes data path begin with "REF". Each path has bit clock (BCK), word clock (WCK), and data (DATA) signals. Bit clocks should be 3.072 MHz, word clocks should be 48 kHz, data should show some activity synchronized to word clock. Like test 1.7, this test is easily disturbed by ethernet conditions.

Board Exchange Program

For service, parts, module exchange, returns, or technical support, customers with 1-800 dialing access can call Tektronix Customer Service between 8:00 AM and 5:00 PM Pacific Time (west coast, USA), Monday through Friday at the following telephone number:

1-800-TEK-WIDE

Customer Service personnel will direct your inquiry to the proper support group.

Customers without 1-800 dialing access should contact their local Tektronix sales subsidiary or distributor for details on servicing the AM700.

Exchange Procedure

If you call for an AM700 circuit board exchange or purchase, you must supply the serial number of the AM700, the firmware version, the installed options, and the complete part number of the module to make sure the correct replacement is supplied. If the circuit board you need is in stock, it will usually be sent to you the same or next working day.

After you receive an exchange replacement module (a module that you obtained as an exchange part, not a new module purchase), the faulty module must be returned immediately to Tektronix using prepaid common-carrier freight. Use the packaging material from the replacement module and the furnished shipping label to prepare the faulty module for shipment. Ship the faulty module to:

Tektronix Inc.
Measurement Business Division
Module Exchange Center M/S 78-593
PO Box 500
Beaverton, Oregon 97077-0500

Tektronix charges a standard fee for each out-of-warranty module exchange. This fee will be quoted when you request the exchange module. If the faulty module is not received at the above address within 30 days of your request of an operating exchange module, the full catalog price of the module will be invoiced.

NOTE. *Do not attempt repair to the circuit boards during the warranty period.*

Your module is not eligible for exchange for any of the following reasons:

1. The module is damaged during repair attempts by personnel other than Tektronix representatives.
2. The module is damaged through improper use or connection to incompatible equipment.

3. The module has been modified by the customer.
4. The module has been custom modified to the customer's specification by Tektronix.
5. The module requested in not in the module exchange program.

In any of these cases, you will have to order a new replacement module at the full catalog price. Call your local Tektronix field office for further information.

Locating Exchange Information

The following paragraphs are intended to assist in ordering the exact circuit board replacement. Note that this information is important whether you are ordering a circuit board from the Module Exchange Center or as a new replacement part from Tektronix.

Circuit Board Assemblies

All of the circuit boards are designated as assemblies (modules). Each assembly has an alphanumeric designation (A1, A2, etc.). These assembles are listed in the *Replaceable Electrical Parts* list of this manual for quick reference to the replaceable modules. They are also listed in the *Replaceable Mechanical Parts* list with the mechanical parts that can be ordered for replacement in the AM700.

Figure 6–19 shows the locations of the circuit board assemblies for the CRT display version of the AM700 Audio Measurement Set and Figure 6–20 shows the locations of the circuit board assemblies for the color flat panel display version.

Assembly Name. This is the name of the circuit board assembly (module). Its name is usually related to the function of the assembly in the instrument.

Assembly Number. This is the module identifying number used to find the Tektronix part number in the Replaceable Electrical Parts list.

Tektronix Part Number. The nine-digit Tektronix part number is found in the *Replaceable Electrical Parts* list of this manual. The first seven digits make up the general part number. They are often the same for several members of the same instrument family. The last two digits of the part number often varies between members of the same family to denote various types or because the circuit board contains factory-modified circuitry. Be sure that it is for the serial number of your instrument. See the *Replaceable Electrical Parts* list Serial Number/Assembly Effective/Discontinued column for the range in which your instrument serial number falls in cases of multiple assembly number listings.

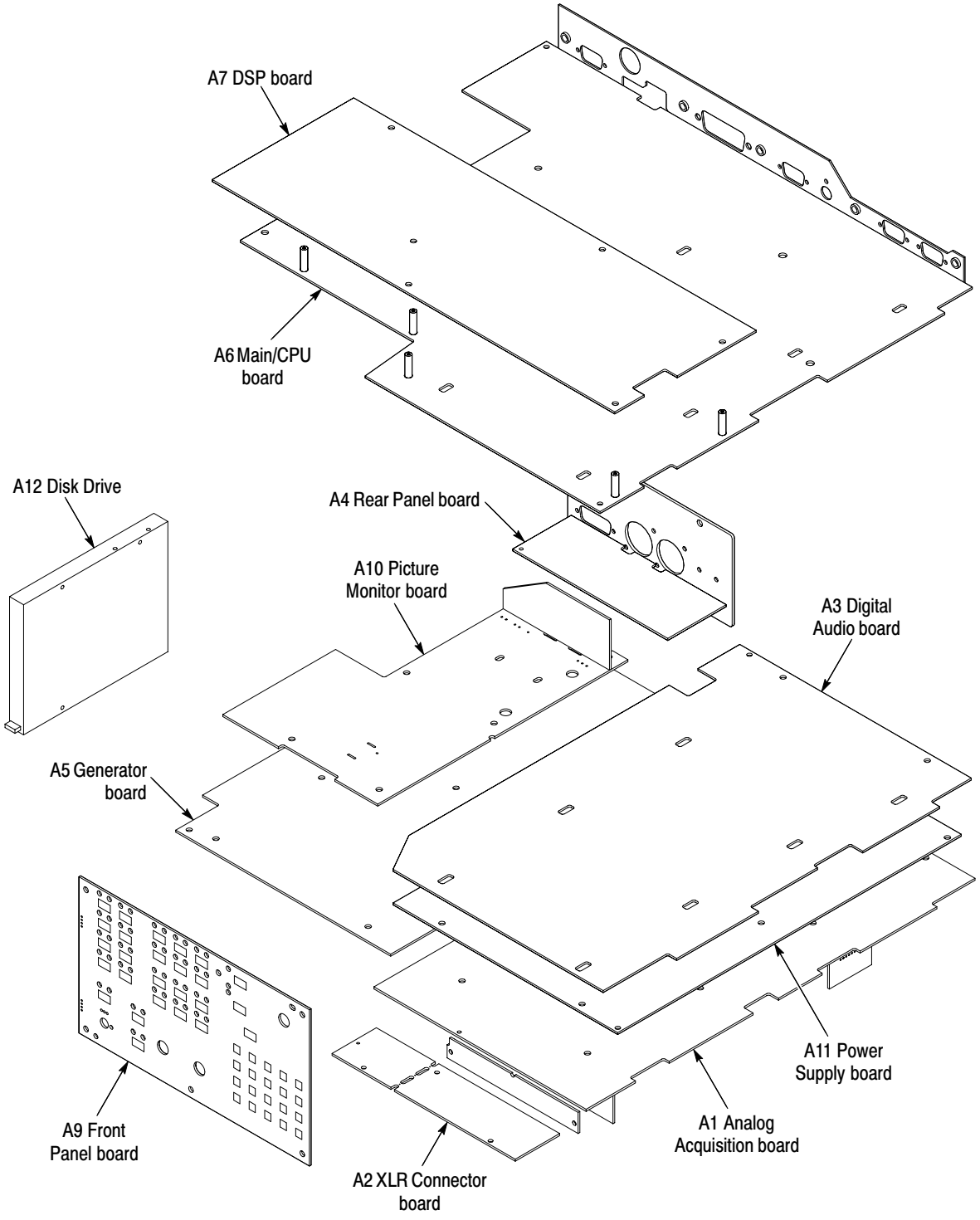

Figure 6–19: Circuit board assemblies for CRT display version

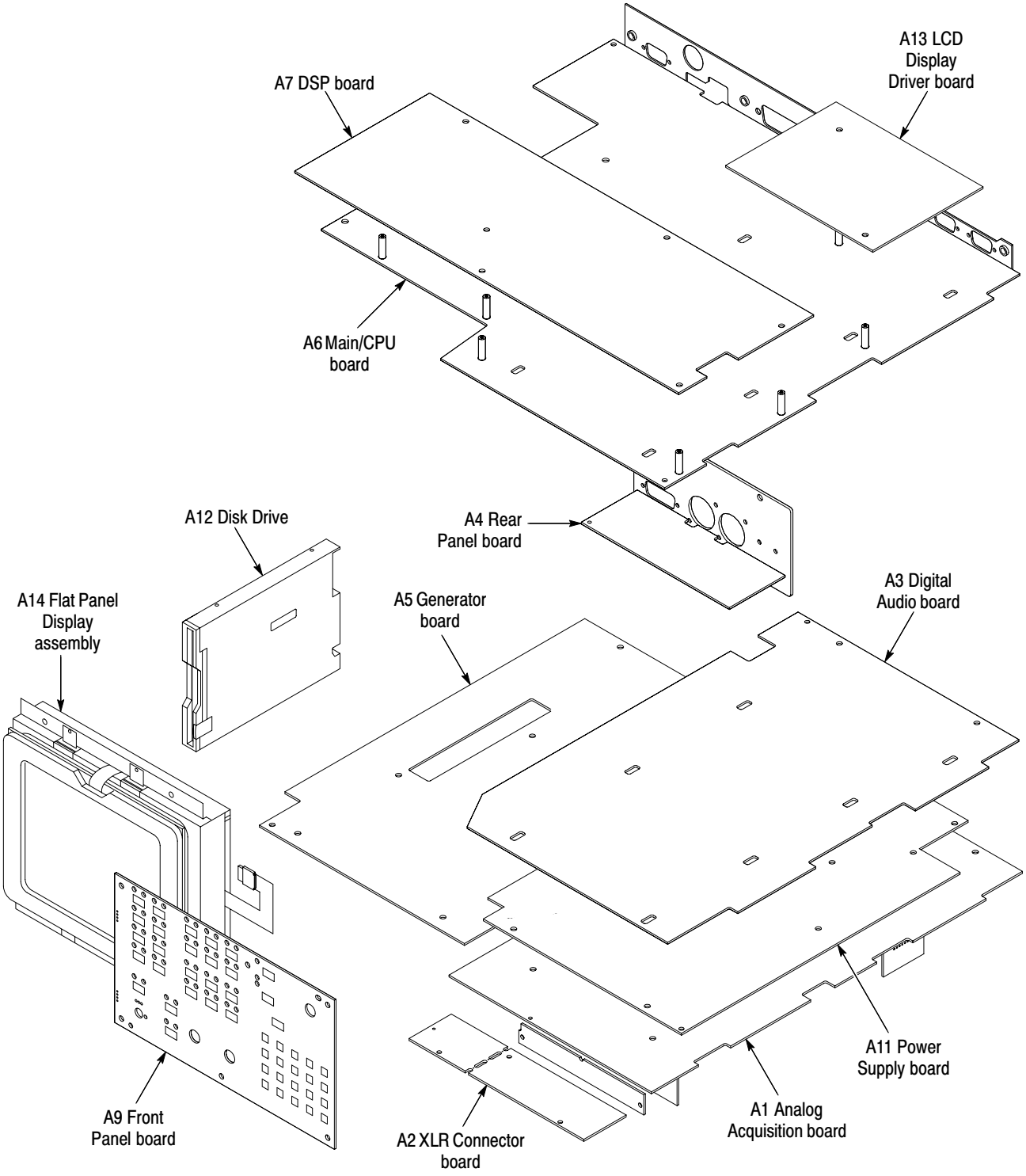

Figure 6–20: Circuit board assemblies for flat panel color display

Having the correct assembly name, number, and Tektronix part number information plus the instrument type, installed options, serial number, and software version number (if known) ensures that you will receive the correct replacement module for your instrument.

Tektronix Service Offerings

Tektronix maintains a service organization that can provide a number of services to assist in maintaining the instrument's operation at its specified levels. They range from complete repair and adjustment, at a convenient location, to supplying replacement parts. In addition, there are training programs that are available for service technicians.

***NOTE**. When considering which service offerings best suit the current need, remember that Tektronix provides a limited parts and service warranty for all its products. No customer repairs should be attempted during the warranty period for this instrument.*

Service Training

Tektronix provides service training in a number of programs. In addition to classes held at our Beaverton Oregon campus, special classes at convenient locations can be arranged. To find out more about service training programs contact your local Tektronix field office or representative. US customers can call our service organization directly using 1 (800) TEK WIDE [835-9433]; ask for "Service Training." The 800 number is a 24-hour service, but service training specialists are only available between 8 AM and 4 PM Pacific coast time.

Field Service Centers

Tektronix maintains service centers world wide. These centers provide repair and calibration services for Tektronix instruments. They can be contacted through your Tektronix field office or representative. In addition, US and Canadian customers can call 1 (800) TEK WIDE [835-9433] for assistance in contacting their nearest service center. Not all service centers are equipped to repair or calibrate all of our instruments; be ready to give the operator the instrument type and operating options when calling for assistance.

Removal and Replacement Procedures

This section provides a tool list and instructions required to remove modules within the instrument. All module and board removal procedures assume that the instrument cover has been removed. All work should be done at an approved work bench for static-damage prevention.

Tools Required

Posidrive screwdriver, 2X
Crosstip screwdriver, P1
Torx screwdriver, T-15 and T-10
Flat-bit screwdriver, 3/32-inch (filed down for a blunter point and narrower tip)
Nut driver, 1/4-inch and 5/16-inch
Hex wrench, 1/16-inch (for knob removal only)
Needle-nose pliers

Cover Removal and Replacement

Instrument Cover Removal

1. Install the protective front panel cover on the instrument.
2. Turn off the Power switch on the rear panel and disconnect the AC Mains power cable.
3. Set the instrument so that the protective front panel cover is sitting on your work surface.

***NOTE**. If you do not have the protective front panel cover you may set the instrument on a cushioned surface. The surface should be stable so that the instrument does not tip over.*

---

4. On the rear of the instrument you will find a black “foot” in each of the four corners, remove the screws that secure the feet with a 2X Posidrive screwdriver.
5. Pull the instrument cover up and off of the instrument.

Instrument Cover Replacement

1. Install the protective front panel cover on the instrument.
2. Check that all cables are lying as flat against the instrument as possible.
3. Set the instrument so that the protective front panel cover is sitting on your work surface.

CAUTION. *In step 4, when the instrument cover is replaced it can cause damage to both cables and components. To avoid damaging parts, replace the cover slowly and without force, making sure all cables and components are cleared as the cover is lowered into place. Keep the cover evenly aligned with the chassis as it goes on.*

4. Start the cover evenly on all sides of the rear panel. Slide the instrument cover onto the measurement set; as you do so, be careful that the cover does not catch on any cables or components. Check on all sides as the cover is sliding into place taking special precautions with the ribbon cables along the right side of the AM700.
5. Replace the four feet on the rear of the instrument.

Assembly Removal/Replacement Procedures

The following removal/replacement procedures assume the power has been disconnected and the instrument cover has been removed. (Refer to the *Cover Removal* instructions on page 6–55.) Removal of some assemblies also requires the removal of one or more other assemblies to gain access for removal.

Major Assembly Interconnection

Signals and power supply voltages are passed through the instrument with a system of interconnecting cables. A triangular key symbol is used to identify pin 1 on the circuit board and the connector housing to assist in aligning the connector with correct pins. Figure 6–21 shows the location of pin 1 (and the triangular marking) on the connector housing of the clamping interconnections used in the AM700. Release the holding catches by pressing each outward, as shown in Figure 6–21.

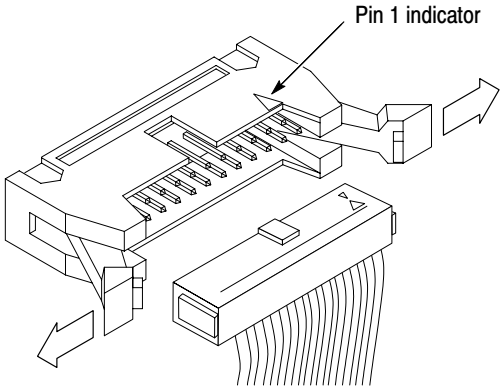

Figure 6–21: Multiple-pin connectors

The catches are also extracting levers, and they disengage the connector from the pins in the connector housing. To reconnect, align the connector with the pins in the housing and press firmly to seat the connector. The catches should snap into place when the connector is fully inserted. Press the catches together to ensure that they are completely engaged over the top of the connector.

Power cables are heavier gauge ribbon cable and use large in-line square-pin connectors to handle the current required to power the assemblies.

Major Modules (Circuit Board Assemblies)

Figure 6–22 shows the locations of the major modules in the CRT display measurement set. The LCD flat panel display measurement set modules are very similar, and are shown in Figure 6–23.

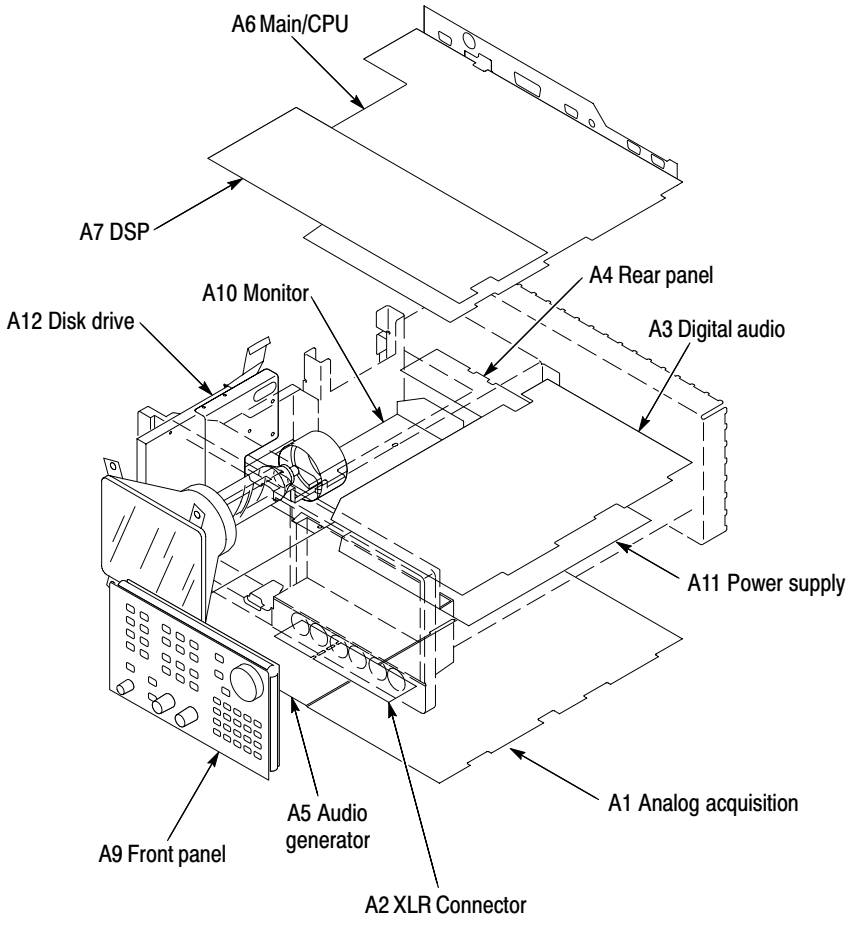

Figure 6–22: Major module locations for the CRT display

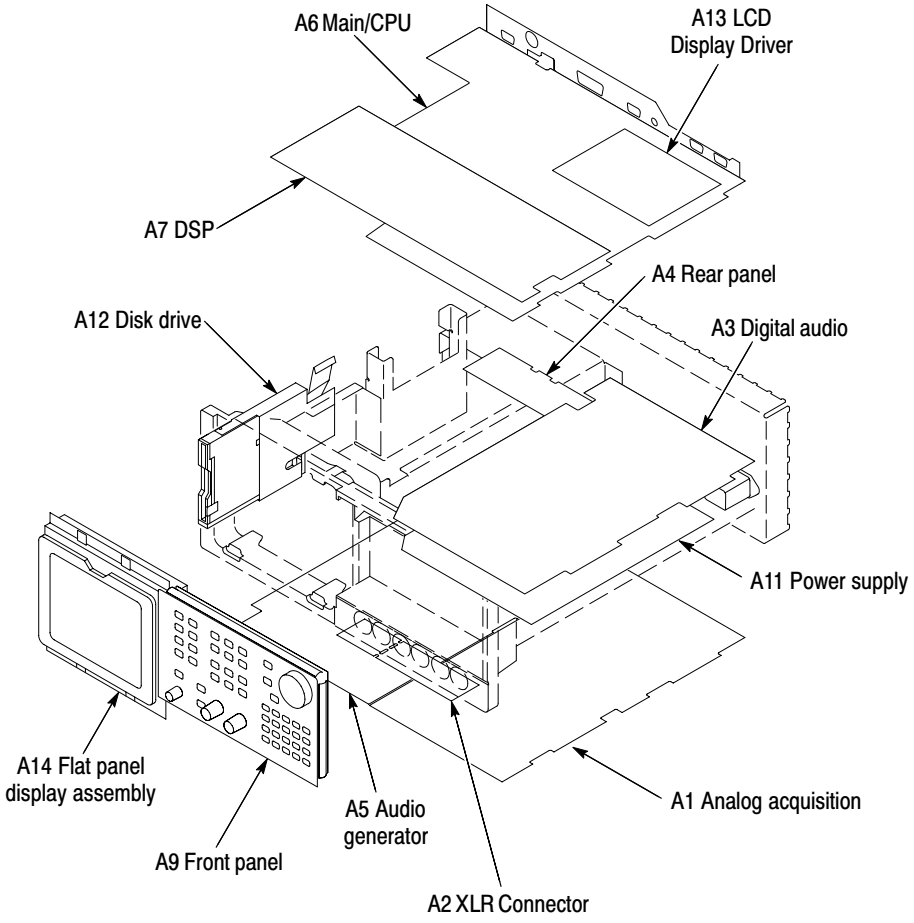

Figure 6–23: Major module locations for the LCD flat panel display

Analog Acquisition (A1) Removal/Replacement

1. Place the AM700 top down.
2. On the Audio Generator board, disconnect the power cable at J16 and the ribbon cable at J17 so that the Analog Acquisition board may be removed.

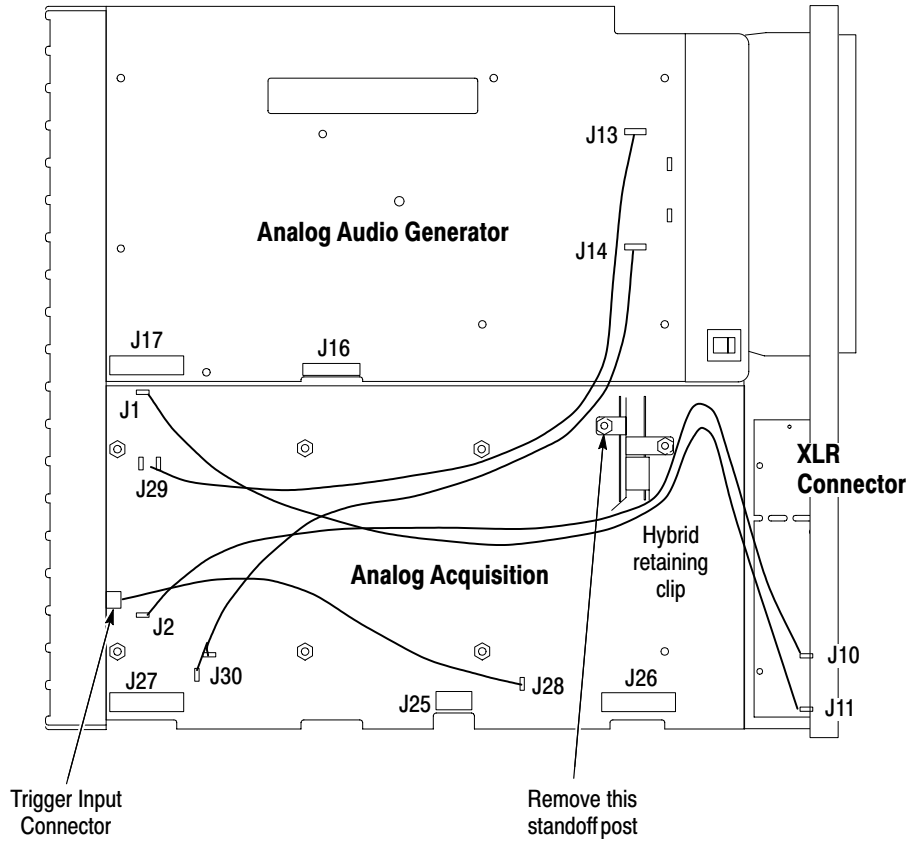

Figure 6–24: Bottom view showing the connections to the Analog Acquisition board

3. Disconnect all cables connected to the Analog Acquisition board.

CABLE CONNECTIONS:
Analog Audio Generator to Analog Acquisition
J13 to J29
J14 to J30

Analog Acquisition to XLR Connector
J1 CHB (the shorter cable)
J2 CHA (the longer cable)

Analog Acquisition to Trigger Input Connector
J28 (a white cable)

Power and Signal Interconnections
J25 Power cable connector
J27 Ribbon cable connector near rear of board
J26 Ribbon cable connector near front of board.

4. Remove one screw and the five standoffs securing the board. (Note: The CRT display instruments have six screws and no standoffs holding the board in place.)
5. Remove the screw from the metal standoff post holding the hybrid retaining clip. Remove the metal standoff post using a 5/16-inch nutdriver and remove the plastic screws and shoulder washer from the metal standoff post near TP28. Do not remove the standoff post.
6. Lift the Analog Acquisition board away from the chassis.

Reverse the procedure to reinstall the Analog Acquisition board.

7. Position the Analog Acquisition board to align the screw holes in the board with the threaded holes on the chassis.
8. Reinstall the T15 Torx retaining screws and the metal standoff post for the hybrids.
9. Reinstall the hybrid retaining clip and screw.
10. Reinstall the plastic screw and shoulder washer. Do not substitute a metal screw for the plastic one.
11. Reconnect the cables to the Analog Acquisition board disconnected in step 3.
12. Reconnect the cables to the Audio Generator board disconnected in step 2.

XLR Connector (A2) Removal/Replacement

1. Place the AM700 top down.
2. Remove the Analog Acquisition board (A1) to provide clearance to remove and replace the XLR board. (See the Analog Acquisition board removal/replacement procedure.)
3. Disconnect the grey ribbon cable from the XLR board.
4. To release the XLR connectors from their housings on the front panel, insert a filed down 3/32-inch flat-bit screwdriver into the small slot in the center of each XLR connector. Press and turn counterclockwise (less than 1/4 turn required). See Figure 6–25.

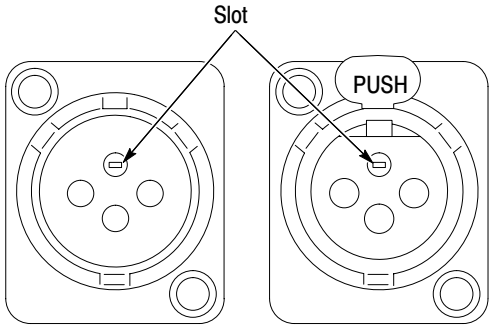

Figure 6–25: XLR connectors

5. Gently pull the XLR board away from the front panel to extract the connectors from the connector housings.

6. Disconnect the Analog Audio Generator interconnection cables to the XLR connector board at J8 CH B and J9 CH A.

Reverse the procedure to install the XLR Connector board.

CAUTION. *When reinstalling the XLR Connector board do not allow the wires to the STBY/ON switch to be captured between the XLR connectors and the XLR connector housings.*

7. Reconnect the XLR to Analog Audio Generator connectors.

   XLR Board to Analog Audio Generator Board
   J9 B OUT to J8
   J8 A OUT to J9

8. Reposition the XLR board with the connectors through the XLR connector housings.

9. Reengage the XLR connector locks by inserting the screwdriver in the slot on the lock and rotating it clockwise (less than 1/4 turn is sufficient). Press on the back of the connector you are locking to permit the lock to engage easily.

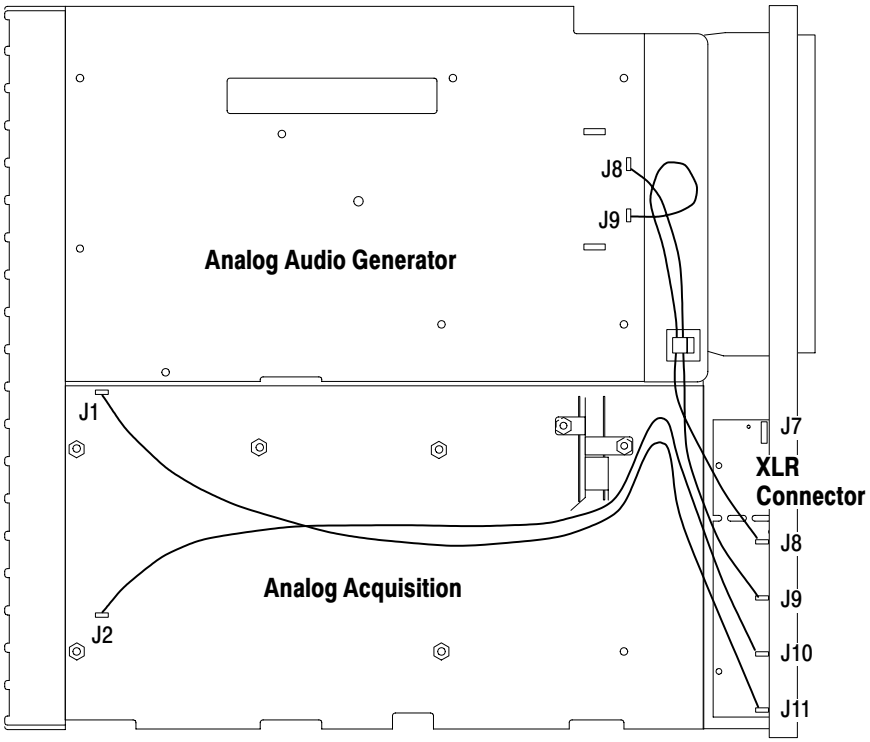

Figure 6–26: Bottom view showing the XLR connector board cable connections

Hint: Move the rear of the XLR board up and down slightly and visually verify that the connector being locked does not move. (It is locked to the connector housing when it no longer moves with the circuit board.)

10. Reconnect the XLR to Digital Audio board connector.

XLR Board to Digital Audio Board
J7 (Grey ribbon cable)

11. Reinstall the Analog Acquisition board. (See the Analog Acquisition board removal/replacement instructions.)

12. Reconnect the XLR to Analog Acquisition board connectors.

XLR Board to Analog Acquisition Board
J11 B IN to J1 CHB
J10 A IN to J2 CHA

Digital Audio (A3) Removal/Replacement

1. Remove the DSP (A7) and CPU (A6) boards.
2. Disconnect all cables connected to the Digital Audio board.

   CONNECTORS:
   J31 Ribbon cable connector at right side near rear of board
   J30 Power connector at right side of board
   J32 Ribbon cable connector at right side near front of board
   J27 Ribbon cable connector at left side near rear of board
   J29 Ribbon cable connector at left side of board

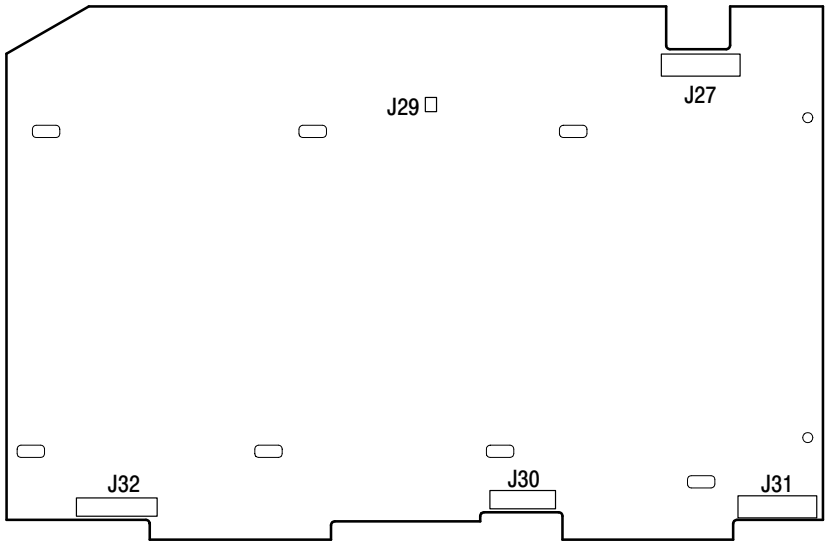

Figure 6–27: Digital audio board connector locations

3. Two screws located near the rear panel hold the board down. Remove the screws.
4. Slide the board approximately 1/8-inch towards the front of the instrument, and lift it up and over the plastic latches.

Reverse the procedure to install the board.

5. Position the Digital Audio board to align the holes in the board with the plastic board latches.
6. Lower the board to the bottom of the latches and slide the board back toward the rear of the AM700 to catch the board in the slots on the bottom of the plastic board latches.
7. Reinstall the two hold down screws in the rear of the circuit board.
8. Reconnect the connectors that were disconnected in step 2.

Rear Panel (A4) Removal/Replacement

1. Remove the four T15 Torx screws the hold the rear panel assembly to the main chassis.
2. Pull the rear panel assembly out of the recess far enough to disconnect the ribbon cable from the rear panel connector, J2, and extract the assembly.
3. Reverse the procedure to reinstall the Rear Panel assembly.

Analog Audio Generator Board (A5) Removal/Replacement

1. Place the AM700 top down.
2. Disconnect all cables connected to the Analog Audio Generator board. The cable locations are shown in Figure 6–28.

   CABLE CONNECTIONS:
   Analog Acquisition to Analog Audio Generator
   J30 to J14
   J29 to J13

   Analog Audio Generator to XLR Connector
   J8 to J9
   J9 to J8

   Analog Audio Generator to CPU board
   J17 to J53

   Analog Audio Generator to Power Supply
   J16 to J7

   The LCD Display version of the AM700 has a additional interconnection cable from the floating power supply (now in the power supply module) to the Analog Generator board. Disconnect the floating power supply cable connector.
3. Remove the eight screws securing the board with a T-15 Torx screwdriver.

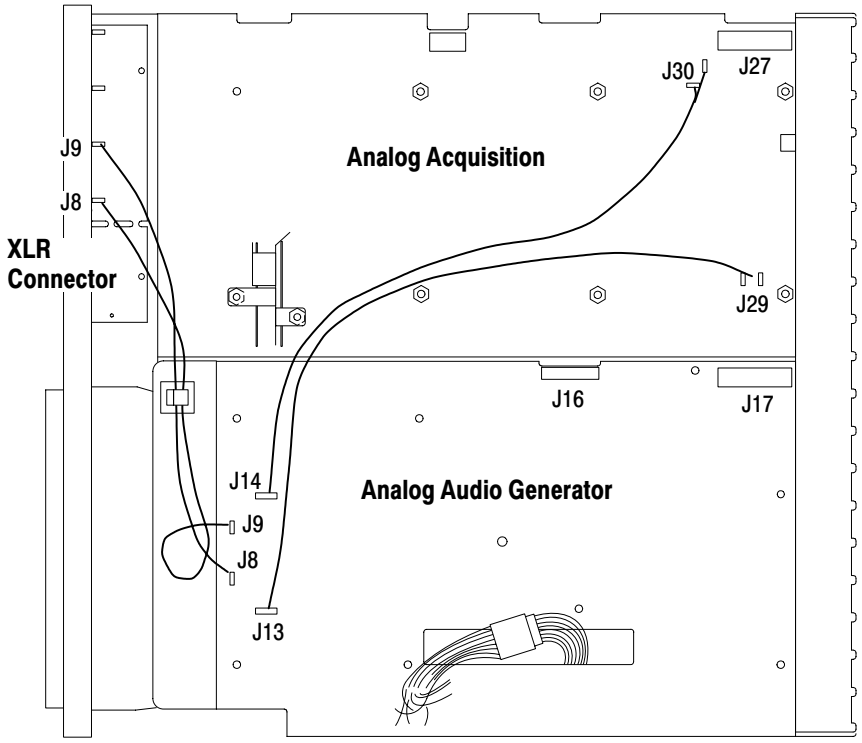

Figure 6–28: Bottom view showing the Analog Audio Generator cabling

Reverse the procedure to reinstall the Audio Generator Board.

4. Position the Audio Generator board and replace the screws that hold the board to the chassis.

5. Reconnect the cables disconnected in step 2.

LCD Display Driver (A13) Removal/Replacement (Flat Panel Display Version)

1. Disconnect the five multiconductor cables from the LCD flat panel display assembly at the front of the LCD Display Driver board at P1 (two connectors on P1), P2, P3, and P5. The connector locations are shown in Figure 6–29.

2. Disconnect the multiconductor ribbon cable from the CPU board to the LCD Display Driver board at J8.

3. Disconnect the single conductor BRT IN cable at P4.

4. Remove the two screws holding the LCD Display Driver board to the CPU board.

5. Lift the LCD Display Driver board straight up to disengage the 120 pin interboard connector (J23) between the LCD Display Driver board and the CPU board.

Reverse the procedure to reinstall the LCD Display Driver board.

6. Position the LCD Display Driver board carefully over the standoffs for the retaining screws.
7. Align the pins of the interboard connector between the LCD Display Driver and the CPU board.
8. Carefully push the LCD Display Driver down to fully engage the connector pins.
9. Reinstall the two screws that hold the LCD Display Driver board to the standoffs on the CPU board.
10. Reconnect the cable from the CPU board to the LCD Display Driver board at J8.
11. Reconnect the single conductor BRT IN connector at P4.
12. Reconnect the five connectors of the multiconductor cables from the LCD flat panel display assembly at P1 (two connectors on P1), P2, P3, and P5.

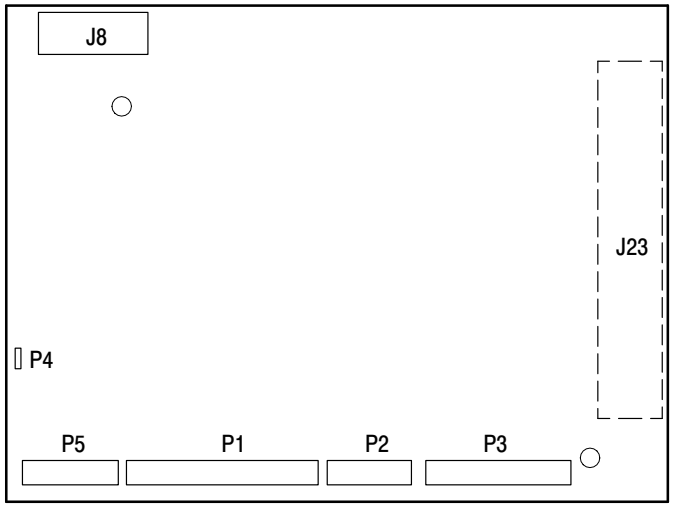

Figure 6–29: LCD Display Driver board with connector locations

Main/CPU (A6) Removal/Replacement

1. Remove the DSP (A7) board (see the DSP removal procedure).
2. Remove the LCD Display Driver (A13) board (see the LCD Display Driver removal procedure).
3. Disconnect all cables connected to the CPU board. See Figure 6–30 for the cable connector locations.

CABLE CONNECTORS:
J42 Disk drive flexible circuit board cable (see Figure 6–36 on page 6–72)
J8 Ribbon cable connector at rear of board
J48 Small ribbon cable connector at front of board
J50 Large ribbon cable connector at front of board
J53 Ribbon cable connector at right rear of board
J31 and J33 Power connectors at right side of board

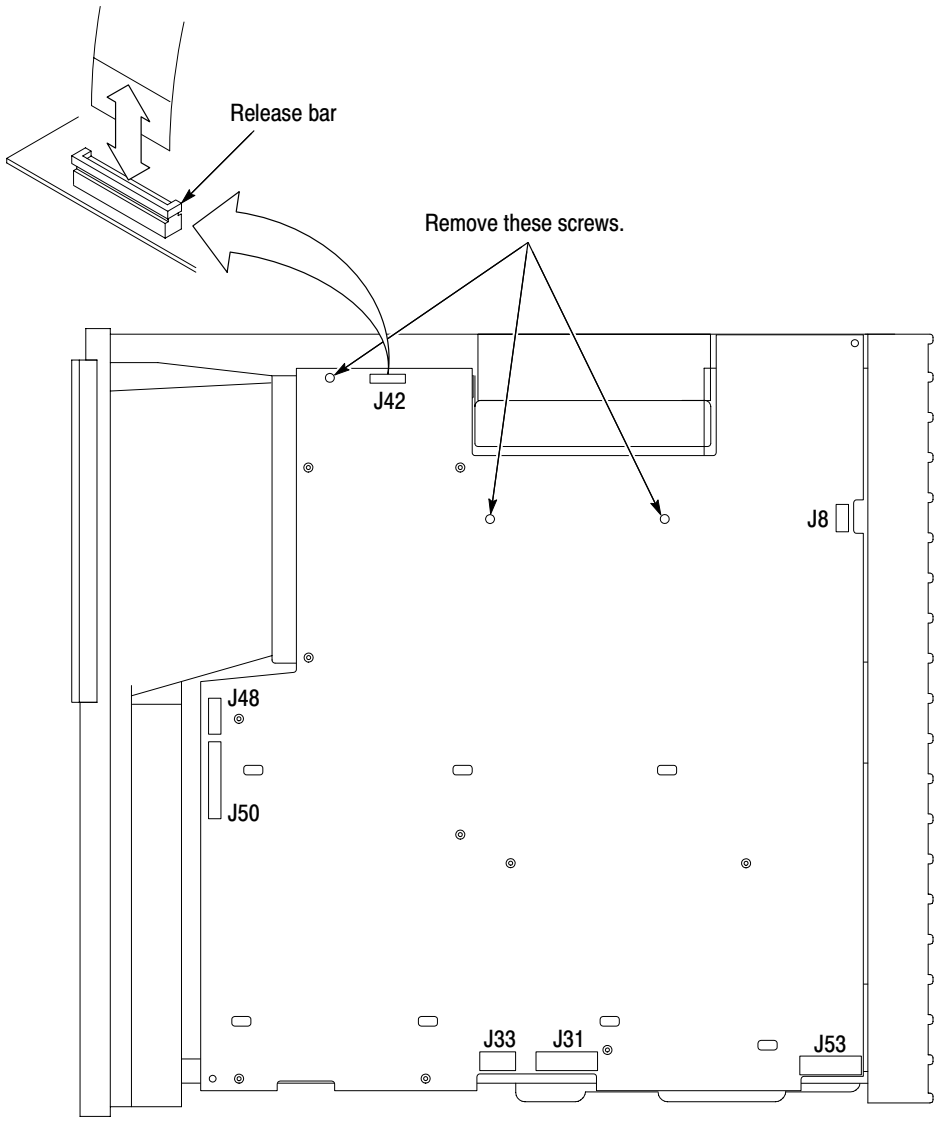

Figure 6–30: CPU board retaining screws and disk drive cable release

4. A total of eight screws need to be removed. Five screws are found on the rear panel; see Figure 6–31. The remaining three screws are on the board in close proximity to the fan.

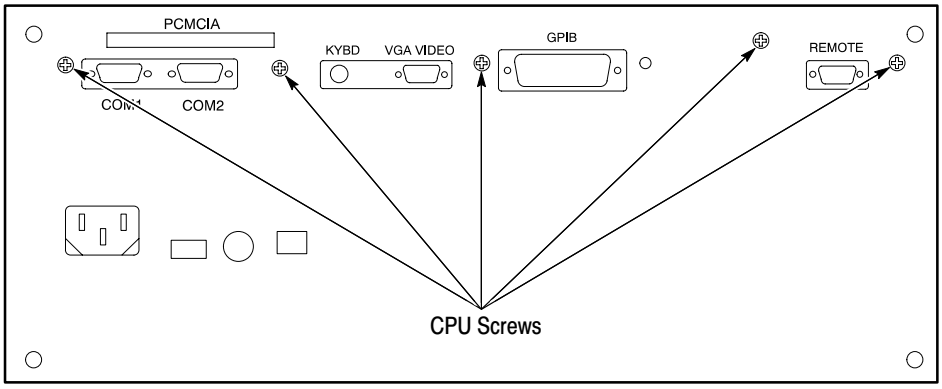

Figure 6–31: Rear panel screws holding the CPU board in place

5. Slide the board approximately 1/8-inch towards the front of the instrument so that it clears the six plastic latches. Lift the board off of the instrument.

Reverse the procedure to install the board.

6. Align the CPU board latch holes with the plastic latches and lower the board to align it with the slots in the top of the latches.

7. Slide the board back about 1/4-inch to catch the circuit board in the slots of the plastic latches.

***NOTE**. The disk drive interconnection cable is easy to capture underneath the CPU when reinstalling the board. Make sure it is positioned above the board edge so that it may be reconnected when the CPU board is in place.*

8. Reconnect the connectors disconnected in step 3. It is easier to leave the hold down screws out until the cable are all connected to ease board placement. This holds the cables in position and prevents them from interfering with board alignment with the screw holes.

9. Reinstall the CPU board hold down screws in the board and rear panel of the AM700.

DSP (A7) Removal/Replacement

1. Place the AM700 bottom down.
2. Disconnect the ribbon cable (at J1) from the DSP board.
3. Remove the seven screws securing the board with a T-15 Torx screwdriver. See Figure 6–32 for screw locations.

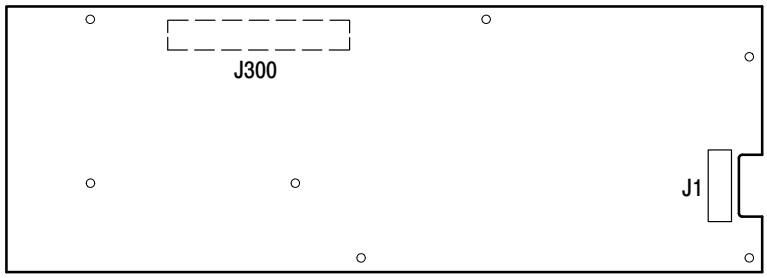

Figure 6–32: Retaining screw locations for DSP (A7) circuit board

4. Lift the DSP board away from the the CPU board to disconnect the interboard connector, J300, from J36 on the CPU board.

Reverse the procedure to install the DSP board.

Front Panel (A9) Removal/Replacement

1. Remove the two screws holding front-panel trim ring to the instrument using a crosstip, P1 tip, screwdriver.

CAUTION. *Use care not to damage the door to the disk drive when removing the trim ring. Make sure the disk drive door is not caught in the slot in the trim ring for the disk drive as you remove the trim ring.*

2. Pull the bottom of the ring out away from the face of the instrument. Then lift it slightly to clear the top of the chassis casting and remove the ring from the instrument.
3. Push out on the top of the Front Panel assembly to release it from the chassis casting.

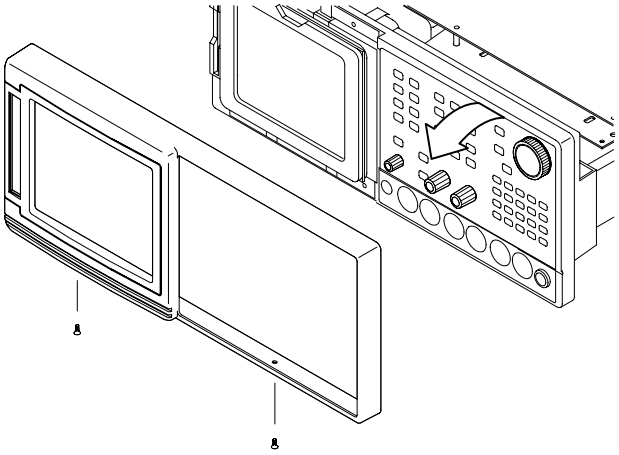

Figure 6–33: Trim ring and front panel removal

4. Pull the Front Panel assembly out far enough to disconnect the ribbon cable connector, J1, on the bottom of the assembly; the flexible circuit board connector (to the touch screen), J4, on the left side of the circuit board (looking from the front); and the headphone cable, at J6. See Figure 6–34 for connector locations on the circuit board.

***NOTE**. If the cabinet is removed, disconnecting the ribbon cable to the front panel from the CPU board at J50 permits easier removal of the Front Panel assembly.*

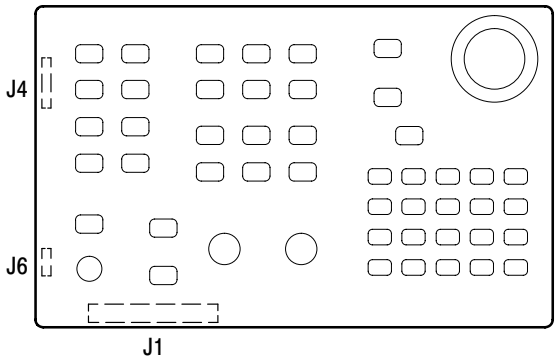

Figure 6–34: Front panel board connector locations

Reverse the procedure to reinstall the Front Panel assembly.

5. Position the Front Panel assembly in the front-panel casting and reconnect the touch screen connector at J4 on the Front Panel board, the Front Panel ribbon cable connector to J50 on the CPU board, and the headphone cable connector at J6.

6. After reinstalling the Front Panel assembly into the front-panel casting, reinstall the XLR bezel. Do this by tipping the XLR bezel up to slip it over the PUSH release levers on the XLR connectors. Then rotate the XLR bezel downward to snap it gently into place with the top edge grips under the edge of the Front Panel.

7. Place the top of trim ring over the top of the front-panel casting, align it with the disk drive housing, and press the trim ring into place so that it snaps into place on the top of the front-panel casting. Install the two crosstip P1 screws that hold it on to the front-panel casting.

***NOTE**. Make sure the gasket around the Touch Screen is not captured beneath the edges of the display area opening in the trim ring. Use a blunt plastic tool to gently push back any area of the gasket that may be caught under the edges of the front-panel trim ring (see Figure 6–35).*

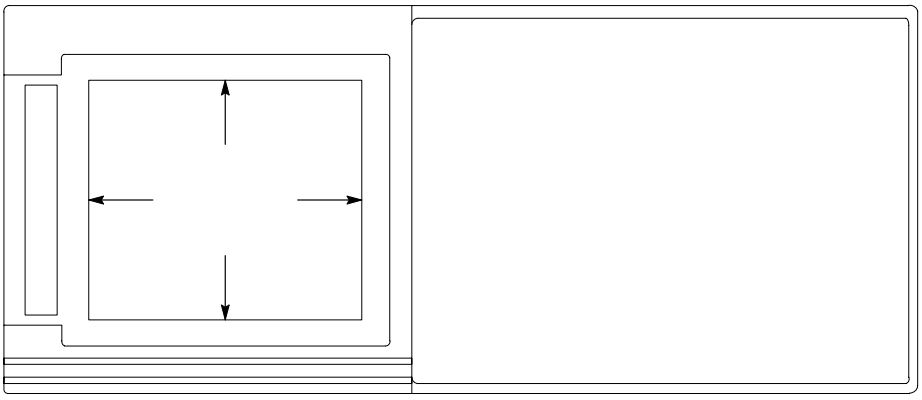

Figure 6–35: Touch screen gasket precaution areas when Installing the trim ring

Disk Drive (A12) Removal/Replacement

1. Release the disk drive flexible circuit board connector on the CPU board. See Figure 6–36 for the connector operation.

***NOTE**. Do not pull on the cable to force it out of the connector. This will weaken the connection.*

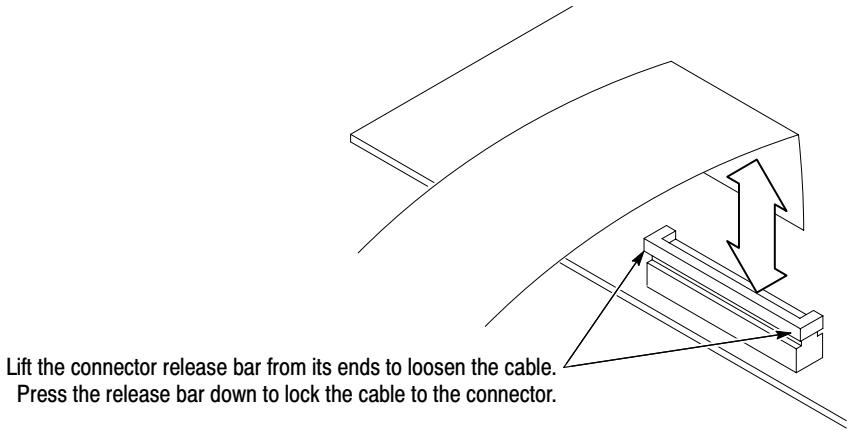

Figure 6–36: Disk drive flexible circuit board connector operation

2. Remove the T15 Torx screws holding the disk drive mounting bracket to the chassis.
3. Slide the disk drive and mounting bracket toward the rear of the AM700 to clear the front of the disk drive from the front panel casting.
4. When the disk drive is clear separate it from the AM700.
5. Separate the disk drive from the mounting bracket by removing the crosstip screws that hold the disk drive to the mounting bracket using a P1 crosstip screwdriver. The disk drive unit may have either two or four mounting screws, depending on the vendor.

Reverse the procedure to reinstall the disk drive.

***NOTE**. The disk drive housing must be well centered in the front casting to allow the trim ring to fit properly.*

Touch Screen Removal/Replacement for CRT Display Instruments

1. Remove the front panel trim ring and the Front-Panel assembly. See the previous Front Panel Removal/Replacement procedure for those instructions.
2. Remove the four T-10 Posidrive screws holding the touch screen to the mounting brackets that are attached to the front casting.
3. Do not touch the rear surface of the touch screen. Keep it clean of fingerprints and dirt for reinstallation.
4. To reinstall the Touch Screen, line up the screw holes in the Touch Screen mounting bracket with the holes in the mounting brackets on the front-panel casting.
5. Loosely install all four T-10 Posidrive screws, then press firmly on each corner of the Touch Screen and tighten each screw so that the Touch Screen is firmly against the back of the slotted alignment holes in the mounting bracket. Then tighten each screw snugly.
6. Reinstall the Front Panel, XLR bezel, and trim ring. Refer to the Front Panel Removal/Replacement procedure to complete the installation.

CRT Picture Monitor Assembly (A10) Removal/Replacement

1. Remove the DSP board (A7), the Main/CPU board (A6), and the Digital Audio board (A3) (see the removal procedures for each of those boards).
2. Twelve T-15 screws hold the cover plate to the top of the power supply compartment and the display monitor as shown in Figure 6–37. Remove these screws.
3. Slide the cover back a little and lift it away from the instrument. Thread the ribbon cable from the display monitor through the access hole as the cover is separated from the chassis.
4. Remove the Front Panel board (A9), and the touch screen (see the removal procedures for this board and the touch screen).
5. Disconnect the Fan lead, J11, from the Power Supply board and pull the lead out of the way for the remainder of the removal process.
6. Disconnect the CRT socket connector, the four-wire deflection yoke connector (P4), and the two-wire Trace Rotation coil connector (P7).
7. Remove the four T15 Torx screws holding the CRT in the front-panel casting.

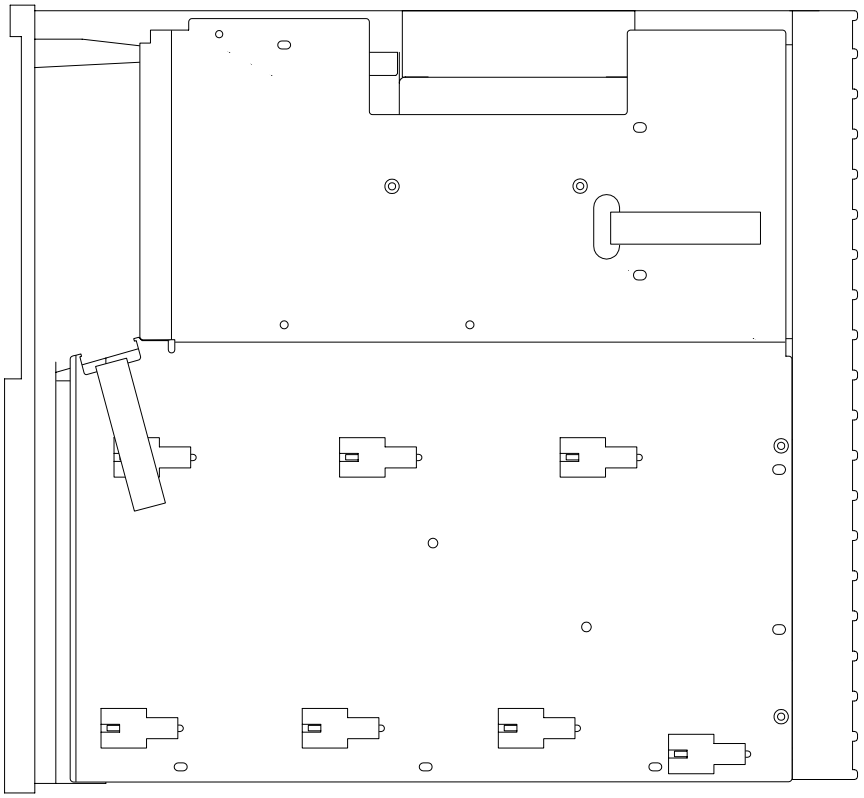

Figure 6–37: Power supply and monitor board cover plate screws and cables (CRT display version)

WARNING. *The CRT is fragile and is under a high vacuum. Use a protective face mask for safety when removing the CRT from the instrument. Place the CRT face down on a soft surface in a protected area to prevent accidental breaking of the CRT.*

CAUTION. *Be careful not to bump the connector end of the CRT against the front casting when removing it from the instrument. The evacuation nipple is fragile and very exposed to breaking it accidently.*

8. Pull the CRT from the AM700 and set the CRT face down in front of the instrument to allow room to disconnect the high voltage lead from the CRT.

CAUTION. *The CRT can retain a high-voltage charge for a period of time after operation of the instrument. Use a grounding probe to discharge the high-voltage contact of the CRT before attempting to disconnect it.*

9. Ground the lead of a grounding probe to the chassis of the AM700. Slide the probe tip beneath the rubber insulation cup of the high-voltage lead on the CRT. Hold the probe in contact with the high-voltage wire for 10 to 15 seconds, remove the probe tip, then reground the high-voltage wire with the probe for 10 to 15 second more.

10. Use a pair of needle-nose pliers to release one side of the high-voltage connector spring clip from the CRT. Use care not to break the CRT. Then release the second side of the spring clip from the CRT.

11. Place the CRT face down in a protected area to prevent accidental breakage.

12. Disconnect the grounding lug from the rear chassis connector.

13. Disconnect J1 (from the power supply).

14. Remove the six T15 Posidrive screws holding the circuit board to the chassis.

15. Tilt the board left side up to allow the board to clear the chassis edges and lift the board out of the chassis.

Reverse the procedure to reinstall the Display Monitor board and the CRT.

1. Position the CRT so that the high-voltage lead may be reconnected to the CRT. The connection belongs on the left side of the CRT when inserting the CRT into the front-panel casting.

CAUTION. *Reground the high-voltage lead and the CRT anode connector to chassis ground for safety.*

2. Reconnect the anode lead to the CRT. Hook one end of the spring clip in the contact hole of the CRT. Use a pair of needle-nose pliers to compress the spring to permit the other end of the spring connector to enter the contact hole and release the spring. Make sure the anode connection is secure.

3. Align the four screw holes in the CRT mounting frame with the holes in the front-panel casting and install the four T15 Posidrive screws to hold the CRT in place. Leave all the screws loose until they are all in, then tighten each snugly.

4. Reconnect all the connectors to the circuit board and the CRT socket to the CRT. These are the deflection yoke connector, J4, the Trace Rotation yoke connector, J7, the power supply connector, J1, and the ground lug connection

on the rear panel of the chassis. The ribbon cable at J2 will have to be reconnected if installing a new Display Monitor board. Otherwise it may remain in place throughout the procedure.

5. Reroute and connect the Fan power wires to the Power Supply board at J11.
6. Reinstall the Touch Screen assembly. Do not touch the rear surface of the touch screen. Keep it clean of fingerprints and dirt for reinstallation.
7. Line up the screw holes in the Touch Screen mounting bracket with the holes in the mounting brackets on the front-panel casting.
8. Loosely install all four T-10 Posidrive screws, then press firmly on each corner of the Touch Screen and tighten each screw so that the Touch Screen is firmly against the back of the slotted alignment holes in the mounting bracket. Then tighten each screw snugly.
9. Reinstall the Front Panel board, XLR bezel, and front-panel trim ring.
10. When reinstalling the front-panel trim ring, make sure the gasket around the Touch Screen is not captured beneath the edges of the display area opening. Use a blunt plastic tool to push back any area of the gasket that may be under the edges of the front-panel trim ring.

LCD Flat Panel Display Assembly (A14) Removal/Replacement

1. Remove the cover. Refer to *Cover Removal and Replacement* on page 6–55 for more information.
2. Remove the DSP board. Refer to *DSP Board Removal/Replacement* on page 6–69 for more information. Removing this circuit board eases the removal and rerouting of the cables between the LCD flat panel and the display driver board.
3. Take the protective front cover off and remove the two screws holding front-panel trim ring to the instrument using a crosstip, P1 tip, screwdriver. See Figure 6–38 for screw locations.

CAUTION. *Use care not to damage the door to the disk drive when removing the trim ring. Make sure the disk drive door is not caught in the slot in the trim ring for the disk drive as you remove the trim ring.*

4. Pull the bottom of the ring out away from the face of the instrument. Then lift it slightly to clear the disk drive front and the top of the chassis casting and remove the trim ring from the instrument.
5. Push out on the top of the Front Panel assembly from the inside of the AM700 to release it from the chassis casting.

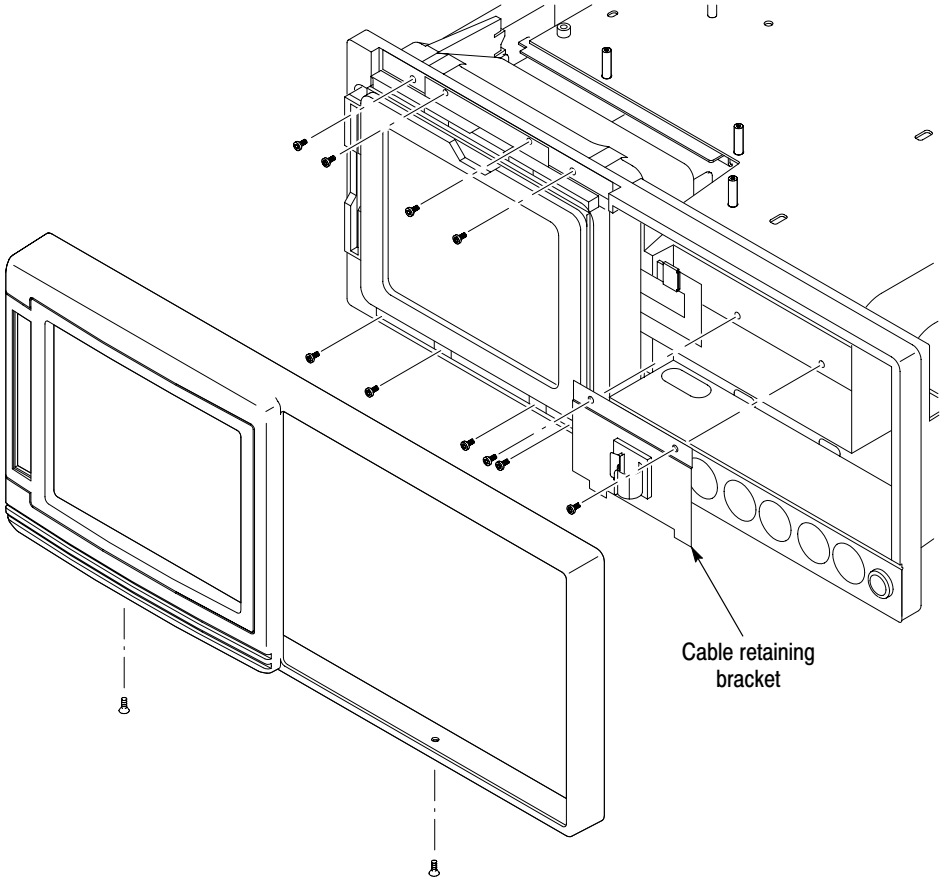

Figure 6–38: Trim ring and LCD flat panel display retaining screws

6. Pull the Front Panel assembly out far enough to disconnect the ribbon cable connector, J1, on the bottom of the assembly; the flexible circuit board connector, J4, on the left side of the circuit board (looking from the front); and the headphone cable, at J6.

7. Use a T-15 Torx tip to remove the two screws holding the display driver cable retaining bracket, and remove the bracket from the chassis.

***NOTE**. With the cabinet is removed, disconnecting the ribbon cable to the front panel from the CPU board at J50 permits easier removal of the Front Panel assembly.*

8. Remove the screws holding the LCD assembly to to the front casting (four screws holding the touch screen and four screws holding the LCD assembly rear shield).

9. Disconnect the cables to the LCD assembly from the display driver board, and remove the LCD assembly from the chassis. Note the dress and routing of the cables for reinstallation.

10. Lift the touch screen with metal frame from the LCD assembly (see Figure 6–39 or Figure 6–40). The touch screen cable is routed under the LCD flat panel and out the side of the shield box. Note the cable routing for reassembly.

LCD Flat Panel Handling Precautions.

- The LCD panel contain LSI CMOS devices. Use static-sensitive handling precautions at grounded work stations when handling the LCD panel.
- Make certain the power is off before connecting or disconnecting the interconnection cable to the panel.
- The panel is made of glass and can break or crack if dropped or bumped on a hard surface. Handle it with care.
- Do not press hard on the surface of the panel. The liquid-crystal layer is packed in the LCD panel. This layer is very thin and may be disturbed by pressing on the surface with excessive force. Such a disturbance may cause a transient display non-uniformity.
- When installing the LCD panel ensure that it is not warped or twisted. The added stress can damage the panel.
- Be careful not to scratch the front polarizer; it is easily damaged.
- Wipe off any water drops immediately. Long contact with water can cause discoloration or spots.
- If the LCD panel surface is dirty, wipe it with absorbent cotton or other soft cloth. Blow off any dust accumulation on the polarizer using an ionized nitrogen gas gun.

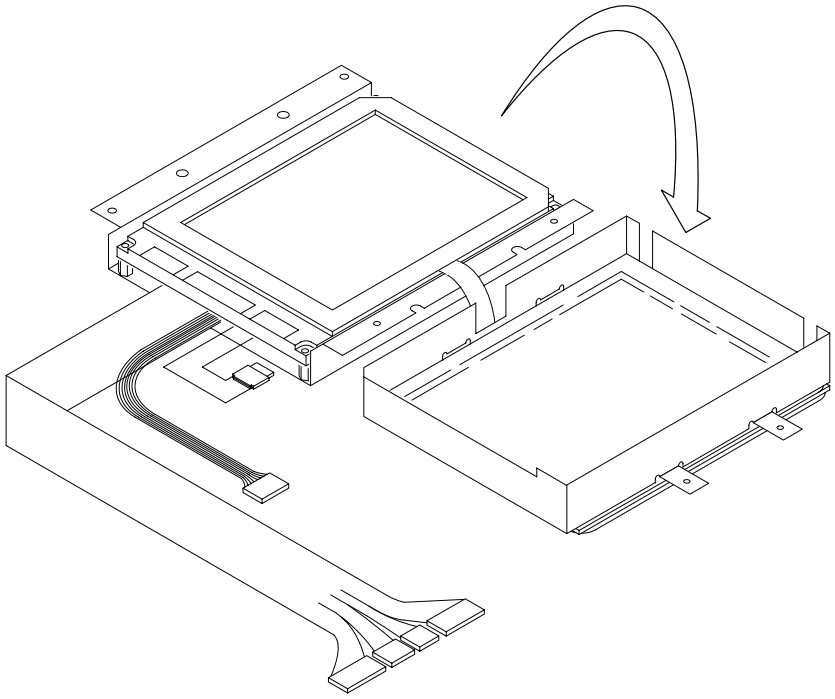

Figure 6–39: Touch screen assembly removal B020253 to B020692

11. Remove the four screws holding the LCD flat panel to rear shield. The AM700 was manufacuted with two versions of the LCD assembly. See Figure 6–40 for the exploded view of the new version or see Figure 6–41 for the exploded view previous assembly. Note that a ground wire is connected with one of the screws.

The newer version flat panel display assembly has several notable differences. The touch screen lead comes out at a different location (the side rather than the top) and there are two separate LCD backlight inverters as opposed to one for the earlier version. The major difference is the display brightness of the newer version flat panel display. The mechanical changes to the assembly also simplify assembling the display module.

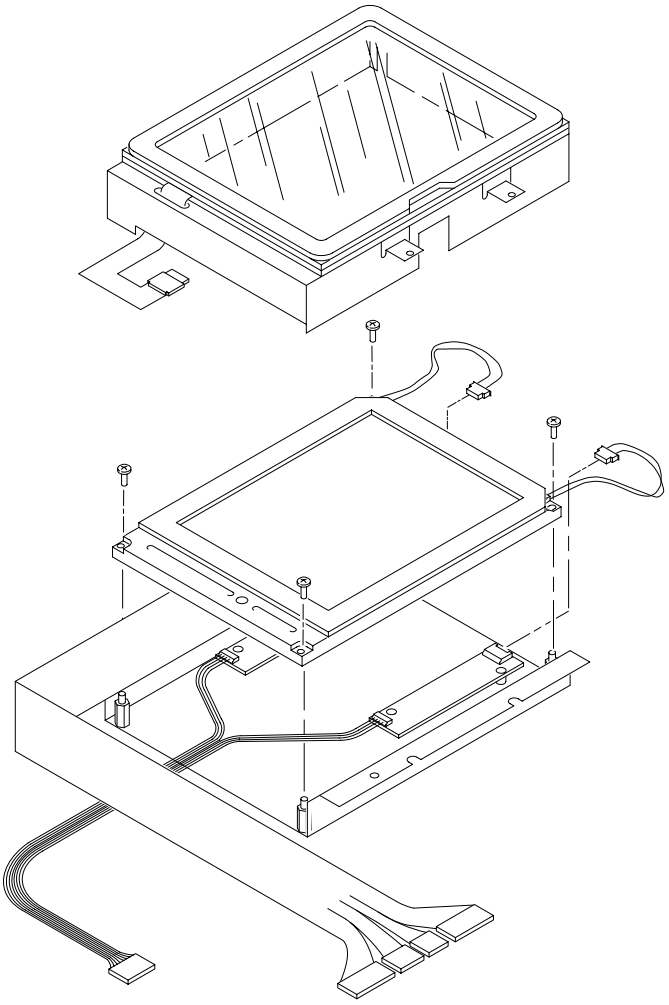

Figure 6–40: Touch screen removal for serial number B020633 and above

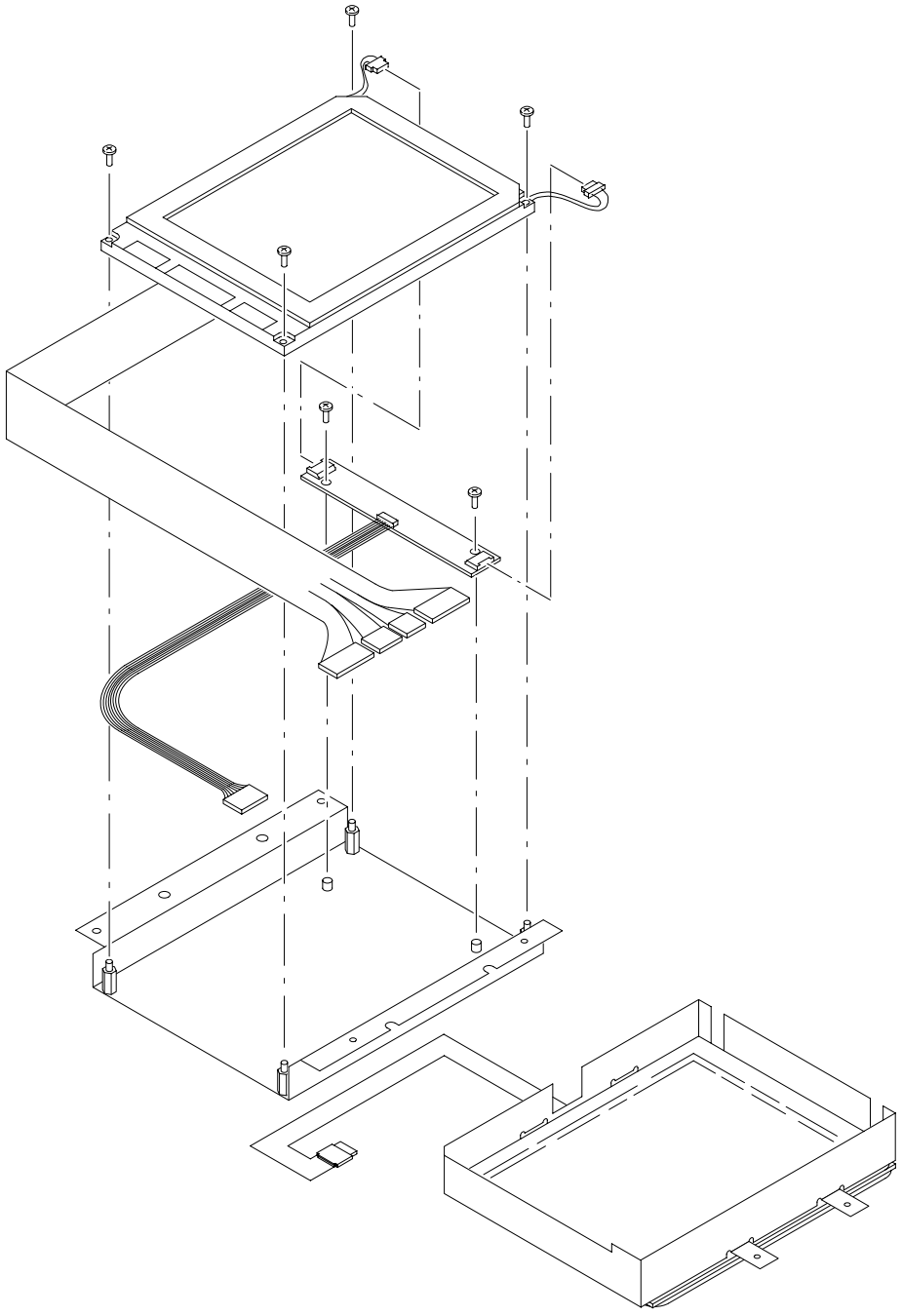

Figure 6–41: LCD assembly exploded view serial number B020100 to B020632

Replacing the LCD Assembly

1. Place the LCD assembly on the rear shield and align the holes at the corners with the standoffs on the rear shield. Note that the touch screen cable is routed beneath the flat panel display.
2. Reinstall the four screws at the corners and evenly tighten them.
3. Replace the touch screen with metal frame over the LCD panel. On the earlier versions of the touch screen, use care to keep the touch screen cable in the slot in the metal frame so as not to pinch it between the metal frame and the rear shield. For the later version display assemblies, make sure the backlight leads do not get pinched by the touch screen metal frame when you reinstall it.
4. Guide the cables of the LCD assembly through the housing and align mounting holes of the replacement LCD assembly with the screw holes in the front casting.
5. Attach the LCD assembly to the front casting using four screws. Align the assembly parallel with the top and bottom of the front casting and tighten the screws evenly.
6. Route the cables to the display driver board as noted in step 9 of the preceding procedure, and reconnect them to the Display Driver board.
7. Replace the cable retaining bracket using two screws.
8. Position the front panel assembly in the front-panel casting and reconnect the touch screen connector at J4 on the front panel board, the front panel ribbon cable connector to J50 on the CPU board, and the headphone cable connector at J6.
9. Press the front panel assembly into the chassis casting to firmly seat it in the grounding fingers around the edge.
10. After reinstalling the Front Panel assembly into the front-panel casting, if you have removed the XLR bezel reinstall it now. Do this by tipping the XLR bezel up to slip it over the PUSH release levers on the XLR connectors. Then rotate the XLR bezel downward to snap it gently into place with the top edge grips under the edge of the Front Panel.
11. Place the top of trim ring over the top of the front-panel casting, align it with the disk drive housing, and press the trim ring into place so that it snaps into place on the top of the front-panel casting. Install the two crosstip P1 screws that hold it on to the front-panel casting.
12. Place the AM700 bottom down.
13. Replace the DSP board.
14. Reconnect the ribbon cable (at J1) to the DSP board.

15. Recheck all the cable connectors for a tight connection.

***NOTE**. You may want to run the instrument at this point to make certain the installation went well, before you put on the cover.*

16. Replace the cabinet of the AM700. *Refer to Cabinet Removal and Replacement* on page 6–55 for more information.

LCD Backlight and Backlight Inverter Removal/Replacement

1. Remove the LCD assembly from the instrument and dissasemble the assembly to gain access to the LCD backlights and backlight inverter board. Refer to the *LCD Flat Panel Display Assembly Remove and Replace* procedure on page 6–76 for directions.

***NOTE**. The next two steps are not needed for the newer version of LCD flat panel display assembly. The LCD backlight cables can be easily disconnected from the invertor boards. If you have the newer assembly with two inverter boards, go to step 4.*

2. Slide the LCD assembly to the side enough to gain access to the screws holding down the backlight inverter board on the rear metal shield.
3. Remove the two screws holding the backlight inverter board to the LCD assembly rear shield. Note orientation of the board on the shield for reinstallation.
4. Disconnect the backlight connectors from the inverter board(s).
5. Turn the LCD flat panel over to gain access to the backlights.
6. Remove the small screw holding the backlight assembly to the LCD flat panel (see Figure 6–42 for the location).

***CAUTION.** The backlights are easily broken if they are twisted or warped.*

7. Gently push up on both ends of the plastic backlight assembly and rotate it as shown in Figure 6–42 to unsnap the backlight from the LCD flat panel.
8. Repeat for the other backlight.
9. Place the retainers on the bottom edge of the new backlight assembly in the holes in the LCD flat panel and press gently on both ends of the top edge of the plastic backlight assembly to snap it into place.

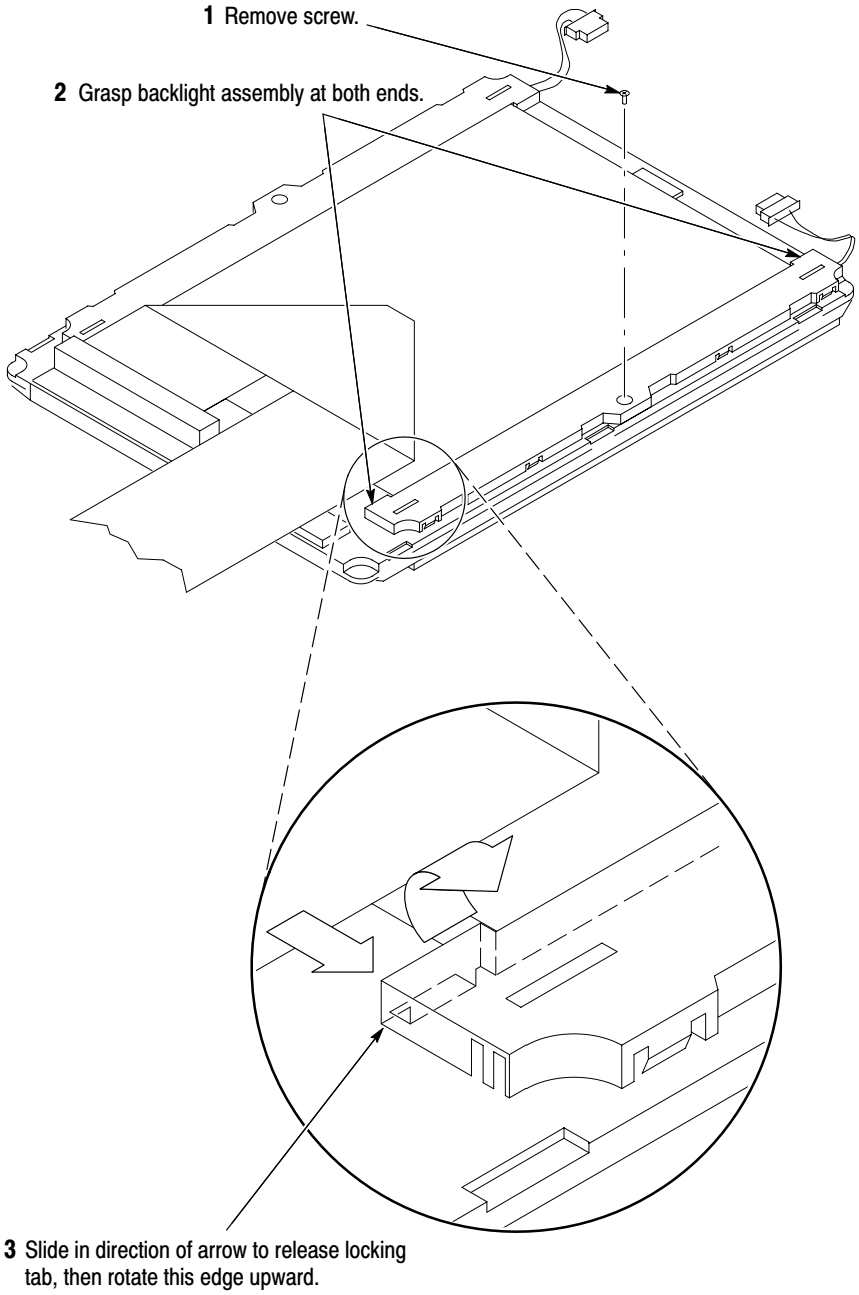

Figure 6–42: Backlight removal

10. Repeat for the other backlight.

11. Connect the backlight connectors to the inverter boards (or board for the earlier version).

***NOTE**. Step 12 is not needed for the newer assemblies because it is not necessary to remove the inverter boards to disconnect and reconnect the backlight connectors. Go to step 13.*

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12. Align the inverter board with the standoffs on the rear shield and install the two screws to reattach the inverter board to the shield.

13. Position the LCD flat panel back in place and align the four corner holes with the standoff on the rear shield.

14. Reroute the touch screen cable under the LCD flat panel and install the four screws to hold the flat panel to the rear shield. Reconnect the grounding wire at the screw shown in Figure 6–43.

15. Replace the touch screen with metal frame over the LCD panel as shown in Figure 6–43. Use care to keep the touch screen cable in the slot in the metal frame (as shown for the early versions of touch screen) so as not to pinch it between the metal frame and the rear shield. Use the end of the touch screen cable coming from underneath the LCD flat panel as a guide to assist you to keep the cable in the slot as you place the touch screen over the LCD flat panel.

16. Reinstall the LCD assembly into the instrument. Refer to the *LCD Assembly Remove and Replace* procedure on page 6–76 for directions.

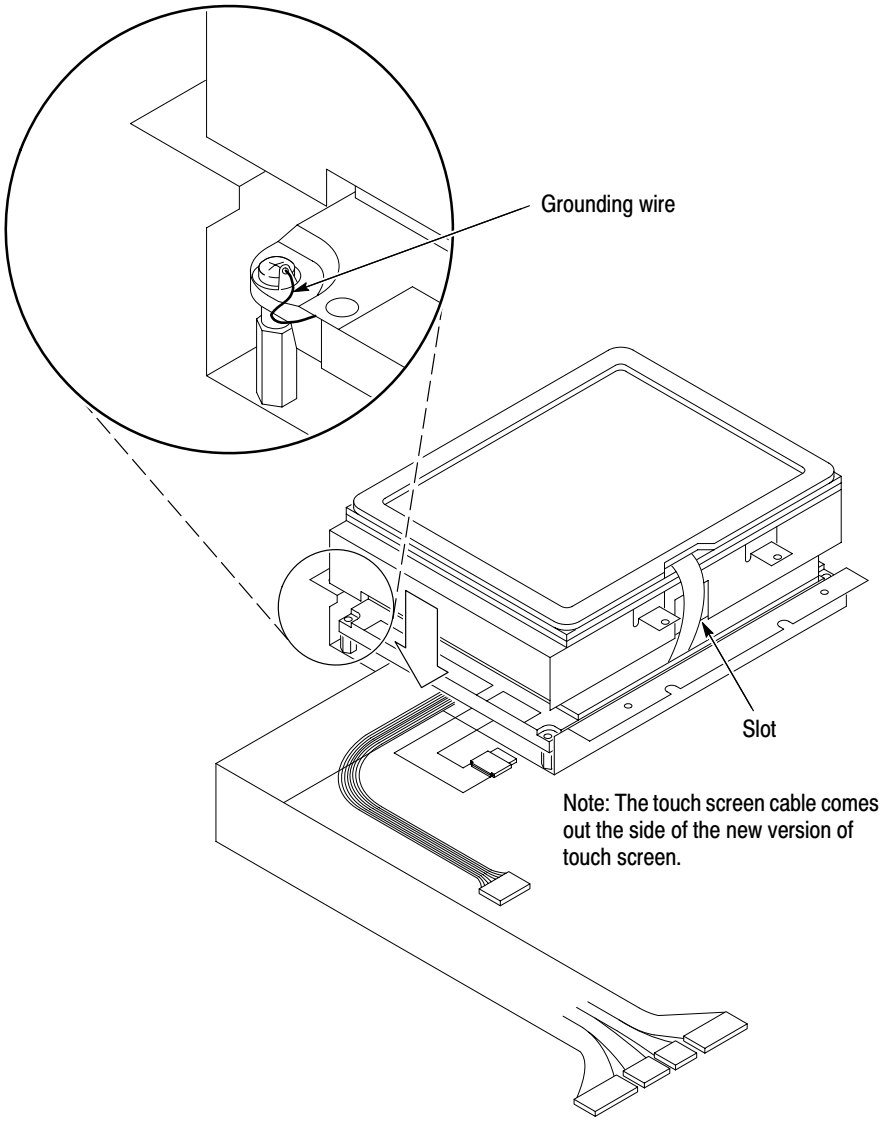


Figure 6–43: Touch panel reinstallation

Power Supply (A11) Removal/Replacement

1. Remove the DSP board (A7), the Main/CPU board (A6), and the Digital Audio board (A3) (see the removal procedures for each of those boards).
2. Disconnect the Power connectors at the right side of the power supply board.
3. Twelve T-15 screws hold the cover plate to the top of the power supply compartment and the display monitor. Remove these screws.
4. Slide the cover back a little and lift it away from the instrument. Thread the ribbon cable from the display monitor through the access hole as the cover is separated from the chassis.

5. Disconnect the four connectors at the left front of the power supply board.

CONNECTORS:
J11 A two-wire connector to the fan.
J5 Ribbon cable to J48 on the CPU board.
J10 A two-wire connector to the display monitor board
J6 A two-wire connector to the Stby/On switch.

6. Use a T-10 Torx screwdriver to remove the five screws holding transistors Q2, Q3, Q6, Q7, and rectifier CR26 to the heat sink on the left side of the power supply board. Do not remove the screws at either end of the heat sink as these hold the heat sink bar to the circuit board (see Figure 6–44).

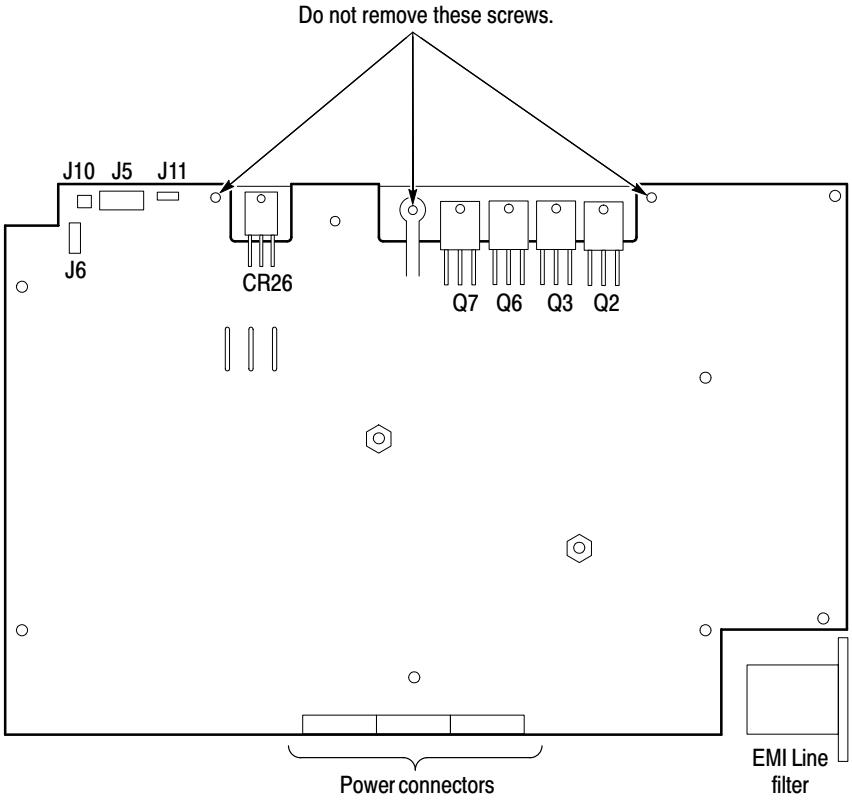


Figure 6–44: Power supply connector locations

7. Remove the two P1 cross-tip screws that hold the EMI line filter to the rear chassis.

***NOTE**. The EMI line filter is mounted on the power supply board in early versions of the measurement set. The EMI line filter in later versions of the power supply is mounted to the rear panel.*

8. Remove the green ground wire attached to the chanssis.
9. Use a 1/4-inch nut driver to remove the two standoff posts in the center area of the board. **Hint:** for reassembly, look for the hex outline that is silk-screened on the circuit board to locate where the standoff post are to be reinstalled.
10. Use the Torx screwdriver with T15 tip to remove the remaining screws holding the power supply board to the chassis.
11. Lift the left side of board first to clear the connector pins on the right side of the board, then lift the power supply board clear of the chassis.
12. Reverse the procedure to reinstall the power supply. When reinstalling the screws that hold Q2, Q3, Q6, and CR26, they must be tightened to 8 inch-pounds of torque.

Replacing the NVRAM Backup Battery

At power up, all the interrupt levels are enabled, so a low-battery interrupt will be seen and the low-battery warning issued if the backup battery is low. The back-up battery must be replaced to prevent loss of stored information in the NVRAM during power off. The life of a newly installed fresh battery is 10 years or more unless stored in higher than normal temperatures for long periods of time.

1. Disconnect power from the AM700 and remove the cover. Refer to *Cover Removal and Replacement* on page 6–55 for more information.
2. Locate the battery pins on the CPU board. See Figure 6–45 and Figure 6–46 for the location of the battery.
3. Solder the battery leads to the + and – battery pins on the CPU board.
4. Immediately cut the positive lead of the old battery to prevent reverse current through the old battery from the new battery.
5. Secure the replacement battery to the old battery using a cable tie to hold it in place.

If the old battery has discharged too low, stored data in the NVRAM may be corrupted. In this case, you may have to use the NVRAM clearning process (see *NVRAM State Clearing* on page 6–8) to remove corrupted data to permit the AM700 to boot up for a normal turn on.

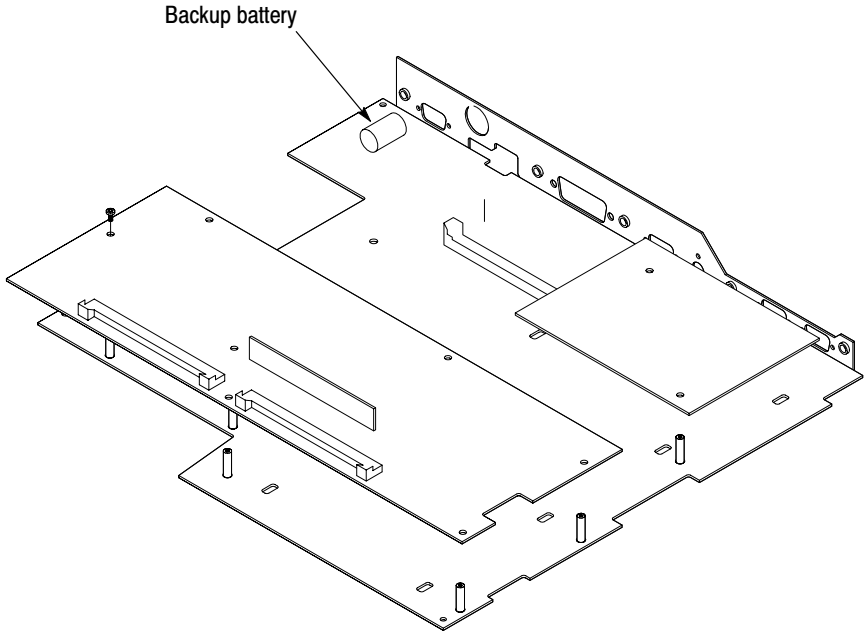


Figure 6–45: Location of the backup battery in the AM700

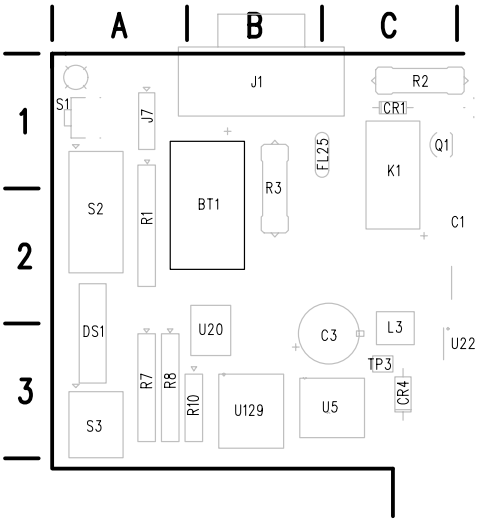


Figure 6–46: Partial CPU board showing location of BT1, the backup battery

Firmware Upgrade Procedure

These instructions are used to upgrade the operating firmware stored in EEPROM through the AM700 disk drive when new upgrades are provided. Upgrading takes approximately 15 minutes to complete.

The upgrade firmware is provided on three 3 1/2 inch diskettes. These disks are the AM700 Firmware Reprogrammer disk containing the Flash Burn Program reprogramming instructions and two AM700 Program Data disks (Disk #1 and Disk #2) containing the binary programming data that is uploaded to the EEPROM.

The AM700 boot ROM contains the routines that allow binary code to be executed from a diskette through the disk drive. These boot ROM routines are used execute the binary formatted files stored on the upgrade diskettes.

Reprogramming Procedure

1. Set the AM700 on a flat surface, feet side down, to run the upgrade procedure. This assures that the disk drive is properly positioned to prevent it from being damaged.
2. Turn the AM700 off to start the procedure steps.
3. Press and hold the Menu button in and turn on the power.
4. After the AM700 beeps twice, release the Menu button. The boot up procedure continues to initialize in low-level diagnostics mode.
5. When the diagnostics Startup Menu appears, turn the large control knob to highlight the `U... - UTILITIES - Menu` choice.
6. Press the Select button (located next to the large control knob) to display the Utilities Menu.
7. With the Utilities Menu displayed, use the large control knob to highlight the `F... Reprogram – FLASH EEPROMS –` selection.
8. Press the Select button, then follow the instruction that appears on the screen to insert the Flash Burn Program disk (AM700 Firmware Reprogrammer). The disk must be inserted with the label facing the screen. The AM700 begins reading the disk immediately.
9. After the Firmware Reprogrammer disk is read, the upgrade program begins running.

10. Follow the instructions that appear on the AM700 screen to complete the reprogramming procedure.

11. Press Enter or Sweep/Run to continue, or press Clear Menu to stop the upgrade procedure. You will need Disk #1 and Disk #2 ready to insert when asked to do so.

    Each disk is read and verified before the firmware is upgraded. If an error occurs while reading the upgrade data disks, the upgrade procedure is terminated without changing the loaded firmware.

12. When both data disk have loaded the upgrade data a CRC is calculated, and you will be given the choice of programming the Flash EEPROM or aborting without affecting the stored data.

13. Press Sweep/Run to continue programming the Flash EEPROM. The old code is erased and the new code is uploaded. Loading time is approximately seven minutes.

14. Press Sweep/Run or Clear Menu to reboot the AM700 and run the upgraded firmware.

15. After the AM700 has rebooted and is running, press the Configure button.

16. Touch the State Saving soft key to display the menu used to either save state or to restore factory defaults.

17. Select Restore Factory defaults and confirm that you want to restore the factory defaults. This loads the new factory defaults that are modified in the new firmware.

Rack Adapter Instructions

The AM7FR1 Rackmounting adapter enables mounting the Tektronix AM700 Audio Measurement Set in a standard 19-inch (483 mm) rack with an 8.75 inch vertical opening (five rack units). The adapter consists of a folded metal tray with attached front panel and slide-out assemblies.

CAUTION. *To prevent static discharge damage, service the measurement set only in an antistatic work station. Observe standard handling precautions for static-sensitive devices while installing this kit. Always wear a grounded wrist strap, grounded foot strap, and static resistant apparel while installing this kit.*

Slide-out Tracks

The slide-out tracks consist of a complete assembly for the left and right sides of the rackmounting adapter. Each assembly consists of three sections: the stationary section, the chassis section, and the intermediate section. The stationary section of each assembly attaches to the front and rear rails of the cabinet rack. The chassis sections are attached to the adapter at the factory. The intermediate sections slide between the stationary and chassis sections and allow the instrument to be extended out of the rack.

When the rackmounting adapter is shipped, the stationary and intermediate sections of the tracks are packaged as matched sets and should not be separated. When mounted in the cabinet rack, the automatic latch should be at the top of both assemblies. The rackmount adapter and one slide-out track assembly are illustrated in Figure 6–47.

WARNING. *If the left and right slide-out tracks are reversed, the safety latch can be defeated, allowing the instrument to be pulled out of the rack. There are green labels on each track near the mounting flange that are stamped with LH or RH to indicate left- hand and right-hand tracks, respectively. Be sure to mount the tracks on the correct sides, and only as directed in these instructions.*

Extra hardware is provided with the slide-out track assemblies. Since the hardware is intended to make the tracks compatible with a variety of cabinet racks and installation methods, not all of the hardware will be used for any installation procedure.

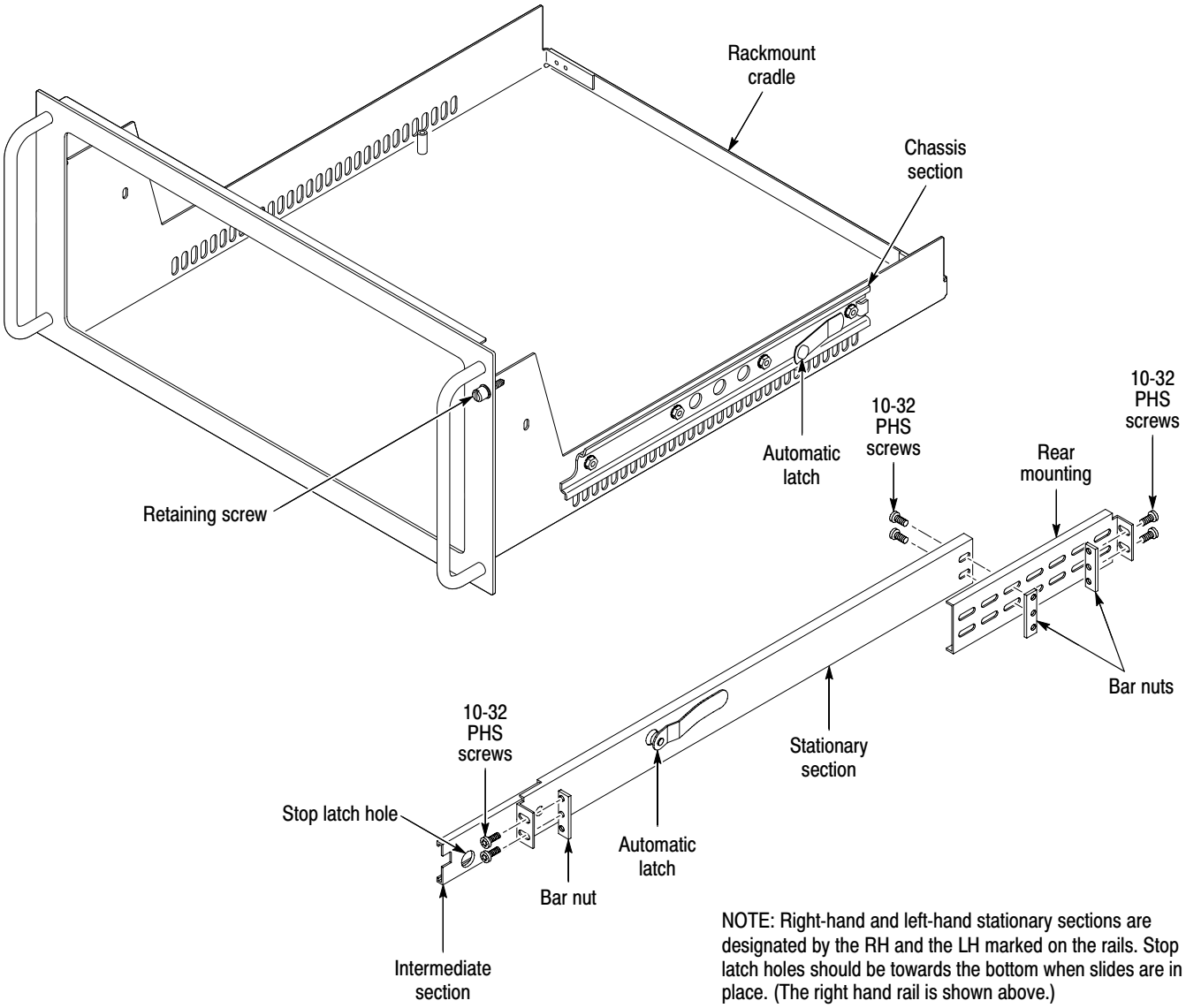


Figure 6–47: Exploded view of the slide-out track assembly

Installation Procedure

The following procedure describes how to attach the stationary section to untapped rack rails using the hardware provided, adjust the slide-out track alignment, and mount the rack-adapted instrument in the cabinet rack. If the rack rails are tapped for 10-32 screws, the slide-out tracks can be mounted in front of the front rails and in back of the rear rack rails using pan head screws. The flat bar nuts are not needed.

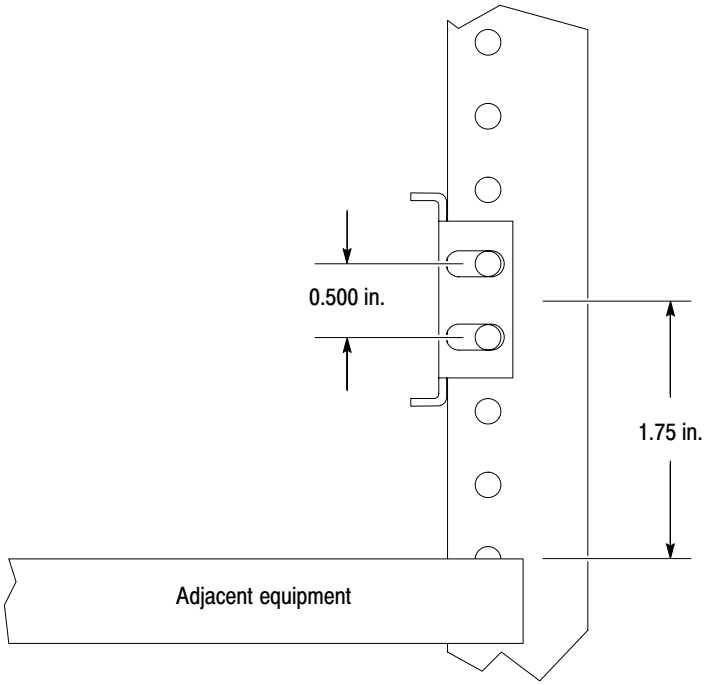


Figure 6–48: Locating mounting holes on front Rrails of equipment rack

1. Select appropriate mounting holes in the front rails of the equipment rack, observing the clearance measurements shown in Figure 6–48. The front of the rack adapter is designed to fit in a 8.75-inch high opening.
2. Mount the stationary sections (with the bracket extensions) to the untapped front rack rails using either of the following methods as shown in Figure 6–49.
   a. If the front rails are not countersunk, use the truss head screws and bar nuts.
   b. If the front rails are countersunk, use the flat head screws and bar nuts.

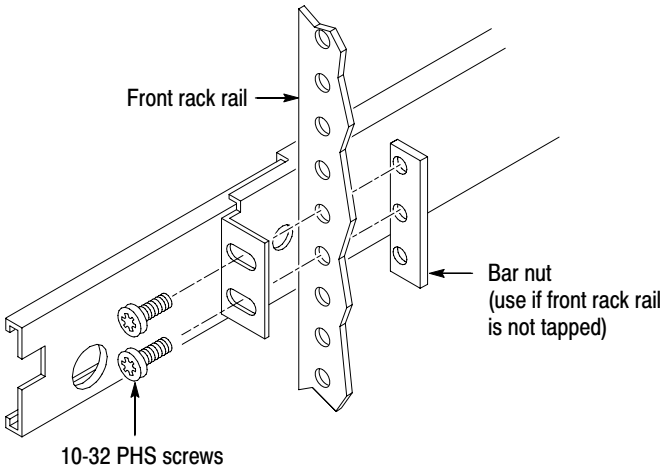


Figure 6–49: Mounting the slide to the front rail

3. Mount the stationary sections to the rear rails on the equipment rack using mounting holes in the rear rails that correspond to the same level as the front rail holes selected in step 1. If the rear-rail mounting holes are tapped, the bar nut is not used to attach the extensions. If the rear-rail mounting holes are not tapped, use the bar nut on the inside of the rail, as show in Figure 6–50, or suitable captive nut clips (not supplied).

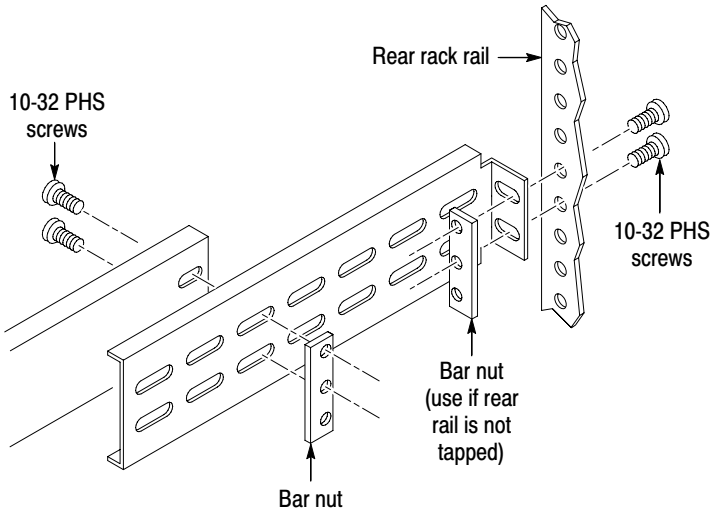


Figure 6–50: Installing bracket extensions

4. Pull the extension sections of each slide-out track out to its fully extended position.

5. Insert the chassis sections attached to the AM7FR1 rack adapter into the intermediate sections.
6. Press both stop latches, and push the adapter into the cabinet rack until the latches snap into the stop latch holes.
7. Adjust the alignment of the stationary sections according to the following procedure.
   a. Loosen the mounting screws at the front of both stationary sections.
   b. Allow the tracks to seek their normal positions with the adapter centered in the rack.
   c. Tighten the mounting screws.
   d. If the tracks do not slide smoothly, check for correct spacing between the rear supports.
   e. Check the vertical positioning of the instrument front panel with respect to adjacent instruments or panels and the alignment of the thumb screw. If not correct, reposition as necessary.
   f. When the track operates smoothly, install the measurement set into the AM7FR1 rack adapter.

Slide-Out Track Lubrication

The special finish on the sliding surfaces of the tracks provides permanent lubrication. However, if the tracks do not slide smoothly even after proper adjustment, a thin coating of paraffin rubbed onto the sliding surfaces may improve the slides operations.

Mounting the AM700 in the Adapter

The following steps describe how to remove the handle of the AM700 to install the AM700 in the rackmount adapter. Place all the small parts in a container for safekeeping in case the handle is reinstalled at a later time.

1. Disconnect the power cord from the AM700.
2. Place the handle so that it is in a forward position.
3. Place the measurement set, bottom down, on a secure flat work surface.
4. Using a 1/16 inch or smaller, flat-bit screwdriver, insert the tip of the blade under the edge of the plastic cover over the handle screws, as shown in Figure 6–51, and gently pry the cover off to expose the handle screw. Either cover is okay; only one of the handle screws must be loosened to permit the handle swing arms to be removed from the measurement set.

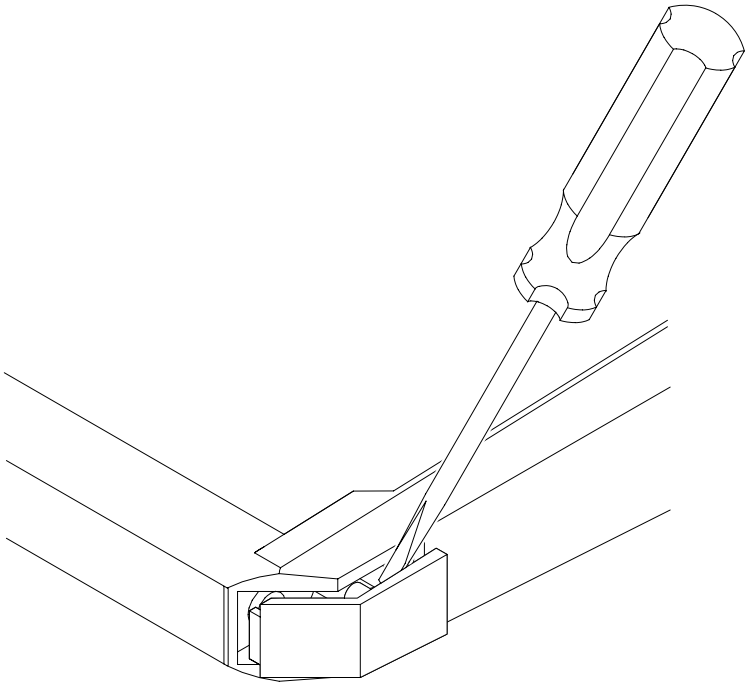


Figure 6–51: Removing the plastic handle screw cover

NOTE*. If reinstalling the handle to the AM700, this screw must be firmly tightened to prevent the handle crosspiece from rotating with respect to the handle swing arm.*

5. Using either a PoziDrive® screwdriver with P2 cross-tip bit or a 3 mm hexagonal wrench, as necessary, loosen several turns, but do not remove the screw that holds the handle to the swing arm. This permits the swing arms to easily clear the cabinet of the measurement set for removal.

6. Using the small screwdriver again, locate one of the four slots on the thumb release button, and insert the tip in the slot as shown in Figure 6–52. Gently pry up on the thumb release button to remove it from the swing arm. Put the thumb release button and the spring in the container for safekeeping.

CAUTION. *The thumb release button is under spring tension and the spring may jump out when the button is detached.*

7. Repeat step 6 to remove the thumb release button from the other side arm.

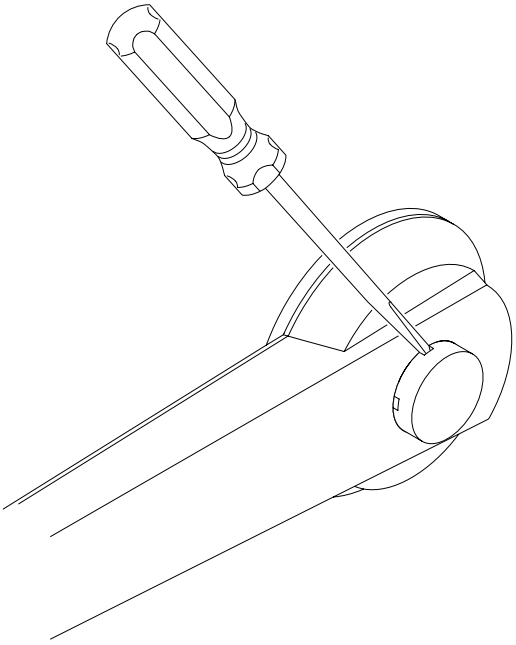


Figure 6–52: Removing the thumb release button from the swing arm

CAUTION. *Do not reinsert the swing handle screws in the cabinet screw holes; they are too long and will damage internal components.*

8. Using a Torx® screwdriver with T15 bit, remove the screws and washers, as shown in Figure 6–53, that hold both swing arms to the cabinet of the measurement set.

9. Insert the blade of the 1/16 inch screwdriver about 3/4 inch into the center screw hole of the plastic holder for the star sprocket. Pry gently forward and then backward to detach the holder from the cabinet. Repeat for the other side.

10. Put the screws, handle, and other hardware away for safekeeping for possible future reassembling. The removed screws will not be used in mounting the measurement set to the adapter.

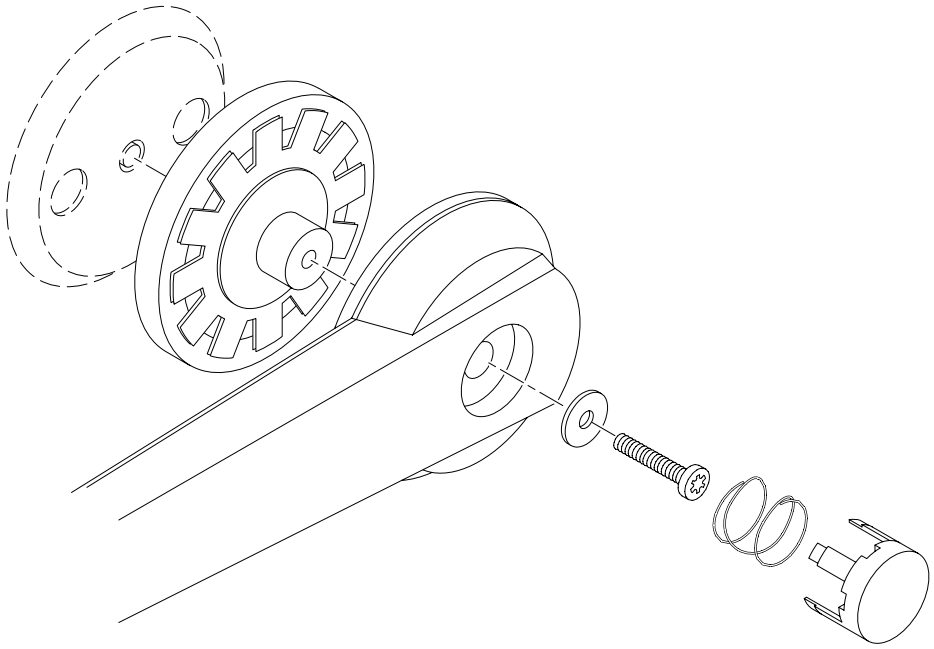


Figure 6–53: Removing the retaining screws holding the swing arms to the cabinet

11. Pull the rack adapter to its full extension.

12. Place the AM700 into the adapter and position it fully forward to align the holes in the sides of the adapter with the handle holes of the measurement set.

CAUTION. *Do not use the long screws removed from the measurement set to attach the adapter. The long screws can damage the internal components.*

13. Install the short Torx head screws supplied with the rack adapter kit to hold the AM700 to the adapter using a Torx screwdriver with a T15 tip.

14. Release the stop latches on the rack slides and push the instrument all the way into the rack.

15. At the rear of the rack, install the instrument power cord and any other cabling required, such as printer cables, GPIB remote control cable, or VGA monitor cable. This may be done from the front with the measurement set fully extended on the tracks to make sure all the cables will be long enough to permit full extension of the rackmounted AM700.

Removing the Measurement Set from the Rack

The rackmounted measurement set and adapter may be easily removed from the rack. The slide-out tracks permit the rack-adapted AM700 to be extended out of the rack for access to the rear-panel connectors. Before attempting to operate the instrument in the extended position, be sure the power cord and any other connected cabling is long enough to permit full extension.

1. Loosen the front-panel thumb screw that secures the rackmounted measurement set into the rack.
2. Extend the tracks to the stops and disconnect all the rear-panel cabling from the measuerment set.
3. Press both stop latch releases and pull the adapter out of the slide tracks. The procedure is illustrated in Figure 6–54.

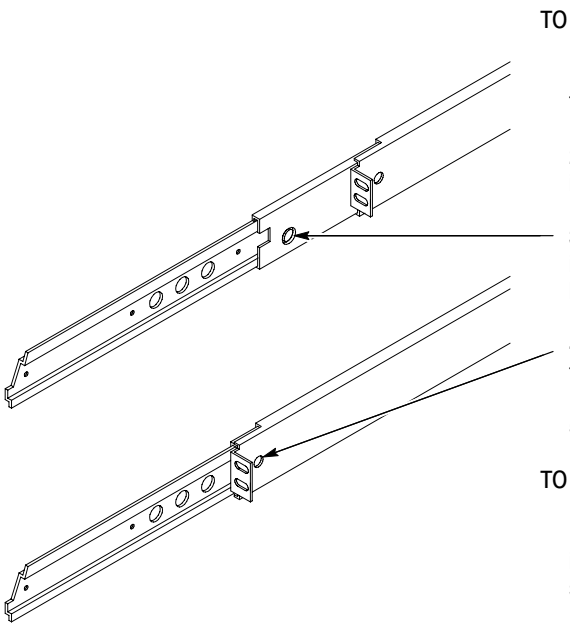


Figure 6–54: Installing and removing the AM700 Audio Measurement Set from the rack

Manufacturers cross index

Mfr. code	Manufacturer	Address	City, state, zip code
TK0435	LEWIS SCREW CO	4300 S RACINE AVE	CHICAGO IL 60609-3320
TK0941	BEARINGS INC (DIST)	2720 NW 29TH PO BOX 3005	PORTLAND OR 97210-1702
0KB01	STAUFFER SUPPLY	810 SE SHERMAN	PORTLAND OR 97214
06666	GENERAL DEVICES CO INC	1410 S POST RD PO BOX 39100	INDIANAPOLIS IN 46239-9632
09422	PLASTIC STAMPING CORP	2216 W ARMITAGE AVE	CHICAGO IL 60647-4461
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97077-0001

Replaceable parts list

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
6–55	016-1343-00			1	RACKMOUNT KIT:AM700 CRADLE MOUNT	80009	016134300
1	407-4353-00			1	.BRACKET,STIFFENER: *MOUNTING PARTS*	80009	407435300
2	210-0457-00			3	.NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL *END MOUNTING PARTS*	TK0435	ORDER BY DESC
3	436-0291-00			1	.TRAY,RACKMOUNT:AM700 RACK ADAPTER KIT OPT1R	80009	436029100
4	351-0104-03			1	.SL SECT,DWR EXT:12.625 L,W/O HARDWARE *MOUNTING PARTS*	06666	C-720-3
5	210-0458-00			8	.NUT,PL,ASSEM WA:8-32 X 0.344,STL CD PL *END MOUNTING PARTS*	0KB01	210-0458-00
6	210-0457-00			5	.NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL *END MOUNTING PART*	TK0435	ORDER BY DESC
7	354-0025-00			1	.RING,RETAINING:EXTERNAL,U/O 0.187 DIA SFT *END MOUNTING PARTS*	TK0941	555-18MI
8	210-0894-00			1	.WASHER,FLAT:0.19 ID X 0.438 OD X 0.031 POLTHN	09422	ORDER BY DESC
9	212-0506-00			4	.SCREW,MACHINE:10-32 X 0.375,FLH,100 DEG,STL *END MOUNTING PARTS*	TK0435	ORDER BY DESC
10	333-4149-00			1	.PANEL,FRONT:AM700 RACK ADAPTER,ALUM,OPT1R *MOUNTING PARTS*	80009	333414900
11	213-0940-00			1	.THUMBSCREW:10-32 X 1.15,0.375 OD,SST *MOUNTING PARTS*	80009	213094000
12	367-0366-00			2	.HANDLE,CARRYING:AM700 *MOUNTING PARTS*	80009	367036600
					STANDARD ACCESSORIES		
	211-0721-00			2	.SCREW,MACH:6-32 X 0.375,PNH,STL,CDPL,T-1.5 TORX DR	0KB01	ORDER BY DESC
	351-0636-00			1	.SLIDE,DWR,EXT:20.0 X 1.69,PAIR,R&L	06666	C-1252
	063-1830-00			1	.SHEET,TECH:AM7FR1,INSTRUCTIONS	80009	063183000

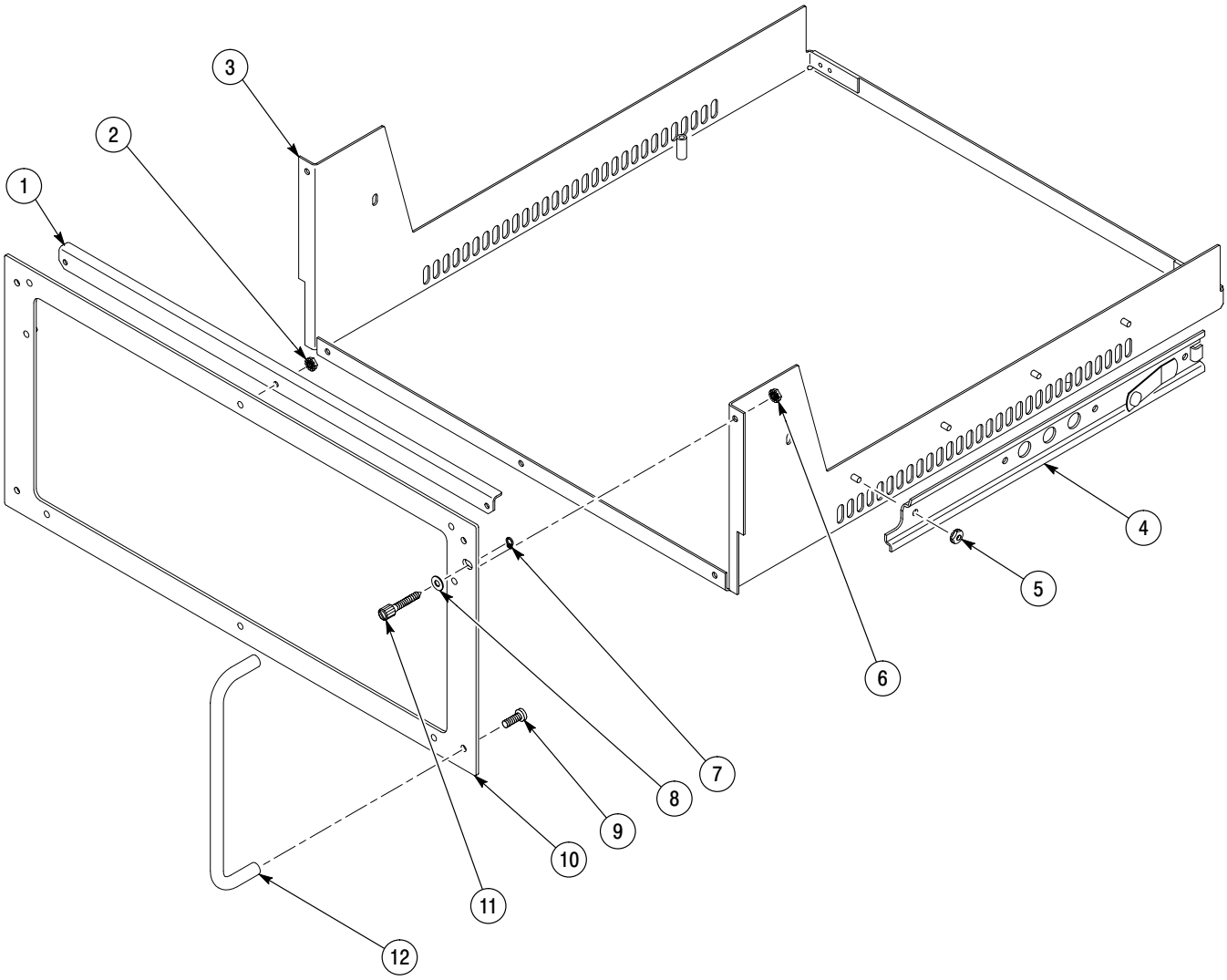


Figure 6–55: Exploded view of the rack adapter assembly

Options

The current options for the AM700 consist of the power cord options: A1, A2, A3, and A5 plus two servicing options: M2 and M9. The power cord options are described in Table 1–1 of the *Specification* section. Servicing option M2 provides for remedial service support and Servicing option M9 is a repair protection plan.

For those owners that want to change from the CRT display to the flat-panel color display, there is a option to purchase a factory upgrade to install the color display. Contact your nearest Tektronix representative for more information on this upgrade.

Replaceable Electrical Parts

This section contains a list of the electrical components for the <instrument>. Use this list to identify and order replacement parts.

Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order:

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix field office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Using the Replaceable Electrical Parts List

The tabular information in the Replaceable Electrical Parts List is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replacement parts. The following table describes each column of the electrical parts list.

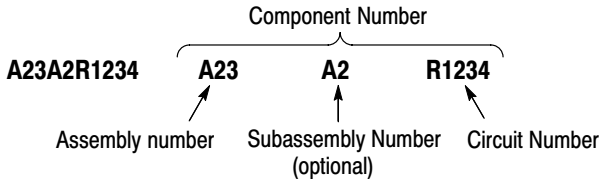
Parts list column descriptions

Column	Column name	Description
1	Component number	The component number appears on diagrams and circuit board illustrations, located in the diagrams section. Assembly numbers are clearly marked on each diagram and circuit board illustration in the *Diagrams* section, and on the mechanical exploded views in the *Replaceable Mechanical Parts* list section. The component number is obtained by adding the assembly number prefix to the circuit number (see Component Number illustration following this table). The electrical parts list is arranged by assemblies in numerical sequence (A1, with its subassemblies and parts, precedes A2, with its subassemblies and parts). Chassis-mounted parts have no assembly number prefix, and they are located at the end of the electrical parts list.
2	Tektronix part number	Use this part number when ordering replacement parts from Tektronix.
3 and 4	Serial number	Column three indicates the serial number at which the part was first effective. Column four indicates the serial number at which the part was discontinued. No entry indicates the part is good for all serial numbers.
5	Name & description	An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.
6	Mfr. code	This indicates the code number of the actual manufacturer of the part.
7	Mfr. part number	This indicates the actual manufacturer's or vendor's part number.

Abbreviations

Abbreviations conform to American National Standard ANSI Y1.1–1972.

Component Number



Read: Resistor 1234 (of Subassembly 2) of Assembly 23

List of Assemblies

A list of assemblies is located at the beginning of the electrical parts list. The assemblies are listed in numerical order. When a part's complete component number is known, this list will identify the assembly in which the part is located.

Chassis Parts

Chassis-mounted parts and cable assemblies are located at the end of the Replaceable Electrical Parts List.

Mfr. Code to Manufacturer Cross Index

The table titled Manufacturers Cross Index shows codes, names, and addresses of manufacturers or vendors of components listed in the parts list.

Manufacturers cross index

Mfr. code	Manufacturer	Address	City, state, zip code
00213	MSD INC	700 ORANGE ST	DARLINGTON, SC 29532
00779	AMP INC	2800 FULLING MILL PO BOX 3608	HARRISBURG PA 17105
01295	TEXAS INSTRUMENTS INC SEMICONDUCTOR GROUP	13500 N CENTRAL EXPY PO BOX 655303	DALLAS TX 75262–5303
02113	COILCRAFT INC	1102 SILVER LAKE RD	CARY IL 60013–1658
02660	AMPHENOL CORP INDUSTRIAL TECHNOLOGY DIVISION (ITD)	720 SHERMAN AVENUE	HAMDEN CT 06514
04222	AVX/KYOCERA DIV OF AVX CORP	19TH AVE SOUTH P O BOX 867	MYRTLE BEACH SC 29577
04426	ITW SWITCHES DIV OF ILLINOIS TOOL WORKS INC	6615 W IRVING PARK RD	CHICAGO IL 60634–2410
04713	MOTOROLA INC SEMICONDUCTOR PRODUCTS SECTOR	5005 E MCDOWELL RD	PHOENIX AZ 85008–4229
05245	CORCOM INC	1600 WINCHESTER RD	LIBERTYVILLE IL 60048–1267
05292	ITT COMPONENTS DIV		CLIFTON NJ
05820	EG AND G WAKEFIELD ENGINEERING	60 AUDUBON RD	WAKEFIELD MA 01880–1203
06090	RAYCHEM CORP	300 CONSTITUTION DRIVE	MENLO PARK CA 94025–1111
06383	PANDUIT CORP	17303 RIDGELAND AVE	TINLEY PARK, IL 60477–3048
07933	RAYTHEON CO SEMICONDUCTOR DIV HQ	350 ELLIS ST	MOUNTAIN VIEW CA 94042
09023	CORNELL–DUBILIER ELECTRONICS DIV FEDERAL PACIFIC ELECTRIC CO	2652 DALRYMPLE ST	SANFORD NC 27330
09922	BURNDY CORP	1 RICHARDS AVE	NORWALK CT 06856
09969	DALE ELECTRONICS INC	EAST HIGHWAY 50 P O BOX 180	YANKTON SD 57078
0AGS1	MICRO LINEAR CORPORATION	2092 CONCOURSE DRIVE	SAN JOSE CA 95131
0A384	CRYSTAL SEMICONDUCTOR CORP	4210 S INDUSTRIAL DR PO BOX 17847	AUSTIN TX 78760
0BYG1	TADIRAN ELECTRONIC IND INC	40 SEAVIEW BLVD	PORT WASHINGTON NY 11050
0B0A9	DALLAS SEMICONDUCTOR CORP	4350 BELTWOOD PKWY SOUTH	DALLAS TX 75244
0CVK3	ALLEGRO MICROSYSTEMS INC INTEGRATED CIRCUITS DIV	115 NE CUTOFF PO BOX 2036	WORCHESTER MA 01613–2036
0FMA6	NEUTRIK USA INC	195–3 LEHIGH AVE	LAKEWOOD NJ 08701–4527
0H1N5	TOSHIBA MARCON ELECTRONICS AMERICA CORPORATION	998 FIRST EDGE DRIVE	VERNON HILLS IL 60061
0JR03	ZMAN MAGNETICS INC	7633 S 180th	KENT WA 98032
0JR04	TOSHIBA AMERICA INC ELECTRONICS COMPONENTS DIV	9775 TOLEDO WAY	IRVINE CA 92718
0J9R2	HARISON ELECTRIC CO LTD	ASAHIMACHI 5–CHOME IMABARI	EHIME JAPAN
0KB01	STAUFFER SUPPLY	810 SE SHERMAN	PORTLAND OR 97214
0LUA3	PHILIPS COMPONENTS	100 PROVIDENCE PIKE	SLATERSVILLE, RI 02876
0LXM2	LZR ELECTRONICS INC	8051 CESSNA AVENUE	GAITHERSBURG MD 20879

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
0MS63	QUALITY TECHNOLOGIES CORP	610 N MARY AVENUE	SUNNYVALE CA 94086
0TJ19	QUALITY SEMICONDUCTOR INC	851 MARTIN AVENUE	SANTA CLARA CA 95050–2903
11236	CTS CORPORATION RESISTOR NETWORKS DIVISION	406 PARR ROAD	BERNE IN 46711–9506
11502	IRC, INC	PO BOX 1860	BOONE NC 28607–1860
12954	MICROSEMI CORP – SCOTTSDALE	8700 E THOMAS RD P O BOX 1390	SCOTTSDALE AZ 85252
13103	THERMALLOY CO INC	2021 W VALLEY VIEW LN PO BOX 810839	DALLAS TX 75381
13919	BURR–BROWN RESEARCH CORP	6730 S TUCSON BLVD P O BOX 11400	TUCSON AZ 85734
14301	ANDERSON ELECTRONICS INC	PO BOX 89	HOLLIDAYSBURG PA 16648–0089
14552	MICROSEMI CORP	2830 S FAIRVIEW ST	SANTA ANA CA 92704–5948
14752	ELECTRO CUBE INC	1710 S DEL MAR AVE	SAN GABRIEL CA 91776–3825
14936	GENERAL INSTRUMENT CORP POWER SEMICONDUCTOR DIV	600 W JOHN ST	HICKSVILLE NY 11802–0709
15454	KETEMA RODAN DIVISION	2900 BLUE STAR STREET	ANAHEIM CA 92806–2591
15542	MINI–CIRCUITS LABORATORY	2625 E 14TH ST	BROOKLYN NY 11235–3915
15912	THOMAS AND BETTS CORP ELECTRONICS GROUP	76 FAIRBANKS	IRVINE CA 92718
16237	CONNECTOR CORP	4720 Y ENDER RD	LISLE, IL 60532
16546	PHILIPS COMPONENTS	CHIP CAP/CHIP RES FACILITY 4561 COLORADO BLVD	LOS ANGELES, CA 90039–1103
17856	SILICONIX INC	2201 LAURELWOOD RD	SANTA CLARA CA 95054–1516
19701	PHILIPS COMPONENTS DISCRETE PRODUCTS DIV RESISTIVE PRODUCTS FACILITY AIRPORT ROAD	PO BOX 760	MINERAL WELLS TX 76067–0760
1CH66	PHILIPS SEMICONDUCTORS	811 E ARQUES AVENUE PO BOX 3409	SUNNYVALE CA 94088–3409
1ES66	MAXIM INTEGRATED PRODUCTS INC	120 SAN GABRIEL DRIVE	SUNNYVALE CA 94086
21022	CONNOR–WINFIELD CORP	2111 COMPREHENSIVE DRIVE	AURORA, IL 60505
22526	BERG ELECTRONICS INC (DUPONT)	857 OLD TRAIL RD	ETTERS PA 17319
22929	DALE ELECTRONICS CORP FREQUENCY CONTROL GROUP	1155 W 23RD ST	TEMPE AZ 85282–1822
23875	M–TRON INDUSTRIES INC	PO BOX 630 100 DOUGLAS ST	YANKTON SD 57078–0630
24226	GOWANDA ELECTRONICS CORP	NO 1 INDUSTRIAL PL	GOWANDA NY 14070–1409
24355	ANALOG DEVICES INC	1 TECHNOLOGY DRIVE	NORWOOD MA 02062
24546	DALE ELECTRONICS A VISHAY INTERTECHNOLOGY INC CO	550 HIGH ST	BRADFORD PA 16701–3737

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
25088	SIEMENS CORP	186 WOOD AVE S	ISELIN NJ 08830–2704
26364	COMPONENTS CORP	6 KINSEY PLACE	DENVILLE NJ 07834–2611
26742	METHODE ELECTRONICS INC	7447 W WILSON AVE	CHICAGO IL 60656–4548
27014	NATIONAL SEMICONDUCTOR CORP	2900 SEMICONDUCTOR DR	SANTA CLARA CA 95051–0606
27264	MOLEX INC	2222 WELLINGTON COURT	LISLE IL 60532–1613
28733	CERAMIC MAGNETICS INC	16 LAW DR	FAIRFIELD NJ 07006
2K262	BOYD CORP	6136 NE 87th AVE PO BOX 20038	PORTLAND OR 97220
2N936	VISHAY ELECTRONIC COMPONENTS	1122 23RD STREET	COLUMBUS, NE 68601
30161	AAVID ENGINEERING INC	ONE KOOL PATH PO BOX 400	LACONIA NH 03247
30983	PHILIPS COMPONENTS	1440 W INDIANTOWN ROAD PO BOX 689605	JUPITER, FL 33468–9605
31433	KEMET ELECTRONICS CORP NATIONAL SALES HEADQUARTERS	PO BOX 5928	GREENVILLE SC 29606
31918	ITT SCHADOW INC	8081 WALLACE RD	EDEN PRAIRIE MN 55344–2224
34371	HARRIS CORP HARRIS SEMICONDUCTOR PRODUCTS GROUP	200 PALM BAY BLVD PO BOX 883	MELBOURNE FL 32919
34899	FAIR RITE PRODUCTS CORP.	1 COMMERCIAL ROW PO BOX J	WALLKILL, NY 12589
48726	UNITRODE INTEGRATED CIRCUITS CORP (UICC)	7 CONTINENTAL BLVD PO BOX 399	MERRIMACK NH 03054–0399
49588	S B ELECTRONICS INC	131 S MAIN ST	BARRE VT 05641
50139	ALLEN–BRADLEY CO ELECTRONIC COMPONENTS	1414 ALLEN BRADLEY DR	EL PASO TX 79936
50356	TEAC AMERICA INC	7733 TELEGRAPH RD PO BOX 750	MONTEBELLO, CA 90640–6537
50434	HEWLETT–PACKARD CO OPTOELECTRONICS DIV	370 W TRIMBLE RD	SAN JOSE CA 95131–1008
50558	ELECTRONIC CONCEPTS INC	526 INDUSTRIAL WAY W	EATONTOWN NJ 07724–2212
50579	SIEMENS COMPONENTS INC OPTOELECTRONICS DIV	19000 HOMESTEAD RD	CUPERTINO CA 95014–0712
50783	WINTRON INC (FORMERLY: PENN–TRAN CORP)	250 RUNVILLE ROAD	BELLEFONTE, PA 16823
53387	3M COMPANY ELECTRONIC PRODUCTS DIV	3M AUSTIN CENTER	AUSTIN TX 78769–2963
54893	HEWLETT PACKARD MICROWAVE SEMICONDUCTOR DIVISION	350 TRIMBLE	SAN JOSE CA 95131–1008
54972	CLINTON ELECTRONICS	6701 CLINTON ROAD	ROCKFORD, IL 61111
55680	NICHICON /AMERICA/ CORP	927 E STATE PKY	SCHAUMBURG IL 60195–4526
56427	CALIFORNIA MICRO DEVICES CORP	215 TOPAZ ST	MILPITAS CA 95035–5430
56845	DALE ELECTRONICS INC	2300 RIVERSIDE BLVD PO BOX 74	NORFOLK NE 68701–2242

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
57027	INTERNATIONAL RESISTIVE PRODUCTS INC	4222 S STAPLES	CORPUS CHRISTI TX 78411–2702
57668	ROHM CORPORATION	15375 BARRANCA PARKWAY SUITE B207	IRVINE CA 92718
57924	BOURNS INC INTEGRATED TECHNOLOGY DIVISION	1400 NORTH 1000 WEST	LOGAN UT 84321
58050	TEKA PRODUCTS INC	45 SALEM ST	PROVIDENCE RI 02907
53279	XENTEK INC	1770 LA COSTA MEADOW DR	SAN MARCOS, CA 92069
57668	ROHM CORPORATION	15375 BARRANCA PARKWAY SUITE B207	IRVINE, CA 92718
59640	SUPERTEX INC	1225 BORDEAUX DR	SUNNYVALE, CA 94086
59660	TUSONIX INC	7741 N BUSINESS PARK DR PO BOX 37144	TUCSON AZ 85740–7144
60211	VOLTAGE MULTIPLIERS INC	8711 W ROOSEVELT	VISALIA CA 93291–9458
61429	FOX ELECTRONICS DIV OF FOX ELECTRONICS INC	5842 CORPORATION CIRCLE	FOR MEYERS FL 33905
61529	AROMAT CORP	629 CENTRAL AVE	NEW PROVIDENCE NJ 07974
61857	SAN–0 INDUSTRIAL CORP	91–3 COLIN DRIVE	HOLBROOK NY 11741
61935	SCHURTER INC	1016 CLEGG COURT	PETALUMA CA 94952–1152
62643	UNITED CHEMICON INC	9801 W HIGGINS ST SUITE 430	ROSEMONT, IL 60018–4771
63791	STAR MICRONICS INC	200 PARK AVE SUITE 2308	NEW YORK NY 10166–0001
64155	LINEAR TECHNOLOGY CORP	1630 MCCARTHY BLVD	MILPITAS CA 95035–7417
64762	ELANTEC INC	1996 TAROB COURT	MILPITAS CA 95035–6824
65238	NOVACAP	25111 ANZA DRIVE	VALENCIA CA 91335
65786	CYPRESS SEMICONDUCTOR CORP	3901 N 1ST ST	SAN JOSE CA 95134–1506
66958	SGS THOMSON MICROELECTRONICS	1000 E BELL RD	PHOENIX AZ 85022–2649
6Y440	MICRON TECHNOLOGY INC	2805 E COLUMBIA ROAD	BOISE ID 83706
71279	INTERCONNECTION PRODUCTS INC	C/O ELECTRONIC ENGINEERING SALES PO BOX 231149	PORTLAND, OR 97223
71400	BUSSMANN DIV OF COOPER INDUSTRIES INC	114 OLD STATE RD PO BOX 14460	ST LOUIS MO 63178
74594	COMPONENT RESOURCES INC (DIST) DIV OF CPI INTERNATIONAL CORP	14525 SW WALKER ROAD	BEAVERTON OR 97006
75042	IRC ELECTRONIC COMPONENTS PHILADELPHIA DIV TRW FIXED RESISTORS	401 N BROAD ST	PHILADELPHIA PA 19108–1001
75378	CTS KNIGHTS INC	400 REIMANN AVE	SANDWICH IL 60548–1846
75915	LITTELFUSE TRACOR INC SUB OF TRACOR INC	800 E NORTHWEST HWY	DES PLAINES IL 60016–3049
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON OR 97077–0001

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
81073	GRAYHILL INC	561 HILLGROVE AVE PO BOX 10373	LA GRANGE IL 60525–5914
91637	DALE ELECTRONICS INC	2064 12TH AVE PO BOX 609	COLUMBUS NE 68601–3632
98978	INTERNATIONAL ELECTRONIC RESEARCH CORP	135 W MAGNOLIA BLVD PO BOX 7704	BURBANK CA 91502
D5243	ROEDERSTEIN ERNST GMBH	LUDMILLASTRASSE 23	8300 LANDSHUT GERMANY
K1072	GREENPAR CONNECTORS LTD	PO BOX 15	HARLOW ESSEX, CM20 2ER UK
S4206	TOYO COMMUNICATIONS EQUIPMENT	TORANOMON BLDG 15 SHIBA TORANO MINATO KU	TOKYO, JAPAN
TK0AY	JAPAN SOLDERLESS TERMINAL MFG CO LTD	1–4–1 HIGASH I–MACHI SHINSENRI TOYONAKA–CITY	OSAKA JAPAN
TK0IR	MONITRONICS INC TAIWAN	8 SOUTH 6TH ROAD	KEPZ KAOHSIUNG TAIWAN
TK0198	HAMILTON HALLMARK	9750 SW NIMBUS AVE	BEAVERTON, OR 97005
TK0435	LEWIS SCREW CO	4300 S RACINE AVE	CHICAGO IL 60609–3320
TK0515	EVOX–RIFA INC	100 TRI–STATE INTERNATIONAL SUITE 290	LINCOLNSHIRE IL 60015
TK0875	MATSUO ELECTRONICS INC	831 S DOUBLAS ST	EL SEGUNDO CA 92641
TK0891	MICONICS	1 FAIRCHILD AVE	PLAINVIEW NY 11803
TK0977	ELECTRICAL INSULATION SUPPLIERS, INC –(DIST)	3549 N W YEON	PORTLAND OR 97210
TK1124	LUMEX OPTO/COMPONENTS INC	292 E HELLEN RD	PALATINE IL 60067–6955
TK1158	POWEL AND ASSOCIATES	111 S FINDLAY ST	SEATTLE WA 98108–2427
TK1177	BELL INDUSTRIES (DIST)	6024 SW JEAN ROAD	LAKE OSWEGO OR 97034
TK1326	NORTHWEST FOURSLIDE INC	18224 SW 100TH CT	TUALATIN OR 97062
TK1416	SHARP CORP	22–22 NAGAIKE–CHO ABENO–KU	OSAKA, JAPAN,
TK1441	GFS MANUFACTURING INC	6 PROGRESS DR PO BOX 1409	DOVER NH 03820
TK1462	YAMAICHI ELECTRONICS CO LTD 2ND FLOOR NEW KYOEI BLDG 17–11	3–CHROME SHIBAURA MINATO–KU	TOKYO JAPAN
TK1499	AMLAN INC	97 THORNWOOD RD	STAMFORD CT 06903–2617
TK1601	PULSE ENGINEERING INC	2801 MOORPARK AVE SUITE 7	SAN JOSE CA 95128
TK1719	NEDELCO BV (THOMAS & BETTS)	POSTBUS 6431	3002 AK ROTTERDAM THE NETHERLANDS
TK1727	PHILIPS NEDERLAND BV AFD ELONCO	POSTBUS 90050	5600 PB EINDHOVEN THE NETHERLANDS
TK1743	UNITRODE (UK) LTD	6 CRESSWELL PARK BLACKHEATH	LONDON SE 3 9RD ENGLAND
TK1913	WIMA THE INTER–TECHNICAL GROUP IND	2269 SAW MILL RIVER ROAD PO BOX 127	ELMSFORD NY 10523
TK2058	TDK CORPORATION OF AMERICA	1600 FEEHANVILLE DRIVE	MOUNT PROSPECT, IL 60056
TK2073	TOKYO AMERICA INC	565 W GULF ROAD	ARLINGTON HEIGHTS IL 60005

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
TK2096	KELVIN ASSOCIATES	14724 VENTURA BLVD SUITE 1003	SHERMAN OAKS CA 91403–3501
TK2248	WESTERN MICRO TECHNOLOGY	1800 NW 169TH PL SUITE B–300	BEAVERTON OR 97006
TK2262	RPM ENTERPRISES SUB OF MICROSEMI CORP	3305 W CASTOR ST	SANTA ANA CA 92704
TK2319	COLLMER	14368 PROTON RD	DALLAS TX 75244
TK2501	K–TRONICS INC	PO BOX 4398	BISBEE AZ 85603–5603
TK2520	NEC WORLD PRODUCTS	19654 8TH STREET PO BOX 517	SONOMA CA 95476
TK2538	UNITED SILICON STRUCTURES INC	1971 CONCOURSE DRIVE	SAN JOSE CA 95131
TK2569	SHARP CORPORATION	C/O TJBO LIAISON M/S 78–210	BEAVERTON, OR 97077
TK2611	STACKPOLE CORPORATION	PO BOX 14466	RALEIGH, NC 27610
TK6138	VANTIS CORPORATION	C/O DELTA TECHNICAL SALES INC 15050 SW KOLL PKWY, SUITE 2D	BEAVERTON, OR 97006

Replaceable Electrical Parts List

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1	671–2897–00			CIRCUIT BD ASSY:ACQUISITION	80009	671–2897–00
A1A1	671–2897–01			CIRCUIT BD ASSY:ACQUISITION	80009	671–2897–01
A1A2	671–2989–00			CIRCUIT BD ASSY:INPUT ATTN	80009	671–2989–00
A1A3	671–2989–00			CIRCUIT BD ASSY:INPUT ATTN	80009	671–2989–00
A1A4	671–2989–00			CIRCUIT BD ASSY:INPUT ATTN	80009	671–2989–00
A1A5	671–2989–00			CIRCUIT BD ASSY:INPUT ATTN	80009	671–2989–00
A1A6	————			CIRCUIT BD SUBASSY:CONTROL SHIFT REGISTER		
A1A7	671–2801–00			CIRCUIT BD ASSY:OVER/UNDER RANGE	80009	671–2801–00
A2	671–2917–00			CIRCUIT BD ASSY:XLR	80009	671–2917–00
A2	671–2917–01	11/18/94		CIRCUIT BD ASSY:XLR	80009	671–2917–01
A3	671–2915–00		B010248	CIRCUIT BD ASSY:DIGITAL AUDIO	80009	671–2915–00
A3	671–2915–01	B010249	B010421	CIRCUIT BD ASSY:DIGITAL AUDIO	80009	671–2915–01
A3	671–2915–02	B010422		CIRCUIT BD ASSY:DIGITAL AUDIO	80009	671–2915–02
A4	671–2916–00			CIRCUIT BD ASSY:REAR PANEL	80009	671–2916–00
A5	671–2797–00		B010329	CIRCUIT BD ASSY:AUDIO GENERATOR	80009	671–2797–00
A5	671–2797–01	B010330	B019999	CIRCUIT BD ASSY:AUDIO GENERATOR	80009	671–2797–01
A5	671–2797–02	B020100		CIRCUIT BD ASSY:AUDIO GENERATOR	80009	671–2797–01
A5A3	671-3873-00	B020100		CIRCUIT BD ASSY:RELAY	80009	671-3873-00
A5A4	671-3873-00	B020100		CIRCUIT BD ASSY:RELAY	80009	671-3873-00
A6	671–2666–00	B010100	B010324	CIRCUIT BD ASSY:CPU	80009	671–2666–00
A6	671–2666–01	B010325	B010348	CIRCUIT BD ASSY:CPU	80009	671–2666–01
A6	671–2666–02	B010349	B019999	CIRCUIT BD ASSY:CPU	80009	671–2666–02
A6	671–2666–03	B020100	7/28/97	CIRCUIT BD ASSY:CPU	80009	671–2666–03
A6	671–2666–04	7/28/97		CIRCUIT BD ASSY:CPU	80009	671–2666–04
A7	671–2900–00	B010100	B010140	CIRCUIT BD ASSY:DSP	80009	671–2900–00
A7	671–2900–01	B010141	B019999	CIRCUIT BD ASSY:DSP	80009	671–2900–01
A7	671–2900–02	B020633		CIRCUIT BD ASSY:DSP	80009	671–2900–02
A9	671–2798–00			CIRCUIT BD ASSY:FRONT PANEL	80009	671–2798–00
A9	671–2798–01	6/15/95		CIRCUIT BD ASSY:FRONT PANEL	80009	671–2798–01
A10	672–0338–00	B010100	B010283	CIRCUIT BD ASSY:MONITOR	80009	672–0338–00
A10	672–0338–01	B010284	B020100	CIRCUIT BD ASSY:MONITOR (W XFMR)	80009	672–0338–01
A10A1	671–2843–01		B020100	CIRCUIT BD ASSY:MONITOR (WO XFMR)	80009	671–2843–01
A10A2	671–2869–00		B020100	CIRCUIT BD ASSY:TRANSFORMER	80009	671–2869–00
A11	671–2841–00			CIRCUIT BD ASSY: POWER SUPPLY	80009	671–2841–00
A11	671–2841–01			CIRCUIT BD ASSY: POWER SUPPLY	80009	671–2841–01
A11	671–3891–00	B020100		CIRCUIT BD ASSY: POWER SUPPLY	80009	671–3891–00
A11	671–3891–01	6/18/97		CIRCUIT BD ASSY: POWER SUPPLY	80009	671–3891–01
A12	119–4547–01		B019999	DISK DRIVE:FLOPPY,3.5 INCH,2MB,0.5 INCH,DSDD	50356	FD–05HF–BLACK
A12	119–5413–01	B020100		DISK DRIVE:FLOPPY,3.5 INCH,2MB,0.5 INCH,DSDD	50356	119–5413–01

Replaceable Electrical Parts List (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A13	671-3872-00	B020100	B020632	CIRCUIT BD ASSY:DISPLAY DRIVER BOARD	80009	671-3872-00
A13	671-3872-01	B020633		CIRCUIT BD ASSY:DISPLAY DRIVER BOARD	80009	671-3872-01
A14	440–4145–00	B020100	B020632	DISPLAY ASSY:FLAT PANEL DISPLAY	80009	440–4145–00
A14	440–4145–01	B020633		DISPLAY ASSY:FLAT PANEL DISPLAY	80009	440–4145–01

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1	671–2897–00		B019999	CIRCUIT BD ASSY:ACQUISITION	80009	671289700
A1A1	671–2897–01	B020100		CIRCUIT BD ASSY:ACQUISITION	80009	671289701
				ATTACHED PARTS		
	129–0565–00			SPACER,POST:1.281 L,6–32,AL,0.312 HEX (QUANTITY 2)	80009	129056500
	162–0532–00			INSUL SLVG,ELEC:HT SHRINK,0.375 IDPOLYOLEFIN, BLK,0.022 THK W	06090	VERSAFIT
	210–0457–00			NUT,PL,ASSEM WA:6–32 X 0.312,STL CD PL (QUANTITY 2)	TK0435	ORDER BY DESC
	210–0967–00			WASHER,SHLDR:0.156 ID X 0.375 OD X 0.094 THK,NYL	0KB01	ORDER BY DESC
	211–0558–00			SCREW,MACHINE:6–32 X 0.25,BDGH,NYL (QUANTITY 2)	TK1158	ORDER BY DESC
	211–0722–00			SCREW,MACH:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX DR (QUANTITY 2)	0KB01	ORDER BY DESC
	337–4026–00			SHIELD,ELECT:BRASS,AM700	80009	337402600
	385–0018–00			SPACER,POST:1.25 L W/6–32 THD EA END,NYL	74594	1763–632–N–0
				END ATTACHED PARTS		
A1A1C1	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C2	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C3	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C4	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C5	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C6	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C7	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C8	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C9	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C18	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C20	283–0665–01			CAP,FXD,MICA DI:190PF,1%,100V	09023	CDA15FD191F03
A1A1C21	283–0665–01			CAP,FXD,MICA DI:190PF,1%,100V	09023	CDA15FD191F03
A1A1C22	295–0203–00			CAP SET,MATCHED:2.2UF MATCHED TO 1% OF EACH	80009	295020300
A1A1C23	295–0203–00			CAP SET,MATCHED:2.2UF MATCHED TO 1% OF EACH	80009	295020300
A1A1C24	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C25	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C26	283–0620–01			CAP,FXD,MICA DI:470PF,1%,500V	09023	CDA15FD471F03
A1A1C27	283–0620–01			CAP,FXD,MICA DI:470PF,1%,500V	09023	CDA15FD471F03
A1A1C29	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C30	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C32	283–0620–01			CAP,FXD,MICA DI:470PF,1%,500V	09023	CDA15FD471F03
A1A1C106	281–0707–00			CAP,FXD,CER DI:15000PF,10%,200V	04222	MA302C153KAA
A1A1C107	281–0707–00			CAP,FXD,CER DI:15000PF,10%,200V	04222	MA302C153KAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1C108	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C109	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C110	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C111	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C112	295–0203–00			CAP SET,MATCHED:2.2UF MATCHED TO 1% OF EACH	80009	295020300
A1A1C113	283–0665–01			CAP,FXD,MICA DI:190PF,1%,100V	09023	CDA15FD191F03
A1A1C114	283–0620–01			CAP,FXD,MICA DI:470PF,1%,500V	09023	CDA15FD471F03
A1A1C118	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C119	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C120	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C121	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C122	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C123	283–0620–01			CAP,FXD,MICA DI:470PF,1%,500V	09023	CDA15FD471F03
A1A1C124	295–0203–00			CAP SET,MATCHED:2.2UF MATCHED TO 1% OF EACH	80009	295020300
A1A1C125	283–0665–01			CAP,FXD,MICA DI:190PF,1%,100V	09023	CDA15FD191F03
A1A1C126	283–0620–01			CAP,FXD,MICA DI:470PF,1%,500V	09023	CDA15FD471F03
A1A1C127	285–1305–00			CAP,FXD,PLASTIC:0.1UF,1%,50V	14752	(D) 650D1A104F
A1A1C129	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C130	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C131	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C132	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C133	285–1305–00			CAP,FXD,PLASTIC:0.1UF,1%,50V	14752	(D) 650D1A104F
A1A1C138	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C139	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C140	285–1503–00			CAP,FXD:3900 PF WIMA	TK1913	FKP 2 3900 1%/6
A1A1C141	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C142	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C143	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C144	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C145	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C146	285–1503–00			CAP,FXD:3900 PF WIMA	TK1913	FKP 2 3900 1%/6
A1A1C151	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C152	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C201	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C202	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C203	283–0680–00			CAP,FXD,MICA DI:330PF,1%,500V	TK0891	RDM15FD331F03
A1A1C204	283–0605–01			CAP,FXD,MICA DI:678PF,1%,300V	09023	CDA15FC(678)F03
A1A1C205	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1C206	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C207	283–0680–00			CAP,FXD,MICA DI:330PF,1%,500V	TK0891	RDM15FD331F03
A1A1C208	283–0605–01			CAP,FXD,MICA DI:678PF,1%,300V	09023	CDA15FC(678)F03
A1A1C209	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C210	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C211	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C212	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C213	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C214	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C215	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C216	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C217	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C218	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C219	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C220	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C221	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C222	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C223	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C224	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C225	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C228	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C229	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C230	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C231	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C232	290–0973–00			CAP,FXD,ELCTLT:100UF,20%,25VDC	0H1N5	CEUSM1E101
A1A1C233	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C235	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C236	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C237	285–1504–00			CAP,FXD:6800 PF WIMA	TK1913	FKP 2 6800 5%/6
A1A1C238	285–1504–00			CAP,FXD:6800 PF WIMA	TK1913	FKP 2 6800 5%/6
A1A1C239	285–1344–00			CAP,FXD,PLASTIC:1000PF,100V,5%	TK1913	FKP2 1000 PF 5
A1A1C240	285–1344–00			CAP,FXD,PLASTIC:1000PF,100V,5%	TK1913	FKP2 1000 PF 5
A1A1C241	285–1344–00			CAP,FXD,PLASTIC:1000PF,100V,5%	TK1913	FKP2 1000 PF 5
A1A1C242	285–1344–00			CAP,FXD,PLASTIC:1000PF,100V,5%	TK1913	FKP2 1000 PF 5
A1A1C243	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C244	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C245	285–1342–00			CAP,FXD,PLASTIC:FILM & FOIL;220PF,5%,100V, 7.2 X 7MM	TK1913	FKP2 220 PF 5 P
A1A1C246	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1C247	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C248	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C249	285–1342–00			CAP,FXD,PLASTIC:FILM & FOIL;220PF,5%,100V,7.2 X 7MM	TK1913	FKP2 220 PF 5 P
A1A1C250	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C251	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C252	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C253	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C254	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C255	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C256	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C257	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C258	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C259	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C260	285–1349–00			CAP,FXD,MTLZD:0.1UF,5%,63VDC	TK1913	MKS2 .1/63/5
A1A1C261	281–0773–00			CAP,FXD,CERAMIC:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A1A1C262	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C263	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C264	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C265	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C266	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C267	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C268	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C269	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C274	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C277	290–0831–00			CAP,FXD,ELCTLT:470UF,+50–20%,50V	55680	UVX1H471MHA
A1A1C278	290–0831–00			CAP,FXD,ELCTLT:470UF,+50–20%,50V	55680	UVX1H471MHA
A1A1C279	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C280	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C281	290–1108–00			CAP,FXD,ALUM:1000UF,20%,25V,ESR=0.034 OHMS	62643	LXF25VB102M12X2
A1A1C283	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C284	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C287	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C288	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C290	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C291	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C292	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C293	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C294	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1C295	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C296	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C297	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C298	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C299	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C300	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C301	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C302	283–0642–01			CAP,FXD,MICA DI:33PF,2%,500V	09023	CDA10ED330G03
A1A1C303	283–0601–00			CAP,FXD,MICA DI:22PF,10%,300V	TK0891	RDM15ED220K03
A1A1C304	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C305	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C306	283–0601–00			CAP,FXD,MICA DI:22PF,10%,300V	TK0891	RDM15ED220K03
A1A1C307	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C308	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C309	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C310	283–0601–00			CAP,FXD,MICA DI:22PF,10%,300V	TK0891	RDM15ED220K03
A1A1C311	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C312	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C313	285–1305–00			CAP,FXD,PLASTIC:0.1UF,1%,50V	14752	(D) 650D1A104F
A1A1C314	283–0601–00			CAP,FXD,MICA DI:22PF,10%,300V	TK0891	RDM15ED220K03
A1A1C315	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C316	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C317	285–1305–00			CAP,FXD,PLASTIC:0.1UF,1%,50V	14752	(D) 650D1A104F
A1A1C318	285–1503–00			CAP,FXD:3900 PF WIMA	TK1913	FKP 2 3900 1%/6
A1A1C319	285–1503–00			CAP,FXD:3900 PF WIMA	TK1913	FKP 2 3900 1%/6
A1A1C320	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A1A1C321	283–0648–01			CAP,FXD,MICA DI:10PF,5%,500V,TAPED & REELED	TK0891	RDM15CD100D03
A1A1C322	283–0648–01			CAP,FXD,MICA DI:10PF,5%,500V,TAPED & REELED	TK0891	RDM15CD100D03
A1A1C323	283–0648–01			CAP,FXD,MICA DI:10PF,5%,500V,TAPED & REELED	TK0891	RDM15CD100D03
A1A1C324	283–0648–01			CAP,FXD,MICA DI:10PF,5%,500V,TAPED & REELED	TK0891	RDM15CD100D03
A1A1C325	283–0772–01			CAP,FXD,MICA DI:497PF,1%,500V	09023	CDA15FD(497)F03
A1A1C326	283–0634–01			CAP,FXD,MICA DI:65PF,1%,500V	09023	CDA15ED650F03
A1A1C327	283–0772–01			CAP,FXD,MICA DI:497PF,1%,500V	09023	CDA15FD(497)F03
A1A1C328	283–0634–01			CAP,FXD,MICA DI:65PF,1%,500V	09023	CDA15ED650F03
A1A1C329	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C330	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C331	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C332	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1C333	281–0158–00			CAP,VAR,CER DI:7–45PF,100WVDC	59660	518–006 G 7–45
A1A1C334	283–0635–01			CAP,FXD,MICA DI:51PF,1%,500V	09023	CDA15ED510F03
A1A1C335	281–0158–00			CAP,VAR,CER DI:7–45PF,100WVDC	59660	518–006 G 7–45
A1A1C336	283–0635–01			CAP,FXD,MICA DI:51PF,1%,500V	09023	CDA15ED510F03
A1A1C337	290–1313–00			CAP,FXD,ALUM:10UF,20%,50V,8 X 11MM;105 DEG,RDL	55680	UET1H100MPH1TA
A1A1C338	290–1313–00			CAP,FXD,ALUM:10UF,20%,50V,8 X 11MM;105 DEG,RDL	55680	UET1H100MPH1TA
A1A1C339	290–1313–00			CAP,FXD,ALUM:10UF,20%,50V,8 X 11MM;105 DEG,RDL	55680	UET1H100MPH1TA
A1A1C340	290–1313–00			CAP,FXD,ALUM:10UF,20%,50V,8 X 11MM;105 DEG,RDL	55680	UET1H100MPH1TA
A1A1C342	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1C343	290–0973–01			CAP,FXD,ALUM:100UF,20%,25VDC	55680	UVX1E101MEA1TA
A1A1C344	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A1A1C345	281–0775–02			CAP,FXD,CERAMIC:MLC;0.1UF,20%,50V,X7R,0.265	04222	SA205C104MAA
A1A1CR9	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR10	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR11	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR12	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR13	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR14	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR15	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR16	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR17	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR18	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR19	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR20	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR21	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR22	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR23	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR24	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR25	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR26	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR27	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR28	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR29	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR30	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR31	152–0322–00			DIODE,SIG:SCHTKY;15V,410MVF AT 1MA,1.2PF	50434	5082–2672–T25
A1A1CR32	152–0322–00			DIODE,SIG:SCHTKY;15V,410MVF AT 1MA,1.2PF	50434	5082–2672–T25
A1A1CR33	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR34	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1CR35	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR36	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR39	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR40	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR41	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR42	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR43	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR44	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR45	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1CR46	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A1A1DS1	150–0169–00			LAMP,INCAND:120V,0.025A WIRE LEAD	TK1124	IFL–LX120PS–185
A1A1DS2	150–0169–00			LAMP,INCAND:120V,0.025A WIRE LEAD	TK1124	IFL–LX120PS–185
A1A1DS3	150–0169–00			LAMP,INCAND:120V,0.025A WIRE LEAD	TK1124	IFL–LX120PS–185
A1A1DS4	150–0169–00			LAMP,INCAND:120V,0.025A WIRE LEAD	TK1124	IFL–LX120PS–185
A1A1F2	159–0195–00			FUSE,RADIAL LD:7A,125V,0.125 SEC	61857	SP7–7A
A1A1F3	159–0194–00			FUSE,WIRE LEAD:5A,125V,0.125 SEC	61857	SP5–5A LEAD TAP
A1A1F4	159–0194–00			FUSE,WIRE LEAD:5A,125V,0.125 SEC	61857	SP5–5A LEAD TAP
A1A1FL1	131–0566–00			BUS,CNDCT:DUMMY RES,0.094 OD X 0.225L	24546	OMA0207
A1A1FL2	131–0566–00			BUS,CNDCT:DUMMY RES,0.094 OD X 0.225L	24546	OMA0207
A1A1FL3	131–0566–00			BUS,CNDCT:DUMMY RES,0.094 OD X 0.225L	24546	OMA0207
A1A1FL4	131–0566–00			BUS,CNDCT:DUMMY RES,0.094 OD X 0.225L	24546	OMA0207
A1A1FL5	131–0566–00			BUS,CNDCT:DUMMY RES,0.094 OD X 0.225L	24546	OMA0207
A1A1FL6	131–0566–00			BUS,CNDCT:DUMMY RES,0.094 OD X 0.225L	24546	OMA0207
A1A1FL10	119–4641–00			FILTER:AM700,80 KHZ LPF	80009	119464100
A1A1FL11	119–4641–00			FILTER:AM700,80 KHZ LPF	80009	119464100
A1A1J1	131–2919–01			CONN,HDR:PCB;MALE,STR,1 X 4,0.1 CTR	53387	2404–6112TB
A1A1J2	131–2919–01			CONN,HDR:PCB;MALE,STR,1 X 4,0.1 CTR	53387	2404–6112TB
A1A1J25	131–5675–00			CONN,HDR PWR:PCB;MALE,RTANG,1 X 5,0.1 CTR	27264	26–65–5050
A1A1J26	131–5672–00			CONN,HDR:PCB,MALE,STR,2 X 20,0.05 X 0.1 CTR	TK1462	NFP–040A–0114–A
A1A1J27	131–5672–00			CONN,HDR:PCB,MALE,STR,2 X 20,0.05 X 0.1 CTR	TK1462	NFP–040A–0114–A
A1A1J28	131–4530–00			CONN,HDR:PCB;MALE,STR,1 X 3,0.1 CTR	00779	104344–1
A1A1J29	131–2919–01			CONN,HDR:PCB;MALE,STR,1 X 4,0.1 CTR	53387	2404–6112TB
A1A1J30	131–2919–01			CONN,HDR:PCB;MALE,STR,1 X 4,0.1 CTR	53387	2404–6112TB
A1A1K1	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K2	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K4	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K5	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K6	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1K7	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K8	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K10	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K11	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL,	61529	TF2E–5V
A1A1K12	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K13	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K20	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K21	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K22	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K23	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K24	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K25	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K26	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K27	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K28	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K29	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K30	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1K31	148–0235–00			RELAY,ARM:2 FORM C;5VDC 312 OHM COIL,GOLD CLAD SIL	61529	TF2E–5V
A1A1L1	108–0554–00			INDUCTOR,FXD:CUSTOM,POWER;5UH,20%,I<10 A	0JR03	108–0554–00
A1A1L2	108–0422–00			INDUCTOR,FXD:CUSTOM,POWER;80UH,20%,IDC<2 A	0JR03	108–O422–00
A1A1L3	108–0422–00			INDUCTOR,FXD:CUSTOM,POWER;80UH,20%,IDC<2 A	0JR03	108–O422–00
A1A1Q1	151–0254–03			TRANSISTOR,SIG:BIPOLAR,NPN;30V,500MA,125MHZ	0JR04	MPSA14, TPE2
				ATTACHED PARTS		
	214–3036–00			HEAT SINK,SEMIC:TRANSISTOR,TO–220;ALUMINUM	98978	7–363–BA
				END ATTACHED PARTS		
A1A1Q2	151–0254–03			TRANSISTOR,SIG:BIPOLAR,NPN;30V,500MA,125MHZ	0JR04	MPSA14, TPE2
				ATTACHED PARTS		
	214–3036–00			HEAT SINK,SEMIC:TRANSISTOR,TO–220;ALUMINUM	98978	7–363–BA
				END ATTACHED PARTS		
A1A1Q3	151–0254–03			TRANSISTOR,SIG:BIPOLAR,NPN;30V,500MA,125MHZ	0JR04	MPSA14, TPE2
				ATTACHED PARTS		
	214–3036–00			HEAT SINK,SEMIC:TRANSISTOR,TO–220;ALUMINUM	98978	7–363–BA
				END ATTACHED PARTS		
A1A1R24	322–3066–00			RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A1A1R25	322–3066–00			RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A1A1R29	321–0042–00			RES,FXD,FILM:26.7 OHM,1%,0.125W,TC=T0MI	57668	CRB14 FXE 26.7
A1A1R30	322–3114–00			RES,FXD:METAL FILM;150 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1500F
A1A1R32	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1R33	321–0603–07			RES,FXD,FILM:15K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE15K00B
A1A1R34	321–0603–07			RES,FXD,FILM:15K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE15K00B
A1A1R35	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R39	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A1A1R40	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A1A1R61	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R62	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A1A1R63	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A1A1R64	321–1684–07			RES,FXD,FILM:2.162K OHM,0.1%,0.125W,TC=T9	19701	5033RE2K162B
A1A1R65	321–0106–00			RES,FXD,FILM:124 OHM 1%,0.125W,TC=T0	TK1727	MR25 2322–151–1
A1A1R66	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A1A1R67	321–1684–07			RES,FXD,FILM:2.162K OHM,0.1%,0.125W,TC=T9	19701	5033RE2K162B
A1A1R68	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R70	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R71	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A1A1R75	321–0106–00			RES,FXD,FILM:124 OHM 1%,0.125W,TC=T0	TK1727	MR25 2322–151–1
A1A1R94	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R95	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A1A1R96	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A1A1R97	321–1684–07			RES,FXD,FILM:2.162K OHM,0.1%,0.125W,TC=T9	19701	5033RE2K162B
A1A1R98	321–0106–00			RES,FXD,FILM:124 OHM 1%,0.125W,TC=T0	TK1727	MR25 2322–151–1
A1A1R99	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A1A1R100	321–1684–07			RES,FXD,FILM:2.162K OHM,0.1%,0.125W,TC=T9	19701	5033RE2K162B
A1A1R101	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R102	321–0106–00			RES,FXD,FILM:124 OHM 1%,0.125W,TC=T0	TK1727	MR25 2322–151–1
A1A1R103	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R104	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A1A1R120	322–3066–00			RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A1A1R122	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A1A1R123	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A1A1R124	322–3066–00			RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A1A1R127	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R128	321–0603–07			RES,FXD,FILM:15K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE15K00B
A1A1R129	322–3114–00			RES,FXD:METAL FILM;150 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1500F
A1A1R130	321–0603–07			RES,FXD,FILM:15K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE15K00B
A1A1R131	321–0042–00			RES,FXD,FILM:26.7 OHM,1%,0.125W,TC=T0MI	57668	CRB14 FXE 26.7
A1A1R136	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R137	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1R138	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R139	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R140	321–0263–00			RES,FXD,FILM:5.36K OHM,1%,0.125W,TC=T0MI	19701	5043ED5K360F
A1A1R141	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R142	321–1701–04			RES,FXD,FILM:5.22K OHM,0.1%,0.125W,TC=T2	19701	5033RC5K220B
A1A1R143	321–0318–07			RES,FXD,FILM:20.0K OHM,0.1%,0.125W,TC=T9	19701	5033RE20K00BCM
A1A1R144	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R145	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R146	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R147	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R148	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R149	321–0263–00			RES,FXD,FILM:5.36K OHM,1%,0.125W,TC=T0MI	19701	5043ED5K360F
A1A1R150	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R151	321–1701–04			RES,FXD,FILM:5.22K OHM,0.1%,0.125W,TC=T2	19701	5033RC5K220B
A1A1R152	321–0318–07			RES,FXD,FILM:20.0K OHM,0.1%,0.125W,TC=T9	19701	5033RE20K00BCM
A1A1R153	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R154	321–0222–07			RES,FXD,FILM:2.0K OHM,0.1%,0.125W,TC=T9 MI	19701	5033RE2K000B
A1A1R215	131–4566–00			BUS,CNDCT:0 OHM,300 SPACING,SM BODYMI,DUMMY RES	91637	FRJ–50
A1A1R216	322–3164–00			RES,FXD,FILM:499 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G499ROF
A1A1R217	322–3177–00			RES,FXD:METAL FILM;681 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2G681R0F
A1A1R218	322–3222–07			RES,FXD,FILM:2K OHM,0.1%,0.2W TC=T9,SMALL BODY	91637	CCF501C20000B
A1A1R219	322–3241–00			RES,FXD,FILM:3.16K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF502G3161FT
A1A1R220	322–3308–00			RES,FXD,FILM:15.8K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G15801F
A1A1R221	131–4566–00			BUS,CNDCT:0 OHM,300 SPACING,SM BODYMI,DUMMY RES	91637	FRJ–50
A1A1R222	322–3164–00			RES,FXD,FILM:499 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G499ROF
A1A1R223	322–3177–00			RES,FXD:METAL FILM;681 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2G681R0F
A1A1R224	322–3222–07			RES,FXD,FILM:2K OHM,0.1%,0.2W TC=T9,SMALL BODY	91637	CCF501C20000B
A1A1R225	322–3241–00			RES,FXD,FILM:3.16K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF502G3161FT
A1A1R226	322–3308–00			RES,FXD,FILM:15.8K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G15801F
A1A1R227	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A1A1R228	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A1A1R229	322–3222–07			RES,FXD,FILM:2K OHM,0.1%,0.2W TC=T9,SMALL BODY	91637	CCF501C20000B
A1A1R230	322–3222–07			RES,FXD,FILM:2K OHM,0.1%,0.2W TC=T9,SMALL BODY	91637	CCF501C20000B
A1A1R231	322–3222–07			RES,FXD,FILM:2K OHM,0.1%,0.2W TC=T9,SMALL BODY	91637	CCF501C20000B
A1A1R232	322–3222–07			RES,FXD,FILM:2K OHM,0.1%,0.2W TC=T9,SMALL BODY	91637	CCF501C20000B
A1A1R239	322–3058–00			RES,FXD:METAL FILM;39.2 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–1G39R20F
A1A1R240	322–3058–00			RES,FXD:METAL FILM;39.2 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–1G39R20F
A1A1R241	322–3058–00			RES,FXD:METAL FILM;39.2 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–1G39R20F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1R242	322–3058–00			RES,FXD:METAL FILM;39.2 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–1G39R20F
A1A1R243	322–3322–00			RES,FXD:METAL FILM;22.1K OHM,1%,0.2W,TC=100	91637	CCF501G22101F
A1A1R244	322–3402–00			RES,FXD:METAL FILM;150K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G15002F
A1A1R245	311–2237–00			RES,VAR,TRMR:CERMET;25K OHM,20%,0.5W,0.197 SQ	TK2073	GF06UT2 253 M L
A1A1R246	322–3354–00			RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A1A1R247	322–3114–00			RES,FXD:METAL FILM;150 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1500F
A1A1R248	322–3114–00			RES,FXD:METAL FILM;150 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1500F
A1A1R249	322–3354–00			RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A1A1R250	322–3402–00			RES,FXD:METAL FILM;150K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G15002F
A1A1R251	322–3322–00			RES,FXD:METAL FILM;22.1K OHM,1%,0.2W,TC=100	91637	CCF501G22101F
A1A1R252	311–2237–00			RES,VAR,TRMR:CERMET;25K OHM,20%,0.5W,0.197 SQ	TK2073	GF06UT2 253 M L
A1A1R253	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A1A1R254	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A1A1R255	322–3326–00			RES,FXD,FILM:24.3K OHM,1%,0.2W,TC–T0MI,SMALL BODY	91637	CCF50–2F24301F
A1A1R256	322–3314–00			RES,FXD:METAL FILM;18.2K OHM,1%,0.2W,TC=100	91637	CCF501G18201F
A1A1R257	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A1A1R258	322–3261–00			RES,FXD,FILM:5.11K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50G5111FT
A1A1R259	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A1A1R274	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R275	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R276	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R277	308–0299–00			RES,FXD,WW:300 OHM,1%,3W	91637	RS2B–300ROF
A1A1R278	308–0299–00			RES,FXD,WW:300 OHM,1%,3W	91637	RS2B–300ROF
A1A1R283	308–0299–00			RES,FXD,WW:300 OHM,1%,3W	91637	RS2B–300ROF
A1A1R284	308–0299–00			RES,FXD,WW:300 OHM,1%,3W	91637	RS2B–300ROF
A1A1R289	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R290	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A1A1R291	322–3319–02			RES,FXD,FILM:20.5K OHM,0.5%,0.2W,TC=T2	91637	CCF501D20501D
A1A1R292	321–0026–00			RES,FXD,FILM:18.2 OHM,1%,0.125W,TC=T0MI	TK1727	MR25 2322–151–0
A1A1R293	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A1A1R294	322–3261–00			RES,FXD,FILM:5.11K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50G5111FT
A1A1R295	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A1A1R296	321–0026–00			RES,FXD,FILM:18.2 OHM,1%,0.125W,TC=T0MI	TK1727	MR25 2322–151–0
A1A1R297	322–3319–02			RES,FXD,FILM:20.5K OHM,0.5%,0.2W,TC=T2	91637	CCF501D20501D
A1A1R298	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A1A1R299	322–3261–00			RES,FXD,FILM:5.11K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50G5111FT
A1A1R300	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A1A1R301	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1R302	308–0736–00			RES,FXD,WW:200 OHM,1%,3W	91637	RS2B–B200R0F T/
A1A1R303	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R304	322–3423–00			RES,FXD,FILM:249K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G24902F
A1A1R305	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R306	308–0736–00			RES,FXD,WW:200 OHM,1%,3W	91637	RS2B–B200R0F T/
A1A1R307	322–3423–00			RES,FXD,FILM:249K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G24902F
A1A1R308	322–3354–00			RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A1A1R309	322–3354–00			RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A1A1R310	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R311	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R312	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100PPM	91637	CCF501G10002F
A1A1R313	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100PPM	91637	CCF501G10002F
A1A1R314	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100PPM	91637	CCF501G10002F
A1A1R315	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100PPM	91637	CCF501G10002F
A1A1R316	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100PPM	91637	CCF501G10002F
A1A1R317	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100PPM	91637	CCF501G10002F
A1A1R318	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100PPM	91637	CCF501G10002F
A1A1R319	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100PPM	91637	CCF501G10002F
A1A1R320	322–3251–00			RES,FXD,FILM:4.02K OHM,1%,0.2W,TC=T0	91637	CCF501G40200F
A1A1R321	322–3251–00			RES,FXD,FILM:4.02K OHM,1%,0.2W,TC=T0	91637	CCF501G40200F
A1A1R322	322–3139–00			RES,FXD:METAL FILM;274 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G274ROF
A1A1R323	322–3139–00			RES,FXD:METAL FILM;274 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G274ROF
A1A1R326	322–3231–00			RES,FXD,FILM:2.49K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–1G24900F
A1A1R327	322–3231–00			RES,FXD,FILM:2.49K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–1G24900F
A1A1R329	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R330	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R331	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R332	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A1A1R333	307–0648–00			RES NTWK,FXD,FI:8,100 OHM,2%,0.125 W	11236	761–3–R100
A1A1R334	322–3155–00			RES,FXD,FILM:402 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G402ROF
A1A1R335	322–3155–00			RES,FXD,FILM:402 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G402ROF
A1A1R336	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A1A1R337	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A1A1R338	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A1A1R339	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A1A1R339	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A1A1R340	311–2234–00			RES,VAR,TRMR:CERMET;5K OHM,20%,0.5W,0.197 SQ	TK2073	GF06UT2 502 M L
A1A1R340	322–3206–00			RES,FXD,FILM:1.37K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G13700F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1R341	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A1A1R342	322–3206–00			RES,FXD,FILM:1.37K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G13700F
A1A1TP2	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP3	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP4	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP5	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP6	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP7	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP8	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP9	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP10	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP11	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP12	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP18	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP19	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP20	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP21	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP22	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP23	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP25	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP26	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP27	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP28	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP29	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP30	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP31	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP32	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP33	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP34	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP35	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP36	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP37	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP38	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP39	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP40	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP41	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP42	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP43	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1TP45	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP46	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP47	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP48	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP49	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP50	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP51	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP52	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP53	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP54	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP55	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1TP56	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A1A1U1	156–4411–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,140UV VOS,8.0MHZ	64155	LT1124CN8
A1A1U2	156–1338–01			IC,LINEAR:BIPOLAR,OP–AMP;HIGH OUTPUT DRIVE	01295	NE5534AP
A1A1U3	156–4411–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,140UV VOS,8.0MHZ	64155	LT1124CN8
A1A1U4	156–1338–01			IC,LINEAR:BIPOLAR,OP–AMP;HIGH OUTPUT DRIVE	01295	NE5534AP
A1A1U5	156–4412–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD,SPST NO,+/–15V	1ES66	DG412DJ
A1A1U8	156–4412–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD,SPST NO,+/–15V	1ES66	DG412DJ
A1A1U17	156–4412–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD,SPST NO,+/–15V	1ES66	DG412DJ
A1A1U20	156–4412–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD,SPST NO,+/–15V	1ES66	DG412DJ
A1A1U29	156–2400–00			IC,CONVERTER:CMOS,D/A;12 BIT,CURRENT OUT,MULTIPLYING	24355	AD7541ABQ
A1A1U30	156–2400–00			IC,CONVERTER:CMOS,D/A;12 BIT,CURRENT OUT,MULTIPLYING	24355	AD7541ABQ
A1A1U31	156–1272–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,HIGH OUTPUT DRIVE	01295	NE5532P
A1A1U32	156–1272–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,HIGH OUTPUT DRIVE	01295	NE5532P
A1A1U33	156–1272–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,HIGH OUTPUT DRIVE	01295	NE5532P
A1A1U34	156–4412–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD,SPST NO,+/–15V	1ES66	DG412DJ
A1A1U35	156–3166–00			IC,MISC:CMOS,ANALOG SWITCH;DUAL DPST,55 OHM,+/–15V	1ES66	DG405DJ/C30251
A1A1U36	156–4038–00			IC,MISC:CMOS,ANALOG SWITCH;DUAL SPDT,45 OHM	1ES66	DG403DJ/C30244
A1A1U37	156–2400–00			IC,CONVERTER:CMOS,D/A;12 BIT,CURRENT OUT,MULTIPLYING	24355	AD7541ABQ
A1A1U38	156–2400–00			IC,CONVERTER:CMOS,D/A;12 BIT,CURRENT OUT,MULTIPLYING	24355	AD7541ABQ
A1A1U39	156–1272–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,HIGH OUTPUT DRIVE	01295	NE5532P
A1A1U40	156–1272–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,HIGH OUTPUT DRIVE	01295	NE5532P
A1A1U41	156–1272–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,HIGH OUTPUT DRIVE	01295	NE5532P
A1A1U42	156–4412–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD,SPST NO,+/–15V	1ES66	DG412DJ
A1A1U43	156–4038–00			IC,MISC:CMOS,ANALOG SWITCH;DUAL SPDT,45 OHM	1ES66	DG403DJ/C30244
A1A1U44	156–2093–00			IC,DIGITAL:ALSTTL,GATE;QUAD 2–INPUT	01295	SN74ALS32N
A1A1U45	156–1688–00			IC,LINEAR:BIFET,OP–AMP;DUAL,LOW OFFSET,LOW DRIFT	01295	TL287CP
A1A1U57	156–1688–00			IC,LINEAR:BIFET,OP–AMP;DUAL,LOW OFFSET,LOW DRIFT	01295	TL287CP

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1U58	156–4413–00			IC,CONVERTER:CMOS,A/D;18–BIT,50 KHZ,DUAL,DELTA SIGMA	0A384	CS5389KP
A1A1U59	156–1272–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,HIGH OUTPUT DRIVE	01295	NE5532P
A1A1U60	156–1272–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,HIGH OUTPUT DRIVE	01295	NE5532P
A1A1U61	156–0277–00			IC,LINEAR:BIPOLAR,VR;POSITIVE,5.0V,1.0A,4%	01295	UA7805CKC
A1A1U62	156–0846–00			IC,LINEAR:BIPOLAR,VR;NEGATIVE,–5.0V,1.0A,4.0%	27014	LM320T–5.0
A1A1U67	156–4414–00			IC,CONVERTER:CMOS,A/D;18–BIT,DUAL,INT REF	13919	PCM1750P
A1A1U75	156–4415–00			IC,MISC:CMOS,FILTER;1/4 RO 1/2 DECIMATING DIGITAL FILTER	13919	DF1750P
A1A1U76	156–3608–00			IC,LINEAR:BIPOLAR,V REF;POS,5.0V,0.05%,20PPM,SERIES	64155	LT1021CCN8–5
A1A1U77	156–0402–00			IC,MISC:BIPOLAR,TIMER	27014	LM555CN
A1A1U78	156–4038–00			IC,MISC:CMOS,ANALOG SWITCH;DUAL SPDT,45 OHM	1ES66	DG403DJ/C30244
A1A1U79	156–1756–00			IC,DIGITAL:ALSTTL,FLIP FLOP;DUAL D–TYPE W/CLEAR	01295	SN74ALS74AN
A1A1U80	156–4416–00			IC,MISC:CMOS,WAVEFORM GENERATOR	0AGS1	ML2036CP
A1A1U81	156–4417–00			IC,CONVERTER:CMOS,D/A;8–BIT,OCTAL	24355	DAC8840FP
A1A1U82	156–1245–00			IC,LINEAR:BIPOLAR,TRANSISTOR ARRAY;7,NPN,DARLINGTON	0CVK3	ULN2003A
A1A1U98	156–0277–00			IC,LINEAR:BIPOLAR,VR;POSITIVE,5.0V,1.0A,4%	01295	UA7805CKC
A1A1U101	156–1150–01			IC,LINEAR:BIPOLAR,VR;NEGATIVE,–5.0V,100MA,4%	27014	LM79L05ACZ/T4
A1A1U102	156–1245–00			IC,LINEAR:BIPOLAR,TRANSISTOR ARRAY;7,NPN,DARLINGTON	0CVK3	ULN2003A
A1A1U103	156–1245–00			IC,LINEAR:BIPOLAR,TRANSISTOR ARRAY;7,NPN, DARLINGTON,COMMON EMITTER,OC W/CLAMP DIODES	0CVK3	ULN2003A
A1A1U104	156–2110–00			IC,DIGITAL:ALSTTL,SHIFT RGTR;8–BIT	01295	SN74ALS164AN
A1A1U105	156–2110–00			IC,DIGITAL:ALSTTL,SHIFT RGTR;8–BIT	01295	SN74ALS164AN
A1A1U106	156–2094–00			IC,DIGITAL:ALSTTL,GATE;HEX INV	01295	SN74ALS04BN
A1A1U109	156–4418–00			IC,DIGITAL:ALSTTL,SHIFT RGTR;8–BIT SI/PISO WITH CLEAR	01295	SN74ALS166N
A1A1U110	156–3314–00			IC,MISC:TTL,INTERFACE;DIFFERENTIALLINE DRVR/RCVR PAIR	27014	DS8921A
A1A1U111	156–3435–00			IC,DIGITAL:HCTCMOS,SHMITT TRIG;HEX INV	04713	MC74HCT14AN
A1A1U112	156–4419–00			IC,OPTO:ISOLATOR;INFRARED LED,AC INPUT,60MA,XSTR OUT	04713	H11AA1
A1A1U113	156–1756–00			IC,DIGITAL:ALSTTL,FLIP FLOP;DUAL D–TYPE W/CLEAR	01295	SN74ALS74AN
A1A1U114	156–4419–00			IC,OPTO:ISOLATOR;INFRARED LED,AC INPUT,60MA,XSTR OUT	04713	H11AA1
A1A1U115	156–1756–00			IC,DIGITAL:ALSTTL,FLIP FLOP;DUAL D–TYPE W/CLEAR	01295	SN74ALS74AN
A1A1U117	160–9912–00			IC,DIGITAL:CMOS,PLD;OPT,5032,32 MACROCELL,20NS	80009	160–9912–00
A1A1U118	160–9914–00			IC,DIGITAL:CMOS,PLD;OPT,ATV2500,24 MACROCELL,14 INP	80009	160–9914–00
A1A1U119	160–9913–00			IC,DIGITAL:CMOS,PLD;EEPLD,22V10,25NS,33.3MHZ,130MA	80009	160–9913–00
				MOUNTING PARTS		
	136–0925–00			SOCKET,DIP:PCB;24 POS,2 X 12,0.1 X 0.3 CTR	00779	2–641932–3
				END MOUNTING PARTS		
A1A1U120	156–6698–02			IC,ASIC:CMOS,CUSTOM;TRANSMITTER/RECEIVER,ADG312C	80009	156669802
A1A1U121	156–2707–00			IC,DIGITAL:HCMOS,BUFFER;QUAD BUFFER, /OE, 3–STATE	01295	SN74HC125N
A1A1U122	156–1191–00			IC,LINEAR:BIFET,OP–AMP;DUAL	01295	TL072CP
A1A1U123	156–4521–00			IC,MISC:CMOS,PWR SUPPLY SUPERVISOR;MPU RESET GEN	0B0A9	DS1233–10

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A1VR1	152–0514–00			DIODE,ZENER:10V,1%,0.4W	04713	MZ4104D
A1A1VR2	152–0514–00			DIODE,ZENER:10V,1%,0.4W	04713	MZ4104D
A1A1VR3	152–0514–00			DIODE,ZENER:10V,1%,0.4W	04713	MZ4104D
A1A1VR4	152–0514–00			DIODE,ZENER:10V,1%,0.4W	04713	MZ4104D
A1A1VR5	152–0395–00			DIODE,ZENER:4.3V,5%,0.4W	04713	1N749ARL
A1A1VR6	152–0395–00			DIODE,ZENER:4.3V,5%,0.4W	04713	1N749ARL
A1A1VR7	152–0744–00			DIODE,ZENER:3.6V,5%,0.4W	04713	1N747ARL
A1A1VR8	152–0744–00			DIODE,ZENER:3.6V,5%,0.4W	04713	1N747ARL
A1A1VR9	152–0278–00			DIODE,ZENER:3V,5%,0.4W	04713	1N4372ARL
A1A1XU116	136–1230–00			SOCKET,SIMM:PCB,SIMM II,FEMALE,STR,1 X80,0.05 CTR	80009	136123000
A1A1Y1	119–4698–00			OSCILLATOR:VCXO;12.288MHZ,5PPM,0.5 TO4.5VDC	21022	H10BV–12.288MHZ
A1A2	671–2989–00			CIRCUIT BD ASSY:INPUT ATTN	80009	671298900
A1A2J1	131–1425–00			CONN,HDR:PCB;MALE,RTANG,1 X 36,0.1CTR	22526	65521–136
A1A2R28	321–0986–07			RES,FXD,FILM:25K OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A2R41	321–1296–07			RES,FXD,FILM:12.0K OHM,0.1%,0.125W,TC=T9	TK1727	MPR24–2322–141–
A1A2R42	321–0612–07			RES,FXD,FILM:500 OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A2R46	321–0756–04			RES,FXD,FILM:50K OHM,0.1%,0.125W,TC=T2MI	19701	5033RE50K00B
A1A2R49	321–1696–07			RES,FXD,FILM:6K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE6K00B
A1A2R50	321–0928–07			RES,FXD,FILM:250 OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A2R51	321–0239–07			RES,FXD,FILM:3.01K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE3K010B
A1A2R52	321–0103–00			RES,FXD,FILM:115 OHM,1%,0.125W,TC=T0	19701	5043ED115R0F
A1A2R53	321–0210–07			RES,FXD:METAL FILM;1.5K OHM,0.1%,0.125W,TC=25 PPM	91637	CMF55116C15000B
A1A2R54	321–0077–00			RES,FXD,FILM:61.9 OHM,1%,0.125W,TC=T0MI	57668	CRRB14 FXE 61.9
A1A2R281	321–0210–07			RES,FXD:METAL FILM;1.5K OHM,0.1%,0.125W,TC=25 PPM	91637	CMF55116C15000B
A1A2R282	321–0077–00			RES,FXD,FILM:61.9 OHM,1%,0.125W,TC=T0MI	57668	CRRB14 FXE 61.9
A1A3	671–2989–00			CIRCUIT BD ASSY:INPUT ATTN	80009	671298900
A1A3J1	131–1425–00			CONN,HDR:PCB;MALE,RTANG,1 X 36,0.1CTR	22526	65521–136
A1A3R28	321–0986–07			RES,FXD,FILM:25K OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A3R41	321–1296–07			RES,FXD,FILM:12.0K OHM,0.1%,0.125W,TC=T9	TK1727	MPR24–2322–141–
A1A3R42	321–0612–07			RES,FXD,FILM:500 OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A3R46	321–0756–04			RES,FXD,FILM:50K OHM,0.1%,0.125W,TC=T2MI	19701	5033RE50K00B
A1A3R49	321–1696–07			RES,FXD,FILM:6K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE6K00B
A1A3R50	321–0928–07			RES,FXD,FILM:250 OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A3R51	321–0239–07			RES,FXD,FILM:3.01K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE3K010B
A1A3R52	321–0103–00			RES,FXD,FILM:115 OHM,1%,0.125W,TC=T0	19701	5043ED115R0F
A1A3R53	321–0210–07			RES,FXD:METAL FILM;1.5K OHM,0.1%,0.125W,TC=25 PPM	91637	CMF55116C15000B

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A3R54	321–0077–00			RES,FXD,FILM:61.9 OHM,1%,0.125W,TC=T0MI	57668	CRRB14 FXE 61.9
A1A3R281	321–0210–07			RES,FXD:METAL FILM;1.5K OHM,0.1%,0.125W,TC=25 PPM	91637	CMF55116C15000B
A1A3R282	321–0077–00			RES,FXD,FILM:61.9 OHM,1%,0.125W,TC=T0MI	57668	CRRB14 FXE 61.9
A1A4	671–2989–00			CIRCUIT BD ASSY:INPUT ATTN	80009	671298900
A1A4J1	131–1425–00			CONN,HDR:PCB;MALE,RTANG,1 X 36,0.1CTR	22526	65521–136
A1A4R28	321–0986–07			RES,FXD,FILM:25K OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A4R41	321–1296–07			RES,FXD,FILM:12.0K OHM,0.1%,0.125W,TC=T9	TK1727	MPR24–2322–141–
A1A4R42	321–0612–07			RES,FXD,FILM:500 OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A4R46	321–0756–04			RES,FXD,FILM:50K OHM,0.1%,0.125W,TC=T2MI	19701	5033RE50K00B
A1A4R49	321–1696–07			RES,FXD,FILM:6K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE6K00B
A1A4R50	321–0928–07			RES,FXD,FILM:250 OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A4R51	321–0239–07			RES,FXD,FILM:3.01K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE3K010B
A1A4R52	321–0103–00			RES,FXD,FILM:115 OHM,1%,0.125W,TC=T0	19701	5043ED115R0F
A1A4R53	321–0210–07			RES,FXD:METAL FILM;1.5K OHM,0.1%,0.125W,TC=25 PPM	91637	CMF55116C15000B
A1A4R54	321–0077–00			RES,FXD,FILM:61.9 OHM,1%,0.125W,TC=T0MI	57668	CRRB14 FXE 61.9
A1A4R281	321–0210–07			RES,FXD:METAL FILM;1.5K OHM,0.1%,0.125W,TC=25 PPM	91637	CMF55116C15000B
A1A4R282	321–0077–00			RES,FXD,FILM:61.9 OHM,1%,0.125W,TC=T0MI	57668	CRRB14 FXE 61.9
A1A5	671–2989–00			CIRCUIT BD ASSY:INPUT ATTN	80009	671298900
A1A5J1	131–1425–00			CONN,HDR:PCB;MALE,RTANG,1 X 36,0.1CTR	22526	65521–136
A1A5R28	321–0986–07			RES,FXD,FILM:25K OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A5R41	321–1296–07			RES,FXD,FILM:12.0K OHM,0.1%,0.125W,TC=T9	TK1727	MPR24–2322–141–
A1A5R42	321–0612–07			RES,FXD,FILM:500 OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A5R46	321–0756–04			RES,FXD,FILM:50K OHM,0.1%,0.125W,TC=T2MI	19701	5033RE50K00B
A1A5R49	321–1696–07			RES,FXD,FILM:6K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE6K00B
A1A5R50	321–0928–07			RES,FXD,FILM:250 OHM,0.1%,0.125W,TC=T9MI	TK1727	MPR24–2322–141–
A1A5R51	321–0239–07			RES,FXD,FILM:3.01K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE3K010B
A1A5R52	321–0103–00			RES,FXD,FILM:115 OHM,1%,0.125W,TC=T0	19701	5043ED115R0F
A1A5R53	321–0210–07			RES,FXD:METAL FILM;1.5K OHM,0.1%,0.125W,TC=25 PPM	91637	CMF55116C15000B
A1A5R54	321–0077–00			RES,FXD,FILM:61.9 OHM,1%,0.125W,TC=T0MI	57668	CRRB14 FXE 61.9
A1A5R281	321–0210–07			RES,FXD:METAL FILM;1.5K OHM,0.1%,0.125W,TC=25 PPM	91637	CMF55116C15000B
A1A5R282	321–0077–00			RES,FXD,FILM:61.9 OHM,1%,0.125W,TC=T0MI	57668	CRRB14 FXE 61.9
A1A6	————			CIRCUIT BD SUBASSY:CONTROL SHIFT REGISTER		
A1A6C290	283–5004–00			CAP,FXD,CERAMIC:MLC;0.1UF,10%,25V,X7R,1206	TK2058	C3216X7R1E104K–
A1A6C291	283–5004–00			CAP,FXD,CERAMIC:MLC;0.1UF,10%,25V,X7R,1206	TK2058	C3216X7R1E104K–
A1A6C292	283–5004–00			CAP,FXD,CERAMIC:MLC;0.1UF,10%,25V,X7R,1206	TK2058	C3216X7R1E104K–

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A6C293	283–5004–00			CAP,FXD,CERAMIC:MLC;0.1UF,10%,25V,X7R,1206	TK2058	C3216X7R1E104K–
A1A6U83	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A6U84	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A6U85	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A6U86	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A6U87	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A6U88	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A6U89	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A6U90	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A6U91	156–5480–01			IC,DIGITAL:HCMOS,RGTR;8–BIT SHIFT RGTR	0JR04	TC74HC595AFN(EL
A1A7	671–2801–00			CIRCUIT BD ASSY:OVER/UNDER RANGE	80009	671280100
A1A7C5	283–5003–00			CAP,FXD,CERAMIC:MLC;0.01UF,10%,50V,X7R,1206	TK2058	C3216X7R1H103K–
A1A7C6	283–5003–00			CAP,FXD,CERAMIC:MLC;0.01UF,10%,50V,X7R,1206	TK2058	C3216X7R1H103K–
A1A7C7	283–5003–00			CAP,FXD,CERAMIC:MLC;0.01UF,10%,50V,X7R,1206	TK2058	C3216X7R1H103K–
A1A7C8	283–5003–00			CAP,FXD,CERAMIC:MLC;0.01UF,10%,50V,X7R,1206	TK2058	C3216X7R1H103K–
A1A7C9	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 T
A1A7C10	283–5197–00			CAP,FXD,CERAMIC:MLC;330PF,5%,100V,NPO,1206	04222	12061A331JAT1A
A1A7C11	283–5197–00			CAP,FXD,CERAMIC:MLC;330PF,5%,100V,NPO,1206	04222	12061A331JAT1A
A1A7J1	131–1425–00			CONN,HDR:PCB;MALE,RTANG,1 X 36,0.1CTR	22526	65521–136
A1A7J2	131–1425–00			CONN,HDR:PCB;MALE,RTANG,1 X 36,0.1CTR	22526	65521–136
A1A7Q1	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	MMBT3904LT1
A1A7Q2	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	MMBT3904LT1
A1A7Q3	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	MMBT3904LT1
A1A7Q4	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	MMBT3904LT1
A1A7R1	321–5024–00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A1A7R2	321–5013–00			RES,FXD:THICK FILM;392 OHM,1%,0.125W,TC=100	50139	BCK3920FT
A1A7R3	321–5012–00			RES,FXD:THICK FILM;332 OHM,1%,0.125W,TC=100	50139	BCK3320FT
A1A7R4	321–5012–00			RES,FXD:THICK FILM;332 OHM,1%,0.125W,TC=100	50139	BCK3320FT
A1A7R5	321–5013–00			RES,FXD:THICK FILM;392 OHM,1%,0.125W,TC=100	50139	BCK3920FT
A1A7R6	321–5024–00			RES,FXD:THICK FILM;3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A1A7R15	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R16	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R17	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R18	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R19	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R20	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R21	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A1A7R22	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R23	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R24	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R25	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R26	321–5032–00			RES,FXD:THICK FILM;15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A1A7R27	321–5018–00			RES,FXD:THICK FILM;1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A1A7U1	156–5262–01			IC,LINEAR:BIPOLAR,COMPARATOR;QUAD,SINGLE SUPPLY	01295	LM339DR
A1A7U2	156–5262–01			IC,LINEAR:BIPOLAR,COMPARATOR;QUAD,SINGLE SUPPLY	01295	LM339DR
A1A7U3	156–5145–01			IC,DIGITAL:HCTCMOS,FLIP FLOP;DUAL D–TYPE	01295	SN74HCT74D
A1A7U4	156–5145–01			IC,DIGITAL:HCTCMOS,FLIP FLOP;DUAL D–TYPE	01295	SN74HCT74D
A1A7U5	156–5309–00			IC,DIGITAL:HCTCMOS,MUX;QUAD 2–TO–1 DATA SELECTOR	01295	SN74HCT157D
A1A7VR1	152–5023–00			DIODE,ZENER:5.1V,5%,225MW	04713	MMBZ5231BLT1

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A2	671–2917–00			CIRCUIT BD ASSY:XLR	80009	671–2917–00
A2	671–2917–01	11/18/94		CIRCUIT BD ASSY:XLR	80009	671–2917–01
				ATTACHED PARTS		
	337–3104–00			SHIELD,ELEC:CKT BD (QUANTITY 3)	80009	337310400
	343–0549–00			STRAP,TIEDOWN,E:0.098 W X 4.0 L,ZYTEL (QUANTITY 5)	TK1499	HW–047
				END ATTACHED PARTS		
A2C5	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A2C6	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A2C7	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A2C8	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50V,TAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A2C9	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A2C10	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50V,TAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A2C11	283–0060–00			CAP,FXD,CER DI:100PF,5%,200V	59660	855–535U2J101J
A2C12	283–0060–00			CAP,FXD,CER DI:100PF,5%,200V	59660	855–535U2J101J
A2C13	283–0211–02			CAP,FXD,CER DI:0.1UF,10%,200WVDC,X7R,T&A	04222	SR302C104KAAAP1
A2C14	283–0060–00			CAP,FXD,CER DI:100PF,5%,200V	59660	855–535U2J101J
A2C15	283–0060–00			CAP,FXD,CER DI:100PF,5%,200V	59660	855–535U2J101J
A2C16	283–0211–02			CAP,FXD,CER DI:0.1UF,10%,200WVDC,X7R,T&A	04222	SR302C104KAAAP1
A2C17	281–0788–00			CAP,FXD,CERAMIC:MLC;470PF,10%,100V,0.100 X0.170	04222	SA102C471KAA
A2C18	281–0788–00			CAP,FXD,CERAMIC:MLC;470PF,10%,100V,0.100 X0.170	04222	SA102C471KAA
A2C19	281–0814–00			CAP,FXD,CERAMIC:MLC;100 PF,10%,100V,0.100 X	TK1743	CGB101KEN
A2C20	281–0814–00			CAP,FXD,CERAMIC:MLC;100 PF,10%,100V,0.100 X	TK1743	CGB101KEN
A2C21	281–0814–00			CAP,FXD,CERAMIC:MLC;100 PF,10%,100V,0.100 X	TK1743	CGB101KEN
A2C22	281–0814–00			CAP,FXD,CERAMIC:MLC;100 PF,10%,100V,0.100 X	TK1743	CGB101KEN
A2J1	131–3987–00			CONN,CIRC:PCB,AUDIO;MALE,RTANG,3 POS,1.22H X 1.024 W	0FMA6	NC3MD–H
A2J2	131–5230–00			CONN,CIRC:PCB/PNL,AUDIO;FEMALE,RTANG,3 POS	0FMA6	NC3FDH
A2J3	131–3987–00			CONN,CIRC:PCB,AUDIO,;MALE,RTANG,3 POS,1.22H X 1.024 W	0FMA6	NC3MD–H
A2J4	131–3987–00			CONN,CIRC:PCB,AUDIO,;MALE,RTANG,3 POS,1.22H X 1.024 W	0FMA6	NC3MD–H
A2J5	131–5230–00			CONN,CIRC:PCB/PNL,AUDIO;FEMALE,RTANG,3 POS	0FMA6	NC3FDH
A2J6	131–5230–00			CONN,CIRC:PCB/PNL,AUDIO;FEMALE,RTANG,3 POS	0FMA6	NC3FDH
A2J7	131–3358–00			CONN,HDR:PCB,;MALE,RTANG,2 X 5,0.1 CTR	53387	2510–5002UB
A2J8	131–2919–01			CONN,HDR:PCB,;MALE,STR,1 X 4,0.1 CTR	53387	2404–6112TB
A2J9	131–2919–01			CONN,HDR:PCB,;MALE,STR,1 X 4,0.1 CTR	53387	2404–6112TB
A2J10	131–2919–01			CONN,HDR:PCB,;MALE,STR,1 X 4,0.1 CTR	53387	2404–6112TB
A2J11	131–2919–01			CONN,HDR:PCB,;MALE,STR,1 X 4,0.1 CTR	53387	2404–6112TB
A2R1	322–3050–00			RES,FXD,FILM:32.4 OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G32R40F
A2R2	322–3050–00			RES,FXD,FILM:32.4 OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G32R40F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A2R3	322–3050–00			RES,FXD,FILM:32.4 OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G32R40F
A2R4	322–3050–00			RES,FXD,FILM:32.4 OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G32R40F
A2T1	120–1933–00			TRANSFORMER,SIG:WIDEBAND;0.02–100MHZ,INSERT	15542	T 1.5–6 X65
A2T2	120–1959–00		11/18/94	XFMR,TOROID:AM700 XLR	80009	120-1959-00
A2T2	120–1860–00	11/18/94		TRANSFORMER,SIG:TOROID;1:1,22UH/WINDING	0JR03	Z–93145B
A2T4	120–1959–00		11/18/94	XFMR,TOROID:AM700 XLR	80009	120-1959-00
A2T4	120–1860–00	11/18/94		TRANSFORMER,SIG:TOROID;1:1,22UH/WINDING	0JR03	Z–93145B
A2T5	120–1860–00			TRANSFORMER,SIG:TOROID;1:1,22UH/WINDING	0JR03	Z–93145B
A2T6	120–1959–00		11/18/94	XFMR,TOROID:AM700 XLR	80009	120-1959-00
A2T6	120–1860–00	11/18/94		TRANSFORMER,SIG:TOROID;1:1,22UH/WINDING	0JR03	Z–93145B
A2T7	120–1860–00			TRANSFORMER,SIG:TOROID;1:1,22UH/WINDING	0JR03	Z–93145B
A2T8	120–1959–00		11/18/94	XFMR,TOROID:AM700 XLR	80009	120-1959-00
A2T8	120–1860–00	11/18/94		TRANSFORMER,SIG:TOROID;1:1,22UH/WINDING	80009	Z–93145B
A2T9	120–1959–00			XFMR,TOROID:AM700 XLR	80009	120-1959-00
A2T10	120–1959–00		11/18/94	XFMR,TOROID:AM700 XLR	80009	120-1959-00
A2T10	120–1860–00	11/18/94		TRANSFORMER,SIG:TOROID;1:1,22UH/WINDING	80009	Z–93145B
A2T11	120–1959–00		11/18/94	XFMR,TOROID:AM700 XLR	80009	120-1959-00
A2T11	120–1860–00	11/18/94		TRANSFORMER,SIG:TOROID;1:1,22UH/WINDING	80009	Z–93145B

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3	671–2915–00		B010248	CIRCUIT BD ASSY:DIGITAL AUDIO	80009	671–2915–00
A3	671–2915–01	B010249	B010432	CIRCUIT BD ASSY:DIGITAL AUDIO	80009	671–2915–01
A3	671–2915–02	B010422		CIRCUIT BD ASSY:DIGITAL AUDIO	80009	671–2915–02
				ATTACHED PARTS		
	337–4002–00			SHIELD,ELEC:AM700 (DIGITAL AUDIO),AM700 (QUANTITY 4)	80009	337–4002–00
				END ATTACHED PARTS		
A3C1	281–0772–00			CAP,FXD,CERAMIC:MLC;4700PF,10%,100V	04222	SA101C472KAA
A3C5	281–0765–00			CAP,FXD,CER DI:100PF,5%,100V	04222	SA102A101JAA
A3C6	281–0765–00			CAP,FXD,CER DI:100PF,5%,100V	04222	SA102A101JAA
A3C7	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C8	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C9	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C10	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C11	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C21	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C23	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C24	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C25	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C26	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C27	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C28	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50V,TAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A3C29	283–0142–00			CAP,FXD,CER DI:0.0027UF,5%,200V	TK2058	CK45YE2D272J–A
A3C31	281–0812–00			CAP,FXD,CERAMIC:MLC;1000PF,10%,100V	04222	SA101C102KAA
A3C32	283–0142–00			CAP,FXD,CER DI:0.0027UF,5%,200V	TK2058	CK45YE2D272J–A
A3C33	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C33	283–0142–00			CAP,FXD,CER DI:0.0027UF,5%,200V	TK2058	CK45YE2D272J–A
A3C34	281–0765–00			CAP,FXD,CER DI:100PF,5%,100V	04222	SA102A101JAA
A3C35	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C37	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C40	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C42	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X0.170	04222	SA102C271KAA
A3C44	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C47	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C48	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C49	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C50	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C51	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C53	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C56	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C57	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C61	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C62	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C63	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C64	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C65	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C66	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C67	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C68	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C69	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C70	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C71	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C75	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C76	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C78	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C81	285–1340–00			CAP,FXD,PLSTC:MTLZD FILM;0.01UF,10%,63V,POLYEST	TK1913	MKS2 .01/63/10
A3C84	285–1340–00			CAP,FXD,PLSTC:MTLZD FILM;0.01UF,10%,63V,POLYEST	TK1913	MKS2 .01/63/10
A3C85	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C86	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C87	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C89	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C90	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C91	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C92	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C93	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C94	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C95	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C96	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C97	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C98	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C99	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C100	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C101	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C102	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C103	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C104	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C105	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C106	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C107	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C108	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C109	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C110	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C111	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C112	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C113	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C114	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C115	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C116	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C117	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C118	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C119	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C120	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C121	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C122	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C123	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C124	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C125	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C126	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C127	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C129	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C130	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C131	281–0916–00			CAP,FXD,CER DI:0.047UF,+/–10%,50V,AXIAL,0.120 INCH DIA	04222	SA115C473KAA
A3C132	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C133	281–0916–00			CAP,FXD,CER DI:0.047UF,+/–10%,50V,AXIAL,0.120 INCH DIA	04222	SA115C473KAA
A3C134	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C135	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C136	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C137	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C138	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C139	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C140	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C141	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C142	281–0773–00			CAP,FXD,CERAMIC:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A3C143	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C144	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C147	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C148	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C149	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C150	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50V,TAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A3C151	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C152	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C153	281–0773–00			CAP,FXD,CERAMIC:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A3C154	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C155	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C157	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A3C158	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C160	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50V,TAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A3C161	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C162	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C163	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C164	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C165	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C166	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C167	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C168	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C170	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C171	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C172	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C173	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C174	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C175	281–0775–01		B010248	CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C177	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C179	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C180	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C181	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C182	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C183	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C184	285–1345–00			CAP,FXD,PLSTC:FILM & FOIL;2200PF,5%,100V,POLYESTER	TK1913	2200 PF 5 PERCE
A3C185	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C186	283–0594–02			CAP,FXD,MICA DI:1000PF,1%,100V,T&A	09023	CDA15FA102F03
A3C187	283–0594–02			CAP,FXD,MICA DI:1000PF,1%,100V,T&A	09023	CDA15FA102F03
A3C188	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C189	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C190	283–0594–02			CAP,FXD,MICA DI:1000PF,1%,100V,T&A	09023	CDA15FA102F03
A3C191	283–0594–02			CAP,FXD,MICA DI:1000PF,1%,100V,T&A	09023	CDA15FA102F03
A3C192	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C193	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C194	283–0594–02			CAP,FXD,MICA DI:1000PF,1%,100V,T&A	09023	CDA15FA102F03
A3C195	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C196	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C197	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C199	281–0811–00			CAP,FXD,CERAMIC:MLC;10PF,10%,200V,0.100 X 0.170	04222	SA102A100KAA
A3C202	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50V,TAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A3C203	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X 0.170	04222	SA102C271KAA
A3C204	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X 0.170	04222	SA102C271KAA
A3C205	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C206	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C207	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C208	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C209	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C210	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C211	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C212	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C213	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C214	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C215	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C216	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C217	281–0816–00			CAP,FXD,CERAMIC:MLC;82 PF,5%,100V,0.100 X 0.170	TK1743	CGB820JEN
A3C218	281–0864–00			CAP,FXD,CERAMIC:MLC;430PF,5%,100V,0.100 X 0.170	04222	SA101A431JAA
A3C219	281–0851–00			CAP,FXD,CERAMIC:MLC;180PF,5%,100VDC	04222	SA101A181JAA
A3C220	281–0788–00			CAP,FXD,CERAMIC:MLC;470PF,10%,100V,0.100 X 0.170	04222	SA102C471KAA
A3C221	281–0765–00			CAP,FXD,CER DI:100PF,5%,100V	04222	SA102A101JAA
A3C222	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X 0.170	04222	SA102C271KAA
A3C223	290–0524–01			CAP,FXD,ELCTLT:4.7UF,20%,10V	31433	T350A475M010AS
A3C224	290–0512–00			CAP,FXD,ELCTLT:22UF,20%,15V	2N936	199D226X0015DA1
A3C226	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C227	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C230	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C232	290–1296–01			CAP,FXD,ALUM:100UF,20%,25V,8 X 9MM;105 DEG,RDL,T&A	55680	URT1E101MNH1TA
A3C234	285–1378–01			CAP,FXD,PLSTC:MTLZD FILM;0.1UF,20%,63V, POLYESTER,0.394 X 0.098	TK1913	MKS33 0.1/63/20
A3C235	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X0.170	04222	SA102C271KAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C236	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X0.170	04222	SA102C271KAA
A3C237	285–1378–01			CAP,FXD,PLSTC:MTLZD FILM;0.1UF,20%,63V,POLYESTER	TK1913	MKS33 0.1/63/20
A3C238	285–1378–01			CAP,FXD,PLSTC:MTLZD FILM;0.1UF,20%,63V,POLYESTER	TK1913	MKS33 0.1/63/20
A3C239	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X 0.170	04222	SA102C271KAA
A3C240	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X 0.170	04222	SA102C271KAA
A3C241	285–1378–01			CAP,FXD,PLSTC:MTLZD FILM;0.1UF,20%,63V,POLYESTER	TK1913	MKS33 0.1/63/20
A3C242	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C243	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C244	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C245	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C246	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A3C247	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A3C248	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A3C250	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C251	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C252	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C253	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C254	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C255	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A3C256	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A3C257	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C258	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C259	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C260	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C261	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A3C262	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X 0.170	04222	SA102C271KAA
A3C263	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A3C264	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A3C265	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A3C266	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A3C267	281–2515–00		B010248			
A3C267	281–0812–00	B010249		CAP,FXD,CERAMIC:MLC,1000PF,10%,100V,0.100 X 0.170	04222	SA101C102KAA
A3C268	283–0193–00			CAP,FXD,CER DI:510PF,2%,100V	04222	SR201A511GAA
A3C269	283–0193–00			CAP,FXD,CER DI:510PF,2%,100V	04222	SR201A511GAA
A3C270	281–0791–00			CAP,FXD,CERAMIC:MLC;270PF,10%,100V,0.100 X 0.170	04222	SA102C271KAA
A3C271	281–0816–00		B010248	CAP,FXD,CERAMIC:MLC;82 PF,5%,100V,0.100 X 0.170	TK1743	CGB820JEN
A3C272	281–0785–00		B010248	CAP,FXD,CERAMIC:MLC;68PF,10%,100V,0.100 X 0.170	04222	SA102A680KAA
A3C273	281–0812–00	B010249		CAP,FXD,CERAMIC:MLC,1000PF,10%,100V,0.100 X 0.170	04222	SA101C102KAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3C274	290–0524–01	B010249		CAP,FXD,TANT:4.7UF,20%,10V, RADIAL	2N936	199D475X0010AB1
A3CR3	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR7	152–0964–00			DIODE,SIG:ULTRA FAST;ARRAY,6 COM CATH/COMANODE PAIR	TK2262	DM 308BT100SP–4
A3CR8	152–0964–00			DIODE,SIG:ULTRA FAST;ARRAY,6 COM CATH/COMANODE PAIR	TK2262	DM 308BT100SP–4
A3CR9	152–0673–00			DIODE,SIG:VVC;18V,500PF,12%,C1/C15=15,Q=150	04713	MVAM115
A3CR16	152–0673–00			DIODE,SIG:VVC;18V,500PF,12%,C1/C15=15,Q=150	04713	MVAM115
A3CR18	152–0673–00			DIODE,SIG:VVC;18V,500PF,12%,C1/C15=15,Q=150	04713	MVAM115
A3CR19	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR21	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR22	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A3CR23	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A3CR24	152–0673–00			DIODE,SIG:VVC;18V,500PF,12%,C1/C15=15,Q=150	04713	MVAM115
A3CR25	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A3CR27	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR30	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR31	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A3CR32	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR33	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR34	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR35	152–0951–00			DIODE,SIG:SCHTKY;60V,2.25PF	66958	1N6263
A3CR36	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A3DS1	150–1160–00			DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A3DS2	150–1022–00			LAMP,LED RDOUT:7 SEG NUMERIC,LH DEC ORANGE	0MS63	MAN72A
A3F1	307–1593–00			RES,THERMAL:CIRCUIT PROTECTOR,0.2 AMP	06090	RXE–020
A3F2	307–1593–00			RES,THERMAL:CIRCUIT PROTECTOR,0.2 AMP	06090	RXE–020
A3F3	159–0208–02			FUSE,WIRE LEAD:2A,125V AC/DC,5 SEC,AXIAL LEAD,T & R	75915	R251 002–T1
A3J1	131–1857–00			CONN,HDR:PCB;MALE,STR,1 X 36,0.1 CTR,0.230	58050	082–3644–SS10
A3J2	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A3J4	131–3520–00			CONN,HDR:PCB;MALE,STR,2 X 5,0.1 CTR,0.365H X 0.112 TAIL	53387	2510–6002UB
A3J27	131–4048–00			CONN,HDR:PCB;MALE,RTANG,2 X 17,0.05 X 0.1CTR	TK1462	NFP–34A–0112A
A3J29	131–3520–00			CONN,HDR:PCB;MALE,STR,2 X 5,0.1 CTR,0.365H X 0.112 TAIL	53387	2510–6002UB
A3J30	131–5674–00			CONN,HDR PWR:PCB;MALE,RTANG,1 X 8,0.156 CTR	27264	26–65–5080
A3J31	131–5630–00			CONN,HDR:PCB;MALE,RTANG,2 X 20,0.05 X 0.1CTR	TK1462	NFP–040A–112–AF
A3J32	131–5630–00			CONN,HDR:PCB;MALE,RTANG,2 X 20,0.05 X 0.1CTR	TK1462	NFP–040A–112–AF
A3J33	131–3358–00			CONN,HDR:PCB;MALE,RTANG,2 X 5,0.1 CTR	53387	2510–5002UB
A3L1	114–0494–00			INDUCTOR,VAR:SIGNAL,SHIELDED;2.2–3.2UH,RDC<0.466 OHM	02113	7M3–272
A3L2	108–1243–00			INDUCTOR,FXD:SIGNAL;27UH,2%,IDC<135 MA,RDC<3.5 OHM	24226	ML10–272G
A3L5	114–0494–00			INDUCTOR,VAR:SIGNAL,SHIELDED;2.2–3.2UH,RDC<0.466 OHM	02113	7M3–272

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3L6	108–1243–00		B010248	INDUCTOR,FXD:SIGNAL;27UH,2%,IDC<135 MA,RDC<3.5 OHM	24226	ML10–272G
A3L7	114–0494–00			INDUCTOR,VAR:SIGNAL,SHIELDED;2.2–3.2UH,RDC<0.466 OHM	02113	7M3–272
A3L8	108–1243–00		B010248	INDUCTOR,FXD:SIGNAL;27UH,2%,IDC<135 MA,RDC<3.5 OHM	24226	ML10–272G
A3L10	108–1263–00			INDUCTOR,FXD:POWER;10UH,10%,I<2.1A,RDC<0.043 OHM	TK2058	TSL0707–100K1R9
A3L11	108–1263–00			INDUCTOR,FXD:POWER;10UH,10%,I<2.1A,RDC<0.043 OHM	TK2058	TSL0707–100K1R9
A3L13	108–1263–00		B010248	INDUCTOR,FXD:POWER;10UH,10%,I<2.1A,RDC<0.043 OHM	TK2058	TSL0707–100K1R9
A3L14	108–0654–00			INDUCTOR,FXD:SIGNAL;2.2MH,5%,IDC<75 MA,RDC<45.6 OHM	TK1177	ORDER BY DESC
A3L15	108–0345–00		B010248	INDUCTOR,FXD:SIGNAL;1.8UH,10%,ON FORM 276–0153–00	0JR03	108–0345–00
A3L15	108–0245–01	B010249		INDUCTOR,FXD:CUSTOM,POWER,3.9UH,10%,IDC<800 MA,RDC<0.264 OHM,Q>35@7.9MHZ,SRF>61MHZ,AXIAL	0JR03	108–0245–01
A3L16	114–0494–00			INDUCTOR,VAR:SIGNAL,SHIELDED;2.2–3.2UH,RDC<0.466 OHM	02113	7M3–272
A3L18	108–1281–00			INDUCTOR,FXD:POWER;2.2UH,10%,IDC<630 MA	TK2058	SPT03O5–2R2K
A3L19	108–0654–00			INDUCTOR,FXD:SIGNAL;2.2MH,5%,IDC<75 MA,RDC<45.6 OHM	TK1177	ORDER BY DESC
A3L20	108–1263–00			INDUCTOR,FXD:POWER;10UH,10%,I<2.1A,RDC<0.043 OHM,Q>20,SRF>19MHZ,BOBBIN	TK2058	TSL0707–100K1R9
A3L21	108–0436–00			INDUCTOR,FXD:CUSTOM,SIGNAL;240UH,Q>54@25MHZ	0JR03	108–0436–00
A3L22	108–0182–00			INDUCTOR,FXD:CUSTOM,SIGNAL;293NH,10%,Q>59@25MHZ	0JR03	108–0182–00
A3L23	108–0182–00			INDUCTOR,FXD:CUSTOM,SIGNAL;293NH,10%,Q>59@25MHZ	0JR03	108–0182–00
A3L24	108–0436–00			INDUCTOR,FXD:CUSTOM,SIGNAL;240UH,Q>54@25MHZ	0JR03	108–0436–00
A3Q4	151–0188–05			TRANSISTOR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ,AMPL	04713	2N3906RLRP
A3Q7	151–0711–02			TRANSISTOR,SIG:BIPOLAR,NPN;25V,50MA,650MHZ,AMPL	04713	MPSH10RLRP
A3Q8	151–0711–02			TRANSISTOR,SIG:BIPOLAR,NPN;25V,50MA,650MHZ,AMPL	04713	MPSH10RLRP
A3Q10	151–0188–05			TRANSISTOR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ,AMPL	04713	2N3906RLRP
A3Q11	151–0188–05			TRANSISTOR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ,AMPL	04713	2N3906RLRP
A3Q12	151–0190–09			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	2N3904RLRP
A3Q13	151–0190–09			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	2N3904RLRP
A3Q14	151–0190–09			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	2N3904RLRP
A3Q15	151–0190–09			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	2N3904RLRP
A3Q16	151–0190–09			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	2N3904RLRP
A3Q17	151–0190–09			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	2N3904RLRP
A3Q18	151–0188–05			TRANSISTOR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ,AMPL	04713	2N3906RLRP
A3Q19	151–1025–03			TRANSISTOR,SIG:JFET,N–CH;6V,15MA,4.5MS,AMPL	17856	J304TA
A3Q20	151–1121–01		B010248	TRANSISTOR,PWR:MOS,N–CH;60V,0.5A,3.0 OHM	17856	VN0606L–TA
A3Q21	151–1121–01			TRANSISTOR,PWR:MOS,N–CH;60V,0.5A,3.0 OHM	17856	VN0606L–TA
A3Q22	151–0190–09	B010249		TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ, AMPLIFIER,2N3904,TO–92 EBC	04713	2N3904RLRA
A3Q23	151–0188–05	B010249		TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPLIFIER,2N3906,TO–92 EBC,T&A	04713	2N3906RLRA
A3R1	307–0383–00			RES NTWK,FXD,FI:13,4.7K OHM,2%,0.25W	91637	MDP14–01–472G
A3R2	307–0383–00			RES NTWK,FXD,FI:13,4.7K OHM,2%,0.25W	91637	MDP14–01–472G

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R3	307–0383–00			RES NTWK,FXD,FI:13,4.7K OHM,2%,0.25W	91637	MDP14–01–472G
A3R5	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R6	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R7	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R8	322–3162–00			RES,FXD:METAL FILM;475 OHM,1%,0.2W,TC=100 PPM	91637	CCF50G475R0F
A3R17	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R19	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R21	322–3126–00			RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G200ROF
A3R22	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R107	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R108	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A3R109	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R110	322–3258–00			RES,FXD:METAL FILM;4.75K OHM,1%,0.2W,TC=100	56845	CCF50–2–G4751FT
A3R111	307–0649–00			RES NTWK,FXD,FI:8,33 OHM,2%,0.125W	11236	761–3–R33 OHM
A3R112	307–0649–00			RES NTWK,FXD,FI:8,33 OHM,2%,0.125W	11236	761–3–R33 OHM
A3R113	322–3068–00			RES,FXD:METAL FILM;49.9 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G49R90F
A3R122	322–3051–00			RES,FXD:METAL FILM;33.2 OHM,1%,0.2W,TC=100 PPM	57668	CRB20FXE33E2
A3R123	307–0649–00			RES NTWK,FXD,FI:8,33 OHM,2%,0.125W	11236	761–3–R33 OHM
A3R124	307–1267–00			RES NTWK,FXD,FI:9,1.2K OHM,2%	11236	750–101–R1.2K O
A3R128	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R129	321–0318–07			RES,FXD,FILM:20.0K OHM,0.1%,0.125W,TC=T9	19701	5033RE20K00BCM
A3R131	321–0318–07			RES,FXD,FILM:20.0K OHM,0.1%,0.125W,TC=T9	19701	5033RE20K00BCM
A3R132	322–3414–00			RES,FXD:METAL FILM;200K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20002F
A3R136	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A3R137	321–0193–07			RES,FXD,FILM:1K OHM,0.1%,0.125W,TC=T9MI	19701	5033RE1K000B
A3R138	321–0289–07			RES,FXD,FILM:10.0K OHM,0.1%,0.125W,TC=T9	19701	5033RE10K00B
A3R139	321–0289–07			RES,FXD,FILM:10.0K OHM,0.1%,0.125W,TC=T9	19701	5033RE10K00B
A3R140	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R144	322–3218–00			RES,FXD:METAL FILM;1.82K OHM,1%,0.2W,TC=100	91637	CCF501G18200F
A3R145	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R146	322–3218–00			RES,FXD:METAL FILM;1.82K OHM,1%,0.2W,TC=100	91637	CCF501G18200F
A3R148	322–3186–00			RES,FXD,FILM:845 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G845ROF
A3R150	322–3128–00			RES,FXD,FILM:210 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G210R0F
A3R151	322–3089–00			RES,FXD:METAL FILM;82.5 OHM,1%.0.2W,TC=100 PPM	57668	CRB20 FXE 82E5
A3R152	322–3110–00			RES,FXD,FILM:137 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–137R0F
A3R153	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R156	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R158	322–3034–00			RES,FXD:METAL FILM;22.1 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G22R10F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R162	322–3051–00			RES,FXD:METAL FILM;33.2 OHM,1%,0.2W,TC=100 PPM	57668	CRB20FXE33E2
A3R165	321–0185–07			RES,FXD,FILM:825 OHM,0.1%,0.125W,TC=T9	57027	RC55–D–825R0–B–
A3R166	321–0126–07			RES,FXD,FILM:200 OHM,0.1%,0.125W,TC=T9MI	19701	5033RE200R0B
A3R170	322–3165–00			RES,FXD,FILM:511 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G511R0F
A3R173	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A3R174	322–3034–00			RES,FXD:METAL FILM;22.1 OHM,1%,0.2W,TC=100PPM	91637	CCF50–2–G22R10F
A3R175	322–3039–00			RES,FXD,FILM:24.9 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF50–2–G24R90F
A3R176	322–3165–00			RES,FXD,FILM:511 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G511R0F
A3R177	322–3274–00			RES,FXD,FILM:6.98K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G–69800
A3R178	322–3274–00			RES,FXD,FILM:6.98K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G–69800
A3R179	322–3065–00			RES,FXD,FILM:46.4 OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF50–2F46R40F
A3R181	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A3R182	322–3109–00			RES,FXD,FILM:133 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2F133R0F
A3R183	322–3181–00			RES,FXD,FILM:750 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G750ROF
A3R185	322–3039–00			RES,FXD,FILM:24.9 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF50–2–G24R90F
A3R186	322–3177–00			RES,FXD:METAL FILM;681 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2G681R0F
A3R187	322–3197–00			RES,FXD,FILM:1.1K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G11000F
A3R188	322–3126–00			RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G200ROF
A3R193	322–3165–00			RES,FXD,FILM:511 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G511R0F
A3R197	322–3181–00			RES,FXD,FILM:750 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G750ROF
A3R198	322–3039–00			RES,FXD,FILM:24.9 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF50–2–G24R90F
A3R199	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E
A3R213	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R214	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R216	322–3112–00			RES,FXD,FILM:143 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G143R0F
A3R218	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R219	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R221	322–3306–00			RES,FXD:METAL FILM;15K OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1502F
A3R222	322–3306–00			RES,FXD:METAL FILM;15K OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1502F
A3R224	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R225	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R227	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R228	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R229	307–0649–00			RES NTWK,FXD,FI:8,33 OHM,2%,0.125 W	11236	761–3–R33 OHM
A3R231	307–0648–00			RES NTWK,FXD,FI:8,100 OHM,2%,0.125 W	11236	761–3–R100
A3R232	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R233	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R234	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R235	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R236	322–3114–00			RES,FXD:METAL FILM;150 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1500F
A3R238	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R240	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E
A3R241	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E
A3R244	322–3240–00			RES,FXD,FILM:3.09K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2G30900F
A3R245	322–3249–00			RES,FXD,FILM:3.83K OHM,1%,0.2W,TC=T0MI,SMALL BODY	56845	CCF50–2–G3831FT
A3R246	322–3184–00			RES,FXD,FILM:806 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF501G806FOR
A3R247	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E
A3R248	322–3184–00			RES,FXD,FILM:806 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF501G806FOR
A3R249	322–3089–00			RES,FXD:METAL FILM;82.5 OHM,1%.0.2W,TC=100 PPM	57668	CRB20 FXE 82E5
A3R250	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R251	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R252	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A3R253	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A3R256	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R257	322–3306–00			RES,FXD:METAL FILM;15K OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1502F
A3R258	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R259	322–3418–00			RES,FXD:METAL FILM;221K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G22102F
A3R260	322–3481–00			RES,FXD,FILM:1M OHM.1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G10003F
A3R266	322–3147–00			RES,FXD:METAL FILM;332 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G332R0F
A3R267	322–3165–00			RES,FXD,FILM:511 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G511R0F
A3R268	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R269	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R273	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R274	322–0139–00		B010248	RES,FXD:METAL FILM;274 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R284	322–3155–00			RES,FXD,FILM:402 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G402ROF
A3R285	322–3210–00			RES,FXD:METAL FILM;1.5K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G15000F
A3R286	322–3481–00			RES,FXD,FILM:1M OHM.1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G10003F
A3R287	322–3181–00			RES,FXD,FILM:750 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G750ROF
A3R290	322–3105–00			RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A3R292	322–3105–00			RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A3R293	322–3481–00			RES,FXD,FILM:1M OHM.1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G10003F
A3R294	308–0142–00			RES,FXD,WW:30 OHM,5%,3W	TK2096	KM300 30 OHM 1
A3R297	322–3201–00		B010248	RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R298	311–2271–00		B010248	RES,VAR,TRMR:CERMET;5K OHM,20%,0.5W,0.197 SQ	TK2073	GF06VT2 502 M L
A3R299	307–0636–00			RES NTWK,FXD,FI:8,330 OHM,2%,0.125 W	11236	761–3–R330OHM
A3R304	322–3114–00			RES,FXD:METAL FILM;150 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1500F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R307	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R315	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R316	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R317	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R318	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R319	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A3R320	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A3R323	322–3281–00			RES,FXD:METAL FILM;8.25K OHM,1%,0.2W,TC=100	91637	CCF501G82500F
A3R324	322–3228–00			RES,FXD,FILM:2.32K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–1G2320F
A3R325	322–3280–00			RES,FXD,FILM:8.06K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G80600F
A3R326	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A3R327	322–3177–00			RES,FXD:METAL FILM;681 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2G681R0F
A3R328	322–3147–00			RES,FXD:METAL FILM;332 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G332R0F
A3R329	322–3218–00			RES,FXD:METAL FILM;1.82K OHM,1%,0.2W,TC=100	91637	CCF501G18200F
A3R330	322–3138–00			RES,FXD,FILM:267 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G267R0F
A3R331	322–3257–00			RES,FXD,FILM:4.64K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G46400F
A3R332	322–3252–00			RES,FXD,FILM:4.12K OHM,1%,0.2W,TC=T0	91637	CCF501G41200F
A3R333	322–3169–00			RES,FXD:METAL FILM;562 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2F562R0F
A3R334	322–3254–00			RES,FXD,FILM:4.32K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF502G4321FT
A3R335	322–3249–00			RES,FXD,FILM:3.83K OHM,1%,0.2W,TC=T0MI,SMALL BODY	56845	CCF50–2–G3831FT
A3R338	322–3354–00		B010421	RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A3R338	322–3331–00	B010422		RES,FXD:METAL FILM,27.4K OHM,1%,0.2W,TC=100 PPM	57668	CRB20 FXE 27K4
A3R339	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R340	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R341	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R342	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R343	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R344	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R346	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R347	322–3191–00			RES,FXD,FILM:953 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G953ROF
A3R348	322–3177–02			RES,FXD,FILM:681 OHM,0.5%,0.2W,TC=T2	91637	CMF501D681ROD
A3R350	322–3162–00			RES,FXD:METAL FILM;475 OHM,1%,0.2W,TC=100 PPM	91637	CCF50G475R0F
A3R351	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A3R352	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R353	322–3162–00			RES,FXD:METAL FILM;475 OHM,1%,0.2W,TC=100 PPM	91637	CCF50G475R0F
A3R355	322–3139–00			RES,FXD:METAL FILM;274 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G274ROF
A3R356	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A3R357	322–3132–00			RES,FXD,FILM:232 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G232ROF

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R358	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R361	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R362	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R364	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R365	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R366	322–3217–00			RES,FXD,FILM:1.78K OHM,1%,0.2W,TC=T0	91637	CCF501G17800F
A3R367	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R370	322–3181–00			RES,FXD,FILM:750 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G750ROF
A3R371	322–3181–00			RES,FXD,FILM:750 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G750ROF
A3R373	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R374	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R375	322–3126–00			RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G200ROF
A3R376	322–3126–00			RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G200ROF
A3R377	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E
A3R378	322–3306–00			RES,FXD:METAL FILM;15K OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1502F
A3R379	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R380	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E
A3R381	322–3306–00			RES,FXD:METAL FILM;15K OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1502F
A3R382	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10002F
A3R383	322–3385–00			RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10002F
A3R384	322–3346–00			RES,FXD:METAL FILM;39.2K OHM,1%,0.2W,TC=100	91637	CCF50–2–G39201F
A3R385	322–3351–00			RES,FXD:METAL FILM;44.2K OHM,1%,0.2W,TC=100	91637	CCF501G4422FT
A3R386	322–3051–00			RES,FXD:METAL FILM;33.2 OHM,1%,0.2W,TC=100 PPM	57668	CRB20FXE33E2
A3R387	322–3043–00			RES,FXD:METAL FILM; 27.4 OHM, 1%, 0.2W, TC=100 PPM	57668	CRB20FXE27E4
A3R388	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A3R390	322–3222–00			RES,FXD:METAL FILM;2K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20000F
A3R391	322–3222–00			RES,FXD:METAL FILM;2K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20000F
A3R394	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R395	322–3126–00			RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G200ROF
A3R396	322–3097–00			RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A3R397	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R398	322–3252–00			RES,FXD,FILM:4.12K OHM,1%,0.2W,TC=T0	91637	CCF501G41200F
A3R399	308–0142–00			RES,FXD,WW:30 OHM,5%,3W	TK2096	KM300 30 OHM 1
A3R400	322–3218–00			RES,FXD:METAL FILM;1.82K OHM,1%,0.2W,TC=100	91637	CCF501G18200F
A3R401	322–3218–00			RES,FXD:METAL FILM;1.82K OHM,1%,0.2W,TC=100	91637	CCF501G18200F
A3R402	322–3252–00		B010248	RES,FXD,FILM:4.12K OHM,1%,0.2W,TC=T0	91637	CCF501G41200F
A3R403	322–3252–00			RES,FXD,FILM:4.12K OHM,1%,0.2W,TC=T0	91637	CCF501G41200F
A3R404	322–3252–00			RES,FXD,FILM:4.12K OHM,1%,0.2W,TC=T0	91637	CCF501G41200F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R409	322–3066–00			RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A3R411	322–3051–00			RES,FXD:METAL FILM;33.2 OHM,1%,0.2W,TC=100 PPM	57668	CRB20FXE33E2
A3R412	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R415	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R416	322–3105–00			RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A3R417	322–3105–00			RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A3R418	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R419	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R420	322–3354–00			RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A3R421	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R422	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R423	322–3354–00			RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A3R424	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R425	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R426	322–3354–00			RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A3R427	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R428	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R429	322–3354–00			RES,FXD:METAL FILM;47.5K OHM,1%,0.2W,TC=100	91637	CCF501G47501F
A3R430	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R431	322–3210–00			RES,FXD:METAL FILM;1.5K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G15000F
A3R432	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R434	322–3105–00			RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A3R435	322–3105–00			RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A3R436	322–3105–00			RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A3R437	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E
A3R438	322–3130–00			RES,FXD:METAL FILM;221 OHM,1%,0.2W,TC=100 PPM	57668	RB20FX221E
A3R441	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R442	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R443	322–3105–00			RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A3R444	322–3051–00			RES,FXD:METAL FILM;33.2 OHM,1%,0.2W,TC=100 PPM	57668	CRB20FXE33E2
A3R445	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R446	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R447	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R448	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R449	322–3114–00			RES,FXD:METAL FILM;150 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1500F
A3R450	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R451	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R452	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R453	322–3051–00			RES,FXD:METAL FILM;33.2 OHM,1%,0.2W,TC=100 PPM	57668	CRB20FXE33E2
A3R454	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R455	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R456	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R457	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R458	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A3R459	322–3222–00			RES,FXD:METAL FILM;2K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20000F
A3R460	322–3243–00			RES,FXD:METAL FILM;3.32K OHM,1%,0.2W,TC=100	91637	CCF50–1–G33200F
A3R461	322–3254–00			RES,FXD,FILM:4.32K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF502G4321FT
A3R462	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R464	322–3034–00			RES,FXD:METAL FILM;22.1 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G22R10F
A3R465	322–3034–00			RES,FXD:METAL FILM;22.1 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G22R10F
A3R466	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R467	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A3R468	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R469	322–3485–00			RES,FXD,FILM:5.0K OHM,1%,0.2W,TC=TO,SMALL BODY	91637	CCF501G50000F
A3R470	322–3147–00			RES,FXD:METAL FILM;332 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G332R0F
A3R471	322–3222–00			RES,FXD:METAL FILM;2K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20000F
A3R472	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A3R473	322–3185–00			RES,FXD:METAL FILM;825 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G825ROF
A3R474	322–3126–00			RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G200ROF
A3R475	322–3222–00			RES,FXD:METAL FILM;2K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20000F
A3R476	322–3222–00			RES,FXD:METAL FILM;2K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20000F
A3R477	322–3147–00			RES,FXD:METAL FILM;332 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G332R0F
A3R478	322–3335–00		B010421	RES,FXD,FILM:30.1K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G30101F
A3R478	322–3361–00	B010422		RES,FXD:METAL FILM,56.2K OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2F56201F
A3R479	322–3222–00			RES,FXD:METAL FILM;2K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20000F
A3R480	322–3201–00			RES,FXD:METAL FILM;1.21K OHM,1%,0.2W,TC=100	91637	CCF501G12100F
A3R482	322–3147–00			RES,FXD:METAL FILM;332 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G332R0F
A3R483	311–2271–00			RES,VAR,TRMR:CERMET;5K OHM,20%,0.5W,0.197 SQ	TK2073	GF06VT2 502 M L
A3R484	322–3339–00			RES,FXD:METAL FILM;33.2K OHM,1%,0.2W,TC=100	91637	CCF50–2–G3322FT
A3R485	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A3R486	322–3139–00			RES,FXD:METAL FILM;274 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G274ROF
A3R487	322–3481–00			RES,FXD,FILM:1M OHM.1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G10003F
A3R488	322–3066–00			RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A3R489	322–3066–00			RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A3R490	322–3066–00			RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A3R491	322–3218–00			RES,FXD:METAL FILM;1.82K OHM,1%,0.2W,TC=100	91637	CCF501G18200F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3R492	322–3154–00			RES,FXD:METAL FILM;392 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G392R0F
A3R493	322–3218–00			RES,FXD:METAL FILM;1.82K OHM,1%,0.2W,TC=100	91637	CCF501G18200F
A3R494	322–3030–00			RES,FXD:METAL FILM;20 OHM,1%,0.2W,TC=100 PPM	91637	CCF50G20R00F
A3R495	322–3030–00			RES,FXD:METAL FILM;20 OHM,1%,0.2W,TC=100 PPM	91637	CCF50G20R00F
A3R496	322–3034–00			RES,FXD:METAL FILM;22.1 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G22R10F
A3R497	322–3289–00		B010248	RES,FXD:METAL FILM,10K OHM,1%,0.2W,TC=100 PPM	57668	CRB20T29EFX1002
A3R497	322–3331–00	B010249		RES,FXD:METAL FILM,27.4K OHM,1%,0.2W,TC=100 PPM	57668	CRB20 FXE 27K4
A3R498	322–3414–00	B010249	B010421	RES,FXD:METAL FILM,200K OHM,1%,0.2W,TC=100 PPM	57668	CRB 20 FXE
A3R498	322–3361–00	B010422		RES,FXD:METAL FILM,56.2K OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2F56201F
A3R499	322–3339–00	B010249		RES,FXD:METAL FILM,33.2K OHM,1%,0.2W,TC=100 PPM,AXIAL	91637	CCF50–2–G3322FT
A3R500	322–3089–00	B010249		RES,FXD:METAL FILM,82.5 OHM,1%.0.2W,TC=100 PPM,AXIAL	57668	CRB20 FXE 82E5
A3R501	322–3258–00	B010249		RES,FXD:METAL FILM,4.75K OHM,1%,0.2W,TC=100 PPM,AXIAL	56845	CCF50–2–G4751FT
A3R502	322–3034–00	B010249		RES,FXD:METAL FILM,22.1 OHM,1%,0.2W,TC=100 PPM,AXIAL	91637	CCF50–2–G22R10F
A3R510	322–3258–00	B010249		RES,FXD:METAL FILM,4.75K OHM,1%,0.2W,TC=100 PPM	56845	CCF50–4751F–R36
A3RC1	307–1587–00			RES NTWK,FXD,FI:TERMN NTWK	91637	CSRC–09C30–101J
A3RC2	307–1587–00			RES NTWK,FXD,FI:TERMN NTWK	91637	CSRC–09C30–101J
A3RC3	307–1587–00			RES NTWK,FXD,FI:TERMN NTWK	91637	CSRC–09C30–101J
A3TP1	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP3	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP4	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP5	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP8	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP10	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP11	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP12	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP13	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP14	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP15	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP16	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP17	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP18	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3TP19	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A3U2	156–4229–00			IC,LIN:BIPOLAR,OP–AMP;120MHZ,UNCOMPENSATED	24355	AD829AQ
A3U3	156–2873–00			IC,LINEAR:BIFET,OP–AMP;DUAL	04713	MC34082P
A3U4	156–6708–01			IC,PROCESSOR:CMOS,DSP;24 BITS,40MHZ,PLL	80009	156670801
A3U5	160–9862–00			IC,DIGITAL:CMOS,PLD;EEPLD,22V10,7.5NS,140MA	80009	160–9862–00
				MOUNTING PARTS		
	136–0925–00			SOCKET,DIP:PCB;24 POS,2 X 12,0.1 X 0.3 CTR	00779	2–641932–3

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
				END MOUNTING PARTS		
A3U21	156–2873–00			IC,LINEAR:BIFET,OP–AMP;DUAL	04713	MC34082P
A3U39	156–3095–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,0.8MV VOS,30NA IB	64155	LT1013CN8
A3U59	160–9863–00			IC,DIGITAL:CMOS,PLD;EEPLD,26V12,20NS,105MA	80009	160–9863–00
				MOUNTING PARTS		
	136–1038–00			SOCKET,DIP:PCB;STR,28 POS,2 X 14,0.1X 0.3CTR	00779	2–382571–1
				END MOUNTING PARTS		
A3U64	156–0266–00			IC,LINEAR:ECL,MISC;VCO,200MHZ	04713	MC1648P
A3U71	156–4038–00			IC,MISC:CMOS,ANALOG SWITCH;DUAL SPDT,45 OHM	1ES66	DG403DJ/C30244
A3U72	156–4273–00			IC,LINEAR:BIPOLAR,OP–AMP;CURRENT FEEDBACK,100MHZ	64762	EL2120CN
A3U74	156–4408–00			IC,LINEAR:BIPOLAR,AMPLIFIER;DIFFERENCE AMPL,35MHZ	64155	LT1194CN8
A3U75	156–4273–00			IC,LINEAR:BIPOLAR,OP–AMP;CURRENT FEEDBACK,100MHZ	64762	EL2120CN
A3U76	156–4273–00			IC,LINEAR:BIPOLAR,OP–AMP;CURRENT FEEDBACK,100MHZ	64762	EL2120CN
A3U78	156–0266–00			IC,LINEAR:ECL,MISC;VCO,200MHZ	04713	MC1648P
A3U79	156–0266–00			IC,LINEAR:ECL,MISC;VCO,200MHZ	04713	MC1648P
A3U81	156–4274–00			IC,MISC:CMOS,FREQ SYNTH;W/PLL,SERIAL DATA INPUT	04713	MC145170P
A3U82	156–4274–00			IC,MISC:CMOS,FREQ SYNTH;W/PLL,SERIAL DATA INPUT	04713	MC145170P
A3U83	156–0846–00			IC,LINEAR:BIPOLAR,VR;NEGATIVE,–5.0V,1.0A,4.0%	27014	LM320T–5.0
A3U84	156–2559–00			IC,LINEAR:BIPOLAR,VR;NEGATIVE,–12V,1.5A,2%	48726	UC7912ACT
A3U85	156–2558–00			IC,LINEAR:BIPOLAR,VR;POSITIVE,12V,1.5A,2%	01295	TL780–12CKC
A3U86	156–4409–00			IC,DIGITAL:CMOS,MISC;DIGITAL AUDIO INTER RECEIVER	0A384	CS8412–CP
A3U87	156–4409–00			IC,DIGITAL:CMOS,MISC;DIGITAL AUDIO INTER RECEIVER	0A384	CS8412–CP
A3U88	156–4410–00			IC,DIGITAL:CMOS,MISC;DIGITAL AUDIO INTERACE	0A384	CS8402A–CP
A3U89	156–1315–00			IC,MISC:LSTTL,INTERFACE;QUAD DIFFERENTIAL LINE RECVR	27014	DS26LS32N
A3U93	156–2834–00			IC,DIGITAL:HCMOS,REGISTER;8–BIT PISO,WITH CLEAR	01295	SN74HC166N
A3U94	156–2834–00			IC,DIGITAL:HCMOS,REGISTER;8–BIT PISO,WITH CLEAR	01295	SN74HC166N
A3U95	156–2349–00			IC,DIGITAL:HCMOS,RGTR;8–BIT SIPO,LATCHED 3–STATE	0JR04	TC74HC595AP
A3U96	156–2349–00			IC,DIGITAL:HCMOS,RGTR;8–BIT SIPO,LATCHED 3–STATE	0JR04	TC74HC595AP
A3U97	156–2349–00			IC,DIGITAL:HCMOS,RGTR;8–BIT SIPO,LATCHED 3–STATE	0JR04	TC74HC595AP
A3U98	156–4443–00			IC,MEMORY:CMOS,SRAM;128K X 32 MODULE,25NS	6Y440	MT4S12832M–25
				MOUNTING PARTS		
	136–1235–00			SOCKET,SIMM:PCB,SIMM II;FEMALE,22.5 DEG,1 XLZ	00779	91–1744–14–64
				END MOUNTING PARTS		
A3U99	156–4519–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER;OCTAL	0TJ19	QS74FCT2245TP
A3U100	156–4387–00			IC,DIGITAL:FCTCMOS,BUFFER;OCTAL	0TJ19	QS74FCT2244TP
A3U101	156–6698–02			IC,ASIC:CMOS,CUSTOM;TRANSMITTER/RCVR,ADG312C	80009	156669802
A3U102	160–9864–00			IC,DIGITAL:CMOS,PLD;OTP,ATV2500,24 M/C,14 IN,24 I/O	80009	160–9864–00
				MOUNTING PARTS		

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A3U103	156–1638–00			IC,CONVERTER:BIPOLAR,D/A;10 BIT,150NS,CURRENT OUT	24355	DAC10GP
A3U104	160–9866–00			IC,DIGITAL:CMOS,PLD;EEPLD,MACH 210,64 M/C,32 I/O,6 IN	80009	160–9866–00
				MOUNTING PARTS		
	136–1047–00			SOCKET,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A3U105	160–9868–00			IC,DIGITAL:CMOS,PLD;OTP,5032,32 MACROCELL,20NS	80009	160–9868–00
				MOUNTING PARTS		
	136–1038–00			SOCKET,DIP:PCB;STR,28 POS,2 X 14,0.1X 0.3CTR	00779	2–382571–1
				END MOUNTING PARTS		
A3U106	156–3750–00			IC,LINEAR:BIPOLAR,AMPL;UNITY GAIN BUFFER,100MHZ	64762	EL2003CN
A3U107	156–1638–00			IC,CONVERTER:BIPOLAR,D/A;10 BIT,150NS,CURRENT OUT	24355	DAC10GP
A3U108	160–9869–00	B010100	B010248	IC,DIGITAL:CMOS,PLD;EEPLD,MACH 220,96 M/C,48 I/O,8 IN	80009	160–9869–00
A3U108	160–9869–01	B010249		IC,DIGITAL:CMOS,PLD;EEPLD,MACH 220,96 M/C,48 I/O,8 IN	80009	160–9869–00
				MOUNTING PARTS		
	136–0871–00			SOCKET,PLCC:PCB;68 POS,0.05 CTR,0.360H X0.125 TAIL,TIN	00779	3–821574–1
				END MOUNTING PARTS		
A3U109	156–3972–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD SPST,100 OHM,400NS	17856	DG444DJ
A3U110	156–4275–00			IC,LINEAR:BIPOLAR,AMPLIFIER;DUAL,VARIABLE GAIN	24355	AD602JN
A3U111	156–4273–00			IC,LINEAR:BIPOLAR,OP–AMP;CURRENT FEEDBACK,100MHZ	64762	EL2120CN
A3U112	156–1191–00			IC,LINEAR:BIFET,OP–AMP;DUAL	01295	TL072CP
A3U113	156–2873–00			IC,LINEAR:BIFET,OP–AMP;DUAL	04713	MC34082P
A3U114	160–9867–00			IC,DIGITAL:CMOS,PLD;EEPLD,MACH210,64 M/C,32	80009	160–9867–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A3U115	160–9871–00	B010100	B010248	IC,DIGITAL:CMOS,PLD;EEPLD,MACH 110,32 M/C,32 I/O,6 IN	80009	160–9871–00
A3U115	160–9871–01	B010249		IC,DIGITAL:CMOS,PLD;OPT,ATV2500,24 MACROCELL, 14 INPUTS, 24 I/O,48 FLIP FLOPS,35NS;ATV2500H–35	80009	160–9871–01
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A3U116	156–2584–00			IC,DIGITAL:HCMOS,FLIP FLOP;OCTAL D–TYPE, CLEAR	0JR04	TC74HC273AP
A3U117	160–9872–00	B010100	B010248	IC,DIGITAL:CMOS,PLD;EEPLD,MACH 110,32 M/C,32 I/O,6 IN	80009	160–9872–00
A3U117	160–9872–01	B010249		IC,DIGITAL:CMOS,PLD;EEPLD,MACH 110,32 M/C,32 I/O,6 IN	80009	160–9872–01
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3U118	156–3063–00			IC,DIGITAL:HCMOS,DEMUX/DECODER;2–TO–4	01295	SN74HC139N
A3U122	156–4274–00			IC,MISC:CMOS,FREQ SYNTH;W/PLL,SERIAL DATA INPUT	04713	MC145170P
A3U123	156–0266–00			IC,LINEAR:ECL,MISC;VCO,200MHZ	04713	MC1648P
A3U124	156–4171–00			IC,CONVERTER:CMOS,A/D;8–BIT,30MSPS,2–STEP FLASH	07933	TMC1175N2C30
A3U125	156–0858–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD SPST	1ES66	DG201ACJ/C30248
A3U126	156–1191–00			IC,LINEAR:BIFET,OP–AMP;DUAL	01295	TL072CP
A3U127	156–1191–00			IC,LINEAR:BIFET,OP–AMP;DUAL	01295	TL072CP
A3U128	156–1191–00			IC,LINEAR:BIFET,OP–AMP;DUAL	01295	TL072CP
A3U129	156–3972–00			IC,MISC:CMOS,ANALOG SWITCH;QUAD SPST,100 OHM,400NS	17856	DG444DJ
A3U130	160–9865–00			IC,DIGITAL:CMOS,PLD;OTP,ATV2500,24 M/C,14 IN,24 I/O,48 FLIP FLOPS,35NS	80009	160–9865–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A3U132	156–4275–00			IC,LINEAR:BIPOLAR,AMPLIFIER;DUAL,VARIABLE GAIN	24355	AD602JN
A3U133	156–4273–00			IC,LINEAR:BIPOLAR,OP–AMP;CURRENT FEEDBACK,100MHZ	64762	EL2120CN
A3U134	156–4273–00			IC,LINEAR:BIPOLAR,OP–AMP;CURRENT FEEDBACK,100MHZ	64762	EL2120CN
A3U135	156–4273–00			IC,LINEAR:BIPOLAR,OP–AMP;CURRENT FEEDBACK,100MHZ	64762	EL2120CN
A3U136	156–2460–00			IC,MISC:BIPOLAR,MOD/DEMOD;BALANCED	04713	MC1496P
A3U137	156–3905–00			IC,CONVERTER:CMOS,A/D;12–BIT,13US,SAR,8CHAN	64155	LTC1290 (DCN OR
A3U138	156–3608–00			IC,LINEAR:BIPOLAR,V REF;POS,5.0V,0.05%,20PPM,SER	64155	LT1021CCN8–5
A3U139	160–9873–00			IC.DIGITAL:CMOS,PLD;EEPLD,MACH 110,32 M/C,32 I/O,6 IN	80009	160–9873–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A3U140	160–9870–00			IC,DIGITAL:CMOS,PLD;EEPLD,MACH 110,32 M/C,32 I/O,6 IN	80009	160–9870–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A3U141	156–2349–00			IC,DIGITAL:HCMOS,RGTR;8–BIT SIPO,LATCHED 3–STATE	0JR04	TC74HC595AP
A3U142	156–2349–00			IC,DIGITAL:HCMOS,RGTR;8–BIT SIPO,LATCHED 3–STATE	0JR04	TC74HC595AP
A3U143	156–2698–00			IC,LINEAR:BIPOLAR,VR;POSITIVE,5.0V,1.0A,2%	01295	TL780–05CKC
A3U144	156–1722–00			IC,DIGITAL:FTTL,GATE;HEX INV	04713	MC74F04N
A3U145	156–4038–00			IC,MISC:CMOS,ANALOG SWITCH;DUAL SPDT,45 OHM	1ES66	DG403DJ/C30244
A3U146	156–1191–00			IC,LINEAR:BIFET,OP–AMP;DUAL	01295	TL072CP
A3U148	156–4521–00			IC,MISC:CMOS,PWR SUPPLY SUPERVISOR;MPU RESET GEN	0B0A9	DS1233–10
A3U149	156–1150–01	B010249		IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,NEGATIVE,–5.0V,100MA,4%,MC79L05ACP,TO–92	04713	MC79L05ACPRP

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A3U150	156–1150–01	B010249		IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,NEGATIVE,–5.0V,100MA,4%,MC79L05ACP,TO–92	04713	MC79L05ACPRP
A3VR1	152–0166–00			DIODE,ZENER:6.2V,5%,0.4W	04713	1N5995BRL
A3VR2	152–0226–00		B010248	DIODE,ZENER:5.1V,5%,0.4W	14552	TD3810980
A3Y1	119–4698–00		B010248	OSCILLATOR:VCXO;12.288MHZ,5PPM,0.5 TO4.5VDC	21022	H10BV–12.288MHZ
A3Y1	119–4642–00	B010248		OSCILLATOR:CRYSTAL CONTROLLED,12.288000 MHZ,100 PPM,HCMOS,4 PIN DIP,14 PIN DIP COMPATIBLE	14301	012–401–01525

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A4	671–2916–00			CIRCUIT BD ASSY:REAR PANEL	80009	671291600
				ATTACHED PARTS		
	333–4109–00			PANEL,REAR:AES,AM700	80009	333410900
				END ATTACHED PARTS		
A4C1	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A4C2	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A4C3	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A4C4	281–0775–01			CAP,FXD,CERAMIC:MCL;0.1UF,20%,50V,Z5U,0.170	04222	SA105E104MAA
A4C5	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50VTAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A4C6	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50VTAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A4C7	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50VTAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A4C8	285–1338–00			CAP,FXD,MTLZD:1.0UF,10%,50VTAPE & AMMO PACK	TK1913	MKS 2 1.0/63/10
A4C9	281–0797–00			CAP,FXD,CERAMIC:MLC;15PF,10%,100V	04222	SA102A150KAA
A4C10	281–0797–00			CAP,FXD,CERAMIC:MLC;15PF,10%,100V	04222	SA102A150KAA
A4C11	281–0797–00			CAP,FXD,CERAMIC:MLC;15PF,10%,100V	04222	SA102A150KAA
A4C12	281–0797–00			CAP,FXD,CERAMIC:MLC;15PF,10%,100V	04222	SA102A150KAA
A4C13	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A4C14	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A4C15	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A4C16	281–0819–00			CAP,FXD,CERAMIC:MLC;33 PF,5%,50V,0.100 X 0.170	04222	SA102A330JAA
A4FL1	119–4472–00			FILTER,RF:EMI/RFI;50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MODE CHOKE COILS	TK2058	ZJY51R5–8PA
A4FL2	119–4472–00			FILTER,RF:EMI/RFI;50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MODE CHOKE COILS	TK2058	ZJY51R5–8PA
A4FL3	119–4472–00			FILTER,RF:EMI/RFI;50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MODE CHOKE COILS	TK2058	ZJY51R5–8PA
A4J1	131–4046–00			CONN,DSUB:PCB/PNL;FEMALE,RTANG,15 POS,0.318 MLG X 0.125 TAIL,4–40 THD INSERTS,BD RETENTION	00779	747845–4
A4J2	131–4048–00			CONN,HDR:PCB;MALE,RTANG,2 X 17,0.05 X 0.1CTR,0.326 H X 0.106TAIL,0.075 STAGGERED PCB,W/EJECTOR LATCH	TK1462	NFP–34A–0112A
A4J3	131–5230–00			CONN,CIRC:PCB/PNL,AUDIO;FEMALE,RTANG,3 POS,0.984 H X 0.16 TAIL,0.492 MATING CL,LATCHING	0FMA6	NC3FDH
A4J4	131–3987–00			CONN,CIRC:PCB,AUDIO;MALE,RTANG,3 POS,1.22H X 1.024 W,CTR PLZ,LATCHING	0FMA6	NC3MD–H
A4J5	131–0955–00			CONN,RF JACK:BNC;50 OHM,FEMALE,STR,SLDR CUP/FRONT PNL,GOLD,0.520 MLG X 0.490 TAIL,0.092 L SLDR CUP,0.375–32/D/1 FLAT (QUANTITY 2)	K1072	G35152BN
				ATTACHED PARTS		
	196–3411–00			LEAD,ELECTRICAL:FLAT FLEX;FLX,27 AWG,3.0 L,PCB TERM BOTH ENDS,STR,(STRAIN RELIEF TERMS) (QUANTITY 2)	80009	196341100
				END ATTACHED PARTS		

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A4J6	131–5678–00			CONN:TORX176	80009	131567800
A4J7	131–5679–00			CONN:TOTX176	80009	131567900
A4L1	108–1263–00			INDUCTOR,FXD:POWER;10UH,10%,I<2.1A,RDC<0.043 OHM,Q>20,SRF>19MHZ,BOBBIN	TK2058	TSL0707–100K1R9
A4L2	108–1263–00			INDUCTOR,FXD:POWER;10UH,10%,I<2.1A,RDC<0.043 OHM,Q>20,SRF>19MHZ,BOBBIN	TK2058	TSL0707–100K1R9
A4L3	108–1243–00			INDUCTOR,FXD:SIGNAL;27UH,2%,IDC<135 MA,RDC<3.5 OHM,Q>50 (2.5MHZ),SRF>20 MHZ	24226	ML10–272G
A4L4	108–1243–00			INDUCTOR,FXD:SIGNAL;27UH,2%,IDC<135 MA,RDC<3.5 OHM,Q>50 (2.5MHZ),SRF>20 MHZ	24226	ML10–272G
A4R1	322–3069–00			RES,FXD,FILM:51.1 OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G51R10F
A4R2	322–3165–00			RES,FXD,FILM:511 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G511R0F
A4R3	322–3281–00			RES,FXD:METAL FILM;8.25K OHM,1%,0.2W,TC=100	91637	CCF501G82500F
A4R4	321–0097–07			RES,FXD,FILM:100 OHM,0.1%,0.125W,TC=T9MI	57668	CRB14 BZE 100 O
A4R5	321–0097–07			RES,FXD,FILM:100 OHM,0.1%,0.125W,TC=T9MI	57668	CRB14 BZE 100 O
A4R6	321–0097–07			RES,FXD,FILM:100 OHM,0.1%,0.125W,TC=T9MI	57668	CRB14 BZE 100 O
A4R7	321–0097–07			RES,FXD,FILM:100 OHM,0.1%,0.125W,TC=T9MI	57668	CRB14 BZE 100 O
A4R8	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A4R9	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A4R10	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A4R11	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A4T1	120–1933–00			TRANSFORMER,SIG:WIDEBAND;0.02–100MHZ,INSERT	15542	T 1.5–6 X65
A4T2	120–1933–00			TRANSFORMER,SIG:WIDEBAND;0.02–100MHZ,INSERT	15542	T 1.5–6 X65

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5	671–2797–00		B010329	CIRCUIT BD ASSY:AUDIO GENERATOR	80009	671–2797–00
A5	671–2797–01	B010330	B019999	CIRCUIT BD ASSY:AUDIO GENERATOR	80009	671–2797–01
A5	671–2797–02	B020100		CIRCUIT BD ASSY:AUDIO GENERATOR	80009	671–2797–02
				ATTACHED PARTS		
	148–1023–00			RELAY,ARM:2 FORM C;220V, 1A, 30W, COIL 5V,178 OHM (QUANTITY 9)	TK2520	EB2–5NUL
	211–0722–00			SCREW,MACH:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX DR	0KB01	ORDER BY DESC
	337–4005–00			SHIELD.ELEC:GENERATOR CROSS TALK,AM700	80009	337-4005-00
	385–0018–00			SPACER,POST:1.25 L W/6–32 THD EA END,NYL	74594	1763–632–N–0
				END ATTACHED PARTS		
A5C1	283–5211–00			CAP,FXD,CERA C:MLC,4700PF,10%,50V,X7R,1206,8MM	04222	12065C472KAT2A
A5C2	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C3	283–5001–00			CAP,FXD,CERA C:MLC,100PF,5%,50V,NPO,8MM	04222	12065A101JAT1A
A5C6	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C7	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C8	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C9	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C10	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C11	283–5185–00			CAP,FXD,CERA C:MLC,1000PF,5%,50V,NPO,8MM	04222	12065A102JAT1A
A5C12	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM,SMD,16MM	62643	MVK50VC10RMF60TPX
A5C13	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C14	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C15	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C16	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C17	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C18	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C19	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C20	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C21	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C22	283–5001–00			CAP,FXD,CERA C:MLC,100PF,5%,50V,NPO,8MM	04222	12065A101JAT1A
A5C23	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM,SMD,16MM	62643	MVK50VC10RMF60TPX
A5C24	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C25	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C26	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C27	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C28	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C29	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C30	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C31	283–5185–00			CAP,FXD,CERA C:MLC,1000PF,5%,50V,NPO,8MM	04222	12065A102JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C32	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM,SMD,16MM	62643	MVK50VC10RMF60TPX
A5C33	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C34	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C35	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C36	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C37	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C38	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C39	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C40	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C41	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM,SMD,16MM	62643	MVK50VC10RMF60TPX
A5C42	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM,SMD,16MM	62643	MVK50VC10RMF60TPX
A5C43	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM,SMD,16MM	62643	MVK50VC10RMF60TPX
A5C44	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM,SMD,16MM	62643	MVK50VC10RMF60TPX
A5C45	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C46	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C47	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C48	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C49	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C50	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C51	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C52	290–0848–00			CAP,FXD,ALUM:47UF,20%,16V,ESR=7.05 OHM(120HZ,25C),10X12MM,RADIAL.	62643	CEBPM1E470M
A5C53	290–0848–00			CAP,FXD,ALUM:47UF,20%,16V,ESR=7.05 OHM(120HZ,25C),10X12MM,RADIAL.	62643	CEBPM1E470M
A5C53	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM,SMD,16MM	62643	MVK50VC10RMF60TPX
A5C54	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C55	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C56	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C57	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C58	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C59	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C60	283–5001–00			CAP,FXD,CERA C:MLC,100PF,5%,50V,NPO,8MM	04222	12065A101JAT1A
A5C61	283–5001–00			CAP,FXD,CERA C:MLC,100PF,5%,50V,NPO,8MM	04222	12065A101JAT1A
A5C62	283–5001–00			CAP,FXD,CERA C:MLC,100PF,5%,50V,NPO,8MM	04222	12065A101JAT1A
A5C63	283–5001–00			CAP,FXD,CERA C:MLC,100PF,5%,50V,NPO,8MM	04222	12065A101JAT1A
A5C64	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C65	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C66	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C67	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C68	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C69	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C70	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C71	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C72	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C73	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C74	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C75	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C76	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C77	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C78	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C79	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C80	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C81	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C82	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C83	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C99	290–0973–00			CAP,FXD,ELCTLT:100UF,20%,25VDC ALU NUM	55680	UVX1V101MPA
A5C102	283–5001–00			CAP,FXD,CERA C:MLC,100PF,5%,50V,NPO,8MM	04222	12065A101JAT1A
A5C103	283–5001–00			CAP,FXD,CERA C:MLC,100PF,5%,50V,NPO,8MM	04222	12065A101JAT1A
A5C104	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C105	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C127	285–1305–00			CAP,FXD,PLASTIC:0.1UF,1%,50V	14752	(D) 650D1A104F
A5C129	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C130	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C131	290–0974–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=16.58 OHM (120HZ,20C),RADIAL	55680	UVX1H100MDA
A5C132	290–0974–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=16.58 OHM (120HZ,20C),RADIAL	55680	UVX1H100MDA
A5C133	285–1305–00			CAP,FXD,PLASTIC:0.1UF,1%,50V	14752	(D) 650D1A104F
A5C138	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C139	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C140	285–1503–00			CAP,FXD,FILM:3900 PF,1%,63V	TK1913	FKP 2 3900 1%/63V
A5C141	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C142	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C143	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C144	290–0974–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=16.58 OHM (120HZ,20C),RADIAL	55680	UVX1H100MDA
A5C145	290–0974–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=16.58 OHM (120HZ,20C),RADIAL	55680	UVX1H100MDA
A5C146	285–1503–00			CAP,FXD,FILM:3900 PF,1%,63V	TK1913	FKP 2 3900 1%/63V

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C151	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C152	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C300	290–1069–00	B020100		CAP,FXD,ALUM:1000UF,20%, 25V,ESR=0.23 OHM (120HZ,20C),12.5 X 25MM,RADIAL	62643	CEUFM0J102–E
A5C301	290–1069–00	B020100		CAP,FXD,ALUM:1000UF,20%, 25V,ESR=0.23 OHM (120HZ,20C),12.5 X 25MM,RADIAL	62643	CEUFM0J102–E
A5C303	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C304	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C305	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C306	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C307	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C308	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C309	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C310	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C311	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C312	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C313	285–1305–00			CAP,FXD,PLASTIC:0.1UF,1%,50V	14752	(D) 650D1A104F
A5C314	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C315	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C316	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C317	285–1305–00			CAP,FXD,PLASTIC:0.1UF,1%,50V	14752	(D) 650D1A104F
A5C318	285–1503–00			CAP,FXD,FILM:3900 PF,1%,63V	TK1913	FKP 2 3900 1%/63V
A5C319	285–1503–00			CAP,FXD,FILM:3900 PF,1%,63V	TK1913	FKP 2 3900 1%/63V
A5C325	283–0772–00			CAP,FXD, CA DI:497 PF,1%,500V	09023	CD15FD(497)F03
A5C326	283–0634–00			CAP,FXD, CA DI:65PF,1%,100V	09023	CD15ED650F03
A5C327	283–0772–00			CAP,FXD, CA DI:497 PF,1%,500V	09023	CD15FD(497)F03
A5C328	283–0634–00			CAP,FXD, CA DI:65PF,1%,100V	09023	CD15ED650F03
A5C329	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C330	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C331	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C332	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C333	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C334	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C335	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C336	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C337	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C338	283–0594–00			CAP,FXD, CA DI:0.001UF,1%,100V	09023	CD15FA102F03
A5C339	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C340	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C341	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C342	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C343	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C344	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C345	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C346	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C347	290–5034–01			CAP,FXD,ALUM:33UF,20%,10V,5.7MM(0.224),SMD,	62643	MVK10VC33RME60TPX
A5C348	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C349	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C350	283–5217–00			CAP,FXD,CER,DI:2.2UF,10%,50V,Z5U,2221 PKG	65238	2221Z225K500NXT
A5C351	283–5003–00			CAP,FXD,CERA C:MLC,0.01UF,10%,50V,X7R,8MM	04222	12065C103KAT060R
A5C352	283–5003–00			CAP,FXD,CERA C:MLC,0.01UF,10%,50V,X7R,8MM	04222	12065C103KAT060R
A5C353	283–5217–00			CAP,FXD,CER,DI:2.2UF,10%,50V,Z5U,2221 PKG	65238	2221Z225K500NXT
A5C354	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C356	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C359	283–5217–00			CAP,FXD,CER,DI:2.2UF,10%,50V,Z5U,2221 PKG	65238	2221Z225K500NXT
A5C360	283–5003–00			CAP,FXD,CERA C:MLC,0.01UF,10%,50V,X7R,8MM	04222	12065C103KAT060R
A5C361	283–5003–00			CAP,FXD,CERA C:MLC,0.01UF,10%,50V,X7R,8MM	04222	12065C103KAT060R
A5C362	283–5217–00			CAP,FXD,CER,DI:2.2UF,10%,50V,Z5U,2221 PKG	65238	2221Z225K500NXT
A5C363	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C364	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C365	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C366	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C367	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C368	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C369	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C370	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C371	290–5034–01			CAP,FXD,ALUM:33UF,20%,10V,5.7MM(0.224),SMD,	62643	MVK10VC33RME60TPX
A5C372	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C373	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C374	283–5217–00			CAP,FXD,CER,DI:2.2UF,10%,50V,Z5U,2221 PKG	65238	2221Z225K500NXT
A5C375	283–5003–00			CAP,FXD,CERA C:MLC,0.01UF,10%,50V,X7R,8MM	04222	12065C103KAT060R
A5C376	283–5003–00			CAP,FXD,CERA C:MLC,0.01UF,10%,50V,X7R,8MM	04222	12065C103KAT060R
A5C377	283–5217–00			CAP,FXD,CER,DI:2.2UF,10%,50V,Z5U,2221 PKG	65238	2221Z225K500NXT
A5C378	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C380	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
				TEST SELECTABLE COMPONENTS		
A5C381	283–0108–00	B020642		CAP,FXD,CER DI:220PF,10%,200V SQUARE	04222	SR152A221KAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C381	283–0139–00	B020642		CAP,FXD,CERAMIC:MLC,150PF,10%,50V,COG,0.138 X 0.120,RADIAL,BULK	04222	SR15A151KAT
A5C381	283–0330–00	B020642		CAP,FXD,CERAMIC:100PF,5%,50V,0.200 X 0.200,0.1LS,RADIAL (NOMINAL CHOICE IF NEEDED)	16546	CN15C101J
A5C382	283–0108–00	B020642		CAP,FXD,CER DI:220PF,10%,200V SQUARE	04222	SR152A221KAA
A5C382	283–0139–00	B020642		CAP,FXD,CERAMIC:MLC,150PF,10%,50V,COG,0.138 X 0.120,RADIAL,BULK	04222	SR15A151KAT
A5C382	283–0330–00	B020642		CAP,FXD,CERAMIC:100PF,5%,50V,0.200 X 0.200,0.1LS,RADIAL (NOMINAL CHOICE IF NEEDED)	16546	CN15C101J
				END OF SELECTABLE COMPONENTS		
A5C383	283–5217–00			CAP,FXD,CER,DI:2.2UF,10%,50V,Z5U,2221 PKG	65238	2221Z225K500NXT
A5C384	283–5003–00			CAP,FXD,CERA C:MLC,0.01UF,10%,50V,X7R,8MM	04222	12065C103KAT060R
A5C385	283–5003–00			CAP,FXD,CERA C:MLC,0.01UF,10%,50V,X7R,8MM	04222	12065C103KAT060R
A5C386	283–5217–00			CAP,FXD,CER,DI:2.2UF,10%,50V,Z5U,2221 PKG	65238	2221Z225K500NXT
A5C387	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C388	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C389	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C390	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C391	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C392	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C393	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C394	290–0942–00			CAP,FXD,ELCTLT:100UF,+100–10%,25V, ALUNUM	62643	CEUFM1E101
A5C395	283–5016–00			CAP,FXD,CERA C:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225,SMD,12MM	04222	22255C105KAT1A
A5C396	290–1235–00			CAP,FXD,ALUM:1000UF,20%,35V RADIAL LEAD	55680	UVZ1V102MRH
A5C397	290–0919–00			CAP,FXD,ALUM:470UF,+50–20%,35V,10 X 20MM,RADIAL	61058	ECEA1VFS471
A5C398	283–5016–00			CAP,FXD,CERA C:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225,SMD,12MM	04222	22255C105KAT1A
A5C399	283–5016–00			CAP,FXD,CERA C:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225,SMD,12MM	04222	22255C105KAT1A
A5C400	290–0942–00			CAP,FXD,ELCTLT:100UF,+100–10%,25V ,ALU NUM	62643	CEUFM1E101
A5C401	290–0919–00			CAP,FXD,ALUM:470UF,+50–20%,35V,10 X 20MM,RADIAL	61058	ECEA1VFS471
A5C402	283–5016–00			CAP,FXD,CERA C:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225,SMD,12MM	04222	22255C105KAT1A
A5C403	283–5016–00			CAP,FXD,CERA C:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225,SMD,12MM	04222	22255C105KAT1A
A5C404	290–1235–00			CAP,FXD,ALUM:1000UF,20%,35V RADIAL LEAD	55680	UVZ1V102MRH
A5C405	290–1235–00			CAP,FXD,ALUM:1000UF,20%,35V RADIAL LEAD	55680	UVZ1V102MRH
A5C406	283–5016–00			CAP,FXD,CERA C:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225,SMD,12MM	04222	22255C105KAT1A
A5C407	290–0942–00			CAP,FXD,ELCTLT:100UF,+100–10%,25V ,ALU NUM	62643	CEUFM1E101
A5C409	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C410	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C412	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C415	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C416	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C417	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C418	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C419	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C420	283–5009–00			CAP,FXD,CERA C:MLC,15PF,5%,50V,NPO,0.126 X 0.063,8MM	04222	12065A150JAT1A
A5C421	283–5009–00			CAP,FXD,CERA C:MLC,15PF,5%,50V,NPO,0.126 X 0.063,8MM	04222	12065A150JAT1A
A5C422	283–5009–00			CAP,FXD,CERA C:MLC,15PF,5%,50V,NPO,0.126 X 0.063,8MM	04222	12065A150JAT1A
A5C423	283–5009–00			CAP,FXD,CERA C:MLC,15PF,5%,50V,NPO,0.126 X 0.063,8MM	04222	12065A150JAT1A
A5C424	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C425	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C426	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C427	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C428	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C429	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C430	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C431	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C432	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C433	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C434	283–5196–00			CAP,FXD,CERA C:MLC,47PF,5%,100V,NPO,8MM	04222	12061A470JAT1A
A5C435	283–5196–00			CAP,FXD,CERA C:MLC,47PF,5%,100V,NPO,8MM	04222	12061A470JAT1A
A5C436	290–0848–00			CAP,FXD,ALUM:47UF,20%,16V,ESR=7.05 OHM(120HZ,25C),10X12MM,RADIAL.	62643	CEBPM1E470M
A5C437	290–0848–00			CAP,FXD,ALUM:47UF,20%,16V,ESR=7.05 OHM(120HZ,25C),10X12MM,RADIAL.	62643	CEBPM1E470M
A5C438	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C439	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C440	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C441	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C443	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C444	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C445	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C446	283–5004–00			CAP,FXD,CERA C:MLC,0.1UF,10%,25V,X7R,8MM	04222	12063C104KAT3A
A5C447	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C448	283–5107–00			CAP,FXD,CERA C:MLC,22PF,5%,200V,NPO,8MM	04222	12062A220JAT2A
A5C449	283–5025–00			CAP,FXD,CERA C:MLC,220PF,5%,50V,NPO,8MM	04222	12065A221JAT1A
A5C450	283–5025–00			CAP,FXD,CERA C:MLC,220PF,5%,50V,NPO,8MM	04222	12065A221JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5C451	283–5025–00			CAP,FXD,CERA C:MLC,220PF,5%,50V,NPO,8MM	04222	12065A221JAT1A
A5C452	283–5025–00			CAP,FXD,CERA C:MLC,220PF,5%,50V,NPO,8MM	04222	12065A221JAT1A
A5C453	283–5098–00			CAP,FXD,CERA C:MLC,0.1UF,+80%–20%,50V,Z5U,8MM	04222	12065E104ZAT3A
A5C454	283–5098–00			CAP,FXD,CERA C:MLC,0.1UF,+80%–20%,50V,Z5U,8MM	04222	12065E104ZAT3A
A5C455	283–5203–00			CAP,FXD,CERA C:MLC,1000PF,10%,100V,X7R,8MM	04222	12061C102KAT1A
A5C456	290–0942–00			CAP,FXD,ELCTLT:100UF,+100–10%,25V ,ALU NUM	62643	CEUFM1E101
A5C457	290–0942–00			CAP,FXD,ELCTLT:100UF,+100–10%,25V ,ALU NUM	62643	CEUFM1E101
A5C458	283–0059–00	B020100		CAP,FXD,CER DI:1UF,+80–20%,50V SQUARE	04222	SR305C105MAA
A5C459	283–0059–00	B020100		CAP,FXD,CER DI:1UF,+80–20%,50V SQUARE	04222	SR305C105MAA
A5CR1	152–5010–00			DIODE,SIG:VVC,30V,29PF,C3/25=5.75,MMBV109L,TO–236/SOT–23,8MM	04713	MMBV109LT1
A5CR2	152–5073–00			DIODE,RECT:BRIDGE,600V,1A,1.1VF,DF06S,	14936	DF06S–TR
A5CR4	152–5010–00			DIODE,SIG:VVC,30V,29PF,C3/25=5.75,MMBV109L,TO–236/SOT–23,8MM	04713	MMBV109LT1
A5CR5	152–5073–00			DIODE,RECT:BRIDGE,600V,1A,1.1VF,DF06S,	14936	DF06S–TR
A5CR10	152–5027–00			DIODE,RECT:SCHOTTKY,40V,1.0A,40A IFSM,MBRS140,DO–214AA/SMB,12MM	04713	MBRS140T3
A5CR11	152–5027–00			DIODE,RECT:SCHOTTKY,40V,1.0A,40A IFSM,MBRS140,DO–214AA/SMB,12MM	04713	MBRS140T3
A5CR12	152–5027–00			DIODE,RECT:SCHOTTKY,40V,1.0A,40A IFSM,MBRS140,DO–214AA/SMB,12MM	04713	MBRS140T3
A5CR14	152–0843–00			DIODE,SIG:SCHTKY,SER–PAIR,20V,410MV,1.3PF,HSMS–281, SOT–23,	50434	HSMS–2812–T31
A5CR15	152–0843–00			DIODE,SIG:SCHTKY,SER–PAIR,20V,410MV,1.3PF,HSMS–281, SOT–23,	50434	HSMS–2812–T31
A5CR16	152–5000–00			DIODE,SIG:ULTRA FAST,70V,0.15A,6NS,COM–CATH,BAV70,TO–236/SOT–23,8MM	04713	BAV70LT1
A5CR17	152–5047–00			DIODE,SIG:ULTRA FAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.0PF,MMBD1204,TO–236/SOT–23,8MM	07263	MMBD1204
A5CR18	152–5047–00			DIODE,SIG:ULTRA FAST,DUAL,COMMON CATHODE,100V,0.74VF,4NS,2.0PF,MMBD1204, TO–236/SOT–23, 8MM	07263	MMBD1204
A5DS1	150–1132–00			DIODE,OPTO:LED,GRN,569MCD,10.6MCD AT 10MA,40 DEG VIEW ANGL,HLMP–3568,T–1 3/4,LOW PROFILE	50434	HLMP–3568
A5DS2	150–1022–00			DISPLAY,OPTO:LED,RED,660NM,7SEG,0.3" DISPLAY,125UCD PER SEGMENT AT10MA,COMMON ANODE,LEFT HAN	0MS63	MAN72A
A5E12	276–0614–00			CORE,EM:TOROID,FERRITE 0.375 OD X 0.125 X 0.21	28733	ORDER BY DESCRIPTION
A5E15	276–0614–00			CORE,EM:TOROID,FERRITE 0.375 OD X 0.125 X 0.21	28733	ORDER BY DESCRIPTION
A5F1	159–5000–00			FUSE,SMD:2.5A,125V,FAST,SMD,R459 02.5, ,	75915	R459 02.5
A5F12	159–0363–00			FUSE,WIRE LEAD:4A,125V,FAST BLOW,ULREC,CSA CERT,	75915	251004
				ATTACHED PARTS		
	129–0222–00			SPACER,POST:0.27 L,4–40 THRU,PLSTC,0.25 OD	80009	129022200

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
				END ATTACHED PARTS		
A5F13	159–0363–00			FUSE,WIRE LEAD:4A,125V,FAST BLOW,ULREC,CSA CERT,	75915	251004
				ATTACHED PARTS		
	129–0222–00			SPACER,POST:0.27 L,4–40 THRU,PLSTC,0.25 OD	80009	129022200
				END ATTACHED PARTS		
A5F15	159–0363–00			FUSE,WIRE LEAD:4A,125V,FAST BLOW,ULREC,CSA CERT,	75915	251004
				ATTACHED PARTS		
	129–0222–00			SPACER,POST:0.27 L,4–40 THRU,PLSTC,0.25 OD	80009	129022200
				END ATTACHED PARTS		
A5FL1	119–4641–00			FILTER:AM700,80 KHZ LPF	1P546	80KHZ LOW PASS FIL
A5FL2	119–4641–00			FILTER:AM700,80 KHZ LPF	1P546	80KHZ LOW PASS FIL
A5J1	131–1857–00			CONN,HDR:PCB,MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GOLD,	22526	65507–136
A5J2	131–1857–00			CONN,HDR:PCB,MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GOLD,	22526	65507–136
A5J4	131–4529–00			CONN,HDR:PCB,MALE,STR,2 X 5,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,CTR PLZ,	53387	2510–6002UB
A5J5	131–4530–00		B010329	CONN,HDR:PCB,MALE,STR,1 X 3,0.1 CTR,0.230 MLG X 0.120 TAIL,30 GOLD,BD RETENTION,	00779	104344–1
A5J8	131–2919–01			CONN,HDR:PCB,MALE,STR,1 X 4,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,0.035 DIA PCB,SAFETY	53387	2404–6112TB
A5J9	131–2919–01			CONN,HDR:PCB,MALE,STR,1 X 4,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,0.035 DIA PCB,SAFETY	53387	2404–6112TB
A5J13	131–2919–01			CONN,HDR:PCB,MALE,STR,1 X 4,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,0.035 DIA PCB,SAFETY	53387	2404–6112TB
A5J14	131–2919–01			CONN,HDR:PCB,MALE,STR,1 X 4,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,0.035 DIA PCB,SAFETY	53387	2404–6112TB
A5J15	131–4794–00			CONN,HDR:PCB,MALE,STR,1 X 2,0.1 CTR,0.235 MLG X 0.112 TAIL,30GOLD,0.035 DIA PCB,W/BD RET	53387	2402–6112 UB
A5J16	131–3945–00			CONN,HDR PWR::PCB,MALE,STR,1 X 8,0.156 CTR,0.450 MLG X 0.172 TAIL,PLZ WALL,W/FRICTION LOCK,20	27264	26–48–2085
A5J17	131–5672–00			CONN,HDR:PCB,MALE,STR,2 X 20,0.05 X 0.1 CTR,0.933 H X 0.106 TAIL,SHRD/4 SIDES,CTR PLZ,30	TK1462	NFP–040A–0114–AF
A5J30	131–2919–00	B020100		CONN,HDR:PCB,MALE,RTANG,1 X 4,0.1 CTR,0.318 MLG X 0.110 TAIL,30 GOLD,0.035 DIA PCB,	00779	87232–4
A5J31	131–5228–00		B019999	CONN,DIN:PCB,MALE,STR,2 X 32,0.1 CTR,0.457 H X 0.114 TAIL,ROWS A & C LOADED,	56501	211–66430–6008 OR MQ064–021–2
A5J31	131–2919–00	B020100		CONN,HDR:PCB,MALE,RTANG,1 X 4,0.1 CTR,0.318 MLG X 0.110 TAIL,30 GOLD,0.035 DIA PCB,	00779	87232–4
A5J32	131–4794–00			CONN,HDR:PCB,MALE,STR,1 X 2,0.1 CTR,0.235 MLG X 0.112 TAIL,30GOLD,0.035 DIA PCB,W/BD RET	53387	2402–6112 UB
A5K1	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5K2	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00
A5K3	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00
A5K4	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00
A5K7	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00
A5K8	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00
A5K9	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00
A5K10	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00
A5K11	148–1023–00			RELAY,ARM:2 FORM C,220V, 1A, 30W, COIL 5V, 178 OHM, .30H X .37W X .56L, SMD, EB2–5NUL	TK2601	148–1023–00
A5K30	148–0235–00	B020100		RELAY,ARMATURE:2 FORM C,5VDC 312 OHM COIL,GOLD CLAD SILVER,MAX SW AT 110VDC,125VAC,30W,1A,INITI	61529	TF2E–5V
A5K31	148–0235–00	B020100		RELAY,ARMATURE:2 FORM C,5VDC 312 OHM COIL,GOLD CLAD SILVER,MAX SW AT 110VDC,125VAC,30W,1A,INITI	61529	TF2E–5V
A5L1	108–1570–00			INDUCTOR,FXD:POWER,10UH,20%,I<2.0A,RDC<0.02 OHM, Z–94114B,POWDERED IRON TOROID,VERT MOUNT	0JR03	108–1570–00
A5L2	108–1570–00			INDUCTOR,FXD:POWER,10UH,20%,I<2.0A,RDC<0.02 OHM, Z–94114B,POWDERED IRON TOROID,VERT MOUNT	0JR03	108–1570–00
A5L3	108–1570–00			INDUCTOR,FXD:POWER,10UH,20%,I<2.0A,RDC<0.02 OHM, Z–94114B,POWDERED IRON TOROID,VERT MOUNT	0JR03	108–1570–00
A5L4	108–1570–00			INDUCTOR,FXD:POWER,10UH,20%,I<2.0A,RDC<0.02 OHM, Z–94114B,POWDERED IRON TOROID,VERT MOUNT	0JR03	108–1570–00
A5L5	108–1571–00			INDUCTOR,FXD:POWER,720UH,11%,I<0.6A,RDC<0.5 OHM, Z–93092D,FERRITE TORROID W/HOLDER,VERTICAL MO	0JR03	Z–93092D
A5L6	108–1262–00			INDUCTOR,FXD:POWER,100UH,10%,I<0.75A,RDC<0.23 OHM, Q>15,SRF>5.4MHZ,BOBBIN CORE,TSL0807–101K,RA	TK2058	TSL0807–101KR75
A5L7	108–1262–00			INDUCTOR,FXD:POWER,100UH,10%,I<0.75A,RDC<0.23 OHM, Q>15,SRF>5.4MHZ,BOBBIN CORE,TSL0807–101K,RA	TK2058	TSL0807–101KR75
A5L8	108–1571–00			INDUCTOR,FXD:POWER,720UH,11%,I<0.6A,RDC<0.5 OHM, Z–93092D,FERRITE TORROID W/HOLDER,VERTICAL MO	0JR03	Z–93092D
A5L9	108–1262–00			INDUCTOR,FXD:POWER,100UH,10%,I<0.75A,RDC<0.23 OHM, Q>15,SRF>5.4MHZ,BOBBIN CORE,TSL0807–101K,RA	TK2058	TSL0807–101KR75
A5L10	108–1571–00			INDUCTOR,FXD:POWER,720UH,11%,I<0.6A,RDC<0.5 OHM, Z–93092D,FERRITE TORROID W/HOLDER,VERTICAL MO	0JR03	Z–93092D
A5L11	108–1263–00			INDUCTOR,FXD:POWER,10UH,10%,I<2.1A,RDC<0.043 OHM, Q>20,SRF>19MHZ,BOBBIN,RADIAL	TK2058	TSL0707–100K1R9
A5L14	108–1263–00			INDUCTOR,FXD:POWER,10UH,10%,I<2.1A,RDC<0.043 OHM, Q>20,SRF>19MHZ,BOBBIN,RADIAL	TK2058	TSL0707–100K1R9
A5P5	131–0993–00			CONN,BOX:SHUNT,FEMALE,STR,1 X 2,0.1 CTR,0.385 H,30 GOLD,BLACK,JUMPER,	00779	530153–2

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5Q1	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q2	151–0188–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, 2N3906,TO–92 EBC	04713	2N3906
A5Q3	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q4	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q5	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q6	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q7	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q8	151–0190–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, 2N3904,TO–92 EBC	04713	2N3904
A5Q9	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC	04713	MPSW06
				ATTACHED PARTS		
	214–0973–00			HEAT SINK,XSTR:TO–92,CU BE CD PL (USED WITH A5Q11)	TK1326	214–0973–00
				END ATTACHED PARTS		
A5Q10	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC	04713	MPSW06
A5Q11	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC (SEE A5Q9)	04713	MPSW06
A5Q12	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC	04713	MPSW56
				ATTACHED PARTS		
	214–0973–00			HEAT SINK,XSTR:TO–92,CU BE CD PL (USED WITH A5Q13)	TK1326	214–0973–00
				END ATTACHED PARTS		
A5Q13	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC (SEE A5Q12)	04713	MPSW56
A5Q14	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC	04713	MPSW56
A5Q15	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q16	151–0188–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, 2N3906,TO–92 EBC	04713	2N3906
A5Q17	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q18	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5Q19	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q20	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q21	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q22	151–0190–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, 2N3904,TO–92 EBC	04713	2N3904
A5Q23	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC	04713	MPSW06
				ATTACHED PARTS		
	214–0973–00			HEAT SINK,XSTR:TO–92,CU BE CD PL (USED WITH A5Q25)	TK1326	214–0973–00
				END ATTACHED PARTS		
A5Q24	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC	04713	MPSW06
A5Q25	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC (SEE A5Q23)	04713	MPSW06
A5Q26	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC	04713	MPSW56
				ATTACHED PARTS		
	214–0973–00			HEAT SINK,XSTR:TO–92,CU BE CD PL (USED WITH A5Q27)	TK1326	214–0973–00
				END ATTACHED PARTS		
A5Q27	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC (SEE A5Q26)	04713	MPSW56
A5Q28	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC	04713	MPSW56
A5Q29	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q30	151–0188–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, 2N3906,TO–92 EBC	04713	2N3906
A5Q31	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q32	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q33	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q34	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q35	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q36	151–0190–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, 2N3904,TO–92 EBC	04713	2N3904

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5Q37	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC	04713	MPSW06
				ATTACHED PARTS		
	214–0973–00			HEAT SINK,XSTR:TO–92,CU BE CD PL (USED WITH A5Q39)	TK1326	214–0973–00
				END ATTACHED PARTS		
A5Q38	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC	04713	MPSW06
A5Q39	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC (SEE A5Q37)	04713	MPSW06
A5Q40	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC	04713	MPSW56
				ATTACHED PARTS		
	214–0973–00			HEAT SINK,XSTR:TO–92,CU BE CD PL (USED WITH A5Q41)	TK1326	214–0973–00
				END ATTACHED PARTS		
A5Q41	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC (SEE A5Q40)	04713	MPSW56
A5Q42	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC	04713	MPSW56
A5Q43	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q44	151–0188–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, 2N3906,TO–92 EBC	04713	2N3906
A5Q45	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q46	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q47	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, MMBT3904L,TO–236/SOT–23,8MM	04713	MMBT3904LT1
A5Q48	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q49	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPL, MMBT3906L,TO–236/SOT–23,8MM	04713	MMBT3906LT1
A5Q50	151–0190–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPL, 2N3904,TO–92 EBC	04713	2N3904
A5Q51	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC	04713	MPSW06
				ATTACHED PARTS		
	214–0973–00			HEAT SINK,XSTR:TO–92,CU BE CD PL (USED WITH A5Q53)	TK1326	214–0973–00
				END ATTACHED PARTS		
A5Q52	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC	04713	MPSW06

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5Q53	151–0590–00			TRANSISTOR,SIG:BIPOLAR,NPN,80V,500MA,50MHZ,AMPL, MPSW06,TO–226AE EBC (SEE A5Q51)	04713	MPSW06
A5Q54	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC	04713	MPSW56
				ATTACHED PARTS		
	214–0973–00			HEAT SINK,XSTR:TO–92,CU BE CD PL (USED WITH A5Q55)	TK1326	214–0973–00
				END ATTACHED PARTS		
A5Q55	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC (SEE A5Q54)	04713	MPSW56
A5Q56	151–0591–00			TRANSISTOR,SIG:BIPOLAR,PNP,80V,500MA,50MHZ,AMPL, MPSW56,TO–226AE EBC	04713	MPSW56
A5R4	321–5008–00			RES,FXD,FILM:THICK FILM,150 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1500FT
A5R5	321–5205–00			RES,FXD,FILM:1.33K OHM, 1%,0.125,1206,8MM	91637	CRCW1206–1331F–RT1
A5R6	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R7	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R10	321–5012–00			RES,FXD:THICK FILM,332 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK3320FT
A5R11	321–5012–00			RES,FXD:THICK FILM,332 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK3320FT
A5R12	321–5012–00			RES,FXD:THICK FILM,332 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK3320FT
A5R13	321–5014–00			RES,FXD:THICK FILM,475 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4750FT
A5R14	321–5014–00			RES,FXD:THICK FILM,475 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4750FT
A5R15	321–5014–00			RES,FXD:THICK FILM,475 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4750FT
A5R16	301–0202–00			RES,FXD,FILM:2K OHM, 5%,0.5W	19701	5053CX2K000J
				ATTACHED PARTS		
	162–0026–00			INSUL SLVG,ELEC:0.059 ID,PTFE,CLEAR	TK0977	TFEX20(TW)–NAT
				END ATTACHED PARTS		
A5R17	321–5194–00			RES,FXD:THICK FILM,49.9 OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B49R9FT
A5R18	311–5033–00			RES,VAR,TRMR:CERMET,500 OHM, 25%,0.1W,4MM SQ,TOP ADJ,SMD	32997	3314J–1–501G
A5R24	311–5033–00			RES,VAR,TRMR:CERMET,500 OHM, 25%,0.1W,4MM SQ,TOP ADJ,SMD	32997	3314J–1–501G
A5R30	321–5122–00			RES,FXD,FILM:499 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–4990F–RT1
A5R31	321–5122–00			RES,FXD,FILM:499 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–4990F–RT1
A5R32	321–5122–00			RES,FXD,FILM:499 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–4990F–RT1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R33	321–5122–00			RES,FXD,FILM:499 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–4990F–RT1
A5R38	321–0193–07			RES,FXD,FILM:1K OHM, 0.1%,0.125W,TC=T9	07716	CEAE10000B
A5R43	321–5305–00			RES,FXD,FILM:2K OHM, 0.1%,25PPM,0.125W,1206 PKG	91637	TNPW1206–2001B–RT1
A5R46	321–5305–00			RES,FXD,FILM:2K OHM, 0.1%,25PPM,0.125W,1206 PKG	91637	TNPW1206–2001B–RT1
A5R47	321–5305–00			RES,FXD,FILM:2K OHM, 0.1%,25PPM,0.125W,1206 PKG	91637	TNPW1206–2001B–RT1
A5R50	321–5305–00			RES,FXD,FILM:2K OHM, 0.1%,25PPM,0.125W,1206 PKG	91637	TNPW1206–2001B–RT1
A5R60	321–0612–07			RES,FXD,FILM:500 OHM, 0.1%,0.125W,TC=T9	07716	CEAE500R0B
A5R62	321–0926–07			RES,FXD,FILM:4K OHM, 0.1%,0.125W,TC=T9	07716	CEAE40000B
A5R63	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R64	321–0193–07			RES,FXD,FILM:1K OHM, 0.1%,0.125W,TC=T9	07716	CEAE10000B
A5R65	321–0612–07			RES,FXD,FILM:500 OHM, 0.1%,0.125W,TC=T9	07716	CEAE500R0B
A5R66	321–0928–07			RES,FXD,FILM:250 OHM, 0.1%,0.125W,TC=T9	50139	ADVISE
A5R67	321–0926–07			RES,FXD,FILM:4K OHM, 0.1%,0.125W,TC=T9	07716	CEAE40000B
A5R68	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R69	321–0193–07			RES,FXD,FILM:1K OHM, 0.1%,0.125W,TC=T9	07716	CEAE10000B
A5R70	321–0612–07			RES,FXD,FILM:500 OHM, 0.1%,0.125W,TC=T9	07716	CEAE500R0B
A5R71	321–0928–07			RES,FXD,FILM:250 OHM, 0.1%,0.125W,TC=T9	50139	ADVISE
A5R72	321–0193–07			RES,FXD,FILM:1K OHM, 0.1%,0.125W,TC=T9	07716	CEAE10000B
A5R73	321–0612–07			RES,FXD,FILM:500 OHM, 0.1%,0.125W,TC=T9	07716	CEAE500R0B
A5R74	321–0612–07			RES,FXD,FILM:500 OHM, 0.1%,0.125W,TC=T9	07716	CEAE500R0B
A5R76	321–0612–07			RES,FXD,FILM:500 OHM, 0.1%,0.125W,TC=T9	07716	CEAE500R0B
A5R77	321–0927–07			RES,FXD,FILM:125 OHM, 0.1%,0.125W,TC=T9	50139	ADVISE
A5R78	321–0927–07			RES,FXD,FILM:125 OHM, 0.1%,0.125W,TC=T9	50139	ADVISE
A5R79	321–0927–07			RES,FXD,FILM:125 OHM, 0.1%,0.125W,TC=T9	50139	ADVISE
A5R80	321–0927–07			RES,FXD,FILM:125 OHM, 0.1%,0.125W,TC=T9	50139	ADVISE
A5R81	321–1765–07			RES,FXD,FILM:720 OHM, 0.1%,0.125W,TC=T9	57027	720 OHM CM55 T9 .1%
A5R82	321–0054–00			RES,FXD,FILM:35.7 OHM, 0.5%,0.125W,TC=T0	50139	NOT AVAILABLE
A5R83	321–1008–04			RES,FXD,FILM:12.0 OHM, 0.1%,0.125W,TC=T2	50139	ADVISE
A5R84	321–1008–04			RES,FXD,FILM:12.0 OHM, 0.1%,0.125W,TC=T2	50139	ADVISE
A5R85	321–1765–07			RES,FXD,FILM:720 OHM, 0.1%,0.125W,TC=T9	57027	720 OHM CM55 T9 .1%
A5R86	321–0054–00			RES,FXD,FILM:35.7 OHM, 0.5%,0.125W,TC=T0	50139	NOT AVAILABLE
A5R87	321–1008–04			RES,FXD,FILM:12.0 OHM, 0.1%,0.125W,TC=T2	50139	ADVISE
A5R88	321–1008–04			RES,FXD,FILM:12.0 OHM, 0.1%,0.125W,TC=T2	50139	ADVISE
A5R89	321–1765–07			RES,FXD,FILM:720 OHM, 0.1%,0.125W,TC=T9	57027	720 OHM CM55 T9 .1%
A5R90	321–0054–00			RES,FXD,FILM:35.7 OHM, 0.5%,0.125W,TC=T0	50139	NOT AVAILABLE
A5R91	321–1008–04			RES,FXD,FILM:12.0 OHM, 0.1%,0.125W,TC=T2	50139	ADVISE
A5R92	321–1008–04			RES,FXD,FILM:12.0 OHM, 0.1%,0.125W,TC=T2	50139	ADVISE
A5R93	321–1765–07			RES,FXD,FILM:720 OHM, 0.1%,0.125W,TC=T9	57027	720 OHM CM55 T9 .1%

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R94	321–0054–00			RES,FXD,FILM:35.7 OHM, 0.5%,0.125W,TC=T0	50139	NOT AVAILABLE
A5R95	321–1008–04			RES,FXD,FILM:12.0 OHM, 0.1%,0.125W,TC=T2	50139	ADVISE
A5R96	321–1008–04			RES,FXD,FILM:12.0 OHM, 0.1%,0.125W,TC=T2	50139	ADVISE
A5R97	321–0095–00			RES,FXD,FILM:95.3 OHM, 1%,0.125W,TC=T0	50139	ADVISE
A5R98	322–0126–00			RES,FXD,FILM:200 OHM, 1%,0.25W,TC=T0,	19701	5043RD200R0F
A5R99	321–0095–00			RES,FXD,FILM:95.3 OHM, 1%,0.125W,TC=T0	50139	ADVISE
A5R100	322–0126–00			RES,FXD,FILM:200 OHM, 1%,0.25W,TC=T0,	19701	5043RD200R0F
A5R101	321–0095–00			RES,FXD,FILM:95.3 OHM, 1%,0.125W,TC=T0	50139	ADVISE
A5R102	322–0126–00			RES,FXD,FILM:200 OHM, 1%,0.25W,TC=T0,	19701	5043RD200R0F
A5R103	321–0095–00			RES,FXD,FILM:95.3 OHM, 1%,0.125W,TC=T0	50139	ADVISE
A5R104	322–0126–00			RES,FXD,FILM:200 OHM, 1%,0.25W,TC=T0,	19701	5043RD200R0F
A5R107	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R108	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R109	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R110	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R111	321–5012–00			RES,FXD:THICK FILM,332 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK3320FT
A5R112	321–5012–00			RES,FXD:THICK FILM,332 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK3320FT
A5R113	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R114	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R115	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R116	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R117	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R118	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R119	321–5305–00			RES,FXD,FILM:2K OHM, 0.1%,25PPM,0.125W,1206 PKG	91637	TNPW1206–2001B–RT1
A5R120	321–5305–00			RES,FXD,FILM:2K OHM, 0.1%,25PPM,0.125W,1206 PKG	91637	TNPW1206–2001B–RT1
A5R121	321–5305–00			RES,FXD,FILM:2K OHM, 0.1%,25PPM,0.125W,1206 PKG	91637	TNPW1206–2001B–RT1
A5R137	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R138	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R139	321–1701–04			RES,FXD,FILM:5.22K OHM, 0.1%,0.125W,TC=T2	07716	CEAC52200B
A5R140	321–0263–00			RES,FXD,FILM:5.36K OHM, 1%,0.125W,TC=T0	50139	NOT AVAILABLE

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R144	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R145	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R146	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R147	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R148	321–1701–04			RES,FXD,FILM:5.22K OHM, 0.1%,0.125W,TC=T2	07716	CEAC52200B
A5R149	321–0263–00			RES,FXD,FILM:5.36K OHM, 1%,0.125W,TC=T0	50139	NOT AVAILABLE
A5R153	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R154	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R155	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R156	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R157	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R158	321–0222–07			RES,FXD,FILM:2.0K OHM, 0.1%,0.125W,TC=T9	07716	CEAE20000B
A5R159	321–5049–00			RES,FXD:THICK FILM,1M OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCA1004FT
A5R160	321–5049–00			RES,FXD:THICK FILM,1M OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCA1004FT
A5R161	321–5049–00			RES,FXD:THICK FILM,1M OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCA1004FT
A5R162	321–5049–00			RES,FXD:THICK FILM,1M OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCA1004FT
A5R163	321–1746–07			RES,FXD,FILM:1.13K OHM, 0.1%,0.125W,TC=T9	56845	CMF55116C11300B–BULK
A5R164	321–1789–07			RES,FXD,FILM:5.05K,0.1%,T9	91637	CMF55116C50500B–R36
A5R165	321–1790–07			RES,FXD,FILM:2.37K,0.1%,T9	91637	CMF55116C23700B–R36
A5R166	321–1790–07			RES,FXD,FILM:2.37K,0.1%,T9	91637	CMF55116C23700B–R36
A5R167	321–1790–07			RES,FXD,FILM:2.37K,0.1%,T9	91637	CMF55116C23700B–R36
A5R168	321–1790–07			RES,FXD,FILM:2.37K,0.1%,T9	91637	CMF55116C23700B–R36
A5R169	321–0239–07			RES,FXD,FILM:3.01K OHM, 0.1%,0.125W,TC=T9	07716	CEAE30100B
A5R170	321–0239–07			RES,FXD,FILM:3.01K OHM, 0.1%,0.125W,TC=T9	07716	CEAE30100B
A5R171	321–1789–07			RES,FXD,FILM:5.05K,0.1%,T9	91637	CMF55116C50500B–R36
A5R172	321–1746–07			RES,FXD,FILM:1.13K OHM, 0.1%,0.125W,TC=T9	56845	CMF55116C11300B–BULK
A5R173	321–1790–07			RES,FXD,FILM:2.37K,0.1%,T9	91637	CMF55116C23700B–R36
A5R174	321–1790–07			RES,FXD,FILM:2.37K,0.1%,T9	91637	CMF55116C23700B–R36
A5R175	321–1790–07			RES,FXD,FILM:2.37K,0.1%,T9	91637	CMF55116C23700B–R36
A5R176	321–1790–07			RES,FXD,FILM:2.37K,0.1%,T9	91637	CMF55116C23700B–R36
A5R177	321–1792–07			RES,FXD,FILM:1.47K,0.1%,T9	91637	CMF55116C14700B–R36
A5R178	321–1793–07			RES,FXD,FILM:2.43K,0.1%,T9	91637	CMF55116C24300B–R36
A5R179	321–1792–07			RES,FXD,FILM:1.47K,0.1%,T9	91637	CMF55116C14700B–R36
A5R180	321–1793–07			RES,FXD,FILM:2.43K,0.1%,T9	91637	CMF55116C24300B–R36
A5R181	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R182	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R183	321–5090–00			RES,FXD:THICK FILM,20.0K OHM, 1%,0.125W,100 PPM,1206	50139	BCK2002FT
A5R184	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R185	321–5298–00			RES,FXD,FILM:60.4 OHM, +/–1%,0.125W,TC=100 PPM,SMD	91637	CRCW1206–60R4F–RT1
A5R186	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R187	321–5176–00			RES,FXD,FILM:3.01K,1%,0.125W,1206,SMD	91637	CRCW1206–3011F–RT1
A5R188	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R189	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R190	321–5090–00			RES,FXD:THICK FILM,20.0K OHM, 1%,0.125W,100 PPM,1206	50139	BCK2002FT
A5R191	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R192	321–5298–00			RES,FXD,FILM:60.4 OHM, +/–1%,0.125W,TC=100 PPM,SMD	91637	CRCW1206–60R4F–RT1
A5R193	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R194	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R195	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R196	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R197	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R198	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R199	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R200	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R201	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R202	321–5090–00			RES,FXD:THICK FILM,20.0K OHM, 1%,0.125W,100 PPM,1206	50139	BCK2002FT
A5R203	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R204	321–5298–00			RES,FXD,FILM:60.4 OHM, +/–1%,0.125W,TC=100 PPM,SMD	91637	CRCW1206–60R4F–RT1
A5R205	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R206	321–5176–00			RES,FXD,FILM:3.01K,1%,0.125W,1206,SMD	91637	CRCW1206–3011F–RT1
A5R207	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R208	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R209	321–5090–00			RES,FXD:THICK FILM,20.0K OHM, 1%,0.125W,100 PPM,1206	50139	BCK2002FT
A5R210	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R211	321–5298–00			RES,FXD,FILM:60.4 OHM, +/–1%,0.125W,TC=100 PPM,SMD	91637	CRCW1206–60R4F–RT1
A5R212	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R213	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R214	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R215	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R216	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R217	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R218	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R219	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R220	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R221	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R222	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R223	321–5064–00			RES,FXD:THICK FILM,200K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2003FT
A5R224	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R225	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R226	321–5090–00			RES,FXD:THICK FILM,20.0K OHM, 1%,0.125W,100 PPM,1206	50139	BCK2002FT
A5R227	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R228	321–5298–00			RES,FXD,FILM:60.4 OHM, +/–1%,0.125W,TC=100 PPM,SMD	91637	CRCW1206–60R4F–RT1
A5R229	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R230	321–5176–00			RES,FXD,FILM:3.01K,1%,0.125W,1206,SMD	91637	CRCW1206–3011F–RT1
A5R231	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R232	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R233	321–5090–00			RES,FXD:THICK FILM,20.0K OHM, 1%,0.125W,100 PPM,1206	50139	BCK2002FT
A5R234	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R235	321–5298–00			RES,FXD,FILM:60.4 OHM, +/–1%,0.125W,TC=100 PPM,SMD	91637	CRCW1206–60R4F–RT1
A5R236	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R237	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R238	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R239	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R240	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R241	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R242	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R243	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R244	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R245	321–5090–00			RES,FXD:THICK FILM,20.0K OHM, 1%,0.125W,100 PPM,1206	50139	BCK2002FT
A5R246	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R247	321–5298–00			RES,FXD,FILM:60.4 OHM, +/–1%,0.125W,TC=100 PPM,SMD	91637	CRCW1206–60R4F–RT1
A5R248	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R249	321–5176–00			RES,FXD,FILM:3.01K,1%,0.125W,1206,SMD	91637	CRCW1206–3011F–RT1
A5R250	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R251	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R252	321–5090–00			RES,FXD:THICK FILM,20.0K OHM, 1%,0.125W,100 PPM,1206	50139	BCK2002FT
A5R253	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R254	321–5298–00			RES,FXD,FILM:60.4 OHM, +/–1%,0.125W,TC=100 PPM,SMD	91637	CRCW1206–60R4F–RT1
A5R255	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R256	321–5281–00			RES,FXD:THICK FILM,2K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2001FT
A5R257	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R258	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R259	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R260	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R261	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R262	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R263	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R264	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R265	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R266	321–5064–00			RES,FXD:THICK FILM,200K OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B2003FT
A5R267	308–0450–00			RES,FXD,WW:70 OHM, 1%,3W AXIAL LEADS	24165	242EX70R00FQ18
A5R268	308–0450–00			RES,FXD,WW:70 OHM, 1%,3W AXIAL LEADS	24165	242EX70R00FQ18
A5R269	308–0450–00			RES,FXD,WW:70 OHM, 1%,3W AXIAL LEADS	24165	242EX70R00FQ18
A5R270	308–0450–00			RES,FXD,WW:70 OHM, 1%,3W AXIAL LEADS	24165	242EX70R00FQ18
A5R272	307–5040–01			RES,NTWK:THICK FILM,(8)33 OHM, 2%,0.16W EACH,TC=100 PPM,SO16.220 ,ISOLATED	57924	4816P–001–330
A5R273	307–5040–01			RES,NTWK:THICK FILM,(8)33 OHM, 2%,0.16W EACH,TC=100 PPM,SO16.220 ,ISOLATED	57924	4816P–001–330
A5R274	307–5040–01			RES,NTWK:THICK FILM,(8)33 OHM, 2%,0.16W EACH,TC=100 PPM,SO16.220 ,ISOLATED	57924	4816P–001–330

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R275	307–5040–01			RES,NTWK:THICK FILM,(8)33 OHM, 2%,0.16W EACH,TC=100 PPM,SO16.220 ,ISOLATED	57924	4816P–001–330
A5R276	307–5040–01			RES,NTWK:THICK FILM,(8)33 OHM, 2%,0.16W EACH,TC=100 PPM,SO16.220 ,ISOLATED	57924	4816P–001–330
A5R277	307–5040–01		B019999	RES,NTWK:THICK FILM,(8)33 OHM, 2%,0.16W EACH,TC=100 PPM,SO16.220 ,ISOLATED	57924	4816P–001–330
A5R277	325–0483–00	B020100		RES,FXD,FILM:300 OHM, 1%, 3 W, 500V,0.515 X 0.225, AXIAL	24546	FP69 300 OHM 1%
A5R278	325–0483–00	B020100		RES,FXD,FILM:300 OHM, 1%, 3 W, 500V,0.515 X 0.225, AXIAL	24546	FP69 300 OHM 1%
A5R279	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R280	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R283	321–5205–00		B019999	RES,FXD,FILM:1.33K OHM, 1%,0.125,1206,8MM	91637	CRCW1206–1331F–RT1
A5R283	325–0483–00	B020100		RES,FXD,FILM:300 OHM, 1%, 3 W, 500V,0.515 X 0.225, AXIAL	24546	FP69 300 OHM 1% (BULK)
A5R284	321–5205–00		B019999	RES,FXD,FILM:1.33K OHM, 1%,0.125,1206,8MM	91637	CRCW1206–1331F–RT1
A5R284	325–0483–00	B020100		RES,FXD,FILM:300 OHM, 1%, 3 W, 500V,0.515 X 0.225, AXIAL	24546	FP69 300 OHM 1% (BULK)
A5R285	321–5205–00			RES,FXD,FILM:1.33K OHM, 1%,0.125,1206,8MM	91637	CRCW1206–1331F–RT1
A5R286	321–5205–00			RES,FXD,FILM:1.33K OHM, 1%,0.125,1206,8MM	91637	CRCW1206–1331F–RT1
A5R287	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R288	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R290	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R291	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R292	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R293	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R294	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R295	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R296	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R297	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R298	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R299	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R300	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R301	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R302	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R303	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R304	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R305	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R306	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R307	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R308	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R309	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R310	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R311	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R312	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R313	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R314	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R315	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R316	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R317	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R318	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R319	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R320	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R321	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R322	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R323	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R324	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R325	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R326	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R327	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R328	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R329	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R330	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R331	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R332	321–5388–00			RES,FXD,FILM:16.2 OHM, 1%,0.125W,1206,8MM	91637	CRCW1206–16R2F–RT1
A5R333	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R334	321–5194–00		B019999	RES,FXD:THICK FILM,49.9 OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B49R9FT
A5R334	322–3155–00	B020100		RES,FXD,FILM:402 OHM,1%,0.2W,TC=T0 MI,SMALL BODY	57668	CRB20 FXE 402E
A5R335	321–5306–00			RES,FXD,FILM:330 OHM, +/–5%,0.125W,TC=200PPM,1206 PKG,SMD	91637	CRCW1206–331J–RT1
A5R336	321–5306–00			RES,FXD,FILM:330 OHM, +/–5%,0.125W,TC=200PPM,1206 PKG,SMD	91637	CRCW1206–331J–RT1
A5R337	321–5306–00			RES,FXD,FILM:330 OHM, +/–5%,0.125W,TC=200PPM,1206 PKG,SMD	91637	CRCW1206–331J–RT1
A5R338	321–5306–00			RES,FXD,FILM:330 OHM, +/–5%,0.125W,TC=200PPM,1206 PKG,SMD	91637	CRCW1206–331J–RT1
A5R339	321–5306–00			RES,FXD,FILM:330 OHM, +/–5%,0.125W,TC=200PPM,1206 PKG,SMD	91637	CRCW1206–331J–RT1
A5R340	321–5306–00			RES,FXD,FILM:330 OHM, +/–5%,0.125W,TC=200PPM,1206 PKG,SMD	91637	CRCW1206–331J–RT1
A5R341	321–5306–00			RES,FXD,FILM:330 OHM, +/–5%,0.125W,TC=200PPM,1206 PKG,SMD	91637	CRCW1206–331J–RT1
A5R342	321–5306–00			RES,FXD,FILM:330 OHM, +/–5%,0.125W,TC=200PPM,1206 PKG,SMD	91637	CRCW1206–331J–RT1
A5R343	321–5026–00			RES,FXD:THICK FILM,4.75K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4751FT
A5R344	321–5194–00		B019999	RES,FXD:THICK FILM,49.9 OHM, 1%,0.125W,TC=100 PPM,1206	59124	RK73H2B49R9FT
A5R344	322–3155–00	B020100		RES,FXD,FILM:402 OHM,1%,0.2W,TC=T0 MI,SMALL BODY	57668	CRB20 FXE 402E
A5R345	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R346	321–5038–00			RES,FXD:THICK FILM,47.5K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4752FT
A5R347	321–5038–00			RES,FXD:THICK FILM,47.5K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4752FT
A5R348	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R350	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R351	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R352	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R353	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R354	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R355	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R356	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R357	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R358	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R359	308–0388–00			RES,FXD,WW:47 OHM, 5%,3W AXIAL LEADS	05347	CS4 47 OHM 5 PERCENT
A5R360	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R361	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R362	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R363	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R364	321–5047–00			RES,FXD:THICK FILM,100K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1003FT
A5R365	321–5047–00			RES,FXD:THICK FILM,100K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1003FT
A5R366	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R367	321–5018–00			RES,FXD:THICK FILM,1.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1001FT
A5R368	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R369	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R370	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R372	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R374	321–5047–00			RES,FXD:THICK FILM,100K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1003FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5R375	321–5047–00			RES,FXD:THICK FILM,100K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1003FT
A5R376	321–5030–00			RES,FXD:THICK FILM,10.0K OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1002FT
A5R377	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R378	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R379	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R380	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R381	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R382	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R383	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R384	321–5000–00			RES,FXD,FILM:10 OHM, 1%,0.125W,TC=100 PPM,100V,1206,SMD	50139	BCD10R0FT
A5R385	321–5012–00			RES,FXD:THICK FILM,332 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK3320FT
A5R390	321–5014–00			RES,FXD:THICK FILM,475 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4750FT
A5R391	321–5014–00			RES,FXD:THICK FILM,475 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4750FT
A5R392	321–5014–00			RES,FXD:THICK FILM,475 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4750FT
A5R393	321–5014–00			RES,FXD:THICK FILM,475 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK4750FT
A5R395	308–0388–00			RES,FXD,WW:47 OHM, 5%,3W AXIAL LEADS	05347	CS4 47 OHM 5 PERCENT
A5R396	321–5051–00			RES,FXD:THICK FILM,0 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCD0JUMPERT
A5R397	321–5051–00			RES,FXD:THICK FILM,0 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCD0JUMPERT
A5R398	321–5051–00			RES,FXD:THICK FILM,0 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCD0JUMPERT
A5R399	321–5051–00			RES,FXD:THICK FILM,0 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCD0JUMPERT
A5R400	321–5051–00			RES,FXD:THICK FILM,0 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCD0JUMPERT
A5R401	321–5051–00			RES,FXD:THICK FILM,0 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCD0JUMPERT
A5R402	321–5051–00			RES,FXD:THICK FILM,0 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCD0JUMPERT
A5R403	321–5051–00			RES,FXD:THICK FILM,0 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCD0JUMPERT
A5R404	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT
A5R405	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM, 1%,0.125W,TC=100 PPM,1206	50139	BCK1000FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5RC1	307–5101–00			RCD,NTWK:16,47 OHM, 33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A5RC2	307–5101–00			RCD,NTWK:16,47 OHM, 33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A5RC3	307–5101–00			RCD,NTWK:16,47 OHM, 33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A5S1	260–1965–00			SWITCH,ROCKER:DIP,RAISED ROCKER,4 POSITION,TOP SEALED,150MA 30VDC,76SBO4S	00779	435166–2
A5TP3	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP4	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP5	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP6	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP7	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP8	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP9	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP12	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP13	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP14	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP15	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP16	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP17	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP18	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP19	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP20	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP21	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP22	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP23	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5TP24	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP25	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP26	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP28	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP31	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP32	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP33	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP34	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5TP35	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A5U2	156–4443–00			IC,MEMORY:CMOS,SRAM,128K X 32 MODULE,25NS,4A12832M–25,SIMM64	6Y440	MT4S12832M–25
				MOUNTING PARTS		
	136–1235–00			SOCKET,SIMM:PCB,SIMM II;FEMALE,22.5 DEG,1 XLZ	00779	91–1744–14–64
				END MOUNTING PARTS		
A5U4	156–6708–01			IC,PROCESSOR:CMOS,DSP,24 BITS,40MHZ,PLL,DSP56002,132 PIN THRU–HOLEADAPTER	TK2651	SAMTEC–DSP:24BIT
A5U5	160–9909–00			IC,DIGITAL:CMOS,PLD,OTP,22V10,7.5NS,111MHZ,190MA,22V 10–7,PRGM 156–6516–00,PLCC28–1,TUBE	80009	160–9909–00
A5U6	156–3314–00			IC, SC:TTL,INTERFACE,DIFFERENTIAL LINE DRIVER/RECEIVER PAIR,MEETS RS–422 STANDARD,DS892	27014	DS8921AN
				MOUNTING PARTS		
	136–0727–00			SKT,PL–IN ELEK: CROCKT,8 CONTACT	09922	DILB8P–108
				END MOUNTING PARTS		
A5U7	160–9908–00			IC,DIGITAL:CMOS,PLD,EEPLD,22V10,130MA,15NS,22V10–15, PRGM 156–3923–00,DIP24.3,TUBE	80009	160–9908–00
A5U8	156–6711–00			IC,DIGITAL:ALSTTL,BUFFER,OCTAL,3–STATE,74ALS244,SO2 0.300,TUBE	01295	SN74ALS244BDW
A5U9	156–4039–00			IC,OPTO:COUPLER, DUAL CH,I OUT 16MA/CH, VCEO 7V/CH,10MBD,ISOL 2500V,CMR 1000V/US,TTL/LST	50434	HCPL–2631
				MOUNTING PARTS		
	136–0727–00			SKT,PL–IN ELEK: CROCKT,8 CONTACT	09922	DILB8P–108
				END MOUNTING PARTS		
A5U10	156–4039–00			IC,OPTO:COUPLER, DUAL CH,I OUT 16MA/CH, VCEO 7V/CH,10MBD,ISOL 2500V,CMR 1000V/US,TTL/LST	50434	HCPL–2631
				MOUNTING PARTS		

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
	136–0727–00			SKT,PL–IN ELEK: CROCKT,8 CONTACT	09922	DILB8P–108
				END MOUNTING PARTS		
A5U11	156–6769–00			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,WITH STORAGE,CLEAR,74HC594	01295	SN74HC594DW
A5U12	156–6769–00			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,WITH STORAGE,CLEAR,74HC594	01295	SN74HC594DW
A5U13	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U15	156–4407–00			IC,CONVERTER:CMOS,D/A,20BIT,–90DB,SERIAL,200NS SETTLING TIME,PCM63 P–K,DIP28.6	13919	PCM63P–K
				MOUNTING PARTS		
	136–0755–00			SKT,DIP:PCB;FEM,STR,2 X 14,28 POS,0.1 X 0.6 CTR,0.175 H X0.130 TAIL,BECU,TIN,ACCOM 0.008–0.0015 X 0.014–0.022	09922	DILB28P–108
				END MOUNTING PARTS		
A5U16	156–6710–00			IC,DIGITAL:CMOS,ARITH FUNCT,8X OVERSAMPLING, DUAL CHANNEL DIGITAL INTERPOLATION FILTER,DF17	13919	DF1700U
A5U18	156–4407–00			IC,CONVERTER:CMOS,D/A,20BIT,–90DB,SERIAL,200NS SETTLING TIME,PCM63 P–K,DIP28.6	13919	PCM63P–K
				MOUNTING PARTS		
	136–0755–00			SKT,DIP:PCB;FEM,STR,2 X 14,28 POS,0.1 X 0.6 CTR,0.175 H X0.130 TAIL,BECU,TIN,ACCOM 0.008–0.0015 X 0.014–0.022	09922	DILB28P–108
				END MOUNTING PARTS		
A5U19	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U20	156–4423–00			IC,OPTO:COUPLER, DUAL CH,I OUT 25MA,VCEO 10V, ISOL 2500V,20MBDCMR 1000V/US, DIP08.3, HCP	54893	HCPL–2430
				MOUNTING PARTS		
	136–0727–00			SKT,PL–IN ELEK: CROCKT,8 CONTACT	09922	DILB8P–108
				END MOUNTING PARTS		
A5U21	156–4423–00			IC,OPTO:COUPLER, DUAL CH,I OUT 25MA,VCEO 10V, ISOL 2500V,20MBDCMR 1000V/US, DIP08.3, HCP	54893	HCPL–2430
A5U22	156–0277–00			IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,POSITIVE,5.0V,1.0A,4%,MC7805CT,TO–220	01295	UA7805CKC
				ATTACHED PARTS		
	210–0586–00			NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	TK0435	ORDER BY DESC
	211–0008–00			SCREW,MACHINE:4–40 X 0.25,PNH,STL	TK0435	ORDER BY DESC
	214–3036–00			HEAT SINK,SE C:XSTR,TO–220;ALUM,BLACK ANODIZE	98978	7–363–BA
	342–0355–00			INSULATOR,PLATE:TRANSISTOR,SILICONE RUBBER	2K262	CHR–1869
				END ATTACHED PARTS		
A5U23	156–0846–00			IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,NEGATIVE,–5.0V,1.0A,4.0%,MC7905CT,TO–220	01295	UA7905CKC
				ATTACHED PARTS		
	210–0586–00			NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	TK0435	ORDER BY DESC

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
	211–0008–00			SCREW,MACHINE:4–40 X 0.25,PNH,STL	TK0435	ORDER BY DESC
	214–3036–00			HEAT SINK,SE C:XSTR,TO–220;ALUM,BLACK ANODIZE	98978	7–363–BA
	342–0355–00			INSULATOR,PLATE:TRANSISTOR,SILICONE RUBBER	2K262	CHR–1869
				END ATTACHED PARTS		
A5U24	156–6711–00			IC,DIGITAL:ALSTTL,BUFFER,OCTAL,3–STATE,74ALS244	01295	SN74ALS244BDW
A5U25	156–5291–00			IC,LINEAR:BIPOLAR,TRANSISTOR ARRAY,(7)NPN,50V,500MA,DARLINGTON,COMMON E TTER,W/CLAMP DIOD	01295	ULN2003AD
A5U26	156–6311–00			IC, SC:CMOS,ANALOG MUX,8 CHANNEL,100 OHM, 250NS,DG408DY,SO16.150,TUBE	17856	DG408DY
A5U27	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U28	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U29	156–6311–00			IC, SC:CMOS,ANALOG MUX,8 CHANNEL,100 OHM, 250NS,DG408DY	17856	DG408DY
A5U30	156–6311–00			IC, SC:CMOS,ANALOG MUX,8 CHANNEL,100 OHM, 250NS,DG408DY	17856	DG408DY
A5U31	156–6311–00			IC, SC:CMOS,ANALOG MUX,8 CHANNEL,100 OHM, 250NS,DG408DY	17856	DG408DY
A5U32	156–6769–00			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,WITH STORAGE,CLEAR,74HC594	01295	SN74HC594DW
A5U33	156–6769–00			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,WITH STORAGE,CLEAR,74HC594	01295	SN74HC594DW
A5U34	156–6769–00			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,WITH STORAGE,CLEAR,74HC594	01295	SN74HC594DW
A5U35	156–6769–00			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,WITH STORAGE,CLEAR,74HC594	01295	SN74HC594DW
A5U38	156–5456–01			IC,DIGITAL:HCMOS,MUX,QUAD 2–TO–1,ENABLE,74HC157,SO16.150,16MM T&R	04713	MC74HC157DR2
A5U39	156–5456–01			IC,DIGITAL:HCMOS,MUX,QUAD 2–TO–1,ENABLE,74HC157,SO16.150,16MM T&R	04713	MC74HC157DR2
A5U40	156–5356–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,74HC164,SO14.150,16MM T&R	01295	SN74HC164DR
A5U41	156–5356–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,74HC164,SO14.150,16MM T&R	01295	SN74HC164DR
A5U42	156–5356–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT SIPO SHIFT,74HC164,SO14.150,16MM T&R	01295	SN74HC164DR
A5U43	156–6707–00			IC, SC:CMOS,ANALOG SWITCH,DUAL SPDT,45 OHM, DG403DY,SO16.150	17856	DG403DY
A5U44	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U45	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5U46	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U47	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U48	156–5888–01			IC,DIGITAL:HCTCMOS,MULTIVIBRATOR,DUAL NON–RETRIG MONOSTABLE,74HCT221,SO16.150,16MM	1CH66	74HCT221DT
A5U49	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U54	156–5888–01			IC,DIGITAL:HCTCMOS,MULTIVIBRATOR,DUAL NON–RETRIG MONOSTABLE,74HCT221,SO16.150,16MM T&R	1CH66	74HCT221DT
A5U55	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U58	156–4538–00	B020100		IC,CONVERTER:20100–07135,A–D CONVERTER 4ICL7135CPI	80009	156–4538–00
A5U60	156–6715–00			IC, SC:CMOS,ANALOG SWITCH,DUAL,DPST NC,+/–15V,35 OHM, 100NS,DG405DY,SO16.150	17856	DG405DY
A5U61	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U62	156–6709–00			IC,CONVERTER:CMOS,D/A,12 BIT,CURRENT OUT,MULTIPLYING,AD7541AKR,SO18.300	24355	AD7541AKR
A5U63	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U64	156–6699–00			IC, SC:CMOS,ANALOG SWITCH,QUAD,SPST NC,+/–15V,35 OHM, 145NS,DG412DY,SO16.150	17856	DG412DY
A5U65	156–6709–00			IC,CONVERTER:CMOS,D/A,12 BIT,CURRENT OUT,MULTIPLYING,AD7541AKR,SO18.300	24355	AD7541AKR
A5U66	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U67	156–6707–00			IC, SC:CMOS,ANALOG SWITCH,DUAL SPDT,45 OHM, DG403DY,SO16.150	17856	DG403DY
A5U68	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U69	156–6709–00			IC,CONVERTER:CMOS,D/A,12 BIT,CURRENT OUT,MULTIPLYING,AD7541AKR,SO18.300	24355	AD7541AKR
A5U70	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U71	156–6699–00			IC, SC:CMOS,ANALOG SWITCH,QUAD,SPST NC,+/–15V,35 OHM, 145NS,DG412DY,SO16.150	17856	DG412DY
A5U72	156–6709–00			IC,CONVERTER:CMOS,D/A,12 BIT,CURRENT OUT,MULTIPLYING,AD7541AKR,SO18.300	24355	AD7541AKR
A5U73	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A5U74	156–6707–00			IC, SC:CMOS,ANALOG SWITCH,DUAL SPDT,45 OHM, DG403DY,SO16.150	17856	DG403DY
A5U75	156–5291–00			IC,LINEAR:BIPOLAR,TRANSISTOR ARRAY,NPN,50V,500MA, DARLINGTON, COMMON EMITTER,W/ CLAMP DIODE	01295	ULN2003AD

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5U81	156–6713–00			IC,LINEAR:BIPOLAR,SW–REGULATOR,STEP–DOWN/BUCK,15V,500MA,4%,SHUTDOWN,LM2574M–15,SO14.300	27014	LM2574M–15
A5U82	156–6714–00			IC,LINEAR:BIPOLAR,SW–REGULATOR,STEP–DOWN/BUCK,5.0V,500MA,4%,SHUTDOWN,LM2574M–5.0,SO14.300	27014	LM2574M–5.0
A5U83	156–6713–00			IC,LINEAR:BIPOLAR,SW–REGULATOR,STEP–DOWN/BUCK,15V,500MA,4%,SHUTDOWN,LM2574M–15,SO14.300	27014	LM2574M–15
A5U85	156–6775–00			IC,DIGITAL:FCTCMOS,BUFFER,OCTAL,RESISTOR TERNATED OUTPUTS,3–STATE,74FCT2244AT,SO20.300,TU	0TJ19	QS74FCT2244ATSO
A5U86	156–6774–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERNATED OUTPUTS,3–STATE,74FCT2245AT,SO20.3	0TJ19	QS74FCT2245ATSO
A5U87	160–9910–00			IC,DIGITAL:CMOS.PLD,EEPLD,MACH 210,64 MACROCELL,32 I/O,6–INPUTS,2 CLOCK INPUTS,15NS,PRGM 15	80009	160–9910–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A5U90	156–6712–01			IC,OPTO:COUPLER, VCEO 70V, ISOL 2500V, CTR 100%, SO8 SMD, ILD213T	50579	ILD213T
A5U91	156–6712–01			IC,OPTO:COUPLER, VCEO 70V, ISOL 2500V, CTR 100%, SO8 SMD, ILD213T	50579	ILD213T
A5U92	156–6712–01			IC,OPTO:COUPLER, VCEO 70V, ISOL 2500V, CTR 100%, SO8 SMD, ILD213T	50579	ILD213T
A5U93	156–6712–01			IC,OPTO:COUPLER, VCEO 70V, ISOL 2500V, CTR 100%, SO8 SMD, ILD213T	50579	ILD213T
A5U94	156–6712–01			IC,OPTO:COUPLER, VCEO 70V, ISOL 2500V, CTR 100%, SO8 SMD, ILD213T	50579	ILD213T
A5U95	156–5357–01			IC,DIGITAL:HCMOS,GATE,QUAD 2–INPUT NOR,74HC02,SO14.150,16MM T&R	01295	SN74HC02DR
A5U96	156–5455–01			IC,DIGITAL:HCMOS,GATE,QUAD 2–INPUT XOR,74HC86,SO14.150,16MM T&R	01295	SN74HC86D
A5U99	156–6481–01			IC, SC:CMOS,PWR SUPPLY SUPERVISOR,MPU RESET GEN,5V SUPPLY SENSING,10%,350MS RESET TIME,	0B0A9	DS1233Z–10/TR
A5U100	156–6707–00			IC, SC:CMOS,ANALOG SWITCH,DUAL SPDT,45 OHM, DG403DY,SO16.150	17856	DG403DY
A5U101	156–6481–01			IC, SC:CMOS,PWR SUPPLY SUPERVISOR,MPU RESET GEN,5V SUPPLY SENSING,10%,350MS RESET TIME,	0B0A9	DS1233Z–10/TR
A5U117	160–9912–01	B020100		IC, DIGITAL:CMOS,PLD,OTP,5032,32 M/C,16 I/O,8 IN,20NS,PRGM 156–3825–01,5032–20,DIP28.3,TUBE	80009	160–9912–01
A5U118	160–9914–00	B020100		IC,DIGITAL:CMOS,PLD,OTP,ATV2500,24 M/C,14 IN,24 I/O,48 F/F,35NS,PRGM 156–6700–00,ATV2500H–3	80009	160–9914–00
A5U119	160–9913–01	B020100		IC, DIGITAL:CMOS,PLD,OPT,5032,32 M/C,16 I/O,8 IN,20NS,PRGM 156–3825–01,5032–20,DIP28.3	80009	160–9913–01
A5VR1	152–0756–00			DIODE,ZENER:47V,5%,1W,1N4756A,DO–41,TR	04713	1N4756ARL
A5VR1	152–0756–00			DIODE,ZENER:47V,5%,1W,1N4756A,DO–41,TR	04713	1N4756ARL
A5Y1	119–4642–00		B010329	OSCILLATOR:CRYSTAL CONTROLLED,12.288000 MHZ,100 PPM,HCMOS,4 PIN DIP,14 PIN DIP COMPATIBLE	14301	012–401–01525

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A5A3	671–3873–00	B020100		CIRCUIT BD ASSY:DRIVER	80009	671–3873–00
A5A3CR1	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A5A3J1	131–2919–00			CONN,HDR:PCB,MALE,RTANG,1 X 4,0.1 CTR,0.318 MLG X 0.110 TAIL,30 GOLD,0.035 DIA PCB,	00779	87232–4
A5A3J2	131–2919–00			CONN,HDR:PCB,MALE,RTANG,1 X 4,0.1 CTR,0.318 MLG X 0.110 TAIL,30 GOLD,0.035 DIA PCB,	00779	87232–4
A5A3J3	131–1425–00			CONN,HDR:PCB,MALE,RTANG,1 X 36,0.1 CTR,0.230 MLG X 0.090 TAIL,30 GOLD,STACKABLE,	22526	65521–136
A5A3K1	148–0235–00			RELAY,ARMATURE:2 FORM C,5VDC 312 OHM COIL,GOLD CLAD SILVER,MAX SW AT 110VDC,125VAC,30W,1A,INITI	61529	TF2E–5V
A5A4	671–3873–00	B020100		CIRCUIT BD ASSY:DRIVER	80009	671–3873–00
A5A4CR1	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A5A4J1	131–2919–00			CONN,HDR:PCB,MALE,RTANG,1 X 4,0.1 CTR,0.318 MLG X 0.110 TAIL,30 GOLD,0.035 DIA PCB,	00779	87232–4
A5A4J2	131–2919–00			CONN,HDR:PCB,MALE,RTANG,1 X 4,0.1 CTR,0.318 MLG X 0.110 TAIL,30 GOLD,0.035 DIA PCB,	00779	87232–4
A5A4J3	131–1425–00			CONN,HDR:PCB,MALE,RTANG,1 X 36,0.1 CTR,0.230 MLG X 0.090 TAIL,30 GOLD,STACKABLE,	22526	65521–136
A5A4K1	148–0235–00			RELAY,ARMATURE:2 FORM C,5VDC 312 OHM COIL,GOLD CLAD SILVER,MAX SW AT 110VDC,125VAC,30W,1A,INITI	61529	TF2E–5V

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6	671–2666–00	B010100	B010324	CIRCUIT BD ASSY:CPU	80009	671–2666–00
A6	671–2666–01	B010325	B010348	CIRCUIT BD ASSY:CPU	80009	671–2666–01
A6	671–2666–02	B010349	B010999	CIRCUIT BD ASSY:CPU	80009	671–2666–02
A6	671–2666–03	B020100	4/25/97	CIRCUIT BD ASSY:CPU	80009	671–2666–03
A6	671–2666–04	4/25/97		CIRCUIT BD ASSY:CPU	80009	671–2666–04
A6BT1	146–0104–00	B010100	B010324	BATTERY,DRY:3.6V,LITHIUM,0.85AH,0.5AA,TL–5101	0BYG1	TL–5101
A6BT1	146–0116–00	B010325		BATTERY,DRY:3.0V,850MAH,LITHIUM,0.57X1,CR14250SE–T	S4091	CR14250SE–SP1-1
A6C1	290–1157–00			CAP,FXD,ALUM:220UF,20%,25V,0.532 X 0.410,RADIAL	62643	CEAFM1E221M–T4
A6C2	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C3	290–1157–00			CAP,FXD,ALUM:220UF,20%,25V,0.532 X 0.410,RADIAL	62643	CEAFM1E221M–T4
A6C6	290–5003–00			CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD,13MM,T&R	04222	TAJD476M010
A6C7	290–5008–00			CAP,FXD,TANT:1UF,20%,35V,0.138 X 0.110,3528	04222	TAJB105M035
A6C8	290–5008–00			CAP,FXD,TANT:1UF,20%,35V,0.138 X 0.110,3528	04222	TAJB105M035
A6C9	290–5008–00			CAP,FXD,TANT:1UF,20%,35V,0.138 X 0.110,3528	04222	TAJB105M035
A6C10	290–5008–00			CAP,FXD,TANT:1UF,20%,35V,0.138 X 0.110,3528	04222	TAJB105M035
A6C11	290–5008–00			CAP,FXD,TANT:1UF,20%,35V,0.138 X 0.110,3528	04222	TAJB105M035
A6C12	290–5008–00			CAP,FXD,TANT:1UF,20%,35V,0.138 X 0.110,3528	04222	TAJB105M035
A6C13	290–5008–00			CAP,FXD,TANT:1UF,20%,35V,0.138 X 0.110,3528	04222	TAJB105M035
A6C14	290–5008–00			CAP,FXD,TANT:1UF,20%,35V,0.138 X 0.110,3528	04222	TAJB105M035
A6C15	290–5004–00			CAP,FXD,TANT:22UF,10%,20V,0.287 X 0.169,7343	04222	TAJD226K020R
A6C16	290–5035–01			CAP,FXD,ALUM:3.3UF,20%,50V,5.7MM(0.224)	62643	MVK50VC3R3MD60 TPX
A6C17	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C18	290–5003–00			CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD,13MM,T&R	04222	TAJD476M010
A6C19	290–5035–01			CAP,FXD,ALUM:3.3UF,20%,50V,5.7MM(0.224)	62643	MVK50VC3R3MD60 TPX
A6C20	290–5035–01			CAP,FXD,ALUM:3.3UF,20%,50V,5.7MM(0.224)	62643	MVK50VC3R3MD60 TPX
A6C21	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C22	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C23	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C24	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C25	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6C26	290–5035–01			CAP,FXD,ALUM:3.3UF,20%,50V,5.7MM(0.224)	62643	MVK50VC3R3MD60 TPX
A6C27	290–0963–00			CAP,FXD,ALUM:220UF,20%,35WVDC,10 X 12MM,RADIAL	55680	UVX1V221MPA
A6C28	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C29	290–0963–00			CAP,FXD,ALUM:220UF,20%,35WVDC,10 X 12MM,RADIAL	55680	UVX1V221MPA
A6C30	290–5003–00			CAP,FXD,TANT:47UF,20%,10V,0.287 X 0.169,7343,SMD,13MM,T&R	04222	TAJD476M010
A6C31	290–0950–00			CAP,FXD,ALUM:100UF,+50–20%,50V,10 X 12 MM,RADIAL	55680	UVX1J101MPA
A6C32	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C33	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C34	283–5279–00			CAP,FXD,CERAMIC:MLC,0.47UF,10%,50V,X7R,.180X.250,CC1825 ,SMD,12MM T/R	04222	18255C474KAT1A
A6C35	283–5279–00			CAP,FXD,CERAMIC:MLC,0.47UF,10%,50V,X7R,.180X.250,CC1825 ,SMD,12MM T/R	04222	18255C474KAT1A
A6C36	283–5279–00			CAP,FXD,CERAMIC:MLC,0.47UF,10%,50V,X7R,.180X.250,CC1825 ,SMD,12MM T/R	04222	18255C474KAT1A
A6C37	283–5279–00			CAP,FXD,CERAMIC:MLC,0.47UF,10%,50V,X7R,.180X.250,CC1825 ,SMD,12MM T/R	04222	18255C474KAT1A
A6C38	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C39	283–5218–00			CAP,FXD,CERAMIC:MLC,4.7PF,+–0.5PF,50V,NPO,0805,SMD,8MM	04222	08055A4R7DAT2A
A6C40	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C41	283–5106–00			CAP,FXD,CERAMIC:MLC,470PF,5%,100V,NPO	04222	12061A471JAT1A
A6C42	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C43	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C44	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C45	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C46	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO	04222	12065A470JAT1A
A6C47	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO	04222	12065A470JAT1A
A6C48	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C49	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C50	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C51	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C52	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO	04222	12065A470JAT1A
A6C53	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C54	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C55	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C56	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6C57	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C58	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C59	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C60	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C61	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C62	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C63	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C64	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C67	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C68	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C71	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C72	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C73	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C74	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C75	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C76	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C77	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C78	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C79	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C80	283–5188–00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V,NPO	04222	12061A101JAT1A
A6C81	283–5188–00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V,NPO	04222	12061A101JAT1A
A6C82	283–5188–00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V,NPO	04222	12061A101JAT1A
A6C83	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C84	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C85	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C86	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C88	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C89	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C90	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C92	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C93	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C96	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C97	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C98	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C99	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C100	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C101	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C102	283–5068–00			CAP,FXD,CERAMIC:MLC,2200PF,10%,50V,X7R	04222	12065C222KAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6C103	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C104	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C105	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C106	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C107	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C108	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C109	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C110	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C111	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C112	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C113	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C114	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C115	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C116	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C117	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C118	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C120	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C121	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C122	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C123	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C124	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C125	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C126	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C127	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C128	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C129	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C130	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C131	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C132	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C133	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C134	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C135	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C136	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C137	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C138	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C140	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C141	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C142	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6C143	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C144	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C145	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C146	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C147	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C148	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C149	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C150	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C151	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C152	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO	04222	12065A470JAT1A
A6C153	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C154	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C155	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C156	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C157	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C158	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C159	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C160	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C161	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C162	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C163	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C165	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C166	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C167	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C168	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C169	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C170	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C171	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C172	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C173	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C174	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C175	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C176	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C177	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C178	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C179	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C180	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C181	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6C182	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C183	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C184	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C185	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C186	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C187	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C188	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C189	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C190	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C191	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C192	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C193	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C194	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C195	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C196	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C197	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C198	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C199	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C200	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C201	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C202	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C203	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C204	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C205	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C206	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C207	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C208	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C209	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C210	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C211	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C212	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C213	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C214	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C215	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C216	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C217	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C218	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C219	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6C220	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C221	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C222	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C223	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C224	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C225	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C226	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C227	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C228	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C229	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C230	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C231	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C232	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C233	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C234	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C235	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C236	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C237	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C238	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C239	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C241	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C242	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C244	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C245	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C246	283–5195–00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V, NPO	04222	12061A100JAT1A
A6C247	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C248	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C249	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C250	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C251	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C252	283–5195–00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V, NPO	04222	12061A100JAT1A
A6C253	283–5195–00			CAP,FXD,CERAMIC:MLC,10PF,5%,100V, NPO	04222	12061A100JAT1A
A6C254	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C255	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C256	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C257	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C258	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C259	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6C260	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C261	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C262	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C263	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C264	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C265	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C266	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C267	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C268	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C269	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C270	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C271	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C272	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C273	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C282	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C284	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C285	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60 TPX
A6C286	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C287	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A6C289	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C290	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C291	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C293	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C294	283–5188–00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V,NPO	04222	12061A101JAT1A
A6C295	283–5188–00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V,NPO	04222	12061A101JAT1A
A6C296	283–5188–00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V,NPO	04222	12061A101JAT1A
A6C297	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C298	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C299	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C300	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C301	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C302	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A6C303	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C304	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C305	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C306	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO	04222	12065A102JAT1A
A6C307	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C308	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6C309	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C310	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C311	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C312	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C313	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A6C314	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6C315	283–5022–00			CAP,FXD,CER DI:47PF,5%,50V NPO,1206 PKG, SMD,8MM	04222	12065A470JAT1A
A6CR1	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35,T&R	01295	1N4152R
A6CR4	152–0581–04			DIODE,RECT:SCHTKY,20V,1A,.450VF,25A IFSM,1N5817,T&R	04713	1N5817RL (TAPE & REEL PACKAGE)
A6CR5	152–0601–01			DIODE,RECT:ULTRA FAST,150V,25NS,35A IFSM,MUR120,T&R	12969	UES1103
A6CR6	152–0601–01			DIODE,RECT:ULTRA FAST,150V,25NS,35A IFSM,MUR120,T&R	12969	UES1103
A6CR7	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35,T&R	01295	1N4152R
A6CR8	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35,T&R	01295	1N4152R
A6DS1	150–1037–00			DISPLAY,OPTO:LED,ORN,630NM,7 SEG,0.3" DISPLAY,COM ANODE,RIGHT HANDDECIMAL,MAN3620A.3409	50579	DL307
A6DS2	150–1031–00			DIODE,OPTO:LED,RED,648NM,1MCD AT 20MA,70 DEG VIEW ANGL,HLMP–1002,T1	01295	TIL 209A
A6E8	276–0850–00			BEAD:	80009	276–0850–00
A6E9	276–0850–00			BEAD:	80009	276–0850–00
A6E10	276–0850–00			BEAD:	80009	276–0850–00
A6E14	276–0850–00			BEAD:	80009	276–0850–00
A6F1	159–0145–00			FUSE,WIRE LEAD:15A,32V,10 SECONDS	61857	SP7–15A
A6F2	159–0220–00			FUSE,WIRE LEAD:3A,125V,FAST	61857	SP5–3A
A6F3	159–0208–00			FUSE,WIRE LEAD:2A,125V,5 SEC,SAFETY CONTROLLED	61857	SP5–2A
A6FL1	119–4472–00			FILTER,RF:EMI/RFI,50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MO	TK2058	ZJY51R5–8PA
A6FL2	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL3	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL8	119–4472–00			FILTER,RF:EMI/RFI,50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MO	TK2058	ZJY51R5–8PA
A6FL9	119–4472–00			FILTER,RF:EMI/RFI,50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MO	TK2058	ZJY51R5–8PA
A6FL10	119–4472–00			FILTER,RF:EMI/RFI,50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MO	TK2058	ZJY51R5–8PA
A6FL11	119–4472–00			FILTER,RF:EMI/RFI,50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MO	TK2058	ZJY51R5–8PA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6FL12	119–4472–00			FILTER,RF:EMI/RFI,50V,500MA,0.12 OHMS MAX DCR,200 OHMS IMPEADANCE AT 20–300MHZ,4 COMMON MO	TK2058	ZJY51R5–8PA
A6FL13	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL14	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL15	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL16	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL17	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL18	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL19	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL20	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL21	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL22	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL23	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL24	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL25	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL26	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6FL27	119–3580–00			FILTER,EMI:T–CIRCUIT,140MHZ MAX,INS LOSS 15DB@30–800MHZ,25DB @70–200MHZ,1A,50V,1000PF,.094T	TK2058	ZJSR–5101–102TA
A6J1	131–3925–00			CONN,DSUB:PCB,FEMALE,RTANG,9 POS,0.112 CTR,0.318 MLG X 0.125 TAIL,4–40 THD INSERT,BD RETE	00779	747844–4
A6J2	131–5357–00			CONN,RIBBON:PCB/PNL,GPIB,FEMALE,RTANG 24 POS,0.085 CTR,0.469 MLG X 0.157 TAIL,6–32 INSERT W/	00779	554923–2
				ATTACHED PARTS		
	129–0887–02			SPCR,POST:0.531 L,M3.5 X 0.6 INT/6–32 EXT,STL,0.312 HEX (QUANTITY 2)	02660	57–1912–01 EA B
				END ATTACHED PARTS		
A6J3	131–5450–00			CONN,DSUB:PCB,HIGH DENSITY,FEMALE,RTANG,15 POS,0.078 CTR,0.350 MLG X 0.125 TAIL,4–40 THD I	00779	748390–5
				MOUNTING PARTS		
	214–3903–01			SCREW,JACK:4–40 X 0.312 EXT THD,4–40 INT THD,0.188 HEX,STEEL,CADPLATE (QUANTITY 2)	0KB01	214–3903–01

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
				END MOUNTING PARTS		
A6J4	131–5269–00			CONN,CIRC:PCB,MINI DIN,FEMALE,RTANG,6 POS,0.787 H X 0.137 TAIL,TIN OR SILVER,PNL MTG,	TK0AY	MD–S6350–N14S–1 4
A6J5	131–3926–00			CONN,DSUB:PCB,MALE,RTANG,9 POS,0.112 CTR,0.318 MLG X 0.125 TAIL,4–40 THD INSERT,BD RETENT	00779	747840–4
				MOUNTING PARTS		
	214–3903–01			SCREW,JACK:4–40 X 0.312 EXT THD,4–40 INT THD,0.188 HEX,STEEL,CADPLATE (QUANTITY 2)	0KB01	214–3903–01
				END MOUNTING PARTS		
A6J6	131–3926–00			CONN,DSUB:PCB,MALE,RTANG,9 POS,0.112 CTR,0.318 MLG X 0.125 TAIL,4–40 THD INSERT,BD RETENT	00779	747840–4
				MOUNTING PARTS		
	214–3903–01			SCREW,JACK:4–40 X 0.312 EXT THD,4–40 INT THD,0.188 HEX,STEEL,CADPLATE (QUANTITY 2)	0KB01	214–3903–01
				END MOUNTING PARTS		
A6J7	131–2919–01			CONN,HDR:PCB,MALE,STR,1 X 4,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,0.035 DIA PCB,SAFETY	53387	2404–6112TB
A6J8	131–3520–00			CONN,HDR:PCB,MALE,STR,2 X 5,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,MIL PLZ,30 GOLD	53387	2510–6002UB
A6J10	131–3213–00			CONN,HDR:PCB,MALE,STR,2 X 6,0.1 CTR,0.318 MLG X 0.100 TAIL,30 GOLD	58050	182–0644–SD11
A6J11	131–4917–00			CONN,HDR:PCB,MALE,STR,1 X 2,0.1 CTR,0.235 MLG X 0.110 TAIL,30 GOLD, HIGH TEMP,	00779	104350–1
A6J13	131–4917–00			CONN,HDR:PCB,MALE,STR,1 X 2,0.1 CTR,0.235 MLG X 0.110 TAIL,30 GOLD, HIGH TEMP,	00779	104350–1
A6J14	131–4917–00			CONN,HDR:PCB,MALE,STR,1 X 2,0.1 CTR,0.235 MLG X 0.110 TAIL,30 GOLD, HIGH TEMP,	00779	104350–1
A6J17	131–2919–01			CONN,HDR:PCB,MALE,STR,1 X 4,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,0.035 DIA PCB,SAFETY	53387	2404–6112TB
A6J21	131–3364–00			CONN,HDR:PCB,MALE,STR,2 X 17,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,CTR PLZ,30 GOLD,	53387	N2534–6002UB
A6J22	131–3364–00			CONN,HDR:PCB,MALE,STR,2 X 17,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,CTR PLZ,30 GOLD,	53387	N2534–6002UB
A6J23	131–4443–00			CONN,HDI:PCB,MALE,STR,4 X 30,0.1 CTR	22526	50015–5120A
A6J29	131–4917–00			CONN,HDR:PCB,MALE,STR,1 X 2,0.1 CTR,0.235 MLG X 0.110 TAIL,30 GOLD, HIGH TEMP,	00779	104350–1
A6J30	131–4917–00			CONN,HDR:PCB,MALE,STR,1 X 2,0.1 CTR,0.235 MLG X 0.110 TAIL,30 GOLD, HIGH TEMP,	00779	104350–1
A6J31	131–5677–00			CONN,HDR PWR:PCB,MALE,RTANG,1 X 10,0.156 CTR,0.450 MLG X 0.140 TAIL,PLZ WALL,FRICTION LOCK,2	27264	26–65–5100
A6J32	131–3392–00			CONN,HDR:PCB,MALE,STR,1 X 10,0.1 CTR,0.230 MLG X 0.120 TAIL,30 GOLD,BD RETENTION,	00779	1–102844–1
A6J33	131–5675–00			CONN,HDR PWR:PCB,MALE,RTANG,1 X 5,0.156 CTR,0.45 MLG X 0.14 TAIL,PLZ WALL,FRICTION LOCK,20 G	27264	26–65–5050

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6J34	131–1857–00			CONN,HDR:PCB,MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GOLD,	22526	65507–136
A6J36	131–5670–00			CONN,HDI:PCB,MALE STR,4 X 35,140 POS,0.1 CTR,0.462 H X 0.177 TAIL,30 GXT,	22526	50015–5140A
A6J40	131–1857–00			CONN,HDR:PCB,MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GOLD,	22526	65507–136
A6J41	131–3358–00			CONN,HDR:PCB,MALE,RTANG,2 X 5,0.1 CTR,0.390 MLG X 0.112 TAIL,0.33 H,SHRD/4 SIDES,MIL PLZ	53387	2510–5002UB
A6J42	131–5501–00			CONN,BOX:PCB,FFC/ZIF,FEMALE,STR,1 X 26,0.039 CTR,0.396 H X 0.138 TAIL,TIN,ACCOM 0.012 THK	27264	52030–2610
A6J43	131–3364–00			CONN,HDR:PCB,MALE,STR,2 X 17,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,CTR PLZ,30 GOLD,	53387	N2534–6002UB
A6J44	131–1857–00			CONN,HDR:PCB,MALE,STR,1 X 36,0.1 CTR,0.230 MLG X 0.100 TAIL,GOLD,	22526	65507–136
A6J45	131–4751–00			CONN,HDR:PCB,MALE,STR,1 X 16,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,	58050	082–1643–SS10
A6J46	131–3358–00			CONN,HDR:PCB,MALE,RTANG,2 X 5,0.1 CTR,0.390 MLG X 0.112 TAIL,0.33 H,SHRD/4 SIDES,MIL PLZ	53387	2510–5002UB
A6J48	131–3520–00			CONN,HDR:PCB,MALE,STR,2 X 5,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,MIL PLZ,30 GOLD,	53387	2510–6002UB
A6J49	131–3520–00			CONN,HDR:PCB,MALE,STR,2 X 5,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,MIL PLZ,30 GOLD,	53387	2510–6002UB
A6J52	131–1425–00			CONN,HDR:PCB,MALE,RTANG,1 X 36,0.1 CTR,0.230 MLG X 0.090 TAIL,30 GOLD,STACKABLE,	22526	65521–136
A6J53	131–4048–00			CONN,HDR:PCB,MALE,RTANG,2 X 17,0.05 X 0.1 CTR,0.326 H X 0.106TAIL,0.075 STAGGERED PCB,W/	TK1462	NFP–34A–0112A
A6J54	131–4363–00			CONN,HDR PWR:PCB,MALE,STR,1 X 2,0.156 CTR,0.450 MLG X 0.172 TAIL,PLZ WALL,W/FRICTION LOCK,20	27264	26–48–2025
A6J55	131–4917–00			CONN,HDR:PCB,MALE,STR,1 X 2,0.1 CTR,0.235 MLG X 0.110 TAIL,30 GOLD, HIGH TEMP,	00779	104350–1
A6K1	148–0148–00			RELAY,ARMATURE:2 FORM C,COIL 5 VDC 62.5 OHM,CONTACT 220 VDC 2A 60W, PKG 0.787 X 0.39, 0.366 HI	61529	DS2E–M–DC5V
A6L3	108–5126–00			INDUCTOR,FXD:POWER,1.0UH,20%,IDC<2.56 A,RDC<0.0487 OHM,SRF>113.8 MHZ,CD43–1R0MC	0TZP6	CD43–1R0MC
A6L4	108–5127–00			INDUCTOR,FXD:POWER,3.3 UH,20%,RDC=0.013 OHM,ISAT=6.4A,IRMS=5.4 A RMS,D03316P–332	02113	DO3316P–332
A6L5	108–5018–00			INDUCTOR,FXD:POWER,4.7UH,5%,I<0.315 A,RDC<1 OHM,Q>50,SRF>45 MHZ,NL453232T–4R7,1812,12MM	TK2058	NL453232T–4R7J
A6L6	108–5018–00			INDUCTOR,FXD:POWER,4.7UH,5%,I<0.315 A,RDC<1 OHM,Q>50,SRF>45 MHZ,NL453232T–4R7,1812,12MM	TK2058	NL453232T–4R7J
A6L11	108–5115–00			INDUCTOR,FXD:SIGNAL,330NH,5%,IDC<450 MA,RDC<0.4 OHM,Q>30,SRF>300 MHZ,NL322522T–R33,1210,10MM	24226	SML32–330J
A6L12	108–5115–00			INDUCTOR,FXD:SIGNAL,330NH,5%,IDC<450 MA,RDC<0.4 OHM,Q>30,SRF>300 MHZ,NL322522T–R33,1210,10MM	24226	SML32–330J
A6L13	108–5115–00			INDUCTOR,FXD:SIGNAL,330NH,5%,IDC<450 MA,RDC<0.4 OHM,Q>30,SRF>300 MHZ,NL322522T–R33,1210,10MM	24226	SML32–330J

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6L15	108–1477–00			INDUCTOR,FXD:CUSTOM,SIGNAL,400NH,10%,IDC<17 A,RDC<0.3 OHM,Q>30@0.1MHZ,AIR CORE,AXIAL	0JR03	108–1477–00
A6Q1	151–0736–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,600MA,250MHZ,AMPLIFIE R,2N4401,TO–92 EBC	01295	TIS111
A6Q2	151–0190–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPLIFIE R,2N3904,TO–92 EBC	04713	2N3904
A6Q3	151–0190–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPLIFIE R,2N3904,TO–92 EBC	04713	2N3904
A6R1	307–1629–00			RES NTWK,FXD,FI:8,4.7K OHM,2%	91637	CSC09A–01–472G
A6R2	323–0042–00			RES,FXD,FILM:26.7 OHM,1%,0.5W,TC=T0	19701	MFCT0–26R70F
A6R3	323–0193–00			RES,FXD,FILM:1K OHM,1%,0.5W,TC=T0	64537	PME70
A6R4	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R5	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R6	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R7	307–0992–00			RES NTWK,FXD,FI:8,330 OHM,5%	09969	CSC08A03–331G
A6R8	307–0992–00			RES NTWK,FXD,FI:8,330 OHM,5%	09969	CSC08A03–331G
A6R10	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R11	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R12	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R13	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R14	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R15	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R16	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R17	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R18	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R19	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R20	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R21	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R22	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R23	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R24	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R25	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R26	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R27	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R28	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R29	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R30	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R31	307–1629–00			RES NTWK,FXD,FI:8,4.7K OHM,2%	91637	CSC09A–01–472G
A6R32	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R33	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R34	307–0651–00			RES NTWK,FXD,FI:5,3.3K OHM,5%,0.150W	11236	750–61–R3.3K OHM OR 770–61–R3
A6R35	307–0651–00			RES NTWK,FXD,FI:5,3.3K OHM,5%,0.150W	11236	750–61–R3.3K OHM OR 770–61–R3
A6R37	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R38	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R39	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R40	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R41	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R42	307–0651–00			RES NTWK,FXD,FI:5,3.3K OHM,5%,0.150W	11236	750–61–R3.3K OHM OR 770–61–R3
A6R43	307–0651–00			RES NTWK,FXD,FI:5,3.3K OHM,5%,0.150W	11236	750–61–R3.3K OHM OR 770–61–R3
A6R44	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R45	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R46	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R47	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R48	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R49	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R50	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R51	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R52	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R53	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R54	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R55	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R56	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R57	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R58	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R59	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R60	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R61	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R62	307–0542–00			RES NTWK,FXD,FI:(5)10K OHM,5%,0.125W	11236	750–61–R10K OR 770–61–R10K
A6R63	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R64	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R65	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R66	307–0446–00			RES NTWK,FXD,FI:(9) RES,10K OHM,20%,100PPM,100V	11236	750–101–R10K
A6R67	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R68	321–5208–00			RES,FXD,FILM:THICK FILM,10M OHM,5%,0.125W,TC=100 PPM	91637	CRCW1206–106JT
A6R69	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R70	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R71	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R72	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R73	321–5208–00			RES,FXD,FILM:THICK FILM,10M OHM,5%,0.125W,TC=100 PPM	91637	CRCW1206–106JT
A6R74	307–1630–00			RES NTWK,FXD,FM:4,4700 OHM,2%	91637	CSC05A–01–472G
A6R75	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R76	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R77	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R78	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R79	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R80	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R81	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R82	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R83	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R84	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R85	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R86	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R87	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R88	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R89	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R90	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R91	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R92	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R93	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R94	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R95	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R97	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R98	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R99	321–5020–00			RES,FXD:THICK FILM,1.5K OHM,1%,0.125W,TC=100 PPM	50139	BCK1501FT
A6R100	321–5012–00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100 PPM	50139	BCK3320FT
A6R101	321–5014–00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100 PPM	50139	BCK4750FT
A6R102	321–5014–00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100 PPM	50139	BCK4750FT
A6R103	321–5408–00			RES,FXD:THICK FILM,432 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206 4320FT
A6R104	321–5408–00			RES,FXD:THICK FILM,432 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206 4320FT
A6R106	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A6R107	321–5019–00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100 PPM	50139	BCK1211FT
A6R108	321–5019–00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100 PPM	50139	BCK1211FT
A6R109	321–5019–00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100 PPM	50139	BCK1211FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R110	321–5019–00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100 PPM	50139	BCK1211FT
A6R111	321–5019–00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100 PPM	50139	BCK1211FT
A6R112	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A6R113	321–5012–00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100 PPM	50139	BCK3320FT
A6R119	321–5113–00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B75R0FT
A6R120	321–5113–00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B75R0FT
A6R121	321–5113–00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B75R0FT
A6R122	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R126	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R127	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R128	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R129	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A6R130	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R131	321–5000–00			RES,FXD,FILM:10 OHM,1%,0.125W,TC=100 PPM,100V,1206	50139	BCD10R0FT
A6R132	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R133	321–5019–00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100 PPM	50139	BCK1211FT
A6R134	321–5019–00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100 PPM	50139	BCK1211FT
A6R135	321–5019–00			RES,FXD:THICK FILM,1.21K OHM,1%,0.125W,TC=100 PPM	50139	BCK1211FT
A6R136	321–5113–00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B75R0FT
A6R137	321–5113–00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B75R0FT
A6R138	321–5113–00			RES,FXD:THICK FILM,75 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B75R0FT
A6R139	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R140	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A6R142	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R143	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R144	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R145	321–5014–00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100 PPM	50139	BCK4750FT
A6R146	321–5014–00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100 PPM	50139	BCK4750FT
A6R147	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R148	321–5014–00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100 PPM	50139	BCK4750FT
A6R149	321–5014–00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100 PPM	50139	BCK4750FT
A6R150	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R151	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R152	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R153	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R154	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R156	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R157	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R158	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R164	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R165	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R166	321–5012–00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100 PPM	50139	BCK3320FT
A6R167	321–5169–00			RES,FXD:THICK FILM,475K OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B4753FT
A6R168	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R169	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R170	321–5012–00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100 PPM	50139	BCK3320FT
A6R171	321–5169–00			RES,FXD:THICK FILM,475K OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B4753FT
A6R172	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R173	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R174	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R175	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R177	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R178	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R179	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R180	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R181	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R182	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R183	321–5298–00			RES,FXD,FILM:60.4 OHM,+/–1%,0.125W,TC=100 PPM	91637	CRCW1206–60R4F –RT1
A6R184	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R185	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R186	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R187	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R188	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R189	321–5014–00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100 PPM	50139	BCK4750FT
A6R190	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R192	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R193	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R194	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R195	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R196	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R197	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R198	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R199	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R200	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R201	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R202	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R203	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R204	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R205	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R206	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R207	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R208	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R209	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R210	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R213	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R214	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R215	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R216	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R217	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R218	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R219	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R220	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R221	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R222	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R223	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R224	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R225	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R226	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R227	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R228	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R229	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R230	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R231	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R232	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R233	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R234	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R235	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R236	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R237	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R238	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R239	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R240	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R242	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R243	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R244	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R245	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R246	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R247	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R248	321–5014–00			RES,FXD:THICK FILM,475 OHM,1%,0.125W,TC=100 PPM	50139	BCK4750FT
A6R249	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R250	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A6R251	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R252	321–5024–00			RES,FXD:THICK FILM,3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A6R253	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R254	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM,1%,0.125W,TC=100 PPM	50139	BCK1000FT
A6R255	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A6R262	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R263	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R264	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R265	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R266	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R267	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R268	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R269	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R270	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R271	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R272	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R274	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R276	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R278	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R280	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R281	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R282	307–0445–00			RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K TUBE PACKED
A6R283	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R284	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R285	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R286	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R287	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R288	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R289	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R290	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R291	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W	50139	108B330 OR 708B330
A6R292	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R293	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R294	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R295	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R296	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R297	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R298	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R299	321–5169–00			RES,FXD:THICK FILM,475K OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B4753FT
A6R300	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R301	321–5012–00			RES,FXD:THICK FILM,332 OHM,1%,0.125W,TC=100 PPM	50139	BCK3320FT
A6R307	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R308	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R309	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R310	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R311	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R313	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R314	321–5051–00			RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R315	321–5026–00	B020100		RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R316	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R319	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R320	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R321	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R322	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R323	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R324	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R325	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R326	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R327	321–5050–00			RES,FXD:THICK FILM,33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A6R328	307–0445–00		B019999	RES,NTWK:THICK FILM,(9) 4.7K OHM,2%,0.2W EACH,TC=100 PPM,SIP10,PIN 1 COMMON	11236	750–101–R4.7 K

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6R338	321–5051–00	B020100		RES,FXD:THICK FILM,0 OHM,1%,0.125W,TC=100 PPM	50139	BCD0JUMPERT
A6R329	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R330	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R331	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R332	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R333	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R334	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R335	321–5026–00			RES,FXD:THICK FILM,4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A6R336	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R337	321–5043–00			RES,FXD:THICK FILM,47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A6R338	321–5344–00			RES,FXD,FILM:80.6 OHM,1%,0.125 W,1206 PKG	91637	CRCW1206–80R6F –RT1
A6R339	321–5016–00			RES,FXD:THICK FILM,681 OHM,1%,0.125W,TC=100 PPM	50139	BCK6810FT
A6R340	322–3193–00	B010325		RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,T&R,SMALL BODY	57668	CRB20T68EFX1001
A6R341	322–3089–00	B020100		RES,FXD,FILM:82.5 OHM,1%.0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 82E5
A6RC4	307–1585–00			RES NTWK,FXD,FI:TERMINATION NETWORK,8,50 OHM RESISTORS AND 8, 220PF CAPS IN SERIES,9 PIN SIP,P	91637	CSRC–09C30–500J/ 221K
A6RC6	307–1585–00			RES NTWK,FXD,FI:TERMINATION NETWORK,8,50 OHM RESISTORS AND 8, 220PF CAPS IN SERIES,9 PIN SIP	91637	CSRC–09C30–500J/ 221K
A6RC7	307–1585–00			RES NTWK,FXD,FI:TERMINATION NETWORK,8,50 OHM RESISTORS AND 8, 220PF CAPS IN SERIES,9 PIN SIP	91637	CSRC–09C30–500J/ 221K
A6RC8	307–1585–00			RES NTWK,FXD,FI:TERMINATION NETWORK,8,50 OHM RESISTORS AND 8, 220PF CAPS IN SERIES,9 PIN SIP	91637	CSRC–09C30–500J/ 221K
A6RC9	307–1585–00			RES NTWK,FXD,FI:TERMINATION NETWORK,8,50 OHM RESISTORS AND 8, 220PF CAPS IN SERIES,9 PIN SIP	91637	CSRC–09C30–500J/ 221K
A6RC10	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330 M OR PRN244
A6RC11	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330 M OR PRN244
A6RC12	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330 M OR PRN244
A6RC13	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330 M OR PRN244
A6RC14	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330 M OR PRN244
A6RC15	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330 M OR PRN244
A6S1	260–2549–00			SWITCH,PUSH:SPST,MOM,NO,300 GRM FRC,GOLD CONTACTS,RIGHT ANGLE,TOP SEALED,SHORT ACTUATOR,KSA0	31918	KSA0V431
A6S2	260–1721–00			SWITCH,ROCKER:SPST,8 POS DIP,125MA,30VDC,PROCESS SEALED,	00779	5–435166–3

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6S3	260–2174–00			SWITCH,ROCKER:SPST,4 POS DIP,SIDE ACTUATED PIANO TYPE,UP IS OPEN,TOPSEALED,76PSB04S	81073	76PSB04S
A6TP1	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP2	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP3	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP4	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP5	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP6	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP7	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP9	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP10	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP11	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP12	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP13	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP14	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP15	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6TP16	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A6U1	156–5580–01			IC,DIGITAL:TTL,OCTAL GPIB TRANSCEIVER,DATA BUS,75160,SO20.300,24MM	01295	SN75160BDWR
A6U2	156–5054–00			IC,DIGITAL:FTTL,GATE,QUAD 2–INPUT OR,74F32,SO14.150	01295	SN74F32D
A6U4	156–5138–01			IC,LINEAR:BIFET,OP–AMP,DUAL,MC34002/TL072,SO8.150,12MM	01295	TL072CDR
A6U5	156–6676–00			IC,LINEAR:CMOS,SW–REGULATOR,STEP UP,4.0–9.3V IN,+12V 200MA OUT,SHUTDOWN,FLASH EPROM PROGRA	1ES66	MAX732CWE
A6U6	156–6677–00			IC,MISC:LSTTL,INTERFACE,OCTAL IEEE–488 GPIB TRANSCEIVER,75162,SO24.300	01295	SN75162BDW
A6U7	156–4383–00			IC,MEMORY:CMOS,DRAM,2MEG X 32,70NS,MODULE,422000A32,SIMM72	0JR04	THM322020AS–70
A6U8	156–5054–00			IC,DIGITAL:FTTL,GATE,QUAD 2–INPUT OR,74F32,SO14.150	01295	SN74F32D
A6U9	156–5555–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,PARITY CHECKER,3–STATE,74F657,SO24.300	04713	MC74F657ADW

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6U10	156–5055–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,SET,CLEAR,74F74,SO14.150	01295	SN74F74D
A6U11	156–5555–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,PARITY CHECKER,3–STATE,74F657,SO24.300	04713	MC74F657ADW
A6U12	156–5055–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,SET,CLEAR,74F74,SO14.150	01295	SN74F74D
A6U13	156–5555–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,PARITY CHECKER,3–STATE,74F657,SO24.300	04713	MC74F657ADW
A6U14	156–5555–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,PARITY CHECKER,3–STATE,74F657,SO24.300	04713	MC74F657ADW
A6U15	156–6678–00			IC,CONVERTER:CMOS,D/A,DUPLICATE OF 156–6259–00,DO NOT USE,ADV478KP80,PLCC44	24355	ADV478KP80
A6U16	156–5299–01			IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,NEGATIVE,–5V,100MA,5%,MC79L05ACD,SO8.150, 12MM	01295	MC79L05ACDR
A6U17	156–6423–00			IC,MISC:CMOS,INTERFACE,QUAD RS–232 LINE DRIVER/RECEIVER,+5V VCC,EXTERNAL CAPS REQUIRED	1ES66	MAX238CWG
A6U18	156–6423–00			IC,MISC:CMOS,INTERFACE,QUAD RS–232 LINE DRIVER/RECEIVER,+5V VCC,EXTERNAL CAPS REQUIRED	1ES66	MAX238CWG
A6U20	156–6481–01			IC,MISC:CMOS,PWR SUPPLY SUPERVISOR,MPU RESET GEN,5V SUPPLY SENSING,10%,350MS RESET TIME,	0B0A9	DS1233Z–10/TR
A6U22	156–6765–00			IC,MISC:BIPOLAR,PWR SUPPLY SUPERVISOR,MPU RESET GENERATOR,12V SUPPLY SENSING,TL7712ACD	01295	TL7712ACD
A6U24	156–6223–00			IC,PROCESSOR:NMOS,PERIPHERAL,GPIB CONTROLLER,TEXAS INSTR PINOUT,9914A,PLCC44	01295	TMS9914AFNL
A6U25	156–4445–00			IC,MEMORY:CMOS,FLASH,2MEG X 32, 200NS,BUILT WITH 28F008SA,SIMM80	34649	TO BE DETERMINE
				MOUNTING PARTS		
	136–1230–00			SOCKET,SIMM:PCB,SIMM II,FEMALE,STR,1 X80,0.05 CTR,0.607 H X 0.095TAIL,TIN,LEFT PLZ	80009	136123000
				END MOUNTING PARTS		
A6U26	156–4445–00			IC,MEMORY:CMOS,FLASH,2MEG X 32, 200NS,BUILT WITH 28F008SA,SIMM80	34649	TO BE DETERMINE
				MOUNTING PARTS		
	136–1230–00			SOCKET,SIMM:PCB,SIMM II,FEMALE,STR,1 X80,0.05 CTR,0.607 H X 0.095TAIL,TIN,LEFT PLZ	80009	136123000
				END MOUNTING PARTS		
A6U27	156–5053–00			IC,DIGITAL:FTTL,GATE,QUAD 2–INPUT AND,74F08,SO14.150	01295	SN74F08D
A6U28	156–5435–01			IC,CONVERTER:CMOS,D/A,DUAL,8 BIT,200NS,CURRENT OUT MPU COMPATIBLE, MULTIPLYING,AD7528JP,PLCC2	24355	AD7528JP–REEL
A6U29	156–6031–00			IC,PROCESSOR:NMOS,PERIPHERAL,DUAL ASYNCH RECEIVER/TRANSMITTER, DUART,68681,PLCC44	04713	MC68681FN
A6U30	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY,74F5074,SO14.150, SELECTED VE	1CH66	N74F5074D

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6U31	156–6235–00			IC,DIGITAL:FTTL,BUFFER,HEX INVERT,OPEN–COLLECTOR,74F06,SO14.150	80009	156–6235–00
A6U32	156–5052–00			IC,DIGITAL:FTTL,GATE,HEX INVERTER, 74F04,SO14.150	01295	SN74F04D
A6U33	156–6679–00			IC,PROCESSOR:CMOS,CONTROLLER,DRAM 16MB,40MHZ,84C32,PLCC84	44648	KS84C32PLCC
A6U34	156–4446–00			IC,MEMORY:CMOS,SRAM,128K X 32 MODULE,100NS,TEK MADE,SIMM 80	80009	156–4446–00
				MOUNTING PARTS		
	136–1230–00			SOCKET,SIMM:PCB,SIMM II,FEMALE,STR,1 X80,0.05 CTR,0.607 H X 0.095TAIL,TIN,LEFT PLZ	80009	136123000
				END MOUNTING PARTS		
A6U35	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20. 300	01295	SN74F245DW
A6U36	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20. 300	01295	SN74F245DW
A6U37	156–6678–00			IC,CONVERTER:CMOS,D/A,DUPLICATE OF 156–6259–00,DO NOT USE,ADV478KP80,PLCC44	24355	ADV478KP80
A6U39	156–6031–00			IC,PROCESSOR:NMOS,PERIPHERAL,DUAL ASYNCH RECEIVER/TRANSMITTER, DUART,68681,PLCC44	04713	MC68681FN
A6U40	160–9903–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH 210,64 MACROCELL,32 I/O,6–INPUTS,2 CLOCK INPUTS,15NS,PRGM 15	TK0198	160990300
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A6U41	160–9897–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH 110,32 MACROCELL,32 I/O,6 INPUTS,2 CLOCK INPUTS,15NS,PRGM 15	80009	160–9897–00
				MOUNTING PARTS		
	136–0925–00			SOCKET,DIP:PCB;24 POS,2 X 12,0.1 X 0.3 CTR,0.196 H X 0.130 TAIL,BECU,TIN,ACCOM 0.008–0.015THRU 0.014 X 0.022 LEADS	00779	2–641932–3
				END MOUNTING PARTS		
A6U42	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20. 300	01295	SN74F245DW
A6U43	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20. 300	01295	SN74F245DW
A6U44	160–9907–00			IC,MEMORY:CMOS,EPROM,256K X 16,150NS,PRGM 156–6766–00,7C4096,PLCC44	80009	160–9907–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A6U45	156–5164–00			IC,DIGITAL:FTTL,GATE,QUAD 2–INPUT NAND,OPEN–COLLECTOR,74F38,SO14.150	01295	SN74F38D
A6U46	156–5500–00			IC,DIGITAL:FTTL,GATE,8–INPUT NAND,74F30,SO14.150	01295	SN74F30D
A6U47	156–6681–00			IC,DIGITAL:CMOS,CLOCK FUNCTIONS,LOW SKEW PLL CLOCK DRIVER WITH PROCESSOR RESET,70MHZ,MC8891	04713	MC88916DW70

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6U49	156–6681–00			IC,DIGITAL:CMOS,CLOCK FUNCTIONS,LOW SKEW PLL CLOCK DRIVER WITH PROCESSOR RESET, 70MHZ,MC8891	04713	MC88916DW70
A6U50	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY,74F5074,SO14.150, SELECTED VE	1CH66	N74F5074D
A6U51	160–9902–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH 210,64 MACROCELL,32 I/O,6–INPUTS,2 CLOCK INPUTS,15NS,MACH210	80009	160–9902–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A6U53	160–9917–00			IC,MEMORY:CMOS,EPROM,256K X 16,150NS,PRGM 156–6766–00,7C4096, PLCC44	80009	160–9917–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A6U54	156–5052–00			IC,DIGITAL:FTTL,GATE,HEX INVERTER,74F04,SO14.150	01295	SN74F04D
A6U55	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY,74F5074,SO14.150, SELECTED VE	1CH66	N74F5074D
A6U56	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY,74F5074,SO14.150, SELECTED VE	1CH66	N74F5074D
A6U57	156–6152–00			IC,MISC:CMOS,PWR SUPPLY SUPERVISOR,BATTERY BACKUP MANAGEMENT SYSTEM,DS1259S,SO16.300,TUB	0B0A9	DS1259S
A6U59	156–5247–01			IC,DIGITAL:FTTL,GATE,TRIPLE 3–INPUT AND,74F11,SO14.150,16MM	01295	SN74F11DR
A6U60	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U61	156–6683–00			IC,MISC:CMOS,PWR SUPPLY SUPERVISOR,NONVOLATILE CMOS RAM BATTERY BACKUP,W/2–4 DECODER,DS1	0B0A9	DS1221S
A6U63	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U64	156–3966–00			IC,PROCESSOR:CMOS,MICROPROCESSOR,32–BIT,25MHZ,MC6 8040RC25,PGA179	04713	MC68040RC25
				ATTACHED PARTS		
	136–1249–00			SOCKET,PGA:PCB,LIF;FEMALE,STR,179 POS,18 X 18,0.1 CTR,0.25 H X 0.140 TAIL,ACCOM HEAT SINK	00779	916435–1
	214–4594–00			MONITOR,HT SK:AM700	80009	214459400
				END ATTACHED PARTS		
A6U65	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U66	156–5468–01			IC,DIGITAL:FTTL,COUNTER,SYNCH 4 BIT BINARY,PRESET,ASYNCH CLEAR,74F161,SO16.150,16MM	01295	SN74F161ADR
A6U67	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY,74F5074,SO14.150, SELECTED VE	1CH66	N74F5074D
A6U68	156–5468–01			IC,DIGITAL:FTTL,COUNTER,SYNCH 4 BIT BINARY,PRESET,ASYNCH CLEAR,74F161,SO16.150,16MM	01295	SN74F161ADR
A6U69	156–5247–01			IC,DIGITAL:FTTL,GATE,TRIPLE 3–INPUT AND,74F11,SO14.150,16MM	01295	SN74F11DR

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6U71	156–5619–00			IC,DIGITAL:FTTL,REGISTER,8–BIT SIPO SHIFT,RESET,74F164,SO14.150	04713	MC74F164D
A6U72	156–5055–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,SET,CLEAR,74F74,SO14.150	01295	SN74F74D
A6U73	156–5055–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,SET,CLEAR,74F74,SO14.150	01295	SN74F74D
A6U74	156–5769–00			IC,DIGITAL:FTTL,COUNTER,SYNCH 8–BIT UP/DOWN BINARY, 3–STATE,74F1779,SO16.300	1CH66	N74F1779D
A6U75	156–5769–00			IC,DIGITAL:FTTL,COUNTER,SYNCH 8–BIT UP/DOWN BINARY, 3–STATE,74F1779,SO16.300	1CH66	N74F1779D
A6U76	156–5769–00			IC,DIGITAL:FTTL,COUNTER,SYNCH 8–BIT UP/DOWN BINARY, 3–STATE,74F1779,SO16.300	1CH66	N74F1779D
A6U77	156–5504–00			IC,DIGITAL:FTTL,GATE,DUAL 4–INPUT NAND,74F20,SO14.150	01295	SN74F20D
A6U78	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U79	156–6684–00			IC,DIGITAL:FTTL,DECODER,1–OF–16,ACTIVE LOW,74F154,SO24.300	1CH66	N74F154D
A6U80	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U81	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U82	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U83	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U85	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U86	156–6767–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL INVERT REGISTERED,3–STATE,74F651A,SO24.300	1CH66	N74F651AD
A6U87	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U88	156–6767–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL INVERT REGISTERED,3–STATE,74F651A,SO24.300	1CH66	N74F651AD
A6U89	156–5769–00			IC,DIGITAL:FTTL,COUNTER,SYNCH 8–BIT UP/DOWN BINARY, 3–STATE,74F1779,SO16.300	1CH66	N74F1779D
A6U90	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U92	156–6767–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL INVERT REGISTERED,3–STATE,74F651A,SO24.300	1CH66	N74F651AD
A6U93	156–4345–00			IC,PROCESSOR:CMOS,PERIPHERAL,RTC,CLOCK CALENDAR,INTERNAL BATTERY,DS1286,DIP28.6	0B0A9	DS1286
				MOUNTING PARTS		
	136–0755–00			SKT,DIP:PCB;FEM,STR,2 X 14,28 POS,0.1 X 0.6 CTR,0.175 H X0.130 TAIL,BECU,TIN,ACCOM 0.008–0.0015 X 0.014–0.022	09922	DILB28P–108
				END MOUNTING PARTS		
A6U94	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300	01295	SN74F245DW
A6U95	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300	01295	SN74F245DW
A6U96	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300	01295	SN74F245DW

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6U97	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300	01295	SN74F245DW
A6U98	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U99	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U100	156–5452–01			IC,DIGITAL:FTTL,BUFFER,OCTAL,FLOW THRU,3–STATE,74F541,SO20.300,24MM	01295	SN74F541DWR
A6U101	156–5452–01			IC,DIGITAL:FTTL,BUFFER,OCTAL,FLOW THRU,3–STATE,74F541,SO20.300,24MM	01295	SN74F541DWR
A6U102	156–5452–01			IC,DIGITAL:FTTL,BUFFER,OCTAL,FLOW THRU,3–STATE,74F541,SO20.300,24MM	01295	SN74F541DWR
A6U103	156–6685–00			IC,ASIC:CMOS,CUSTOM,VIDEO CONTROLLER FOR AM7—,ADG311B,MM9390–VF8,PQFP132	27014	MM9390–VF8
A6U105	156–6686–00			IC,PROCESSOR:CMOS,CONTROLLER,FLOPPYDISK,3201,PLCC 68	04713	MC3201
A6U106	160–9916–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH210,64 M/C,32 I/O,6 IN,2 CLK IN,15NS,PRGM 156–6680–00,MACH210	80009	160–9916–00
				MOUNTING PARTS		
	136–0871–00			SOCKET,PLCC:PCB;68 POS,0.05 CTR,0.360H X0.125 TAIL,TIN,0.1 CTRPCB,0.060 SHOULDER HEIGHT	00779	3–821574–1
				END MOUNTING PARTS		
A6U108	156–6688–00			IC,MEMORY:CMOS,SRAM,128K X 8,70NS,551001–70,SO32.525	0JR04	TC551001BFL–70EL
A6U109	156–6688–00			IC,MEMORY:CMOS,SRAM,128K X 8,70NS,551001–70,SO32.525	0JR04	TC551001BFL–70EL
A6U110	156–4422–00		4/25/97	IC,PROCESSOR:HCMOS, MICROCONTROLLER,32 BIT,16MHZ,MC68340,PGA145	04713	MC68340RP16B OR C
				MOUNTING PARTS		
	136–0906–00			SOCKET,PGA:PCB;145 POS,15 X 15,0.1 X0.1 CTR,0.250 H X 0.125 TAIL,TIN,NON–SYMMETRICAL,LIF,PAT 1521	00779	916225–3
				END MOUNTING PARTS		
A6U110	156–7547–00	4/25/97		IC,PROCESSOR:CMOS,MICROCONTROLLER,32 BIT, 25MHZ, WITH SOCKET,MC68340V25C,PGA144	71279	A68340–2 (MC68340PV25C)
A6U111	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300	01295	SN74F245DW
A6U112	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300	01295	SN74F245DW
A6U113	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300	01295	SN74F245DW
A6U114	156–5058–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300	01295	SN74F245DW
A6U115	156–5052–00			IC,DIGITAL:FTTL,GATE,HEX INVERTER,74F04,SO14.150	01295	SN74F04D
A6U116	156–5053–00			IC,DIGITAL:FTTL,GATE,QUAD 2–INPUT AND,74F08,SO14.150	01295	SN74F08D
A6U117	156–6689–00			IC,MEMORY:CMOS,VDRAM,256K X 8,80NS,DUAL PORTS,TC528257,SOJ40.400	0JR04	TC528257J–80
A6U118	156–6689–00			IC,MEMORY:CMOS,VDRAM,256K X 8,80NS,DUAL PORTS,TC528257,SOJ40.400	0JR04	TC528257J–80

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6U119	156–6689–00			IC,MEMORY:CMOS,VDRAM,256K X 8,80NS,DUAL PORTS,TC528257,SOJ40.400	0JR04	TC528257J–80
A6U120	156–6689–00			IC,MEMORY:CMOS,VDRAM,256K X 8,80NS,DUAL PORTS,TC528257,SOJ40.400	0JR04	TC528257J–80
A6U121	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY,74F5074,SO14.150, SELECTED VE	1CH66	N74F5074D
A6U122	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T,QSOP20.	0TJ19	QS74FCT2245TQ
A6U123	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244,SO20.300	01295	SN74ABT2244DW
A6U124	156–5052–00			IC,DIGITAL:FTTL,GATE,HEX INVERTER,74F04,SO14.150	01295	SN74F04D
A6U125	156–6767–00			IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL INVERT REGISTERED,3–STATE,74F651A,SO24.300	1CH66	N74F651AD
A6U126	156–5057–00			IC,DIGITAL:FTTL,BUFFER,OCTAL,3–STATE,74F244,SO20.300	01295	SN74F244DW
A6U127	156–6768–00			IC,MEMORY:CMOS,ROM,64–BIT,SILICON SERIAL NUMBER,DS2401,TO–92	0B0A9	DS2401
A6U128	160–9899–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH 110, 32 MACROCELL,32 I/O,6 INPUTS,2 CLOCK INPUTS, 15NS,MACH1	80009	160–9899–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A6U129	156–5195–01			IC,DIGITAL:FTTL,FLIP FLOP,OCTAL D–TYPE,CLEAR,74F273,SO20.300,24MM	01295	SN74F273DR
A6U130	160–9898–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH 210,64 MACROCILL,32 I/O,6 INPUTS,2CLK INPUTS,20NS,PRGM 156–6	80009	160–9898–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A6U131	160–9900–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH 210,64 MACROCELL,32 I/O,6–INPUTS,2 CLOCK INPUTS,15NS,MACH210	80009	160–9900–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		
A6U131	160–9900–01			IC, DIGITAL:CMOS,PLD,EEPLD,MACH 210,64 MACROCELL,32 I/O,6–INPUTS,2 CLOCK INPUTS,15NS,MACH210	TK0198	160990001
A6U132	160–9901–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH 210,64 MARCOCELL,32 I/O,6–INPUTS,2 CLOCK INPUTS,15NS,MACH210	80009	160–9901–00
A6U133	160–9915–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH210,64 M/C,32 I/O,6 IN,2 CLK IN,15NS,PRGM 156–6680–00,MACH210	80009	160–9915–00
				MOUNTING PARTS		
	136–1047–00			SKT,PLCC:PCB;44 POS,0.05 CTR,0.360H X 0.125 TAIL,TIN	00779	821575–1
				END MOUNTING PARTS		

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A6U136	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T,QSOP20.	0TJ19	QS74FCT2245TQ
A6Y1	119–4640–00			OSCILLATOR:CRYSTAL CONTROLLED,25.175 MHZ,100PPM,TTL,F1100,4 PIN DIP,14 PIN COMPATIBLE	61429	F1100E 25.175MHZ
A6Y2	119–1842–00			OSC,XTAL CLOCK:12MHZ,+/–0.05%,TTL,4 PIN 14 PIN DIP COMPATIBLE	22929	XO–43C 12
A6Y3	119–2042–00			OSC,XTAL CLOCK:3.6864 MHZ,0.01%,TTL,4 PIN, 14 PIN DIP COMPATIBLE PKG	82567	03–02181–3.6864
A6Y4	119–3120–00			OSCILLATOR,RF:XTAL CLOCK,36MHZ,0.01%,TTL,4 PIN 14 PIN DIP COMPATIBLE PKG	23875	MTO13FAD 36.00
A6Y5	158–0244–00			XTAL UNIT,QTZ:24MHZ 0.01%,SERIES RESONANT	33096	CCAT101405
A6Y6	158–0271–00			XTAL UNIT,QTZ:3.6864MHZ, 50PPM,SERIES,ESR 120 OHMS,HC–18/U OR HC–49UPKG	5W664	NDK–037
A6Y7	119–2624–00			OSCILLATOR,RF:33.333MHZ, +/– 0.005%,TTL, 4 PIN 14 PIN DIP COMPATIBLE	14301	012–405–02183

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7	671–2900–00	B010100	B010140	CIRCUIT BD ASSY:DSP,389–1672–XX WIRED	80009	671–2900–00
A7	671–2900–01	B010141	B020632	CKT BD ASSY:DSP,389–1672–XX WIRED,AM700	80009	671–2900–01
A7	671–2900–02	B020633		CKT BD ASSY:DSP,389–1672–XX WIRED,AM700	80009	671–2900–02
A7C1	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C2	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C3	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C4	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C5	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C6	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C7	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C8	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C9	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C10	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C11	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C12	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C13	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C14	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C15	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C16	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C17	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C18	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C19	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C20	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C21	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C22	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C23	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C24	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C25	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C26	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C27	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C28	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C29	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C30	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C31	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C32	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C33	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C34	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C35	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7C36	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C37	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C38	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C39	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C40	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C41	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C42	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C43	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C44	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C45	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C46	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C47	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C48	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C49	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C50	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C51	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C52	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C53	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C54	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C55	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C56	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C57	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C58	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C59	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C60	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C61	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C62	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C63	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C64	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C65	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C66	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C67	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C68	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C69	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C70	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C71	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C72	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C73	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7C74	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C75	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C76	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C77	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C78	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C79	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C80	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C81	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C82	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C83	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C84	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C85	290–1157–00			CAP,FXD,ALUM:220UF,20%,25V,0.532 X 0.410,RADIAL	62643	CEAFM1E221M–T4
A7C86	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60T PX
A7C87	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60T PX
A7C88	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60T PX
A7C89	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60T PX
A7C90	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60T PX
A7C91	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C92	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C93	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C94	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C98	283–5011–00			CAP,FXD,CERAMIC:MLC,33PF,5%,50V,NPO ,SMD,8MM	04222	12065A330JAT1A
A7C99	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO	04222	12061A470JAT1A
A7C100	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C102	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C103	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C104	283–5106–00			CAP,FXD,CERAMIC:MLC,470PF,5%,100V,NPO	04222	12061A471JAT1A
A7C105	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C106	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C108	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C110	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO	04222	12061A470JAT1A
A7C111	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO	04222	12061A470JAT1A
A7C112	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO	04222	12061A470JAT1A
A7C113	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C114	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO	04222	12061A470JAT1A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7C115	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C116	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C117	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C121	283–1037–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,50V,Z5V,0.745 X 0.745,FOR USE UNDER ASICS,LEADED,BULK	65026	104ADC
A7C122	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C123	283–5011–00			CAP,FXD,CERAMIC:MLC,33PF,5%,50V,NPO	04222	12065A330JAT1A
A7C124	283–5011–00			CAP,FXD,CERAMIC:MLC,33PF,5%,50V,NPO	04222	12065A330JAT1A
A7C125	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C126	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C127	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO	04222	12061A470JAT1A
A7C129	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C130	283–5011–00			CAP,FXD,CERAMIC:MLC,33PF,5%,50V,NPO	04222	12065A330JAT1A
A7C131	283–5011–00			CAP,FXD,CERAMIC:MLC,33PF,5%,50V,NPO	04222	12065A330JAT1A
A7C132	283–5011–00			CAP,FXD,CERAMIC:MLC,33PF,5%,50V,NPO	04222	12065A330JAT1A
A7C133	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C134	283–5106–00			CAP,FXD,CERAMIC:MLC,470PF,5%,100V,NPO	04222	12061A471JAT1A
A7C135	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C136	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C137	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO	04222	12061A470JAT1A
A7C138	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C139	290–5037–01			CAP,FXD,ALUM:10UF,20%,35V,5.7 H X 5 DIA MM	62643	MVK35VC10RME60T PX
A7C140	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C141	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C142	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C143	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C144	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C145	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C146	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C147	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C148	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C149	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C150	283–5025–00			CAP,FXD,CERAMIC:MLC,220PF,5%,50V,NPO	04222	12065A221JAT1A
A7C151	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R	04222	12065C103KAT060R
A7C152	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R	04222	12063C104KAT3A
A7C153	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO	04222	12061A470JAT1A
A7DS1	150–1033–00			DIODE,OPTO:LED,AMBER,585NM,2MCD AT 10MA,HLMP–1401,T–1	01295	TIL212

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7DS2	150–1033–00			DIODE,OPTO:LED,AMBER,585NM,2MCD AT 10MA,HLMP–1401,T–1	01295	TIL212
A7F1	159–0194–00			FUSE,WIRE LEAD:5A,125V,0.125 SEC	61857	SP5–5A LEAD TAPE REEL
A7J1	131–5630–00			CONN,HDR:PCB,MALE,RTANG,2 X 20,0.05 X 0.1 CTR,0.326 H X 0.106 TAIL,SHRD/4 SIDES,CTR PLZ,	TK1462	NFP–040A–112–AF
A7J2	131–4529–00			CONN,HDR:PCB,MALE,STR,2 X 5,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,CTR PLZ,	53387	2510–6002UB
A7J4	131–2919–01			CONN,HDR:PCB,MALE,STR,1 X 4,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,0.035 DIA PCB,SAFETY	53387	2404–6112TB
A7J6	131–2919–01			CONN,HDR:PCB,MALE,STR,1 X 4,0.1 CTR,0.235 MLG X 0.112 TAIL,30 GOLD,0.035 DIA PCB,SAFETY	53387	2404–6112TB
A7J7	131–4798–00			CONN,HDR:PCB,MALE,STR,1 X 5,0.1 CTR,0.295 MLG X 0.210 TAIL,TIN,PLZ WALL,W/FRICTION LOCK	00779	640456–5
A7J300	131–5673–00			CONN,HDI:PCB,FEMALE,STR,4 X 35,140 POS,0.1 CTR,0.5 H X 0.180 TAIL,30GXT	22526	50388–5140H
A7LS1	119–2520–00			TRANSDUCER:AUDIO,2.2KHZ,5V,SOLID STATE,WASHABLE,W/DRIVE CKT	63791	HMB–06
A7LS2	119–4697–00			SPEAKER:DYNAMIC,23MM DIA X 10MM H,0.100W MAX POWER INPUT,8.0 OHM,89DB @ 0.001W INPUT,800	0LXM2	23RPC01
A7Q1	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPLIFIER,MMBT3906L,TO–236/SOT–23	04713	MMBT3906LT1
A7Q2	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPLIFIER,MMBT3904L,TO–236/SOT–23	04713	MMBT3904LT1
A7Q3	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPLIFIER,MMBT3904L,TO–236/SOT–23	04713	MMBT3904LT1
A7Q4	151–5000–00			TRANSISTOR,SIG:BIPOLAR,PNP,40V,200MA,250MHZ,AMPLIFIER,MMBT3906L,TO–236/SOT–23	04713	MMBT3906LT1
A7Q5	151–5001–00			TRANSISTOR,SIG:BIPOLAR,NPN,40V,200MA,300MHZ,AMPLIFIER,MMBT3904L,TO–236/SOT–23	04713	MMBT3904LT1
A7R1	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R1	321–5212–00			RES,FXD,FILM:4.99K OHM,1%,0.125W,TC=100 PPM	91637	CRCW–1206–4991FRT1
A7R2	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R3	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R4	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R5	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R6	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R7	321–5018–00			RES,FXD:THICKFILM, 1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R8	321–5018–00			RES,FXD:THICKFILM, 1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A7R9	321–5018–00			RES,FXD:THICKFILM, 1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A7R10	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R11	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R12	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R13	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R14	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R15	321–5018–00			RES,FXD:THICKFILM, 1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A7R16	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R17	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R18	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R20	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R21	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R22	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R23	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R25	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R27	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R28	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R29	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R30	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R31	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R32	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R33	321–5020–00			RES,FXD:THICKFILM, 1.5K OHM,1%,0.125W,TC=100 PPM	50139	BCK1501FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R34	321–5020–00			RES,FXD:THICKFILM, 1.5K OHM,1%,0.125W,TC=100 PPM	50139	BCK1501FT
A7R35	321–5020–00			RES,FXD:THICKFILM, 1.5K OHM,1%,0.125W,TC=100 PPM	50139	BCK1501FT
A7R36	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R37	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R38	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R39	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R40	321–5024–00			RES,FXD:THICKFILM, 3.32K OHM,1%,0.125W,TC=100 PPM	50139	BCK3321FT
A7R41	321–5030–00			RES,FXD:THICKFILM, 10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A7R42	321–5030–00			RES,FXD:THICKFILM, 10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A7R43	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R44	321–5000–00			RES,FXD,FILM:10 OHM,1%,0.125W,TC=100 PPM,100V	50139	BCD10R0FT
A7R45	321–5018–00			RES,FXD:THICKFILM, 1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A7R46	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R47	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R48	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R49	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R50	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R51	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R52	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R53	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R54	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R55	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R56	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R57	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R58	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R59	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R60	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R61	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R62	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R63	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R64	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R65	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R66	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R67	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R68	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R69	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R70	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R71	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R72	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R73	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R74	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R75	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R76	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R77	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R78	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R79	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R80	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R81	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R82	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R83	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R84	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R85	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R86	321–5012–00			RES,FXD:THICKFILM, 332 OHM,1%,0.125W,TC=100 PPM	50139	BCK3320FT
A7R87	321–5012–00			RES,FXD:THICKFILM, 332 OHM,1%,0.125W,TC=100 PPM	50139	BCK3320FT
A7R88	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R89	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R90	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R91	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R92	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R93	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R94	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R95	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R96	321–5012–00			RES,FXD:THICKFILM, 332 OHM,1%,0.125W,TC=100 PPM	50139	BCK3320FT
A7R97	321–5169–00			RES,FXD:THICKFILM, 475K OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B4753FT
A7R98	321–5018–00			RES,FXD:THICKFILM, 1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A7R99	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R100	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R101	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R102	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R103	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R104	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R105	307–5041–01			RES,NTWK,FXD,FI:15,4.7K OHM,2%,PIN 16 COMMON,0.08W EA,1.2W PKG,50PPM,SMD,SO16.200	57924	4816P–002–472
A7R106	321–5043–00			RES,FXD:THICKFILM, 47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A7R107	321–5043–00			RES,FXD:THICKFILM, 47.5 OHM,1%,0.125W,TC=100 PPM	50139	BCD47R5FT
A7R108	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R109	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R110	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R111	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R112	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R113	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R114	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R115	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R116	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R117	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R118	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R119	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R120	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R121	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R122	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R123	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R124	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R125	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7R126	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R127	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R128	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R129	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R130	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R131	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R132	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R133	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R134	321–5050–00			RES,FXD:THICKFILM, 33.2 OHM,1%,0.125W,TC=100 PPM	50139	BCD33R2FT
A7R135	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R136	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R137	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R138	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R139	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R141	321–5030–00			RES,FXD:THICKFILM, 10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A7R144	321–5026–00			RES,FXD:THICKFILM, 4.75K OHM,1%,0.125W,TC=100 PPM	50139	BCK4751FT
A7R151	321–5005–00			RES,FXD,FILM:THICKFILM, 27.4 OHM,1%,0.125W, TC=100 PPM	50139	BCD27R4JT
A7R152	321–5194–00			RES,FXD:THICKFILM, 49.9 OHM,1%,0.125W,TC=100 PPM	59124	RK73H2B49R9FT
A7R160	321–5212–00			RES,FXD,FILM:4.99K OHM,1%,0.125W,TC=100 PPM	91637	CRCW–1206–4991FR T1
A7R162	321–5212–00			RES,FXD,FILM:4.99K OHM,1%,0.125W,TC=100 PPM	91637	CRCW–1206–4991FR T1
A7R163	321–5212–00			RES,FXD,FILM:4.99K OHM,1%,0.125W,TC=100 PPM	91637	CRCW–1206–4991FR T1
A7R164	321–5212–00			RES,FXD,FILM:4.99K OHM,1%,0.125W,TC=100 PPM	91637	CRCW–1206–4991FR T1
A7RC1	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7RC2	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A7RC3	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A7RC4	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A7RC5	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A7RC6	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A7RC11	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A7RC12	307–5101–00			RCD,NTWK:16,47 OHM,33 PF,SCHOTTKE DIODE, SOIC–20	56427	PRCD001470M330M OR PRN244
A7RC111	307–1585–00			RES NTWK,FXD,FI:TERMINATION NETWORK,8,50 OHM RESISTORS AND 8 ,220PF CAPS IN SERIES,9 PIN SIP,P	91637	CSRC–09C30–500J/221K–BULK
A7S1	260–2549–00			SWITCH,PUSH:SPST,MOM,NO,300 GRM FRC,GOLD CONTACTS,RIGHT ANGLE,TOP SEALED,SHORT ACTUATOR,KSA0	31918	KSA0V431
A7TP2	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A7TP3	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A7TP4	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A7TP5	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A7U1	156–4443–00			IC,MEMORY:CMOS,SRAM,128K X 32 MODULE,25NS,4A12832M–25,SIMM64	6Y440	MT4S12832M–25
				MOUNTING PARTS		
	136–1235–00			SOCKET,SIMM:PCB,SIMM II;FEMALE,22.5 DEG,1 XLZ	00779	91–1744–14–64
				END MOUNTING PARTS		
A7U2	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U3	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U4	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U5	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U6	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T	0TJ19	QS74FCT2245TQ
A7U7	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T	0TJ19	QS74FCT2245TQ

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7U8	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T	0TJ19	QS74FCT2245TQ
A7U9	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T	0TJ19	QS74FCT2245TQ
A7U10	156–6698–01			IC,ASIC:CMOS,CUSTOM,TRANSMITTER/RECEIVER,ADG312C,MM9409B,PQFP132	27014	MM9409–VF8
A7U11	156–6698–01			IC,ASIC:CMOS,CUSTOM,TRANSMITTER/RECEIVER,ADG312C,MM9409B,PQFP132	27014	MM9409–VF8
A7U12	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U13	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U14	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U15	156–6701–00			IC,ASIC:CMOS,CUSTOM,DSP INTERFACE FOR AM700,ADG314,PQFP160	1FN41	10227
A7U16	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY,74F5074	1CH66	N74F5074D
A7U17	156–6481–01			IC,MISC:CMOS,PWR SUPPLY SUPRVSOR, MPU RST GEN,5V SUPPLY SENSING,10%,350MS RST TIME,	0B0A9	DS1233Z–10/TR
A7U18	156–5053–01			IC,DIGITAL:FTTL,GATE,QUAD 2–INPUT AND,74F08,SO14.150	01295	SN74F08DR
A7U19	156–6773–00			IC,DIGITAL:CMOS,MISC,PROGRAMMABLE SKEW CLOCK BUFFER,CMOS LEVEL,7B992–7,PLCC32	65786	CY7B992–7JC
A7U20	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE, 74ABT2244	01295	SN74ABT2244DW
A7U21	156–4400–00			IC,PROCESSOR:CMOS,DSP,32BIT,33MHZ,FLOATING POINT,DSP96002,PGA223	04713	XC96002RC33
				MOUNTING PARTS		
	136–1261–00			SOCKET,PGA:PCB;223 POS,18 X 18,0.1 CTR,0.25 H X 0.125 TAIL	00779	916228–4
				END MOUNTING PARTS		
A7U22	156–5247–01			IC,DIGITAL:FTTL,GATE,TRIPLE 3–INPUT AND,74F11,SO14.150,16MM T&R	01295	SN74F11DR
A7U23	156–4443–00			IC,MEMORY:CMOS,SRAM,128K X 32 MODULE,25NS,4A12832M–25,SIMM64	6Y440	MT4S12832M–25
				MOUNTING PARTS		
	136–1235–00			SOCKET,SIMM:PCB,SIMM II;FEMALE,22.5 DEG,1 XLZ	00779	91–1744–14–64
				END MOUNTING PARTS		
A7U24	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T,QSOP20.	0TJ19	QS74FCT2245TQ
A7U25	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T	0TJ19	QS74FCT2245TQ

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7U26	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T	0TJ19	QS74FCT2245TQ
A7U27	156–6550–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2245T	0TJ19	QS74FCT2245TQ
A7U28	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U29	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U30	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U31	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U32	160–9895–00			IC,DIGITAL:156–6748–00,22V10–7	TK0198	160989500
A7U33	156–5188–01			IC,DIGITAL:FTTL,GATE,QUAD 2–INPUT XOR,74F86,SO14.150,16MM	01295	SN74F86DR
A7U34	156–6681–00			IC,DIGITAL:CMOS,CLOCK FUNCTIONS, CLOCK DRIVER WITH PROCESSOR RESET,70MHZ,MC8891	04713	MC88916DW70
A7U36	156–5058–01	B010100	B010140	IC,DIGITAL:FTTL,TRANSCEIVER,OCTAL,3–STATE,74F245,SO20.300,24MM	1CH66	N74F245D
A7U36	156–6942–01	B010141		IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL,3–STATE, 74FCT245AT,SO20.300,24MM	0TJ19	QS74FCT245ATSO
A7U37	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U47	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U48	156–6771–00			IC,DIGITAL:FCTCMOS,FLIP FLOP,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74FCT2374T	0TJ19	QS74FCT2374TSO
A7U49	160–9911–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH435,128 MACROCELL,64 I/O,6 INPUT,15NS,PRGM 156–6777–00,MACH43	80009	160–9911–00
				MOUNTING PARTS		
	136–5010–00			SOCKET,PLCC:SMD;84 POS,0.05 CTR,0.186H,TIN,W/PLZ POST	22526	69802–084
				END MOUNTING PARTS		
A7U50	156–5167–00			IC,DIGITAL:FTTL,COUNTER,8–BIT BIDIRECTIONAL BINARY,74F269	04713	MC74F269DW
A7U51	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY,74F5074	1CH66	N74F5074D
A7U52	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U53	156–6695–00			IC,DIGITAL:ABTCMOS,BUFFER,OCTAL,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT2244	01295	SN74ABT2244DW
A7U54	156–6772–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL REGISTERED,WITH RESISTOR TERMINATED OUTPUTS,3–STATE,74	0TJ19	QS74FCT2652TSO

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A7U55	160–9896–00			IC,DIGITAL:CMOS,PLD,EEPLD,MACH 210A,64 M/C,32 I/O,6 INPUTS,2 CLK INPUT,10NS,PRGM 156–6776–0	80009	160–9896–00
A7U56	160–9894–00			IC,DIGITAL:156–5925–00,22V10–15	TK0198	160989400
A7U57	156–6694–00			IC,DIGITAL:ABTCMOS,FLIP FLOP,16–BIT D–TYPE,3–STATE,74ABT16374,SSOP48.300,TUBE	01295	SN74ABT16374ADL
A7U58	156–6694–00			IC,DIGITAL:ABTCMOS,FLIP FLOP,16–BIT D–TYPE,3–STATE,74ABT16374,SSOP48.300	01295	SN74ABT16374ADL
A7U59	156–6693–00			IC,DIGITAL:ABTCMOS,TRANSCEIVER,16–BIT,3–STATE, 74ABT16245A,SSOP48.300	01295	SN74ABT16245ADL
A7U60	156–6693–00			IC,DIGITAL:ABTCMOS,TRANSCEIVER,16–BIT,3–STATE, 74ABT16245A,SSOP48.300	01295	SN74ABT16245ADL
A7U61	156–6691–00			IC,DIGITAL:ABTCMOS,BUFFER,16–BIT,RESISTOR TERMINATED OUTPUTS,3–STATE,74ABT162244	01295	SN74ABT162244DL
A7U62	156–6772–00			IC,DIGITAL:FCTCMOS,TRANSCEIVER,OCTAL REGISTERED,WITH RESISTOR TERMINATED OUTPUTS,3–STATE	0TJ19	QS74FCT2652TSO
A7U63	156–5908–00			IC,DIGITAL:FTTL,FLIP FLOP,DUAL D–TYPE,METASTABLE IMMUNITY, 74F5074	1CH66	N74F5074D
A7Y1	119–4691–00			OSCILLATOR,RF:66.666MHZ	TK2424	K1100BA 66.666M

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9	671–2798–00			CIRCUIT BD ASSY:FRONT PANEL,389–1617–XX WIRED	80009	671–2798–00
A9	671–2798–01	6/15/95		CIRCUIT BD ASSY:FRONT PANEL,389–1617–XX WIRED	80009	671–2798–01
A9C2	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM, SMD,16MM	62643	MVK50VC10RMF60T PX
A9C3	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C4	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C5	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C6	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C7	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C8	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C9	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C10	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C11	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C12	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C13	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C14	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C17	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM, SMD,16MM	62643	MVK50VC10RMF60T PX
A9C18	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C19	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C21	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM, SMD,16MM	62643	MVK50VC10RMF60T PX
A9C22	283–5188–00			CAP,FXD,CERAMIC:MLC,100PF,5%,100V,NPO,1206, SMD,8MM	04222	12061A101JAT1A
A9C23	283–5003–00			CAP,FXD,CERAMIC:MLC,0.01UF,10%,50V,X7R,1206, SMD,8MM	04222	12065C103KAT060R
A9C24	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM, SMD,16MM	62643	MVK50VC10RMF60T PX
A9C26	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C27	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9C28	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C30	283–5016–00			CAP,FXD,CERAMIC:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225, SMD,12MM	04222	22255C105KAT1A
A9C31	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C33	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO,1206, SMD,8MM	04222	12065A102JAT1A
A9C34	283–5014–00			CAP,FXD,CERAMIC:MLC,330PF,5%,50V,NPO,1206, SMD,8MM	04222	12065A331JAT1A
A9C35	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM, SMD,16MM	62643	MVK50VC10RMF60T PX
A9C36	290–5034–01			CAP,FXD,ALUM:33UF,20%,10V,5.7MM(0.224), SMD	62643	MVK10VC33RME60T PX
A9C37	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM, SMD,16MM	62643	MVK50VC10RMF60T PX
A9C38	283–5113–00			CAP,FXD,CERAMIC:MLC,0.047UF,10%,50V,X7R,1206, SMD,8MM	04222	12065C473KAT1A
A9C39	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C40	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C41	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C42	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C43	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C44	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C45	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM, SMD,16MM	62643	MVK50VC10RMF60T PX
A9C46	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO,1206, SMD,8MM	04222	12065A102JAT1A
A9C47	283–5014–00			CAP,FXD,CERAMIC:MLC,330PF,5%,50V,NPO,1206, SMD,8MM	04222	12065A331JAT1A
A9C56	283–5015–00			CAP,FXD,CERAMIC:MLC,3300PF,10%,50V,X7R,1206, SMD,8MM	04222	12065C332KAT1A
A9C58	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C59	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C60	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C61	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9C62	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C67	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO,1206, SMD,8MM	04222	12065A102JAT1A
A9C68	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO,1206, SMD,8MM	04222	12065A102JAT1A
A9C69	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO,1206, SMD,8MM	04222	12065A102JAT1A
A9C70	283–5185–00			CAP,FXD,CERAMIC:MLC,1000PF,5%,50V,NPO,1206, SMD,8MM	04222	12065A102JAT1A
A9C71	283–5016–00			CAP,FXD,CERAMIC:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225, SMD,12MM	04222	22255C105KAT1A
A9C72	283–5016–00			CAP,FXD,CERAMIC:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225, SMD,12MM	04222	22255C105KAT1A
A9C73	283–5016–00			CAP,FXD,CERAMIC:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225, SMD,12MM	04222	22255C105KAT1A
A9C74	283–5016–00			CAP,FXD,CERAMIC:MLC,1UF,10%,50V,X7R,0.225 X 0.250,2225, SMD,12MM	04222	22255C105KAT1A
A9C75	290–5039–00			CAP,FXD,ALUM:10UF,20%,50V,6.3MM, SMD,16MM	62643	MVK50VC10RMF60T PX
A9C76	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO,1206, SMD,8MM	04222	12061A470JAT1A
A9C77	283–5196–00			CAP,FXD,CERAMIC:MLC,47PF,5%,100V,NPO,1206, SMD,8MM	04222	12061A470JAT1A
A9C78	283–5011–00			CAP,FXD,CERAMIC:MLC,33PF,5%,50V,NPO,1206, SMD,8MM,T&R	04222	12065A330JAT1A
A9C79	283–5011–00			CAP,FXD,CERAMIC:MLC,33PF,5%,50V,NPO,1206, SMD,8MM,T&R	04222	12065A330JAT1A
A9C80	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C81	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C82	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C83	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C84	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C85	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C86	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C87	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A
A9C88	283–5004–00			CAP,FXD,CERAMIC:MLC,0.1UF,10%,25V,X7R,1206, SMD,8MM	04222	12063C104KAT3A

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9CR1	152–5018–00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF, SER–PAIR, MMBD1203,TO–236/SOT–23,8MM	07263	MMBD1203
A9CR2	152–5018–00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF, SER–PAIR,MMBD1203,TO–236/SOT–23,8MM	07263	MMBD1203
A9CR3	152–5018–00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF ,SER–PAIR,MMBD1203,TO–236/SOT–23,8MM	07263	MMBD1203
A9CR4	152–5018–00			DIODE,SIG:ULTRA FAST,100V,0.74VF,4NS,2.0PF, SER–PAIR,MMBD1203,TO–236/SOT–23,8MM	07263	MMBD1203
A9CR5	152–5031–00			DIODE,SIG:ULTRA FAST,70V,0.2A,2.5PF,4NS, MMBD6050L/MMBD914L,TO–236/SOT–23,8MM	04713	MMBD6050LT1
A9DS1	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS2	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS3	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS4	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS5	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS6	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS7	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS8	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS9	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS10	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS11	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS12	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS13	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9DS14	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS15	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS16	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS17	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS18	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS19	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS20	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS21	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS22	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS23	150–5012–00			DIODE,OPTO:LED,YELLOW,585NM,NON–DIFFUSED,3. 6 MCD AT 10MA,28 DEG VIEW ANGLE,YOKE LEAD BEND,	50434	HLMP–6405–021
A9DS25	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS31	150–5012–00			DIODE,OPTO:LED,YELLOW,585NM,NON–DIFFUSED,3. 6 MCD AT 10MA,28 DEG VIEW ANGLE,YOKE LEAD BEND	50434	HLMP–6405–021
A9DS41	150–5000–00			DIODE,OPTO:LED,RED,628NM,LS S260–DO,SOT–23,8MM,TR	50579	LS–S260–DOGEGUR T
A9DS42	150–5000–00			DIODE,OPTO:LED,RED,628NM,LS S260–DO,SOT–23,8MM,TR	50579	LS–S260–DOGEGUR T
A9DS43	150–5000–00			DIODE,OPTO:LED,RED,628NM,LS S260–DO,SOT–23,8MM,TR	50579	LS–S260–DOGEGUR T
A9DS44	150–5000–00			DIODE,OPTO:LED,RED,628NM,LS S260–DO,SOT–23,8MM,TR	50579	LS–S260–DOGEGUR T
A9DS45	150–5000–00			DIODE,OPTO:LED,RED,628NM,LS S260–DO,SOT–23,8MM,TR	50579	LS–S260–DOGEGUR T
A9DS50	150–5000–00			DIODE,OPTO:LED,RED,628NM,LS S260–DO,SOT–23,8MM,TR	50579	LS–S260–DOGEGUR T

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9DS100	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS101	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS102	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS103	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS104	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS105	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS106	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS107	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS108	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS109	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS110	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS111	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS112	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS113	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS114	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS115	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND,HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS116	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9DS117	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS118	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS119	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS120	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS121	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9DS122	150–5008–00			DIODE,OPTO:LED,GRN,569NM,4.2MCD AT 10MA,28 DEG VIEW ANGL,YOKE LEAD BEND, HLMP–6505–021,12MM	50434	HLMP–6505–021
A9F1	159–0208–00			FUSE,WIRE LEAD:2A,125V,5 SEC,SAFETY CONTROLLED	61857	SP5–2A
A9F2	159–0208–00			FUSE,WIRE LEAD:2A,125V,5 SEC,SAFETY CONTROLLED	61857	SP5–2A
A9F3	159–0363–00			FUSE,WIRE LEAD:4A,125V,FAST BLOW,ULREC,CSA CERT,	75915	251004
A9FL1	119–4225–00			FILTER,EMI:T–CIRCUIT, 25MHZ CUT–OFF, INS LOSS 25DB@100–1000MHZ, C0.5A,50V,180PF,70 OHM,.094	TK2058	ZJSC–R47–181 TA
A9FL2	119–4225–00			FILTER,EMI:T–CIRCUIT, 25MHZ CUT–OFF, INS LOSS 25DB@100–1000MHZ, C0.5A,50V,180PF,70 OHM,.094	TK2058	ZJSC–R47–181 TA
A9FL3	119–4225–00			FILTER,EMI:T–CIRCUIT, 25MHZ CUT–OFF, INS LOSS 25DB@100–1000MHZ, C0.5A,50V,180PF,70 OHM,.094	TK2058	ZJSC–R47–181 TA
A9J1	131–3364–00			CONN,HDR:PCB,MALE,STR,2 X 17,0.1 CTR,0.365 H X 0.112 TAIL,SHRD/4 SIDES,CTR PLZ,30 GOLD,	53387	N2534–6002UB
A9R5	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A9R7	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R8	321–5049–00			RES,FXD:THICK FILM,1M OHM,1%,0.125W,TC=100 PPM	50139	BCA1004FT
A9R13	321–5049–00			RES,FXD:THICK FILM,1M OHM,1%,0.125W,TC=100 PPM	50139	BCA1004FT
A9R14	321–5028–00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100 PPM	50139	BCK6811FT
A9R15	321–5028–00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100 PPM	50139	BCK6811FT
A9R16	321–5028–00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100 PPM	50139	BCK6811FT
A9R17	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9R18	321–5000–00			RES,FXD,FILM:10 OHM,1%,0.125W,TC=100 PPM,100V,1206, SMD,T&R	50139	BCD10R0FT
A9R19	321–5028–00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100 PPM	50139	BCK6811FT
A9R20	321–5028–00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100 PPM	50139	BCK6811FT
A9R21	321–5028–00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100 PPM	50139	BCK6811FT
A9R24	321–5008–00			RES,FXD,FILM:THICK FILM,150 OHM,1%, 0.125W, TC=100 PPM	50139	BCK1500FT
A9R27	321–5008–00			RES,FXD,FILM:THICK FILM,150 OHM,1%,0.125W, TC=100 PPM	50139	BCK1500FT
A9R36	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R37	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R39	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R41	321–5098–00			RES,FXD,FILM:301K OHM,1%,0.125W,TC=T0,T&R	91637	CRCW1206–3013F–RT1
A9R42	321–5098–00			RES,FXD,FILM:301K OHM,1%,0.125W,TC=T0,T&R	91637	CRCW1206–3013F–RT1
A9R43	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R44	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R48	321–5054–00			RES,FXD,FILM:464 OHM,1%,0.125W,1206, SMD,T&R	50139	BCK4640FT
A9R49	321–5054–00			RES,FXD,FILM:464 OHM,1%,0.125W,1206, SMD,T&R	50139	BCK4640FT
A9R50	321–5054–00			RES,FXD,FILM:464 OHM,1%,0.125W,1206, SMD,T&R	50139	BCK4640FT
A9R51	321–5054–00			RES,FXD,FILM:464 OHM,1%,0.125W,1206, SMD,T&R	50139	BCK4640FT
A9R52	321–5054–00			RES,FXD,FILM:464 OHM,1%,0.125W,1206, SMD,T&R	50139	BCK4640FT
A9R55	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A9R66	321–5028–00			RES,FXD:THICK FILM,6.81K OHM,1%,0.125W,TC=100 PPM	50139	BCK6811FT
A9R67	311–2508–00			RES,VAR,PNL:10K,20%,0.5W,LINEAR,0.5 SQ,1/8 D SHAFT,1 IN SHAFT LENGHT,W/LEADS FORWARD,MODEL 5	57924	51CAA–E32–GA0–253
A9R68	321–5226–00			RES,FXD,FILM:41.2K,1%,0.125W 1206 PKG	91637	CRCW–1206–4122F–RT1
A9R69	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R70	321–5090–00			RES,FXD:THICK FILM,20.0K OHM,1%,0.125W,100 PPM	50139	BCK2002FT
A9R71	321–5090–00			RES,FXD:THICK FILM,20.0K OHM,1%,0.125W,100 PPM	50139	BCK2002FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9R72	321–5293–00			RES,FXD,FILM:30.1K OHM,1%,0.125W	91637	CRCW1206–3012F–RT1
A9R73	321–5293–00			RES,FXD,FILM:30.1K OHM,1%,0.125W	91637	CRCW1206–3012F–RT1
A9R106	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R107	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R108	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R109	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R110	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R111	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R112	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R113	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R114	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R115	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R116	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R117	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R118	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R119	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R120	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R121	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R122	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R123	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R124	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R125	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R126	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9R127	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R128	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R129	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R130	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R131	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R132	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R133	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R134	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R135	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R136	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R138	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R139	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R140	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R142	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R143	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R144	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R145	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R146	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R147	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R148	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R149	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R150	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R151	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9R152	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R153	321–5030–00			RES,FXD:THICK FILM,10.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1002FT
A9R154	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A9R156	321–5049–00			RES,FXD:THICK FILM,1M OHM,1%,0.125W,TC=100 PPM	50139	BCA1004FT
A9R157	321–5049–00			RES,FXD:THICK FILM,1M OHM,1%,0.125W,TC=100 PPM	50139	BCA1004FT
A9R158	321–5018–00			RES,FXD:THICK FILM,1.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1001FT
A9R159	321–5032–00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A9R161	321–5032–00			RES,FXD:THICK FILM,15.0K OHM,1%,0.125W,TC=100 PPM	50139	BCK1502FT
A9R165	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R166	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R167	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R168	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R169	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R170	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R171	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R172	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R173	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R174	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R175	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R176	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R177	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R178	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1
A9R179	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–RT1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9R180	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R181	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R182	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R183	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R184	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R185	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R186	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R187	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R188	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R189	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R190	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R191	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R192	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R193	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R194	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R195	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R196	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R197	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R198	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R199	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R200	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R201	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R202	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9R203	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R204	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R205	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R206	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R207	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R208	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R209	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R210	321–5348–00			RES,FXD:THICK FILM,76.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–76R8F–R T1
A9R211	321–5394–00			RES,FXD:THICK FILM,69.8 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–69R8FT
A9R212	321–5006–00			RES,FXD,FILM:THICK FILM,100 OHM,1%,0.125W,TC=100 PPM	50139	BCK1000FT
A9R213	321–5395–00			RES,FXD:THICK FILM,88.7 OHM,1%,0.125W,TC=100 PPM	91637	CRCW1206–88R7FT
A9R214	321–5054–00			RES,FXD,FILM:464 OHM,1%,0.125W,1206, SMD,T&R	50139	BCK4640FT
A9S51	311–2509–00			ENCODER,OPTICAL:120CPR,SMOOTH,5V,TTL OUT,0.82 X 0.68,0.25 DIA SHAFT,0.8 SHAFT LENGHT,FRONT BRACK	50434	HRPG–ASCA#19F
A9S52	311–2509–00			ENCODER,OPTICAL:120CPR,SMOOTH,5V,TTL OUT,0.82 X 0.68,0.25 DIA SHAFT,0.8 SHAFT LENGHT,FRONT BRACK	50434	HRPG–ASCA#19F
A9TP1	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A9TP2	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A9TP3	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A9TP4	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A9TP5	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A9TP6	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032 BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A9U10	156–5480–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT SHIFT,OUTPUT LATCHES,74HC595,SO16.150,16MM	01295	SN74HC595ADR
A9U11	156–5070–01			IC,DIGITAL:HCTCMOS,BUFFER,OCTAL,3–STATE,74HC T244,SO20.300,24MM	01295	SN74HCT244DWR
A9U13	156–6253–00			IC,DIGITAL:HCMOS,GATE,HEX INVERTER,SCHMITT TRIG,74HC14,SO14.150,TUBE	01295	SN74HC14D

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9U14	156–6228–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT PISO SHIFT,74HC166,SO16.150,16MM	01295	SN74HC166DR
A9U15	156–6228–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT PISO SHIFT,74HC166,SO16.150,16MM	01295	SN74HC166DR
A9U17	156–6702–00			IC,CONVERTER:CMOS,A/D,8–BIT,40 US,DIFFERENTIAL INPUT,ADC0841CCV,PLCC20	27014	ADC0841CCV
A9U19	156–6703–00			IC,CONVERTER:CMOS,D/A,DUAL 16–BIT,16MHZ,95DB,AD1866R,S016.150	24355	AD1866R
A9U20	156–6704–00			IC,LINEAR:BIPOLAR,AMPLIFIER,0.25W AUDIO POWER AMPLIFIER,LM386M–1,SO8.150	27014	LM386M–1
A9U21	156–5220–01			IC,DIGITAL:HCTCMOS,BUFFER,OCTAL,FLOW THRU,3–STATE,74HCT541,SO20.300,24MM	01295	SN74HCT541DWR
A9U22	156–6705–00			IC,LINEAR:BIPOLAR,AMPLIFIER,VOLTAGE CONTROLLED AMPLIFIER (VCA),AUDIO,SSM2018S,SO16.300	24355	SSM2018S
A9U23	156–6705–00			IC,LINEAR:BIPOLAR,AMPLIFIER,VOLTAGE CONTROLLED AMPLIFIER (VCA),AUDIO,SSM2018S,SO16.300	24355	SSM2018S
A9U25	156–5018–01			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,SINGLE SUPPLY,LM358D,SO8.150,12MM	01295	LM358DR
A9U26	156–6059–01			IC,MISC:CMOS,ANALOG SWITCH,QUAD SPST,85 OHM,DG444DY,SO16.150,16MM	17856	DG444DY–T1
A9U27	156–6706–00			IC,LINEAR:BIPOLAR,OP–AMP,DUAL,HIGH OUTPUT DRIVE,LOW NOISE,NE5532D,SO16.300	1CH66	NE5532D
A9U29	156–5073–01			IC,MISC:HCMOS,ANALOG MUX,TRIPLE SPDT,74HC4053,SO16.150,16MM	34371	CD74HC4053M96
A9U30	160–9874–00			IC,DIGITAL:PRGM 156–5891–01:CMOS,PLD,OTP,5032,32 M/C,16 I/O,8 IN,20NS,"AM700 FRONT PANEL U3	TK0198	160987400
A9U31	160–9874–00			IC,DIGITAL:PRGM 156–5891–01:CMOS,PLD,OTP,5032,32 M/C,16 I/O,8 IN,20NS,"AM700 FRONT PANEL U3	TK0198	160987400
A9U32	160–9874–00			IC,DIGITAL:PRGM 156–5891–01:CMOS,PLD,OTP,5032,32 M/C,16 I/O,8 IN,20NS,"AM700 FRONT PANEL U3	TK0198	160987400
A9U33	156–6787–00			IC,DIGITAL:FTTL,REGISTER,8–BIT SIPO SHIFT,LATCH,3–STATE,74F595,SO16.150,TUBE	1CH66	N74F595D
A9U34	156–5480–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT SHIFT,OUTPUT LATCHES,74HC595,SO16.150,16MM	01295	SN74HC595ADR
A9U35	156–5480–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT SHIFT,OUTPUT LATCHES,74HC595,SO16.150,16MM	01295	SN74HC595ADR
A9U36	156–5480–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT SHIFT,OUTPUT LATCHES,74HC595,SO16.150,16MM	01295	SN74HC595ADR
A9U37	156–6228–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT PISO SHIFT,74HC166,SO16.150,16MM	01295	SN74HC166DR
A9U38	156–6228–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT PISO SHIFT,74HC166,SO16.150,16MM	01295	SN74HC166DR

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A9U39	156–6228–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT PISO SHIFT,74HC166,SO16.150,16MM	01295	SN74HC166DR
A9U40	156–6228–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT PISO SHIFT,74HC166,SO16.150,16MM	01295	SN74HC166DR
A9U41	156–6228–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT PISO SHIFT,74HC166,SO16.150,16MM	01295	SN74HC166DR
A9U42	156–6228–01			IC,DIGITAL:HCMOS,REGISTER,8–BIT PISO SHIFT,74HC166,SO16.150,16MM	01295	SN74HC166DR
A9U43	156–5452–01			IC,DIGITAL:FTTL,BUFFER,OCTAL,FLOW THRU,3–STATE,74F541,SO20.300,24MM	01295	SN74F541DWR
A9U44	156–5452–01			IC,DIGITAL:FTTL,BUFFER,OCTAL,FLOW THRU,3–STATE,74F541,SO20.300,24MM	01295	SN74F541DWR
A9U45	156–5452–01			IC,DIGITAL:FTTL,BUFFER,OCTAL,FLOW THRU,3–STATE,74F541,SO20.300,24MM	01295	SN74F541DWR
A9VR1	152–5096–00			DIODE,ZENER:5.6V,5%,0.225W,MMBZ5232BL,TO–236/SOT–23,8MM	04713	MMBZ5232BLT1

Replaceable electrical parts list

Component number	Tektronix part number	Serial No. effective	Serial No. discont'd	Name & description	Mfr. code	Mfr. part number
A10	672–0338–00	B010100	B010283	CIRCUITBD ASSY:MONITOR,671–2843–XX WIRED,AM700	80009	672–0338–00
A10	672–0338–01	B010284	B019999	CIRCUITBD ASSY:MONITOR,671–2843–XX WIRED,AM700	80009	672–0338–01
A10V1	154–0959–00		B019999	ELECTRON TUBE:CRT MONOCHROME/YOKE ASSY.	54972	CE678W7P4GHLX
A10A1	671–2843–01		B019999	CIRCUITBD ASSY:MONITOR (W0 XFMR)	80009	671–2843–01
				ATTACHED PARTS		
	136–1211–00		B019999	CA ASSY HV:DESCRETE,CRT;HVA,6,22 AWG,600V,1,22 AWG 1000V,7 POS,0.375 PIN CIR CRT SKT X	16237	136–1211–00
	214–1291–00		B019999	HEAT SINK,XSTR:TO–5,SILBRZ PTDBLACK	05820	207SB
	214–4593–00		B019999	HEATSINK,POWER:TO–220,ALUMINUM	30161	530122B40150
	346–0128–00		B019999	STRAP,TIEDOWN,E:8.0 L X 0.1 W,NYLON	TK1719	TY232M
				END ATTACHED PARTS		
A10A1C1	290–1250–00		B019999	CAP,FXD,ELCTLT:220MF,20%,50WVDC,RADIAL LEAD,10MM DIA	55680	UVX1H221MPA
A10A1C2	283–0024–02		B019999	CAP,FXD,CER DI:0.1UF,+80–20%,50V	TK2058	FK20Z5U1H104Z–T
A10A1C3	283–0024–02		B019999	CAP,FXD,CER DI:0.1UF,+80–20%,50V	TK2058	FK20Z5U1H104Z–T
A10A1C4	283–0114–02		B019999	CAP,FXD,CER DI:1500PF,5%,200VTAPED & AMMO PKG	59660	805–409Y50–152J
A10A1C5	281–0812–00		B019999	CAP,FXD,CERAMIC:MLC;1000PF,10%,100V	04222	SA101C102KAA
A10A1C6	281–0944–00		B019999	CAP,FXD,CER DI:0.047UF,+80–20%,50V	04222	SA105E473ZAA
A10A1C7	285–1340–00		B019999	CAP,FXD,PLSTC:MTLZD FILM;0.01UF,10%,63V,POLYEST	TK1913	MKS2 .01/63/10
A10A1C8	290–0944–01		B019999	CAP,FXD,ELCTLT:220UF,20%,10V,LEADSPACING 0.2	0H1N5	CEBSM1C221M–T4
A10A1C9	281–0812–00		B019999	CAP,FXD,CERAMIC:MLC;1000PF,10%,100V,0.100	04222	SA101C102KAA
A10A1C10	281–0852–00		B019999	CAP,FXD,CERAMIC:MLC;1800PF,10%,100VDC,0.100	04222	SA101C182KAA
A10A1C11	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A10A1C12	281–0944–00		B019999	CAP,FXD,CER DI:0.047UF,+80–20%,50V	04222	SA105E473ZAA
A10A1C13	283–0195–00		B019999	CAP,FXD,CER DI:680PF,5%,50V	04222	SR205A681JAA
A10A1C14	290–0942–00		B019999	CAP,FXD,ELCTLT:100UF,+100–10%,25V,ALUMINUM	0H1N5	CEUFM1E101
A10A1C15	285–1262–00		B019999	CAP,FXD,PLASTIC:0.015UF,5%,400VDC	49588	715P15354JA3
A10A1C16	281–0820–00		B019999	CAP,FXD,CERAMIC:MLC;680 PF,10%,50V,0.100 X0.170	04222	SA101C681KAA
A10A1C17	285–1456–00		B019999	CAP,FXD,MTLZD:1.7UF,5%,100V	50558	MP1–9596J
A10A1C18	290–0920–00		B019999	CAP,FXD,ALUM:33UF,20%,50V,6 X 11MM,0.1SP	55680	UVX1H330MEA
A10A1C19	290–1235–00		B019999	CAP,FXD,ALUM:1000UF,20%,35V	55680	UVZ1V102MRH
A10A1C20	290–1235–00		B019999	CAP,FXD,ALUM:1000UF,20%,35V	55680	UVZ1V102MRH
A10A1C21	290–0768–00		B019999	CAP,FXD,ELCTLT:10UF,+50–20%,100WVDC	0H1N5	CEBSM2D100M
A10A1C22	290–0768–00		B019999	CAP,FXD,ELCTLT:10UF,+50–20%,100WVDC	0H1N5	CEBSM2D100M
A10A1C23	283–0659–00		B019999	CAP,FXD,MICA DI:1160PF,2%,500V	TK0891	RDM19FD1161G03
A10A1C24	290–0766–02	B010284	B019999	CAP,FXD,ELCTLT:2.2UF,20%,160V,MI	62643	KME250VB2R2
A10A1C25	283–0420–00		B019999	CAP,FXD,CER DI:1000PF,20%,1KV	59660	0838 562 Z5U0 1
A10A1C26	283–0013–00		B019999	CAP,FXD,CER DI:0.01UF,–0+100%,1000V,DISC	59660	818–602ZSUO103P
A10A1C27	283–0013–00		B019999	CAP,FXD,CER DI:0.01UF,–0+100%,1000V,DISC	59660	818–602ZSUO103P
A10A1C28	283–0013–00		B019999	CAP,FXD,CER DI:0.01UF,–0+100%,1000V,DISC	59660	818–602ZSUO103P

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial No. effective	Serial No. discont'd	Name & description	Mfr. code	Mfr. part number
A10A1C29	281–0772–00		B019999	CAP,FXD,CERAMIC:MLC;4700PF,10%,100V,0.100	04222	SA101C472KAA
A10A1C30	281–0765–00		B019999	CAP,FXD,CER DI:100PF,5%,100V	04222	SA102A101JAA
A10A1C31	290–1303–00		B019999	CAP,FXD,ALUM:1000UF,20%,16V,ESR=0.282 OHM(120HZ,20C)	0H1N5	CEBSM1C102M
A10A1C32	290–0950–00		B019999	CAP,FXD,ELCTLT:100UF,+50–20%,50WVDC	0H1N5	CEUSM1H101
A10A1C33	285–1189–00		B019999	CAP,FXD,MTLZD:0.1 UF,5%,100 V	05292	PMT 3R .1J 100
A10A1C34	285–1189–00		B019999	CAP,FXD,MTLZD:0.1 UF,5%,100 V	05292	PMT 3R .1J 100
A10A1C35	285–1188–00		B019999	CAP,FXD,MTLZD:0.082 UF,5%,100 V	05292	PMT 3R ADVISE
A10A1C36	281–0861–00		B019999	CAP,FXD,CER DI:270PF,5%,50V	04222	SA101A271JAA
A10A1C37	281–0920–00		B019999	CAP,FXD: CER,MLC,1000PF,5%,50V,0.170 X 0.1;NPO,AXIAL	80009	281092000
A10A1C38	290–0943–02		B019999	CAP,FXD,ELCTLT:47UF,20%,25V TAPED & REELED	55680	UVX1E470MDA1TD
A10A1C39	283–0167–02		B019999	CAP,FXD,CER DI:0.1UF,10%,100V,0.2 SPACING	TK2058	FK26X5R2A104K–T
A10A1C40	290–1235–00		B019999	CAP,FXD,ALUM:1000UF,20%,35V	55680	UVZ1V102MRH
A10A1C41	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A10A1C42	290–0766–02	B010284	B019999	CAP,FXD,ELCTLT:2.2UF,20%,160V,MI	62643	KME250VB2R2
A10A1C43	281–0812–00		B019999	CAP,FXD,CERAMIC:MLC;1000PF,10%,100V,0.100 X	04222	SA101C102KAA
A10A1C44	290–0806–00		B019999	CAP,FXD,ELCTLT:3.3UF,+75–10%,350VDC	0H1N5	CE04W2V3R3B
A10A1C45	290–0768–00		B019999	CAP,FXD,ELCTLT:10UF,+50–20%,100WVDC	0H1N5	CEBSM2D100M
A10A1C46	290–0768–00		B019999	CAP,FXD,ELCTLT:10UF,+50–20%,100WVDC	0H1N5	CEBSM2D100M
A10A1C47	285–1189–00		B019999	CAP,FXD,MTLZD:0.1 UF,5%,100 V	05292	PMT 3R .1J 100
A10A1CR1	152–0400–00		B019999	DIODE,RECT:FAST RCVRY;400V,1A,200NS	0LUA3	1N4936
A10A1CR2	152–0400–00		B019999	DIODE,RECT:FAST RCVRY;400V,1A,200NS	0LUA3	1N4936
A10A1CR3	152–1165–00		B019999	DIODE,RECT:ULTRA FAST;600V,4A,50NS	04713	MUR460RL
A10A1CR4	152–0661–00		B019999	DIODE,RECT:FAST RCVRY;600V,3A,200NS	12954	DR850701B (40SL
A10A1CR5	152–0400–00		B019999	DIODE,RECT:FAST RCVRY;400V,1A,200NS	0LUA3	1N4936
A10A1CR6	152–0897–00		B019999	DIODE,RECT:FAST RCVRY;1000V,1.5A,300NS,SOFT RCVRY	0LUA3	BYV96E
A10A1CR7	152–0400–00		B019999	DIODE,RECT:FAST RCVRY;400V,1A,200NS	0LUA3	1N4936
A10A1CR8	152–0331–00		B019999	DIODE,RECT:FAST RCVRY;1,500V,30MA,300NS	60211	RM113
A10A1CR9	152–0400–00		B019999	DIODE,RECT:FAST RCVRY;400V,1A,200NS	0LUA3	1N4936
A10A1CR10	152–0400–00		B019999	DIODE,RECT:FAST RCVRY;400V,1A,200NS	0LUA3	1N4936
A10A1CR11	152–0242–00		B019999	DIODE,SIG:225V,200MA	14552	MT5129
A10A1CR12	152–0242–00		B019999	DIODE,SIG:225V,200MA	14552	MT5129
A10A1E1	119–0181–00		B019999	ARSR,ELEC SURGE:230V, +/–15%; GAS DISCHARGE	25088	B1–A230T
A10A1J1	131–5313–00		B019999	CONN,HDR PWR:PCB;MALE,STR,1 X 2,0.156 CTR	27264	26–61–4020
A10A1J2	131–3520–00		B019999	CONN,HDR:PCB;MALE,STR,2 X 5,0.1 CTR,0.365H X 0.112 TAIL	53387	2510–6002UB
A10A1J4	131–5809–00		B019999	CONN,HDR PWR:PCB;MALE,STR,1 X 5,0.156 CTR	27264	26–64–4050
A10A1J5	131–2427–00		B019999	TERM,QIK DISC.:PCB;MALE TAB,0.250 X 0.032,0.2 CTR	00779	62409–1
A10A1J7	131–4794–00		B019999	CONN,HDR:PCB;MALE,STR,1 X 2,0.1 CTR	53387	2402–6112 UB
A10A1L1	108–0345–00		B019999	INDUCTOR,FXD:SIGNAL;1.8UH,10%,ON FORM 276–0153–00	0JR03	108–0345–00

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial No. effective	Serial No. discont'd	Name & description	Mfr. code	Mfr. part number
A10A1L2	108–0146–00		B019999	INDUCTOR,FXD:SIGNAL;5.4UH,10%,ON FORM 307–0005–01	0JR03	108–0146–00
A10A1L3	108–2000–00		B019999	COIL,LINEARITY:FXD,NOM 13.O UH,8UH–50UH @–3.5 TO 3.5A	50783	933884401
A10A1L4	114–0471–00		B019999	COIL,RF:VAR 12 – 50 UH,W/LITZ WIRE,DCR 0.1OHM,I=0.1A MIN	50783	932–8897–01
A10A1L5	108–1481–00		B019999	COIL,RF:VAR,10–20MH	0JR03	108–1481–00
A10A1L6	439–1231–00		1/18/95	YOKE,CRT:DEFLECTION,20 MM,31.5KHZ	50783	912–7206–02
A10A1L7	108–1460–00		1/18/95	COIL,RF:FXD,TRACE ROTATION,1200TURNS,DCR	0JR03	128–8059–EA
A10A1L8	439–1231–01	1/18/95	B019999	YOKE,CRT:DEFLECTION,20M/90 DEG YOKE,AM700,	50783	912720604
A10A1Q1	151–0712–02		B019999	TRANSISTOR,SIG:BIPOLAR,PNP;20V,50MA,600MHZ,AMPL	04713	MPSH81RLRP
A10A1Q2	151–0411–00		B019999	TRANSISTOR,SIG:BIPOLAR,NPN;30V,400MA,1.2GHZ,AMPL	04713	2N5943
A10A1Q3	151–0756–00		B019999	XSTR,SIG:BIPOLAR,NPN;100V,100MA,500MHZ,AMPL	04713	MRF531
A10A1Q4	151–0476–00		B019999	TRANSISTOR,PWR:BIPOLAR,NPN;100V,3.0A,3.0MHZ,AMPL	04713	TIP31C
A10A1Q5	151–0679–00		B019999	TRANSISTOR,PWR:BIPOLAR,NPN;400V,12A,SWITCHING	04713	MJE13009
A10A1Q6	151–0347–02		B019999	XSTR,SIG:BIPOLAR,NPN;160V,600MA,100MHZ,AMPL	04713	2N5551RLRP
A10A1R1	322–3169–00		B019999	RES,FXD:METAL FILM;562 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2F562R0F
A10A1R2	322–3066–00		B019999	RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A10A1R3	322–3105–00		B019999	RES,FXD:METAL FILM;121 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G121ROF
A10A1R4	311–2276–00		B019999	RES,VAR,NONWW:TRMR,100 OHM,20%,0.5WLINEAR,MI	TK2073	GF06VT2 101 M L
A10A1R5	322–3097–00		B019999	RES,FXD:METAL FILM;100 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G100R0F
A10A1R6	322–3193–00		B019999	RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A10A1R7	322–3021–00		B019999	RES,FXD,FILM:16.2 OHM,1%,0.2W,TC=T0MI,SMALL	57668	CRB20 FXE 16E2
A10A1R8	307–0113–00		B019999	RES,FXD,CMPSN:5.1 OHM,5%,0.25W	19701	5043CX5R100J
A10A1R9	322–3243–00		B019999	RES,FXD:METAL FILM;3.32K OHM,1%,0.2W,TC=100	91637	CCF50–1–G33200F
A10A1R10	322–3226–00		B019999	RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A10A1R11	303–0102–00		B019999	RES,FXD,CMPSN:1K OHM,5%,1W	24546	FP32 OR FP1 1 K
A10A1R12	315–0271–00		B019999	RES,FXD,FILM:270 OHM,5%,0.25W	TK1727	SFR25 2322–181–
A10A1R13	322–3193–00		B019999	RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A10A1R14	322–3193–00		B019999	RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A10A1R15	311–2276–00		B019999	RES,VAR,NONWW:TRMR,100 OHM,20%,0.5WLINEAR,MI	TK2073	GF06VT2 101 M L
A10A1R16	322–3442–00		B019999	RES,FXD,FILM:392K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF50–2G39202F
A10A1R17	322–3230–00		B019999	RES,FXD,FILM:2.43K OHM,1%,0.2W,TC=T0MI,SMALLBODY	91637	CCF50–2–G2431FT
A10A1R18	322–3117–00		B019999	RES,FXD,FILM:162 OHM,1%,0.2W,TC=T0MI,SMALLBODY	91637	CCF501G162R0F
A10A1R19	322–3235–00		B019999	RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A10A1R20	311–2271–00		B019999	RES,VAR,TRMR:CERMET;5K OHM,20%,0.5W,0.197 SQ	TK2073	GF06VT2 502 M L
A10A1R21	322–3318–00		B019999	RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A10A1R22	322–3318–00		B019999	RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A10A1R23	301–0823–00		B019999	RES,FXD,FILM:82K OHM,5%,0.5W	TK1727	SFR30 2322–182–
A10A1R24	301–0471–00		B019999	RES,FXD,FILM:470 OHM,5%,0.5W	TK1727	SFR30 2322–182–
A10A1R25	322–3147–00		B019999	RES,FXD:METAL FILM;332 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G332R0F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial No. effective	Serial No. discont'd	Name & description	Mfr. code	Mfr. part number
A10A1R26	322–3177–00		B019999	RES,FXD:METAL FILM;681 OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2G681R0F
A10A1R27	307–0060–00		B019999	RES,FXD,CMPSN:6.8 OHM,5%,0.5W	50139	EB68G5
A10A1R28	322–3066–00		B019999	RES,FXD:METAL FILM;47.5 OHM,1%,0.2W,TC=100 PPM	09969	CCF502G47R50F
A10A1R29	322–3258–00		B019999	RES,FXD:METAL FILM;4.75K OHM,1%,0.2W,TC=100	56845	CCF50–2–G4751FT
A10A1R30	301–0561–00		B019999	RES,FXD,FILM:560 OHM,5%,0.5W	19701	SFR–254 2322–18
A10A1R31	308–0298–00		B019999	RES,FXD,WW:560 OHM,5%,3W	00213	1240S–560–5
A10A1R32	322–3001–00		B019999	RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A10A1R33	322–3250–00		B019999	RES,FXD:METAL FILM;3.92K OHM,1%,0.2W,TC=100	91637	CCF50–2F39200F
A10A1R34	301–0472–00		B019999	RES,FXD,FILM:4.7K OHM,5%,0.5W	TK1727	SFR30 2322–182–
A10A1R35	315–0624–00		B019999	RES,FXD,FILM:620K OHM,5%,0.25W	TK1727	SFR25 2322–181–
A10A1R36	311–2498–00		B019999	RES,VAR,TRMR:2.5 MEG OHM,SIDE ADJUST	80009	311249800
A10A1R37	322–3421–00		B019999	RES,FXD,FILM:237K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF50–2F23702F
A10A1R38	315–0106–00		B019999	RES,FXD,FILM:10M OHM,5%,0.25W	TK1727	SFR25 2322–181–
A10A1R39	301–0473–00		B019999	RES,FXD,FILM:47K OHM,5%,0.5W	TK1727	SFR30 2322–182–
A10A1R40	322–3235–00		B019999	RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A10A1R41	322–3289–00		B019999	RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A10A1R42	307–0113–00		B019999	RES,FXD,CMPSN:5.1 OHM,5%,0.25W	19701	5043CX5R100J
A10A1R43	311–2266–00		B019999	RES,VAR,NONWW:TRMR,100K OHM,20%,0.5WLINEAR,MI	TK2073	GF06VT2 104 M L
A10A1R44	322–3402–00		B019999	RES,FXD:METAL FILM;150K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G15002F
A10A1R45	311–2266–00		B019999	RES,VAR,NONWW:TRMR,100K OHM,20%,0.5WLINEAR,MI	TK2073	GF06VT2 104 M L
A10A1R46	322–3410–00		B019999	RES,FXD:METAL FILM;182K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G1823FT
A10A1R47	322–3450–00		B019999	RES,FXD,FILM:475K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF50–2G47502F
A10A1R48	311–2267–00		B019999	RES,VAR,NONWW:TRMR,50K OHM,20%,0.5WLINEAR,MI	TK2073	GF06VT2 503 M L
A10A1R49	322–3357–00		B019999	RES,FXD,FILM:51.1K OHM,1%,0.2W,TC=T0	91637	CCF501G51101F
A10A1R50	322–3402–00		B019999	RES,FXD:METAL FILM;150K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G15002F
A10A1R51	322–3373–00		B019999	RES,FXD,FILM:75K OHM,1%,0.2W,TC=T0MI,SMALLBODY	91637	CCF501G75001F
A10A1R52	322–3273–00		B019999	RES,FXD:METAL FILM;6.81K OHM,1%,0.2W,TC=100	91637	CCF50–2–G68100F
A10A1R53	322–3273–00		B019999	RES,FXD:METAL FILM;6.81K OHM,1%,0.2W,TC=100	91637	CCF50–2–G68100F
A10A1R54	322–3277–00		B019999	RES,FXD,FILM:7.5K OHM,1%,0.2W,TC=T0,SMALLBODY	91637	CCF501G75000F
A10A1R55	308–0459–00		B019999	RES,FXD,WW:1.1 OHM,5%,3W	TK2096	KM300 1.1 OHM 5
A10A1R56	307–0104–00		B019999	RES,FXD,CMPSN:3.3 OHM,5%,0.25W	19701	5043CX3R300J
A10A1R57	311–2258–00		B019999	RES,VAR,TRMR:CERMET;1K OHM,20%,0.5W,0.197 SQ	TK2073	GF06VT2 102 M L
A10A1R58	322–3158–00		B019999	RES,FXD,FILM:432 OHM,1%,0.2W,TC=T0MI,SMALLBODY	57668	CRB2D FXE 432
A10A1R59	322–3258–00		B019999	RES,FXD:METAL FILM;4.75K OHM,1%,0.2W,TC=100	56845	CCF50–2–G4751FT
A10A1R60	322–3210–00		B019999	RES,FXD:METAL FILM;1.5K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G15000F
A10A1R61	322–3235–00		B019999	RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A10A1R62	301–0471–00		B019999	RES,FXD,FILM:470 OHM,5%,0.5W	TK1727	SFR30 2322–182–
A10A1R63	322–3373–00		B019999	RES,FXD,FILM:75K OHM,1%,0.2W,TC=T0MI,SMALLBODY	91637	CCF501G75001F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial No. effective	Serial No. discont'd	Name & description	Mfr. code	Mfr. part number
A10A1R64	311–2266–00		B019999	RES,VAR,NONWW:TRMR,100K OHM,20%,0.5WLINEAR,MI	TK2073	GF06VT2 104 M L
A10A1R65	322–3402–00		B019999	RES,FXD:METAL FILM;150K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G15002F
A10A1R66	322–3427–00		B019999	RES,FXD:METAL FILM;274K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G2743FT
A10A1R67	311–2258–00		B019999	RES,VAR,TRMR:CERMET;1K OHM,20%,0.5W,0.197 SQ	TK2073	GF06VT2 102 M L
A10A1R68	322–3289–00		B019999	RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A10A1R69	322–3385–00		B019999	RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10002F
A10A1R70	322–3385–00		B019999	RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10002F
A10A1R71	322–3289–00		B019999	RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A10A1R72	322–3385–00		B019999	RES,FXD:METAL FILM;100K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10002F
A10A1R73	315–0100–02		B019999	RES,FXD,CMPSN:10 OHM,5%,0.25W	50139	CB1005
A10A1R74	315–0100–02		B019999	RES,FXD,CMPSN:10 OHM,5%,0.25W	50139	CB1005
A10A1R75	317–0027–00		B019999	RES,FXD,CMPSN:2.7 OHM,5%,0.125W	24546	CT3–2R7JT
A10A1R76	317–0027–00		B019999	RES,FXD,CMPSN:2.7 OHM,5%,0.125W	24546	CT3–2R7JT
A10A1R77	322–3126–00		B019999	RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALLBODY	91637	CCF501G200ROF
A10A1R78	322–3126–00		B019999	RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALLBODY	91637	CCF501G200ROF
A10A1R222	322–3213–00		B019999	RES,FXD,FILM:1.62K OHM,1%,0.2W,TC=T0	91637	CCF501G16200F
A10A1T1	120–1476–00		B019999	XFMR,BASE DRIVE:L1 18MH +/–15% 2.0 OHM MAX	02113	A8369
A10A1TP1	214–4085–00		B019999	TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A10A1TP2	214–4085–00		B019999	TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A10A1U1	156–1147–00		B019999	IC,MISC:BIPOLAR,VIDEO SUBSYSTEM;HORIZ PROCESSOR	04713	MC1391P
A10A1U2	156–4327–00		B019999	IC,LINEAR:BIPOLAR,VR;POS,12.0V,1.5A,1%,LOW DROPOUT	64155	LT1086CT–12
A10A1U3	156–1693–03		B019999	IC,MISC:BIPOLAR,VIDEO SUBSYSTEM	80009	156169303
A10A1U4	156–4403–00		B019999	IC,LINEAR:BIPOLAR,REFERENCE;1/2 VIN VIRTUAL	01295	TLE2426CLP
A10A1U5	156–4404–00		B019999	IC,LINEAR:BIPOLAR,AMPLIFIER;DUAL,5.0W AUDIO	27014	LM2878P
A10A1VR1	152–0195–00		B019999	DIODE,ZENER:5.1V,5%,0.4W	14552	CD332125
A10A2	671–2869–00		B019999	CIRCUITBD ASSY:TRANSFORMER	80009	671–2869–00
A10A2J3	131–5164–00		B019999	CONN,HDR PWR:PCB;MALE,RTANG,1 X 22,0.156 CTR	00779	2–640385–2
A10A2T2	120–1936–00		B019999	TRANSFORMER,RF:FLYBACK,12KV	TK0IR	MF–1861

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11	671–2841–00			CIRCUIT BD ASSY:AM POWER SUPPLY	80009	671–2841–00
A11	671–2841–01		B019999	CIRCUIT BD ASSY:AM POWER SUPPLY	80009	671–2841–00
				ATTACHED PARTS		
	211–0244–00			SCR,ASSEM WSHR:4–40 X 0.312,PNH,STL,CD PL,POZ	TK0435	7772–312
	211–0408–00			SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL,CDPL,T–10 TORX DR (QUANTITY 3)	0KB01	211–0408–00
	214–4592–00			HEATSINK,SEMIC:XSTR,(6)TO–218/TO–247;ALUM	80009	214–4592–00
	214–4593–00			HEATSINK,POWER:TO–220,ALUMINUM (QUANTITY 2)	30161	530122B40150
	337–3796–01			SHIELD,ELEC:0.032 BRASS,C26000,0.5 HARD	80009	337–3796–01
	342–0354–00			INSULATOR,PLATE:TRANSISTOR,SILICONE RUBBER	2K262	342–0354–00
				END ATTACHED PARTS		
A11	671–3891–00	B020100		CIRCUIT BD ASSY:AM POWER SUPPLY	80009	671–3891–00
A11	671–3891–01			CIRCUIT BD ASSY:AM POWER SUPPLY	80009	671–3891–01
	198–5808–00	B020100		WIRE SET,ELEC:DISCRETE,CUT/KIT,3,18 AWG,4.0 L,2,0.375 X 0.25 CUT,1,0.375 X 0.375 CUT,5–6,9–2,	TK2469	198–5808–00
	210–0202–00	B020100		TERMINAL,LUG:0.146 ID,INTERNAL TOOTH,0.719 L,45 DEG BEND,W/2,0.09 ID HOLES,LOCKING,BRASS,TIN	86928	A–373–158–2
	210–0457–00	B020100		NUT,PL,ASSEM WA:6–32 X 0.312,STL CD PL,W/LOCKWASHER	0KB01	ORDER BY DESCRIPTION
	211–0720–00	B020100		SCR,ASSEM WSHR:6–32 X 0.500,PNH,STL,CDPL,T–15 TORX DR,MACHINE	0KB01	ORDER BY DESCRIPTION
	214–4516–00	B020100		HEATSINK,SEMIC:TRANSISTOR,TO–220/TO–218/TO–247, ALUMINUM,BLACK ANODIZE,(2)SOLDERABLE TABS,590102	30161	590102B03600
	214–4516–00	B020100		HEAT SINK,SEMIC:TRANSISTOR,TO–220/TO–218/TO–247, ALUMINUM, BLACK ANODIZE,(2)SOLDERABLE TABS,590102	30161	590102B03600
	214–4516–00	B020100		HEAT SINK,SEMIC:TRANSISTOR,TO–220/TO–218/TO–247, ALUMINUM,BLACK ANODIZE,(2)SOLDERABLE TABS,590102	30161	590102B03600
A11C1	285–1381–00		B019999	CAP,FXD,MTLZD:1500PF,10%,250V	TK0515	PME271Y415K
A11C2	285–1381–00		B019999	CAP,FXD,MTLZD:1500PF,10%,250V	TK0515	PME271Y415K
A11C3	285–1196–00		B019999	CAP,FXD,PPR DI:0.01UF,20%,250V	TK0515	PME 290 MB 5100
A11C3	285–1381–00	B020100		CAP,FXD,MTLZD:1500PF,10%,250V Y RATED	TK0515	PME271Y415K
A11C4	285–1196–00		B019999	CAP,FXD,PPR DI:0.01UF,20%,250V	TK0515	PME 290 MB 5100
A11C4	285–1381–00	B020100		CAP,FXD,MTLZD:1500PF,10%,250V Y RATED	TK0515	PME271Y415K
A11C5	285–1252–00		B019999	CAP,FXD,PLASTIC:0.15UF,10%,250VAC	D5243	F1772–415–2000
A11C6	285–1252–00			CAP,FXD,PLASTIC:0.15UF,10%,250VAC	D5243	F1772–415–2000
A11C7	290–1294–00			CAP,FXD,ALUM:1000UF,20%,200V,40 X 35 MM;SNAP–IN TERM	0H1N5	CEAUF2D102M42
A11C8	290–1294–00			CAP,FXD,ALUM:1000UF,20%,200V,40 X 35 MM;SNAP–IN TERM	0H1N5	CEAUF2D102M42
A11C9	283–0167–02		B019999	CAP,FXD,CER DI:0.1UF,10%,100V,0.2 SPACING	TK2058	FK26X5R2A104K–T
A11C10	285–1196–00			CAP,FXD,PPR DI:0.01UF,20%,250V	TK0515	PME 290 MB 5100
A11C11	285–1196–00			CAP,FXD,PPR DI:0.01UF,20%,250V	TK0515	PME 290 MB 5100

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11C12	285–1196–00			CAP,FXD,PPR DI:0.01UF,20%,250V	TK0515	PME 290 MB 5100
A11C13	285–1196–00			CAP,FXD,PPR DI:0.01UF,20%,250V	TK0515	PME 290 MB 5100
A11C14	285–1380–00			CAP,FXD,PLASTIC:2.2UF,400V,4A @ 100KHZSAF CONT	TK1913	MKC4 2.2/400/20
A11C15	290–0919–00			CAP,FXD,ALUM:470UF,+50–20%,35V	55680	UVX1V471MPA
A11C16	290–0919–00			CAP,FXD,ALUM:470UF,+50–20%,35V	55680	UVX1V471MPA
A11C17	290–0943–02			CAP,FXD,ELCTLT:47UF,20%,25V	55680	UVX1E470MDA1TD
A11C18	290–0943–02			CAP,FXD,ELCTLT:47UF,20%,25V	55680	UVX1E470MDA1TD
A11C19	283–0213–00		B019999	CAP,FXD,CER DI:300PF,5%,100V	04222	SR201A301JAA
A11C19	281–0791–00	B020100		CAP,FXD,CER:MLC,270PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA102C271KAA
A11C20	283–0051–02		B019999	CAP,FXD,CER DI:0.0033UF,5%,100V,SQUARE,MI	TK2058	FK22COG2A332J–T
A11C20	281–0826–00	B020100		CAP,FXD,CER:MLC,2200PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA101C222KAA
A11C21	283–0167–02		B019999	CAP,FXD,CER DI:0.1UF,10%,100V,0.2 SPACING	TK2058	FK26X5R2A104K–T
A11C21	281–0775–00	B020100		CAP,FXD,CER :MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A11C22	290–1311–00			CAP,FXD,ALUM:10UF,20%,50V,ESR=1.4 OHM(100KHZ,20C)	55680	UPL1H100MDH1TD
A11C23	283–0341–00		B019999	CAP,FXD,CER DI:0.047UF,10%,100V,X7R,0.20 X 0.20,O.2 LS	04222	SR211C473KAA
A11C23	281–0813–00	B020100		CAP,FXD,CER:MLC,0.047UF,20%,50V,0.100 X 0.170,AXIAL,MI	04222	SA105E473MAA
A11C24	283–0167–02		B019999	CAP,FXD,CER DI:0.1UF,10%,100V,0.2 SPACING	TK2058	FK26X5R2A104K–T
A11C24	281–0775–00	B020100		CAP,FXD,CER:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A11C25	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C26	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C26	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C27	290–0943–02			CAP,FXD,ELCTLT:47UF,20%,25V	55680	UVX1E470MDA1TD
A11C28	290–0778–01		B019999	CAP,FXD,ALUM:1UF,20%,50V,ESR=198.94 OHM (120HZ,20C)	55680	UVP1H010MAAITD
A11C28	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C29	290–0778–01		B019999	CAP,FXD,ALUM:1UF,20%,50V,ESR=198.94 OHM (120HZ,20C)	55680	UVP1H010MAAITD
A11C29	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C30	283–0197–02		B019999	CAP,FXD,CER DI:470PF,5%,50V	04222	SR591A471JAAAP1
A11C30	281–0788–00	B020100		CAP,FXD,CER:MLC,470PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA102C471KAA
A11C31	285–1379–00			CAP,FXD,PLASTIC:4.7MF,0%,250V,4A @ 50KHZ	TK1913	MKS4 4.7/250/20
A11C32	285–1379–00			CAP,FXD,PLASTIC:4.7MF,0%,250V,4A @ 50KHZ	TK1913	MKS4 4.7/250/20
A11C33	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C34	290–0800–00		B019999	CAP,FXD,ELCTLT:250UF,+100–10%,20V	62643	RXC25B251W12X24
A11C34	290–1302–00	B020100		CAP,FXD,ALUM:1000UF,20%,35V,12.5 X 30MM(0.492 X 1.180),RADIAL,LOWIMP,1.95A RIPPLE,BULK	62643	CEEFM1V102M7
A11C35	290–0800–00		B019999	CAP,FXD,ELCTLT:250UF,+100–10%,20V	62643	RXC25B251W12X24
A11C35	290–1302–00	B020100		CAP,FXD,ALUM:1000UF,20%,35V,12.5 X 30MM(0.492 X 1.180),RADIAL,LOWIMP,1.95A RIPPLE,BULK	62643	CEEFM1V102M7
A11C36	283–0486–00			CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C37	281–0812–00			CAP,FXD,CER:MLC;1000PF,10%,100V	04222	SA101C102KAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11C38	290–0946–00		B019999	CAP,FXD,ELCTLT:270UF,+100–10%,40V	0H1N5	CEUFM1G271
A11C38	290–1302–00	B020100		CAP,FXD,ALUM:1000UF,20%,35V,12.5 X 30MM(0.492 X 1.180),RADIAL,LOWIMP,1.95A RIPPLE,BULK	62643	CEEFM1V102M7
A11C39	283–0486–00			CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C40	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C40	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C41	290–0946–00		B019999	CAP,FXD,ELCTLT:270UF,+100–10%,40V	0H1N5	CEUFM1G271
A11C41	290–1302–00	B020100		CAP,FXD,ALUM:1000UF,20%,35V,12.5 X 30MM(0.492 X 1.180),RADIAL,LOWIMP,1.95A RIPPLE,BULK	62643	CEEFM1V102M7
A11C42	283–0486–00			CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C43	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C44	281–0812–00			CAP,FXD,CER:MLC;1000PF,10%,100V	04222	SA101C102KAA
A11C45	290–0946–00		B019999	CAP,FXD,ELCTLT:270UF,+100–10%,40V	0H1N5	CEUFM1G271
A11C45	290–1302–00	B020100		CAP,FXD,ALUM:1000UF,20%,35V,12.5 X 30MM(0.492 X 1.180),RADIAL,LOWIMP,1.95A RIPPLE,BULK	62643	CEEFM1V102M7
A11C46	283–0486–00			CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C47	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C47	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C48	281–0812–00			CAP,FXD,CER:MLC;1000PF,10%,100V	04222	SA101C102KAA
A11C49	283–0197–02		B019999	CAP,FXD,CER DI:470PF,5%,50V	04222	SR591A471JAAAP1
A11C49	281–0788–00	B020100		CAP,FXD,CER:MLC,470PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA102C471KAA
A11C50	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C50	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C51	290–0943–02			CAP,FXD,ELCTLT:47UF,20%,25V	55680	UVX1E470MDA1TD
A11C52	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C52	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C53	283–0197–02		B019999	CAP,FXD,CER DI:470PF,5%,50V	04222	SR591A471JAAAP1
A11C53	281–0788–00	B020100		CAP,FXD,CER:MLC,470PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA102C471KAA
A11C54	290–0943–02			CAP,FXD,ELCTLT:47UF,20%,25V	55680	UVX1E470MDA1TD
A11C55	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C55	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C56	283–0167–02		B019999	CAP,FXD,CER DI:0.1UF,10%,100V,0.2 SPACING	TK2058	FK26X5R2A104K–T
A11C56	281–0775–00	B020100		CAP,FXD,CER:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A11C57	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C58	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C58	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C59	283–0051–02		B019999	CAP,FXD,CER DI:0.0033UF,5%,100V,SQUARE,MI	TK2058	FK22COG2A332J–T
A11C59	281–0772–00	B020100		CAP,FXD,CER:MLC,4700PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA101C472KAA
A11C60	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11C61	283–0167–02		B019999	CAP,FXD,CER DI:0.1UF,10%,100V,0.2 SPACING	TK2058	FK26X5R2A104K–T
A11C61	281–0775–00	B020100		CAP,FXD,CER:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A11C62	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C63	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C64	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C65	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C66	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C67	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C68	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C69	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C70	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C71	283–0239–02		B019999	CAP,FXD,CER DI:0.022UF,10%,50WVDC,X7R	04222	SR595C223KAAAP1
A11C71	281–0909–00	B020100		CAP,FXD,CER:MLC,0.022UF,20%,50V,0.100 X 0.170,AXIAL,MI	04222	SA105C223MAA
A11C72	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C72	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C73	283–0051–02		B019999	CAP,FXD,CER DI:0.0033UF,5%,100V,SQUARE,MI	TK2058	FK22COG2A332J–T
A11C73	281–0826–00	B020100		CAP,FXD,CER:MLC,2200PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA101C222KAA
A11C74	283–0197–02		B019999	CAP,FXD,CER DI:470PF,5%,50V	04222	SR591A471JAAAP1
A11C74	281–0788–00	B020100		CAP,FXD,CER:MLC,470PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA102C471KAA
A11C75	290–0798–00		B019999	CAP,FXD,ELCTLT:180UF,+100–10%,40V	62643	672D708A
A11C75	290–1302–00	B020100		CAP,FXD,ALUM:1000UF,20%,35V,12.5 X 30MM(0.492 X 1.180),RADIAL,LOWIMP,1.95A RIPPLE,BULK	62643	CEEFM1V102M7
A11C76	283–0486–00			CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C77	283–0024–02		B019999	CAP,FXD,CER DI:0.1UF,+80–20%,50V	TK2058	FK20Z5U1H104Z–T
A11C77	281–0775–00	B020100		CAP,FXD,CER:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A11C78	283–0198–02		B019999	CAP,FXD,CER DI:0.22UF,20%,50V	04222	SR215E224MAATR X
A11C78	281–0925–01	B020100		CAP,FXD,CER:MLC,0.22UF,20%,50V,Z5U.0.170 X 0.120,AXIAL,MI	04222	SA115E224MAA
A11C79	283–0198–02		B019999	CAP,FXD,CER DI:0.22UF,20%,50V	04222	SR215E224MAATR X
A11C79	281–0925–01	B020100		CAP,FXD,CER:MLC,0.22UF,20%,50V,Z5U.0.170 X 0.120,AXIAL,MI	04222	SA115E224MAA
A11C80	283–0167–02		B019999	CAP,FXD,CER DI:0.1UF,10%,100V,0.2 SPACING	TK2058	FK26X5R2A104K–T
A11C80	281–0775–00	B020100		CAP,FXD,CER:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A11C81	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C81	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C82	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C82	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C83	290–0946–00		B019999	CAP,FXD,ELCTLT:270UF,+100–10%,40V	0H1N5	CEUFM1G271
A11C83	290–1302–00	B020100		CAP,FXD,ALUM:1000UF,20%,35V,12.5 X 30MM(0.492 X 1.180),RADIAL,LOWIMP,1.95A RIPPLE,BULK	62643	CEEFM1V102M7

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11C84	290–0946–00		B019999	CAP,FXD,ELCTLT:270UF,+100–10%,40V	0H1N5	CEUFM1G271
A11C84	290–1302–00	B020100		CAP,FXD,ALUM:1000UF,20%,35V,12.5 X 30MM(0.492 X 1.180),RADIAL,LOWIMP,1.95A RIPPLE,BULK	62643	CEEFM1V102M7
A11C85	283–0486–00			CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C86	283–0486–00		B019999	CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C86	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C87	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C88	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C89	283–0486–00			CAP,FXD,CER DI:1.0UF,10%,50V	04222	SR305C105KAA
A11C90	283–0167–02		B019999	CAP,FXD,CER DI:0.1UF,10%,100V,0.2 SPACING	TK2058	FK26X5R2A104K–T
A11C90	281–0775–00	B020100		CAP,FXD,CER:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A11C91	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C92	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C93	281–0773–00			CAP,FXD,CER:MLC;0.01UF,10%,100V	TK1743	CGB103KEX
A11C94	281–0812–00	B020100		CAP,FXD,CER:MLC,1000PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA101C102KAA
A11C95	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C96	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C97	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C98	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C99	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C100	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C101	281–0563–00	B020100		CAP,FXD,CER:MLC,0.47UF,20%,50V,0.150 X 0.290,AXIAL,MI	04222	SA305E474MAA
A11C102	290–0778–00	B020100		CAP,FXD,ALUM:1UF,20%,50V,5 X 11 MM,NONPOLAR,RADIAL	62643	CEBPM1H010M(Q)
A11C103	290–0778–00	B020100		CAP,FXD,ALUM:1UF,20%,50V,5 X 11 MM,NONPOLAR,RADIAL	62643	CEBPM1H010M(Q)
A11CR1	152–0750–00			DIO,RECT:FAST RCVRY;BRIDGE,600V,3A,IFSM=125A,250NS	TK2319	RKBPC606
				ATTACHED PARTS		
	211–0511–00			SCREW,MACHINE:6–32 X 0.5,PNH,STL	TK0435	ORDER BY DESC
	214–1914–00			HEAT SINK,DIODE:(2)0.15 DIA HOLES,AL	98978	PB1–2CB
				END ATTACHED PARTS		
A11CR2	152–0601–01		B019999	DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL
A11CR3	152–0601–01		B019999	DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL
A11CR4	152–0601–01		B019999	DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL
A11CR5	152–0601–01		B019999	DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL
A11CR6	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR7	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR8	152–0601–01			DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL
A11CR9	152–0601–01			DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL
A11CR10	152–0601–01			DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL
A11CR11	152–0601–01			DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11CR12	152–0141–02		B019999	DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR13	152–0141–02		B019999	DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR14	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR15	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR16	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR17	152–0581–04			DIODE,RECT:SCHTKY;20V,1A,.450VF,25A IFSM	04713	1N5817RL (TAPE
A11CR18	152–0581–04			DIODE,RECT:SCHTKY;20V,1A,.450VF,25A IFSM	04713	1N5817RL (TAPE
A11CR19	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR20	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR21	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR22	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR23	152–0839–00			DIODE,RECT:FAST RCVRY;500V,8A,50NS	04713	MUR850
				ATTACHED PARTS		
	210–0586–00			NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	0KB01	ORDER BY DESCR
	211–0008–00			SCREW,MACHINE:4–40 X 0.25,PNH,STL CD PL,POZ	93907	ORDER BY DESCR
	214–3478–00			HEAT SINK,SEMIC:TRANSISTOR,TO–202,ALUMINUM,BLACK	13103	6278B
				END ATTACHED PARTS		
A11CR24	152–0581–04			DIODE,RECT:SCHTKY;20V,1A,.450VF,25A IFSM	04713	1N5817RL (TAPE
A11CR25	152–0581–04			DIODE,RECT:SCHTKY;20V,1A,.450VF,25A IFSM	04713	1N5817RL (TAPE
A11CR26	152–1170–00			DIODE,RECT:SCHTKY;DUAL,40V,40A,COM–CATH	14936	MBR4045–PT
				ATTACHED PARTS		
	211–0410–00			SCR,ASSEM WSHR:4–40 X 0.437,PNH,STL,CDPL,T–10 TORX DR	0KB01	211–0410–00
				END ATTACHED PARTS		
A11CR27	152–1128–00			DIODE,RECT:SCHTKY;100V,10A,0.8VF,COM–CATH DUAL	04713	MBR20100CT
A11CR28	152–1191–00			DIODE,RECT:SCHTKY;100V,10A,150A IFSM,800MVF AT 10A	04713	MBR10100
				ATTACHED PARTS		
	210–0586–00			NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	0KB01	ORDER BY DESCR
	211–0008–00	B010100	B010232	SCREW,MACHINE:4–40 X 0.25,PNH,STL CD PL,POZ	93907	ORDER BY DESCR
	211–0101–00	B010233		SCREW,MACHINE:4–40 X 0.25,FLH,100 DEG,STL CD PL,POZ	93907	ORDER BY DESCR
	214–4379–00			HEAT SINK,SEMIC:TRANSISTOR,TO–202,ALUMINUM,BLACK	13103	6278B
				END ATTACHED PARTS		
A11CR29	152–1191–00			DIODE,RECT:SCHTKY;100V,10A,150A IFSM,800MVF AT 10A	04713	MBR10100
				ATTACHED PARTS		
	210–0586–00			NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	0KB01	ORDER BY DESCR
	211–0008–00	B010100	B010232	SCREW,MACHINE:4–40 X 0.25,PNH,STL CD PL,POZ	93907	ORDER BY DESCR
	211–0101–00	B010233		SCREW,MACHINE:4–40 X 0.25,FLH,100 DEG,STL CD PL,POZ	93907	ORDER BY DESCR
	214–4379–00			HEAT SINK,SEMIC:TRANSISTOR,TO–202,ALUMINUM,BLACK	13103	6278B
				END ATTACHED PARTS		

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11CR30	152–1128–00			DIODE,RECT:SCHTKY;100V,10A,0.8VF,COM–CATH DUAL	04713	MBR20100CT
A11CR31	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR32	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR33	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR34	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR35	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR36	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR37	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR38	152–0141–02	B020100		DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35,T&R	01295	1N4152R
A11CR39	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR40	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR41	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR42	152–0601–01			DIODE,RECT:ULTRA FAST;150V,25NS,35A IFSM	04713	MUR115RL
A11CR43	152–0141–02			DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR44	152–0141–02		B019999	DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR45	152–0141–02		B019999	DIODE,SIG:ULTRA FAST;40V,150MA,4NS,2PF	27014	FDH9427
A11CR46	152–1191–00			DIODE,RECT:SCHTKY;100V,10A,150A IFSM,800MVF AT 10A	04713	MBR10100
				ATTACHED PARTS		
	210–0586–00			NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	0KB01	ORDER BY DESCR
	211–0008–00	B010100	B010232	SCREW,MACHINE:4–40 X 0.25,PNH,STL CD PL,POZ	93907	ORDER BY DESCR
	211–0101–00	B010233		SCREW,MACHINE:4–40 X 0.25,FLH,100 DEG,STL CD PL,POZ	93907	ORDER BY DESCR
	214–4379–00			HEAT SINK,SEMIC:TRANSISTOR,TO–202,ALUMINUM,BLACK	13103	6278B
				END ATTACHED PARTS		
A11CR47	152–1191–00			DIODE,RECT:SCHTKY;100V,10A,150A IFSM,800MVF AT 10A	04713	MBR10100
				ATTACHED PARTS		
	210–0586–00			NUT,PL,ASSEM WA:4–40 X 0.25,STL CD PL	0KB01	ORDER BY DESCR
	211–0008–00	B010100	B010232	SCREW,MACHINE:4–40 X 0.25,PNH,STL CD PL,POZ	93907	ORDER BY DESCR
	211–0101–00	B010233		SCREW,MACHINE:4–40 X 0.25,FLH,100 DEG,STL CD PL,POZ	93907	ORDER BY DESCR
	214–4379–00			HEAT SINK,SEMIC:TRANSISTOR,TO–202,ALUMINUM,BLACK	13103	6278B
				END ATTACHED PARTS		
A11CR48	152–0141–02	B020100		DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35,T&R	01295	1N4152R
A11CR49	152–0585–00	B020100		DIODE,RECT:BRIDGE,200V,1A,50A IFSM,1.0VF AT 1A,W02G	14936	W02G
A11CR50	152–0141–02	B020100		DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35,T&R	01295	1N4152R
A11CR51	152–0141–02	B020100		DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35,T&R	01295	1N4152R
A11CR52	152–0601–01	B020100		DIODE,RECT:ULTRA FAST,150V,25NS,35A IFSM,MUR120,T&R	12969	UES1103
A11CR53	152–0601–01	B020100		DIODE,RECT:ULTRA FAST,150V,25NS,35A IFSM,MUR120,T&R	12969	UES1103

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11CR54	152–0601–01	B020100		DIODE,RECT:ULTRA FAST,150V,25NS,35A IFSM,MUR120,T&R	12969	UES1103
A11DS1	150–0030–00		B019999	LAMP,GLOW:60–90V MAX,0.6MA,A28–T,WIRE LEADS	0J9R2	NE–2B(AC/DC)R–T
A11DS1	150–0050–00	B020100		LAMP,GLOW:135V MAX,1.9MA,C2A–T,WIRE LEAD	0J9R2	NE–2Q–11R–T
A11DS2	150–1160–00			DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A11DS3	150–1160–00			DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A11DS4	150–1160–00			DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A11DS5	150–1160–00			DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A11DS6	150–1160–00			DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A11DS7	150–1160–00		B019999	DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A11DS8	150–1160–00			DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A11DS9	150–1171–00			DIODE,OPTO:LED;RED,626NM,3MCD AT 10MA	50434	HLMP–1302–002
A11DS10	150–1171–00			DIODE,OPTO:LED;RED,626NM,3MCD AT 10MA	50434	HLMP–1302–002
A11DS11	150–1171–00			DIODE,OPTO:LED;RED,626NM,3MCD AT 10MA	50434	HLMP–1302–002
A11DS12	150–1171–00			DIODE,OPTO:LED;RED,626NM,3MCD AT 10MA	50434	HLMP–1302–002
A11DS13	150–1160–00		B019999	DIODE,OPTO:LED;GRN,569NM,4,2MCD AT 10MA	50434	QLMP–1587
A11E1	119–0181–00			ARSR,ELEC SURGE:230V, +/–15%; GAS DISCHARGE	25088	B1–A230T
A11F1	159–0023–00			FUSE,CARTRIDGE:3AG,2A,250V,SLOW BLOW (FOR 90–132VAC OPERATION)	71400	MDX2
A11F1	159–0173–00			FUSE,CARTRIDGE:3AG,4A,250V,5 SEC (FOR 180–250VAC OPERATION)	71400	MTH–CW–4
				MOUNTING PARTS		
	200–2264–00			CAP,FUSEHOLDER:3AG FUSES	61935	FEK 031 1666
	204–0906–00			BODY,FUSEHOLDER:3AG & 5 X 20MM FUSES	61935	TYPE FAU 031.35
				END MOUNTING PARTS		
A11F2	307–1593–00		B019999	RES,THRM:CKT PROTECTOR,0.2 AMP	06090	RXE–020
A11F3	307–1593–00		B019999	RES,THRM:CKT PROTECTOR,0.2 AMP	06090	RXE–020
A11FL1	119–4662–00		B019999	FILTER.RFI:6A,250V,50/60HZ,FLANGE MTG,RTANG,PCB MT	05245	6EEBP
A11FL1	119–2064–00	B020100		FILTER,RFI:6A,115–230V,48–440HZ (CHASSIS MOUNTED)	0GV52	FN322R–6/05
A11J2	131–4794–00		B019999	CONN,HDR:PCB;MALE,STR,1 X 2,0.1 CTR	53387	2402–6112 UB
A11J2	131–0993–00	B020100		CONN,BOX:SHUNT,FEMALE,STR,1 X 2,0.1 CTR,0.385 H,30 GOLD,BLACK,JUMPER,	00779	530153–2
A11J3	131–4794–00		B019999	CONN,HDR:PCB;MALE,STR,1 X 2,0.1 CTR	53387	2402–6112 UB
A11J3	131–0993–00	B020100		CONN,BOX:SHUNT,FEMALE,STR,1 X 2,0.1 CTR,0.385 H,30 GOLD,BLACK,JUMPER,	00779	530153–2
A11J4	131–4794–00		B019999	CONN,HDR:PCB;MALE,STR,1 X 2,0.1 CTR	53387	2402–6112 UB
A11J4	131–0993–00	B020100		CONN,BOX:SHUNT,FEMALE,STR,1 X 2,0.1 CTR,0.385 H,30 GOLD,BLACK,JUMPER,	00779	530153–2
A11J5	131–3520–00			CONN,HDR:PCB;MALE,STR,2 X 5,0.1 CTR	53387	2510–6002UB
A11J6	131–4885–00			CONN,HDR:PCB;MALE,STR,1 X 5,0.1 CTR	26742	110F–26–105–01
A11J7	131–5674–00			CONN,HDR PWR:PCB;MALE,RTANG,1 X 8,0.156 CTR	27264	26–65–5080

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11J8	131–5677–00			CONN,HDR PWR:PCB;MALE,RTANG,1 X 10,0.156 CTR	27264	26–65–5100
A11J9	131–5675–00			CONN,HDR PWR:PCB;MALE,RTANG,1 X 5,0.1 CTR	27264	26–65–5050
A11J10	131–5313–00			CONN,HDR PWR:PCB;MALE,STR,1 X 2,0.156 CTR	27264	26–61–4020
A11J11	131–4794–00			CONN,HDR:PCB;MALE,STR,1 X 2,0.1 CTR	53387	2402–6112 UB
A11J13	131–4885–00	B020100		CONN,HDR:PCB,MALE,STR,1 X 5,0.1 CTR,0.290 MLG X 0.130 TAIL,PLZ WALL,W/FRICTION LOCK,20 G	26742	1102–26–105–01
A11L3	120–1654–00			TRANSFORMER,PWR:8MH,1.5A,COMMON MODE	TK1601	62911–003
A11L4	108–1519–00			INDUCTOR,FXD:POWER;1.03MH,10%,IMAX<2.5 A	0JR03	108–1519–00
A11L5	108–1289–00			INDUCTOR,FXD:POWER,BOBBIN;1UH,IDC=30 A	TK1441	85–1086–1
A11L6	108–1289–00			INDUCTOR,FXD:POWER,BOBBIN;1UH,IDC=30 A	TK1441	85–1086–1
A11L7	108–0958–00			INDUCTOR,FXD:CUSTOM,POWER;50UH,10%,IDC<3 A	0JR03	108–0958–00
A11L8	108–0958–00			INDUCTOR,FXD:CUSTOM,POWER;50UH,10%,IDC<3 A	0JR03	108–0958–00
A11L9	108–0958–00			INDUCTOR,FXD:CUSTOM,POWER;50UH,10%,IDC<3 A	0JR03	108–0958–00
A11L10	108–0422–00		B019999	INDUCTOR,FXD:CUSTOM,POWER;80UH,20%,IDC<2 A	0JR03	108–O422–00
A11L10	120–1938–00	B020100		TRANSFORMER,SIG:COMMON MODE,TOROID,100UH@100KHZ,IDC<0.25 A,RDC<0.2 OHM,SRF>4.0 MHZ,Z–91389E,VERT	0JR03	Z–91389E (120–1938–00)
A11L11	108–0958–00			INDUCTOR,FXD:CUSTOM,POWER;50UH,10%,IDC<3 A	0JR03	108–0958–00
A11L12	108–1263–00	B020100		INDUCTOR,FXD:POWER,10UH,10%,I<2.1A,RDC<0.043 OHM,Q>20,SRF>19MHZ,BOBBIN,RADIAL	TK2058	TSL0707–100K1R9
A11L14	108–1263–00	B020100		INDUCTOR,FXD:POWER,10UH,10%,I<2.1A,RDC<0.043 OHM,Q>20,SRF>19MHZ,BOBBIN,RADIAL	TK2058	TSL0707–100K1R9
A11P2	131–0993–00			CONN,BOX:SHUNT;FEMALE,STR,1 X 2,0.1 CTR,0.385 H	22526	65474–006
A11P3	131–0993–00			CONN,BOX:SHUNT;FEMALE,STR,1 X 2,0.1 CTR,0.385 H	22526	65474–006
A11P4	131–0993–00			CONN,BOX:SHUNT;FEMALE,STR,1 X 2,0.1 CTR,0.385 H	22526	65474–006
A11Q1	151–0190–00			TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	2N3904
A11Q2	151–1282–00			TRANSISTOR,PWR:MOS,N–CH;500V,9.0A,0.4 OHM	66958	IRFP450FI
				ATTACHED PARTS		
	210–1178–00			WASHER,SHLDR:TRANSISTOR,TO–220,0.2"ODX0.116	13103	7721–7PPS
	211–0410–00			SCR,ASSEM WSHR:4–40 X 0.437,PNH,STL,CDPL,T–10 TORX DR	0KB01	211–0410–00
	342–0927–00			PAD,CNDCT,XSTR:GRAPHITE FOIL,TO–218/TO3P/T0–24	13103	G4
				END ATTACHED PARTS		
A11Q3	151–1282–00			TRANSISTOR,PWR:MOS,N–CH;500V,9.0A,0.4 OHM	66958	IRFP450FI
				ATTACHED PARTS		
	210–1178–00			WASHER,SHLDR:TRANSISTOR,TO–220,0.2"ODX0.116	13103	7721–7PPS
	211–0410–00			SCR,ASSEM WSHR:4–40 X 0.437,PNH,STL,CDPL,T–10 TORX DR	0KB01	211–0410–00
	342–0927–00			PAD,CNDCT,XSTR:GRAPHITE FOIL,TO–218/TO3P/T0–24	13103	G4
				END ATTACHED PARTS		
A11Q4	151–0188–05			TRANSISTOR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ,AMPL	04713	2N3906RLRP
A11Q5	151–0188–05			TRANSISTOR,SIG:BIPOLAR,PNP;40V,200MA,250MHZ,AMPL	04713	2N3906RLRP

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11Q6	151–1282–00			TRANSISTOR,PWR:MOS,N–CH;500V,9.0A,0.4 OHM	66958	IRFP450FI
				ATTACHED PARTS		
	210–1178–00			WASHER,SHLDR:TRANSISTOR,TO–220,0.2"ODX0.116	13103	7721–7PPS
	211–0410–00			SCR,ASSEM WSHR:4–40 X 0.437,PNH,STL,CDPL,T–10 TORX DR	0KB01	211–0410–00
	342–0927–00			PAD,CNDCT,XSTR:GRAPHITE FOIL,TO–218/TO3P/T0–24	13103	G4
				END ATTACHED PARTS		
A11Q7	151–1282–00			TRANSISTOR,PWR:MOS,N–CH;500V,9.0A,0.4 OHM	66958	IRFP450FI
				ATTACHED PARTS		
	210–1178–00			WASHER,SHLDR:TRANSISTOR,TO–220,0.2"ODX0.116	13103	7721–7PPS
	211–0410–00			SCR,ASSEM WSHR:4–40 X 0.437,PNH,STL,CDPL,T–10 TORX DR	0KB01	211–0410–00
	342–0927–00			PAD,CNDCT,XSTR:GRAPHITE FOIL,TO–218/TO3P/T0–24	13103	G4
				END ATTACHED PARTS		
A11Q8	151–1253–00			TRANSISTOR,PWR:MOS,P–CH;60V,12A,0.3 OHM	34371	IRF9530
A11Q9	151–1171–00			TRANSISTOR,PWR:MOS,N–CH;50V,12A,0.12 OHM	04713	MTP15N05E
A11Q10	151–1171–00			TRANSISTOR,PWR:MOS,N–CH;50V,12A,0.12 OHM	04713	MTP15N05E
A11Q11	151–0503–00		B019999	THYRISTOR,PWR:BIPOLAR,SCR;30V,800MA RMS	0LUA3	2N5064
A11Q12	151–0503–00			THYRISTOR,PWR:BIPOLAR,SCR;30V,800MA RMS	0LUA3	2N5064
A11Q13	151–0503–00			THYRISTOR,PWR:BIPOLAR,SCR;30V,800MA RMS	0LUA3	2N5064
A11Q14	151–0190–00		B019999	TRANSISTOR,SIG:BIPOLAR,NPN;40V,200MA,300MHZ,AMPL	04713	2N3904
A11Q15	151–0350–03	B020100		TRANSISTOR,SIG:BIPOLAR,PNP,150V,600MA,100MHZ, AMPLIFIER,2N5401,TO–92 EBC,T&A	04713	2N5401RLRA
A11Q16	151–0347–02	B020100		TRANSISTOR,SIG:BIPOLAR,NPN,160V,600MA,100MHZ, AMPLIFIER,2N5551,TO–92 EBC,T&A	04713	2N5551RLRA
A11R1	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A11R2	322–3346–00			RES,FXD:METAL FILM;39.2K OHM,1%,0.2W,TC=100	91637	CCF50–2–G39201F
A11R3	301–0105–00			RES,FXD,FILM:1M OHM,5%,0.50W	TK2611	RC1/20105J
A11R4	315–0100–02		B019999	RES,FXD,CMPSN:10 OHM,5%,0.25W	50139	CB1005
A11R5	305–0104–00			RES,FXD,CMPSN:100K OHM,5%,2W	11502	GF–3 OR GS–3 10
A11R6	315–0106–00		B019999	RES,FXD,FILM:10M OHM,5%,0.25W	TK1727	SFR25 2322–181–
A11R6	322–3402–00	B020100		RES,FXD:METAL FILM,150K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20T68EFX1503
A11R7	315–0103–03		B019999	RES,FXD,CMPSN:10K OHM,5%,0.25W	50139	CB1035
A11R7	322–3289–07	B020100		RES,FXD,FILM:10K OHM,0.1%,0.2W,TC=T9,SMALL BODY	91637	CCF501C10001B
A11R8	315–0103–03		B019999	RES,FXD,CMPSN:10K OHM,5%,0.25W	50139	CB1035
A11R8	322–3289–07	B020100		RES,FXD,FILM:10K OHM,0.1%,0.2W,TC=T9,SMALL BODY	91637	CCF501C10001B
A11R9	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A11R10	322–3264–00			RES,FXD,FILM:5.49K OHM,1%,0.2W,TC=T0	91637	CCF501G54900F
A11R11	322–3202–00			RES,FXD,FILM:1.24K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–1G12400F
A11R12	322–3265–00			RES,FXD:METAL FILM;5.62K OHM,1%,0.2W,TC=100	91637	CCF501G56200F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11R13	322–3224–00			RES,FXD,FILM:2.1K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF50–2F21000F
A11R14	311–2231–00			RES,VAR,TRMR:CERMET;1K OHM,20%,0.5W,0.197 SQ	TK2073	GF06UT2 102 M L
A11R15	322–3226–00			RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A11R16	322–3271–00			RES,FXD,FILM:6.49K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G–64900
A11R17	322–3299–00			RES,FXD,FILM:12.7K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G12701F
A11R19	322–3509–07			RES,FXD,FILM:2.162K OHM,0.1%,0.2W,TC=T9,SMALL BODY	91637	2.162K OHM
A11R20	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A11R21	322–3260–00			RES,FXD,FILM:4.99K OHM,1%,0.2W,TC=T0	91637	CCF501G49900F
A11R22	322–3260–00			RES,FXD,FILM:4.99K OHM,1%,0.2W,TC=T0	91637	CCF501G49900F
A11R23	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A11R24	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A11R25	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A11R26	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A11R27	315–0100–02		B019999	RES,FXD,CMPSN:10 OHM,5%,0.25W	50139	CB1005
A11R27	322–3001–00	B020100		RES,FXD,FILM:10 OHM,1%,0.2W,TC=100 PPM,SMALL BODY	57668	CRB20T68EFX10R0
A11R28	307–0113–00			RES,FXD,CMPSN:5.1 OHM,5%,0.25W	19701	5043CX5R100J
A11R29	307–0113–00			RES,FXD,CMPSN:5.1 OHM,5%,0.25W	19701	5043CX5R100J
A11R30	315–0150–00			RES,FXD,FILM:15 OHM,5%,0.25W	TK1727	SFR25 2322–181–
A11R31	307–0113–00			RES,FXD,CMPSN:5.1 OHM,5%,0.25W	19701	5043CX5R100J
A11R32	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A11R33	322–3001–00			RES,FXD:METAL FILM;10 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10R00F
A11R34	322–3056–00			RES,FXD,FILM:37.4 OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF50–2F37R40F
A11R35	301–0274–00			RES,FXD,FILM:270K OHM,5%,0.5W	TK2611	RC1/2 0274J
A11R36	315–0240–00			RES,FXD,FILM:24 OHM,5%,0.25W	TK1727	SFR25 2322–181–
A11R37	315–0240–00			RES,FXD,FILM:24 OHM,5%,0.25W	TK1727	SFR25 2322–181–
A11R38	301–0101–03			RES,FXD,CMPSN:100 OHM,5%,0.5W	50139	EB1015
A11R39	308–0875–00			RES,FXD,WW:0.003 OHM,5%,5W	TK2501	TMR5
A11R40	301–0101–03			RES,FXD,CMPSN:100 OHM,5%,0.5W	50139	EB1015
A11R41	308–0828–00			RES,FXD,WW:0.1 OHM,1%,3W	91637	LVR3–R1000F
A11R42	301–0101–03			RES,FXD,CMPSN:100 OHM,5%,0.5W	50139	EB1015
A11R43	159–0152–00		B019999	FUSE,WIRE LEAD:5A,125V,FAST BLOW	71400	MCR–5
A11R43	308–0760–00	B020100		RES,FXD,WW:0.2 OHM,10%,2W	30487	ALSR-2-0.2-10 PCT
A11R44	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A11R45	322–3289–07			RES,FXD,FILM:10K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C10001B
A11R46	322–3485–07			RES,FXD,FILM:5K OHM,0.1%,0.2W,TC=T9,SMALL BODY	91637	CCF501C50000B
A11R47	322–3139–00			RES,FXD:METAL FILM;274 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G274ROF
A11R48	322–3039–00			RES,FXD,FILM:24.9 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF50–2–G24R90F
A11R49	308–0828–00			RES,FXD,WW:0.1 OHM,1%,3W	91637	LVR3–R1000F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11R50	322–3485–07			RES,FXD,FILM:5K OHM,0.1%,0.2W,TC=T9,SMALL BODY	91637	CCF501C50000B
A11R51	322–3306–00			RES,FXD:METAL FILM;15K OHM,1%,0.2W,TC=100 PPM	91637	CCF50–2–G1502F
A11R52	322–3139–00			RES,FXD:METAL FILM;274 OHM,1%,0.2W,TC=100 PPM	91637	CCF501G274ROF
A11R53	322–3039–00			RES,FXD,FILM:24.9 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF50–2–G24R90F
A11R54	308–0828–00			RES,FXD,WW:0.1 OHM,1%,3W	91637	LVR3–R1000F
A11R55	322–3210–00			RES,FXD:METAL FILM;1.5K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G15000F
A11R56	322–3210–00			RES,FXD:METAL FILM;1.5K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G15000F
A11R57	322–3289–07			RES,FXD,FILM:10K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C10001B
A11R58	322–3222–07			RES,FXD,FILM:2K OHM,0.1%,0.2W TC=T9,SMALL BODY	91637	CCF501C20000B
A11R59	322–3210–00			RES,FXD:METAL FILM;1.5K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G15000F
A11R60	322–3155–00			RES,FXD,FILM:402 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G402ROF
A11R61	322–3485–07			RES,FXD,FILM:5K OHM,0.1%,0.2W,TC=T9,SMALL BODY	91637	CCF501C50000B
A11R62	322–3485–07			RES,FXD,FILM:5K OHM,0.1%,0.2W,TC=T9,SMALL BODY	91637	CCF501C50000B
A11R63	322–3210–00			RES,FXD:METAL FILM;1.5K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G15000F
A11R64	322–3273–00			RES,FXD:METAL FILM;6.81K OHM,1%,0.2W,TC=100	91637	CCF50–2–G68100F
A11R65	322–3198–00			RES,FXD,FILM:1.13K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G11300F
A11R66	322–3226–00		B019999	RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A11R67	322–3210–00			RES,FXD:METAL FILM;1.5K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G15000F
A11R68	322–3305–00		B019999	RES,FXD,FILM:14.7K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G1472FT
A11R68	322–3263–00	B020100		RES,FXD,FILM:5.36K OHM,1%,0.2W,TC=T0 MI,SMALL BODY	56845	CCF50–5361F–R36
A11R69	322–3305–00			RES,FXD,FILM:14.7K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2–G1472FT
A11R70	322–3258–00			RES,FXD:METAL FILM;4.75K OHM,1%,0.2W,TC=100	56845	CCF50–2–G4751FT
A11R71	322–3258–00			RES,FXD:METAL FILM;4.75K OHM,1%,0.2W,TC=100	56845	CCF50–2–G4751FT
A11R72	322–3431–00			RES,FXD,FILM:301K OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF501G30102F
A11R73	322–3260–00			RES,FXD,FILM:4.99K OHM,1%,0.2W,TC=T0	91637	CCF501G49900F
A11R74	322–3135–00			RES,FXD,FILM:249 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G249R0F
A11R75	322–3228–00			RES,FXD,FILM:2.32K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–1G2320F
A11R76	322–3260–00			RES,FXD,FILM:4.99K OHM,1%,0.2W,TC=T0	91637	CCF501G49900F
A11R77	322–3012–00			RES,FXD,FILM:13 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2F13RROF
A11R78	322–3012–00			RES,FXD,FILM:13 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2F13RROF
A11R79	315–0122–00			RES,FXD,FILM:1.2K OHM,5%,0.25W	TK1727	SFR25 2322–181–
A11R80	322–3184–00			RES,FXD,FILM:806 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF501G806FOR
A11R81	322–3277–07		B019999	RES,FXD,FILM:7.5K OHM,0.1%,0.2W,TC=T9,SM BODY	80009	322327707
A11R81	322–3276–00	B020100		RES,FXD,FILM:7.32K OHM,1%,0.2W,TC=T0 TAPED & REELED,SMALL BODY	57668	CRB20 FXE 7K32
A11R82	322–3279–07			RES,FXD,FILM:7.87K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C78700B
A11R83	322–3322–07			RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R84	322–3322–07			RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R85	322–3519–07			RES,FXD,FILM:7.77K OHM,0.1%,0.2W,TC=T9,MI,SM BODY	91637	CCF50–2, 7.77K,

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11R86	322–3277–07			RES,FXD,FILM:7.5K OHM,0.1%,0.2W,TC=T9,SM BODY	80009	322327707
A11R87	322–3322–07			RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R88	322–3322–07			RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R89	322–3520–07			RES,FXD,FILM:9.0K OHM,0.1%,0.2W,TC=T9,MI,SM BODY	91637	CCF50–2 9.0K .1
A11R90	322–3522–07			RES,FXD,FILM:9.35K OHM,0.1%,0.2W,TC=T9,MI,SM BODY	91637	CCF50–2 9.35K .
A11R91	322–3322–07			RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R92	322–3322–07			RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R93	322–3281–00		B019999	RES,FXD:METAL FILM,8.25K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 8K25
A11R94	322–3302–07		B019999	RES,FXD,FILM:13.7K OHM,0.1%,0.2W,TC=T9,T7R,SM BODY	91637	CCF501C13701B
A11R94	322–3289–00	B020100		RES,FXD:METAL FILM,10K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20T29EFX1002
A11R95	322–3322–07		B019999	RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R95	322–3281–00	B020100		RES,FXD:METAL FILM,8.25K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 8K25
A11R96	322–3322–07		B019999	RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R96	322–3256–00	B020100		RES,FXD,FILM:4.53K OHM,1%,0.2W,TC=T0 MI,SMALL BODY	91637	CCF50–4531F–R36
A11R97	322–3216–00		B019999	RES,FXD,FILM:1.74K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G17400F
A11R97	322–3316–00	B020100		RES,FXD,FILM:19.1K OHM,1%,0.2W,TC=TO MI,SMALL BODY	57668	CRB20 FXE 19K1
A11R98	322–3353–00			RES,FXD,FILM:46.4K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–2F46401F
A11R99	322–3333–00			RES,FXD,FILM:28.7K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G28701F
A11R100	322–3441–00			RES,FXD,FILM:383K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF50–2F38302F
A11R101	322–3286–00			RES,FXD,FILM:9.31K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G93100F
A11R102	322–3318–00			RES,FXD:METAL FILM;20K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G20001F
A11R103	322–3335–00			RES,FXD,FILM:30.1K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G30101F
A11R104	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A11R105	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A11R106	322–3402–00			RES,FXD:METAL FILM;150K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G15002F
A11R107	322–3277–07		B019999	RES,FXD,FILM:7.5K OHM,0.1%,0.2W,TC=T9,SM BODY	80009	322327707
A11R107	322–3295–00	B020100		RES,FXD:METAL FILM,11.5K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 11K5
A11R108	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A11R109	322–3039–00			RES,FXD,FILM:24.9 OHM,1%,0.2W,TC=T0,SMALL BODY	91637	CCF50–2–G24R90F
A11R110	322–3181–00			RES,FXD,FILM:750 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G750ROF
A11R111	308–0793–00			RES,FXD:0.51 OHM,5%,1WTC=150PPM/DEG C,MI	75042	BW20 .51OHM 5PE
A11R112	315–0622–00			RES,FXD,FILM:6.2K OHM,5%,0.25W	TK1727	SFR25 2322–181–
A11R113	322–3193–00		B019999	RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A11R114	322–3207–00		B019999	RES,FXD,FILM:1.4K OHM,1%,0.2W,TC=T0MI,SMALL	91637	CCF501G14000F
A11R115	322–3235–00		B019999	RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A11R116	322–3284–00			RES,FXD,FILM:8.87K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G88700F

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11R117	322–3193–00			RES,FXD:METAL FILM;1K OHM,1%,0.2W,TC=100 PPM	91637	CCF501G10000F
A11R118	322–3255–00			RES,FXD,FILM:4.42K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G44200F
A11R119	322–3206–00			RES,FXD,FILM:1.37K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G13700F
A11R120	322–3258–00			RES,FXD:METAL FILM;4.75K OHM,1%,0.2W,TC=100	56845	CCF50–2–G4751FT
A11R121	322–3126–00		B019999	RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G200ROF
A11R122	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A11R123	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A11R124	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A11R125	322–3202–00			RES,FXD,FILM:1.24K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–1G12400F
A11R126	322–3206–00			RES,FXD,FILM:1.37K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G13700F
A11R127	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A11R128	322–3235–00			RES,FXD:METAL FILM;2.74K OHM,1%,0.2W,TC=100	91637	CCF501G27400F
A11R129	322–3202–00			RES,FXD,FILM:1.24K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF50–1G12400F
A11R130	322–3206–00			RES,FXD,FILM:1.37K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G13700F
A11R131	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A11R132	322–3289–00			RES,FXD:METAL FILM;10K OHM,1%,0.2W,TC=100 PPM	91637	CCF50G10001F
A11R133	322–3452–00			RES,FXD,FILM:499K OHM,1%,0.2W,TC=TOMI,SMALL	91637	CCF50–2–G4993FT
A11R134	322–3481–00			RES,FXD,FILM:1M OHM.1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G10003F
A11R135	322–3206–00			RES,FXD,FILM:1.37K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G13700F
A11R136	322–3356–00		B019999	RES,FXD,FILM:49.9K OHM,1%,0.2W,TC=T0MI,SMALL BODY	91637	CCF501G49901F
A11R137	322–3126–00		B019999	RES,FXD,FILM:200 OHM,1%,0.2W,TC=T0MI,SMALLBODY	91637	CCF501G200ROF
A11R138	322–3260–00			RES,FXD,FILM:4.99K OHM,1%,0.2W,TC=T0	91637	CCF501G49900F
A11R139	159–0152–00		B019999	FUSE,WIRE LEAD:5A,125V,FAST BLOW	71400	MCR–5
A11R139	308–0760–00	B020100		RES,FXD,WW:0.2 OHM,10%,2W	30487	ALSR-2-0.2-10 PCT
A11R140	322–3302–07		B019999	RES,FXD,FILM:13.7K OHM,0.1%,0.2W,TC=T9,T7R,SM BODY	91637	CCF501C13701B
A11R140	322–3289–00	B020100		RES,FXD:METAL FILM,10K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20T29EFX1002
A11R141	322–3301–07		B019999	RES,FXD,FILM:13.3K OHM,0.1%,0.2W.TC=T9,T&R,SM BODY	91637	CCF501C13301B
A11R141	322–3281–00	B020100		RES,FXD:METAL FILM,8.25K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 8K25
A11R142	322–3322–07		B019999	RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R142	322–3265–00	B020100		RES,FXD:METAL FILM,5.62K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 5K62
A11R143	322–3322–07		B019999	RES,FXD,FILM:22.1K OHM,0.1%,0.2W,TC=T9,SM BODY	91637	CCF501C22101B
A11R143	322–3281–00	B020100		RES,FXD:METAL FILM,8.25K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 8K25
A11R144	322–3226–00		B019999	RES,FXD:METAL FILM;2.21K OHM,1%,0.2W,TC=100	91637	CCF501G22100F
A11R144	322–3402–00	B020100		RES,FXD:METAL FILM,150K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20T68EFX1503

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Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11R145	322–3318–00	B020100		RES,FXD,FILM:METAL FILM,20K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX2002
A11R146	322–3210–00	B020100		RES,FXD:METAL FILM,1.5K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 1K50
A11R147	322–3085–00	B020100		RES,FXD,FILM:75 OHM,1%,0.2W,TC=100 PPM,SMALL BODY	57668	CRB20T68EFX75R0
A11R148	322–3318–00	B020100		RES,FXD,FILM:METAL FILM,20K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX2002
A11R149	322–3085–00	B020100		RES,FXD,FILM:75 OHM,1%,0.2W,TC=100 PPM,SMALL BODY	57668	CRB20T68EFX75R0
A11R150	322–3210–00	B020100		RES,FXD:METAL FILM,1.5K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	57668	CRB20 FXE 1K50
A11R151	322–3258–00	B020100		RES,FXD:METAL FILM,4.75K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALL BODY	56845	CCF50–4751F–R36
A11R152	308–0799–00	B020100		RES,FXD,WW:1 OHM,1%,4W,TC=50 PPM/DEG C	05347	CSN45 1 OHM 1 PERCENT
A11R153	308–0799–00	B020100		RES,FXD,WW:1 OHM,1%,4W,TC=50 PPM/DEG C	05347	CSN45 1 OHM 1 PERCENT
A11RT1	307–0746–00			RES,THERMAL:5 OHM,10%,7A/DEG C	15454	SG200–S STRAI
A11RT2	307–0919–00			RES,THERMAL:100K OHM,10% @ 25DEG C	91637	A1232
A11RV1	307–0449–00			RES,V SENSITIVE:MOV; 130VRMS, 175VDC, 70J,6500A	34371	V130LA20A
A11RV2	307–0449–00			RES,V SENSITIVE:MOV; 130VRMS, 175VDC, 70J,6500A	34371	V130LA20A
A11S1	260–2443–00			SWITCH,PWR:DPDT;PUSH PUSH ALT ACT,PC PINS,6A	31918	NE18–00–EE–N–47
				ATTACHED PARTS		
	366–1160–00			PUSH BUTTON:CHARCOAL,0.523 X 0.253 X 0.43	80009	366116000
				END ATTACHED PARTS		
A11S2	260–2116–00			SWITCH,SLIDE:DPDT,10A,125VAC,LINE SEL,	04426	18–000–0019
A11T1	120–1910–00			TRANSFORMER,PWR:DUAL PRI/SEC,PRI,115/230 VAC,50/60HZ	80009	120191000
A11T2	120–1655–00			XFMR,PWR:GATE DR,1:1:1,1.5MH,50KHZSAF CONT	TK1441	85–404–2
A11T3	120–1655–00			XFMR,PWR:GATE DR,1:1:1,1.5MH,50KHZSAF CONT	TK1441	85–404–2
A11T4	120–1670–00			TRANSFORMER:CURRENT SENSE,DUAL,TWO CORE,1.100	TK1441	85–801–5
A11T5	120–1954–00			TRANSFORMER:AM700	80009	120195400
A11TP1	214–4085–00		B019999	TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP2	214–4085–00		B019999	TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP3	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP4	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP5	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP6	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP8	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP9	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP10	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP11	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP12	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11TP13	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP14	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP15	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP16	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP17	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP18	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP19	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP20	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP21	131–4751–00			CONN,HDR:PCB;MALE,STR,1 X 16,0.1 CTR,0.235	53387	2416–6132–TB
A11TP22	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP23	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP25	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP26	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP27	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP28	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP29	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP30	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP31	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11TP32	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIAPCB	26364	104–01–02
A11U1	156–3827–00			IC,LINEAR:BIPOLAR,SW–RGLTR CONTROLLER;PWM	48726	UC3846N
A11U2	156–0285–00		B019999	IC,LINEAR:BIPOLAR,VR;POSITIVE,12V,1.0A,4%	01295	UA7812CKC
A11U2	156–3633–00	B020100		IC,LINEAR:BIPOLAR,VR,POSITIVE,12V,1A,3%	27014	LM2940CT–12
A11U3	156–0872–00			IC,LINEAR:BIPOLAR,VR;NEGATIVE,–12V,1.0A,4%	01295	UA7912CKC
A11U4	156–1225–00			IC,LINEAR:BIPOLAR,COMPTR;DUAL,OPEN COLL,300NS	01295	LM393P
A11U5	156–0366–00			IC,DIGITAL:CMOS,FLIP FLOP;DUAL D–TYPE	04713	MC14013BCP
A11U6	156–2462–00			IC,MISC:CMOS,MISC;QUAD POWER MOSFET GATE DRVR	17856	D469ADJ
A11U7	156–4421–00			IC,LINEAR:BIPOLAR,V REF;5.0V,0.2%,100PPM,SHUNT	27014	LM4040BIZ–5.0
A11U8	156–2873–00			IC,LINEAR:BIFET,OP–AMP;DUAL	04713	MC34082P
A11U9	156–4205–00			IC,MISC:BIPOLAR,PWR SUPPLY SUPERVIS0R	80009	156420500
A11U10	156–1225–00			IC,LINEAR:BIPOLAR,COMPTR;DUAL,OPEN COLL,300NS	01295	LM393P
A11U11	156–1226–00			IC,LINEAR:BIPOLAR,COMPTR;DUAL,OPEN COLL,80NS	1CH66	LM319N
A11U12	156–1226–00			IC,LINEAR:BIPOLAR,COMPTR;DUAL,OPEN COLL,80NS	1CH66	LM319N
A11U13	156–1226–00			IC,LINEAR:BIPOLAR,COMPTR;DUAL,OPEN COLL,80NS	1CH66	LM319N
A11U14	156–0853–00			IC,LINEAR:BIPOLAR,OP–AMP;DUAL,SINGLESUPPLY	01295	LM358P
A11U15	156–4104–00			IC,LINEAR:BIPOLAR,SW–REGULATOR CONTROLLER;PWM	48726	UC3843N
A11U16	156–0494–00			IC,DIGITAL:CMOS,BUFFER/DRIVER;HEX INV	04713	MC14049UBCP
A11U17	156–1225–00			IC,LINEAR:BIPOLAR,COMPTR;DUAL,OPEN COLL,300NS	01295	LM393P
A11U18	156–0524–00			IC,DIGITAL:CMOS,GATE;TRIPLE 3–INPUT NAND	04713	MC14023BCP

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A11U19	156–1126–00			IC,LINEAR:BIPOLAR,COMPTR;OPEN COLLECTOR,200NS	01295	LM311P
A11U20	156–0312–00	B020100		IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,POSITIVE,15V,1.0A,4%,MC7815CT,TO–220	01295	UA7815CKC
A11U21	156–2698–00	B020100		IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,POSITIVE,5.0V,1.0A,2%,MC7805ACT,TO–220	01295	TL780–05CKC
A11U22	156–0527–00	B020100		IC,LINEAR:BIPOLAR,VOLTAGE REGULATOR,NEGATIVE,15V,1.0A,4%,MC7915CT,TO–220	01295	UA7915CKC
A11VR1	152–0175–01			SEMICOND DVC,DI:ZEN,SI,5.6V,5%,0.4W,DO–71N752A	80009	152017501
A11VR2	152–0175–01		B019999	SEMICOND DVC,DI:ZEN,SI,5.6V,5%,0.4W,DO–71N752A	80009	152017501
A11VR3	152–0760–00			DIODE,ZENER:6.2V,2%,0.4W	04713	SZG30205

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A12	119–4547–01		B019999	DISK DRIVE:FLOPPY,3.5 INCH,2MB,0.5 INCH,DSDD,BLACK BEZEL,FD–05 HF	50356	FD–05HF–BLACK
A12	119–5413–01	B020100		DISK DRIVE:FLOPPY,3.5 INCH, 2M, 0.5 INCH DSDD,BLACK BEZEL, FD–05HF–4630	50356	FD–05HF–4630/BLACK 119–5413–01

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A13	671-3872-00	B020100	B020622	CIRCUITBD:LCD DRIVER	80009	671-3872-00
A13	671-3872-01	B020633		CIRCUITBD:LCD DRIVER	80009	671-3872-01
A13C1	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C2	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C3	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C4	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C5	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C6	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C7	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C8	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C9	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C10	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C11	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C12	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C13	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C14	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C15	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C16	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C17	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C18	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C19	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C20	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C21	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C22	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A13C23	290–0973–01			CAP,FXD,ALUM:100UF,20%,25VDC,8X11.5MM,0.2 LS,RADIAL,T&A	62643	SME35VB101M8X11 FT
A13C24	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C25	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C26	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C27	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C28	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C29	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C30	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C32	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C33	281–0775–00			CAP,FXD,CERAMIC:MLC,0.1UF,20%,50V,Z5U,0.170 X 0.100,AXIAL	04222	SA105E104MAA
A13C34	281–0791–00			CAP,FXD,CERAMIC:MLC,270PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA102C271KAA
A13C35	281–0791–00			CAP,FXD,CERAMIC:MLC,270PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA102C271KAA
A13C36	281–0791–00			CAP,FXD,CERAMIC:MLC,270PF,10%,100V,0.100 X 0.170,AXIAL,MI	04222	SA102C271KAA
A13CR2	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR3	152–0667–00			DIODE,ZENER:3V,2%,0.4W,DO–7 OR 35,TR	04713	1N5988C
A13CR3	152–0141–02	B020633		DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR4	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR5	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR6	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR7	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR8	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR9	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR10	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR11	152–0141–02			DIODE,SIG:ULTRA FAST,40V,150MA,4NS,2PF,1N4152,DO–35	01295	1N4152R
A13CR12	152–1165–00			DIODE,RECT:ULTRA FAST,600V,4A,50NS,MUR460	04713	MUR460RL
A13CR13	152–1165–00			DIODE,RECT:ULTRA FAST,600V,4A,50NS,MUR460	04713	MUR460RL
A13F1	159–0152–00			FUSE,WIRE LEAD:5A,125V,FASTBLOW	71400	MCR–5
A13F2	159–0152–00			FUSE,WIRE LEAD:5A,125V,FASTBLOW	71400	MCR–5
A13F3	159–0152–00			FUSE,WIRE LEAD:5A,125V,FASTBLOW	71400	MCR–5

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A13J8	131–3358–00			CONN,HDR:PCB,MALE,RTANG,2 X 5,0.1 CTR,0.390 MLG X 0.112 TAIL,0.33 H,SHRD/4 SIDES,MIL PLZ	53387	2510–5002UB
A13J23	131–4442–00			CONN,RCPT,ELEC:4 X 30,FEMALE,STRAIGHT,0.1 CTR	22526	50388–5120E
A13L1	108–1570–00			INDUCTOR,FXD:POWER,10UH,20%,I<2.0A,RDC<0.02 OHM,Z–94114B,POWDERED IRON TOROID,VERT MOUNT	0JR03	108–1570–00
A13L2	108–1570–00			INDUCTOR,FXD:POWER,10UH,20%,I<2.0A,RDC<0.02 OHM,Z–94114B,POWDERED IRON TOROID,VERT MOUNT	0JR03	108–1570–00
A13L3	108–1570–00			INDUCTOR,FXD:POWER,10UH,20%,I<2.0A,RDC<0.02 OHM,Z–94114B,POWDERED IRON TOROID,VERT MOUNT	0JR03	108–1570–00
A13L4	276–0752–00			CORE,EM:BEAD ON LEAD,UO=850 30%,Z=4 OHM (1MHZ) OR 25 OHM (10MHZ) OR 100 OHM (100MHZ),0D=	34899	2743001111
A13P1	131–1425–00			CONN,HDR:PCB,MALE,RTANG,1 X 36,0.1 CTR,0.230 MLG X 0.090 TAIL,30 GOLD,STACKABLE,	22526	65521–136
A13P2	131–1425–00			CONN,HDR:PCB,MALE,RTANG,1 X 36,0.1 CTR,0.230 MLG X 0.090 TAIL,30 GOLD,STACKABLE,	22526	65521–136
A13P3	131–1425–00			CONN,HDR:PCB,MALE,RTANG,1 X 36,0.1 CTR,0.230 MLG X 0.090 TAIL,30 GOLD,STACKABLE,	22526	65521–136
A13P4	131–1425–00			CONN,HDR:PCB,MALE,RTANG,1 X 36,0.1 CTR,0.230 MLG X 0.090 TAIL,30 GOLD,STACKABLE,	22526	65521–136
A13P5	131–1425–00			CONN,HDR:PCB,MALE,RTANG,1 X 36,0.1 CTR,0.230 MLG X 0.090 TAIL,30 GOLD,STACKABLE,	22526	65521–136
A13R1	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R3	322–3254–00			RES,FXD,FILM:4.32K OHM,1%,0.2W,TC=T0 MI,SMALLBODY	91637	CCF50–4321F–R36
A13R5	322–3178–00			RES,FXD,FILM:698 OHM,1%,0.2W,TC=T0 MI,SMALLBODY	91637	CCF50–6980F–R36
A13R6	311–2232–00			RES,VAR,TRMR:CERMET,2K OHM,20%,0.5W,0.197 SQ,TOP ADJUST	30983	ORDERBY DESCRIPTION
A13R7	311–2232–00			RES,VAR,TRMR:CERMET,2K OHM,20%,0.5W,0.197 SQ,TOP ADJUST	30983	ORDERBY DESCRIPTION
A13R8	311–2232–00			RES,VAR,TRMR:CERMET,2K OHM,20%,0.5W,0.197 SQ,TOP ADJUST	30983	ORDERBY DESCRIPTION
A13R10	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R12	322–3030–00			RES,FXD,FILM:20 OHM,1%,0.2W,TC=100 PPM,SMALLBODY	57668	CRB 20 FXE 20E0
A13R13	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R14	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R15	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R16	322–3085–07			RES,FXD:METAL FILM,75 OHM,0.1%,0.2W,TC=25 PPM,AXIAL,SMALLBODY	91637	CCF502–C75ROOB T
A13R17	322–3085–07			RES,FXD:METAL FILM,75 OHM,0.1%,0.2W,TC=25 PPM,AXIAL,SMALLBODY	91637	CCF502–C75ROOB T

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A13R18	322–3085–07			RES,FXD:METAL FILM,75 OHM,0.1%,0.2W,TC=25 PPM,AXIAL,SMALLBODY	91637	CCF502–C75ROOB T
A13R19	322–3135–00			RES,FXD,FILM:249 OHM,1%,0.2W,TC=T0,MI,SMALLBODY	57668	CRB20 FXE 249E
A13R20	322–3487–00			RES,FXD,FILM:500 OHM,1%,0.2W,TC=TO	57668	RB20 FXE 499E
A13R21	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R22	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R23	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R24	311–2232–00		B020632	RES,VAR,TRMR:CERMET,2K OHM,20%,0.5W,0.197 SQ,TOP ADJUST	30983	ORDERBY DESCRIPTION
A13R24	311–2231–00	B020633		RES,VAR,TRMR:CERMET,1K OHM,20%,0.5W,0.197 SQ,TOP ADJUST	TK2073	GF06UT2 102 M L20
A13R25	322–3268–00			RES,FXD,FILM:6.04K OHM,1%,0.2W,TC=T0 MI,SMALLBODY	57668	CRB20 FXE 6K04
A13R26	322–3289–00			RES,FXD:METAL FILM,10K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T29EFX1002
A13R27	322–3289–00			RES,FXD:METAL FILM,10K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T29EFX1002
A13R28	322–3289–00			RES,FXD:METAL FILM,10K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T29EFX1002
A13R29	322–3030–00			RES,FXD,FILM:20 OHM,1%,0.2W,TC=100 PPM,SMALLBODY	57668	CRB 20 FXE 20E0
A13R30	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R31	322–3030–00			RES,FXD,FILM:20 OHM,1%,0.2W,TC=100 PPM,SMALLBODY	57668	CRB 20 FXE 20E0
A13R32	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R33	322–3030–00			RES,FXD,FILM:20 OHM,1%,0.2W,TC=100 PPM,SMALLBODY	57668	CRB 20 FXE 20E0
A13R34	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R35	131–4566–00			BUS,CONDUCTOR:0 OHM,300 SPACING,SMBODY MI,DUMMY RES	91637	FRJ–50
A13R36	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R37	311–2231–00	B020633		RES,VAR,TRMR:CERMET,1K OHM,20%,0.5W,0.197 SQ,TOP ADJUST	TK2073	GF06UT2 102 M L20
A13R38	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R39	311–2231–00	B020633		RES,VAR,TRMR:CERMET,1K OHM,20%,0.5W,0.197 SQ,TOP ADJUST	TK2073	GF06UT2 102 M L20
A13R40	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R41	311–2231–00	B020633		RES,VAR,TRMR:CERMET,1K OHM,20%,0.5W,0.197 SQ,TOP ADJUST	TK2073	GF06UT2 102 M L20
A13R42	322–3030–00			RES,FXD,FILM:20 OHM,1%,0.2W,TC=100 PPM,SMALLBODY	57668	CRB 20 FXE 20E0

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A13R44	131–4566–00			BUS,CONDUCTOR:0 OHM,300 SPACING,SMBODY MI,DUMMY RES	91637	FRJ–50
A13R45	322–3097–00			RES,FXD,FILM:100 OHM,1%,0.2W,TC=100 PPM,AXIAL,SMAL-LBODY	57668	CRB20T68EFX1000
A13R46	307–0828–00			RES NTWK,FXD,FI:4,33 OHM,2%,0.30W,BULK	50139	108B330 OR 708B330
A13R47	307–0649–00			RES NTWK,FXD,FI:8,33 OHM,2%,0.125W	11236	761–3–R33 OHM
A13R48	322–3051–00			RES,FXD,METAL:33.2 OHM,1%,0.2W,TC=100 PPM,SMALLBODY	57668	CRB20FXE33E2
A13R49	322–3193–00			RES,FXD:METAL FILM,1K OHM,1%,0.2W,TC=100 PPM,AXIAL,SMALLBODY	57668	CRB20T68EFX1001
A13R50	322–3051–00			RES,FXD,METAL:33.2 OHM,1%,0.2W,TC=100 PPM,SMALLBODY	57668	CRB20FXE33E2
A13R52	322–3051–00			RES,FXD,METAL:33.2 OHM,1%,0.2W,TC=100 PPM,SMALLBODY	57668	CRB20FXE33E2
A13TP1	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP2	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP3	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP4	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP5	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP6	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP7	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP8	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP9	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13TP10	214–4085–00			TERM,TEST POINT:0.070 ID,0.220 H,0.063 DIA PCB,0.015 X 0.032BRASS,W/ RED NYLON COLLAR	26364	TP104–01–02
A13U1	156–3923–00			IC,DIGITAL:CMOS,PLD,EEPLD,22V10,130MA,15NS,22V10–15,DIP 24.3	TK6138	PALCE22V10H–15P C/4
A13U3	156–3019–00			IC,LINEAR:BIPOLAR,VOLTAGE REFERENCE,1.235V,1.0%,150PPM,SHUNT,MICROPOWER,LM38 5BZ–1.2,TO–92	27014	LM385BZ–1.2
A13U4	156–1191–00			IC,LINEAR:BIFET,OP–AMP,DUAL,TL072CN/LF353N,DIP08.3	01295	TL072CP
A13U5	156–1149–00			IC,LINEAR:BIFET,OP–AMP,LF351N,DIP08.3	04713	MC34001P/LF351N
A13U6	156–1149–00			IC,LINEAR:BIFET,OP–AMP,LF351N,DIP08.3	04713	MC34001P/LF351N
A13U7	156–1149–00			IC,LINEAR:BIFET,OP–AMP,LF351N,DIP08.3	04713	MC34001P/LF351N
A13U8	156–4761–00			IC,DELAY 5 TAP,60 NS, DS1005M	0B 0A9	DM1005–M
A13U9	156–4171–00			IC,CONVERTER:CMOS,A/D,8–BIT,30MSPS,2–STEP FLASH,215MW,TMC1175–30,DIP24.3	07933	TMC1175N2C30

Replaceable electrical parts list (cont.)

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A13U10	156–4171–00			IC,CONVERTER:CMOS,A/D,8–BIT,30MSPS,2–STEP FLASH,215MW,TMC1175–30,DIP24.3	07933	TMC1175N2C30
A13U11	156–4171–00			IC,CONVERTER:CMOS,A/D,8–BIT,30MSPS,2–STEP FLASH,215MW,TMC1175–30,DIP24.3	07933	TMC1175N2C30
A13U12	156–1704–00			IC,DIGITAL:FTTL,FLIP FLOP,OCTAL D–TYPE,3–STATE,74F374,DIP20.3,TUBE	01295	SN74F374N
A13U13	156–1704–00			IC,DIGITAL:FTTL,FLIP FLOP,OCTAL D–TYPE,3–STATE,74F374,DIP20.3	01295	SN74F374N

Replaceable electrical parts list

Component number	Tektronix part number	Serial no. effective	Serial no. discont'd	Name & description	Mfr. code	Mfr. part number
A14	440–4145–00	B020100	B020692	DISPLAY ASSEMBLY:FLAT PANEL DISPLAY	80009	440–4145–00
	657–0102–00	B020100	B020632	TOUCH PNL ASSY:TOUCH PANEL ASSEMBLY, AM700	80009	657–0102–00
	119–5428–00	B020100	B020632	DISPLAY MODULE:LCD,COLOR,640 X 480,6.4 DIAG,TFT,0.2 MM PIXEL PITCH,LQ64D142,	TK1416	LQ64D142
	119-5483-00	B020100	B020632	CIRCUIT BD ASSY:INVERTER BOARD,AM700	80009	119-5483-00
	150–1306–00	B020100	B020632	LAMP,CARTRIGE,BACKLIGHT (2)	TK2569	LQ0B132
A14	440–4145–01	B020633		DISPLAY ASSEMBLY:FLAT PANEL DISPLAY	80009	440–4145–00
	657–0102–01	B020633		TOUCH PNL ASSY:TOUCH PANEL ASSEMBLY, AM700	80009	657–0102–01
	119–5633–00	B020633		DISPLAY MODULE:LCD,COLOR,6.4 IN DIAG,640 X 480,ACTIVE MATRIX,LQ64D341	TK2569	LQ64D341
	119–5634–00	B020633		POWER SUPPLY:2.7W,DC–AC INVERTER,12 VDC 33% INPUT,OPEN 1500V RMS OUTPUT,FOR CCFL BACKLIGHT,LS	53279	LS380
	150–0245–00	B020633		LAMP,CARTRIGE,BACKLIGHT (2)	TK2569	LQ0B197

Diagrams

This section provides detailed block diagrams of the circuit boards and the schematic circuit diagrams. Each module may have one or many schematic diagrams to illustration the complete circuitry of the module. Schematic diagrams are number by circuit board, beginning at diagram 1 for each module.

Block Diagrams

Each module in the instrument is assigned an assembly number (for example, A20). The assembly number appears on the block diagram. The overall block diagram is at the board level. The more detailed block diagrams of the modules are more in depth than those in the *Theory* section with the discussion of the module circuit operation.

Diagram Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2–1975. Logic symbology is based on ANSI Y32.14–1973 in terms of positive logic. Logic symbols depict the logic function performed and may differ from the manufacturer's data.

Overline, parenthesis, or leading slash indicate a low asserting state.

Example: $\overline{\text{ID CONTROL}}$, (ID CONTROL), or /ID CONTROL.

Abbreviations are based on ANSI Y1.1–1972. Other ANSI standards that are used in the preparation of diagrams by Tektronix, Inc. are:

Y14.15, 1966 — Drafting Practices.
Y14.2, 1973 — Line Conventions and Lettering.
Y10.5, 1968 — Letter Symbols for Quantities Used in Electrical Science and Electrical Engineering

American National Standard Institute
1430 Broadway, New York, New York 10018

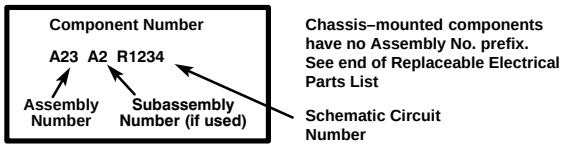
Component Values

Electrical components shown on the diagrams are in the following units unless noted otherwise:

Capacitors	Values one or greater are in picofarads (pF). Values less than one are in microfarads (μF).
Resistors	Ohms (Ω).

Assembly Numbers

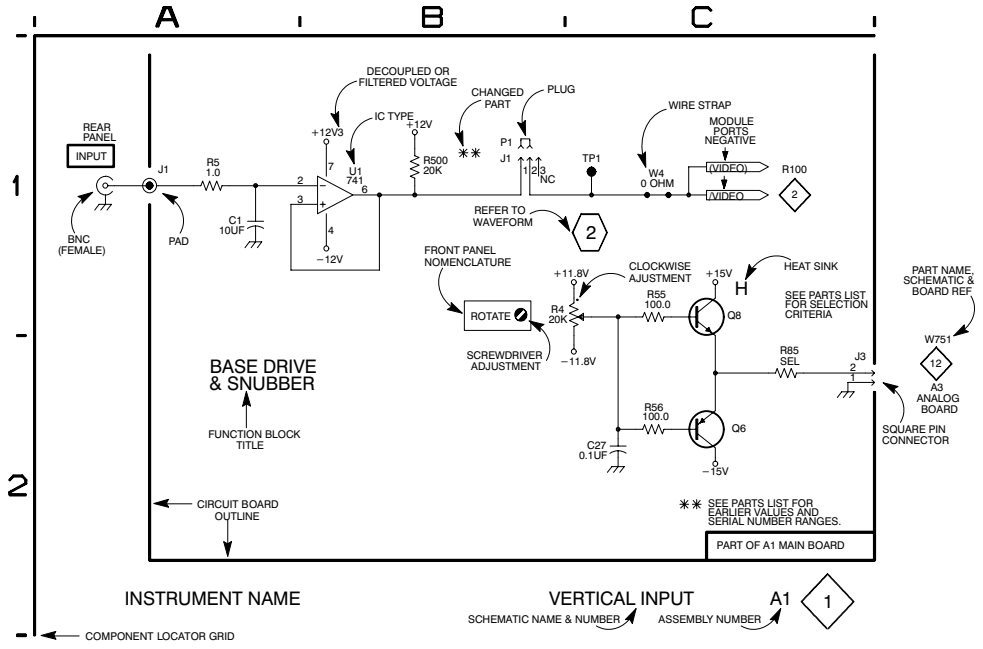
Each assembly in the instrument is assigned an assembly number (e.g., A20). The assembly number appears on the diagram (in circuit board outline), circuit board illustration title, and lookup table for the schematic diagram. The Replaceable Electrical Parts List is arranged by assembly number in numerical sequence; the components are listed by component number. Example:



Grid Coordinates

The schematic diagram and circuit board component location illustration have grids. A lookup table with the grid coordinates is provided for ease of locating the component. Only the components illustrated on the facing diagram are listed in the lookup table.

When more than one schematic diagram is used to illustrate the circuitry on a circuit board, the circuit board illustration will only appear opposite the first diagram; the lookup table will list the diagram number of other diagrams that the other circuitry appears on.



The detailed block diagrams are provided to assist in identifying the interaction between modules in troubleshooting to the module level. Use the exploded view diagrams in the *Replaceable Parts List* section to locate the modules installed in the AM700 Audio Measurement Set.

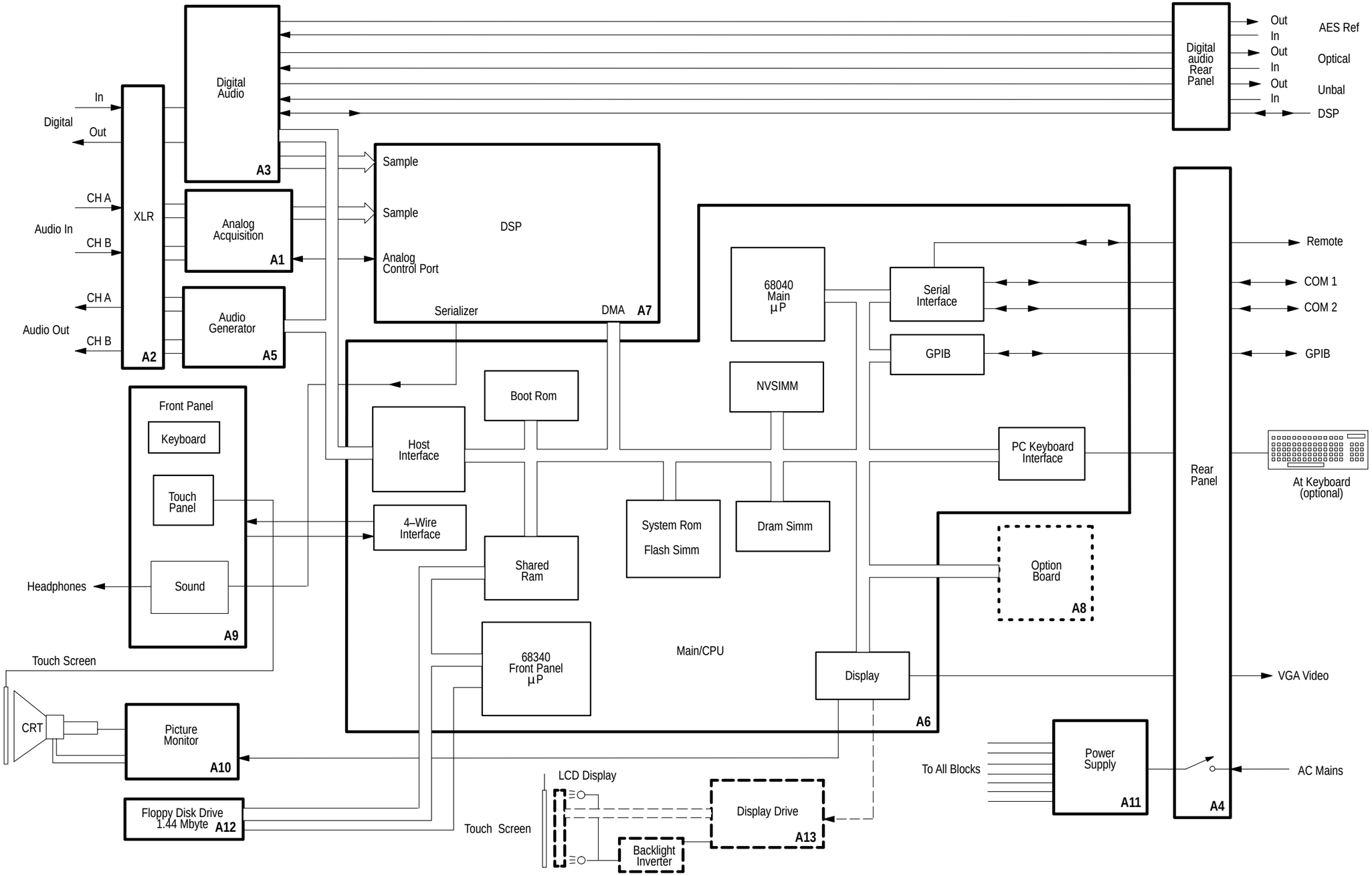


Figure 9–1: AM700 overall block diagram

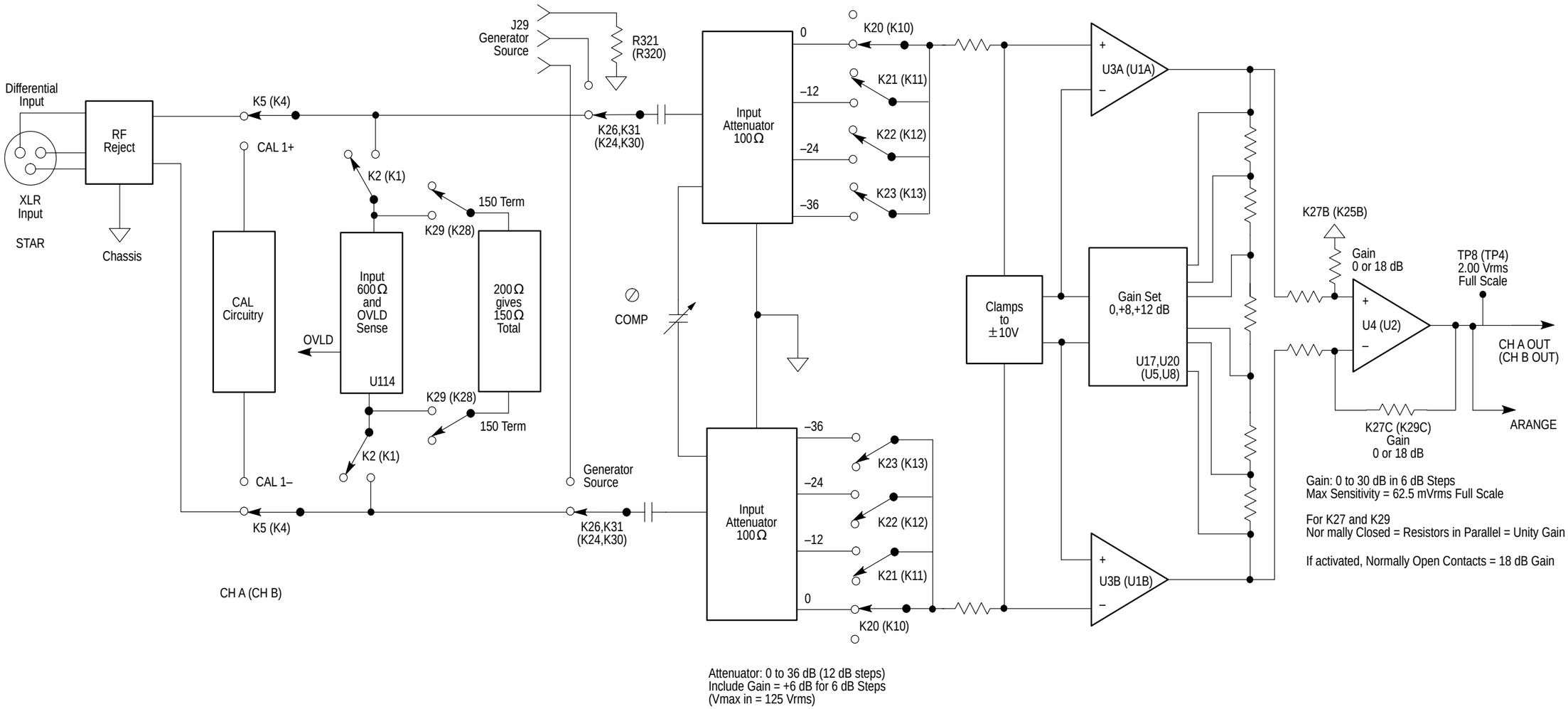


Figure 9–2: Analog Acquisition Channel A input section (Channel B in parentheses)

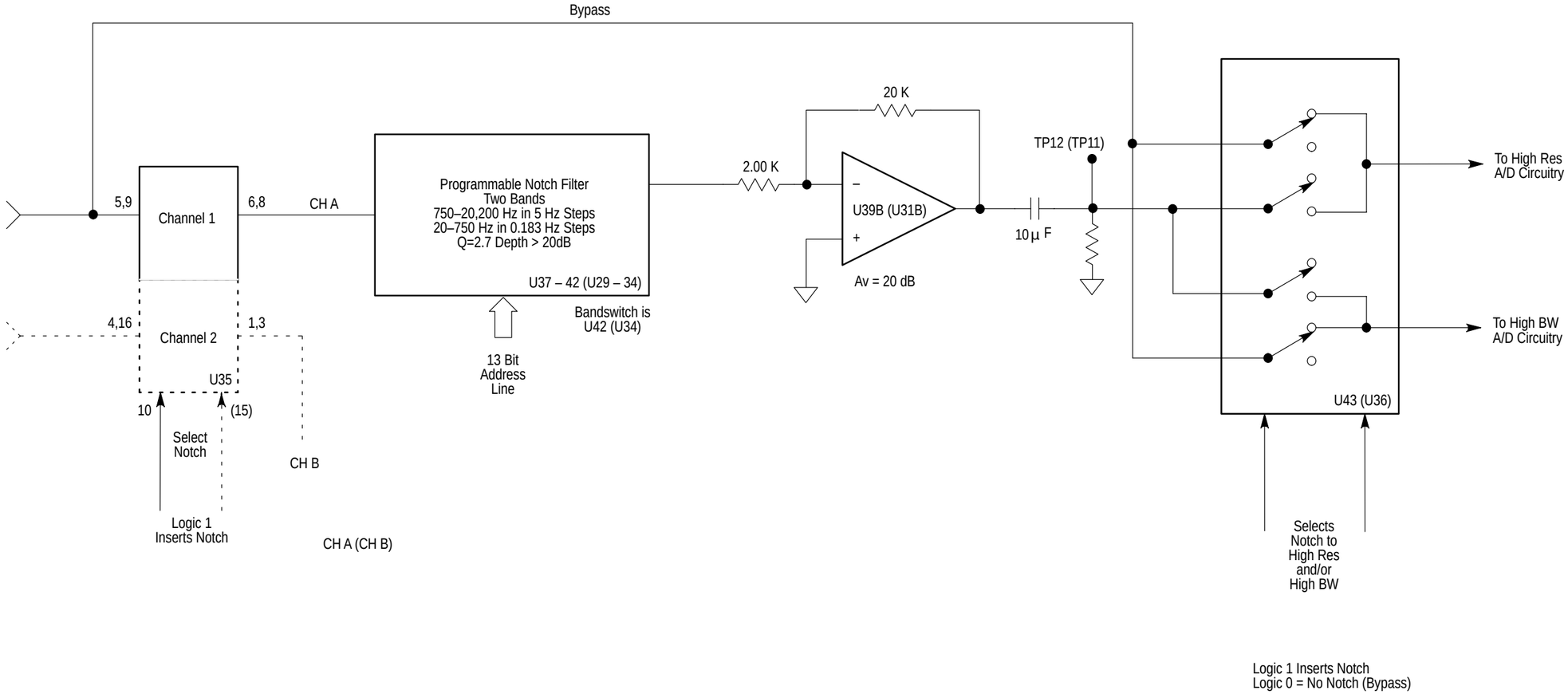


Figure 9–3: Analog Acquisition input section CH A notch filter

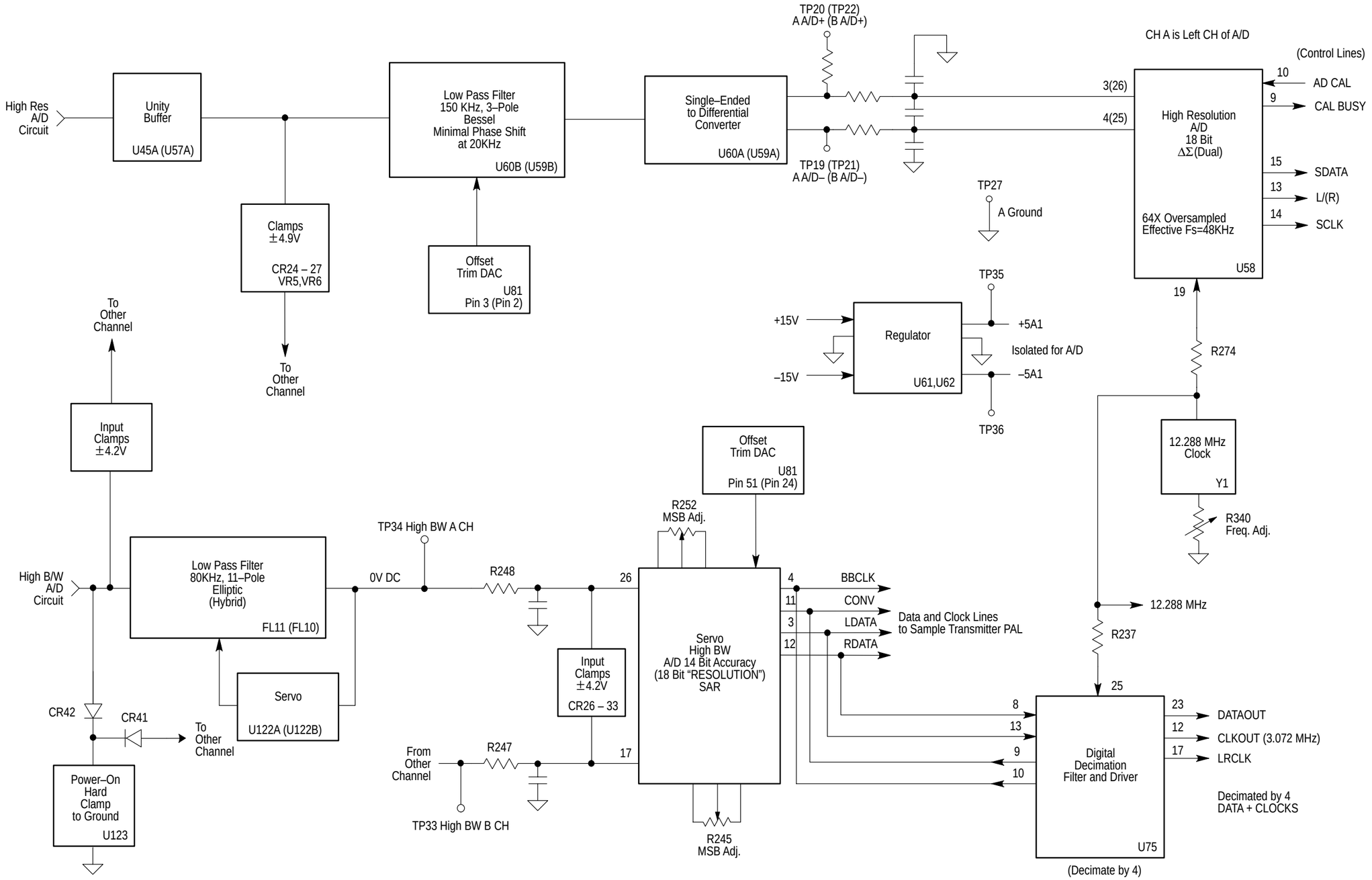


Figure 9–4: Analog Acquisition A/D section CH 1 (CH 2)

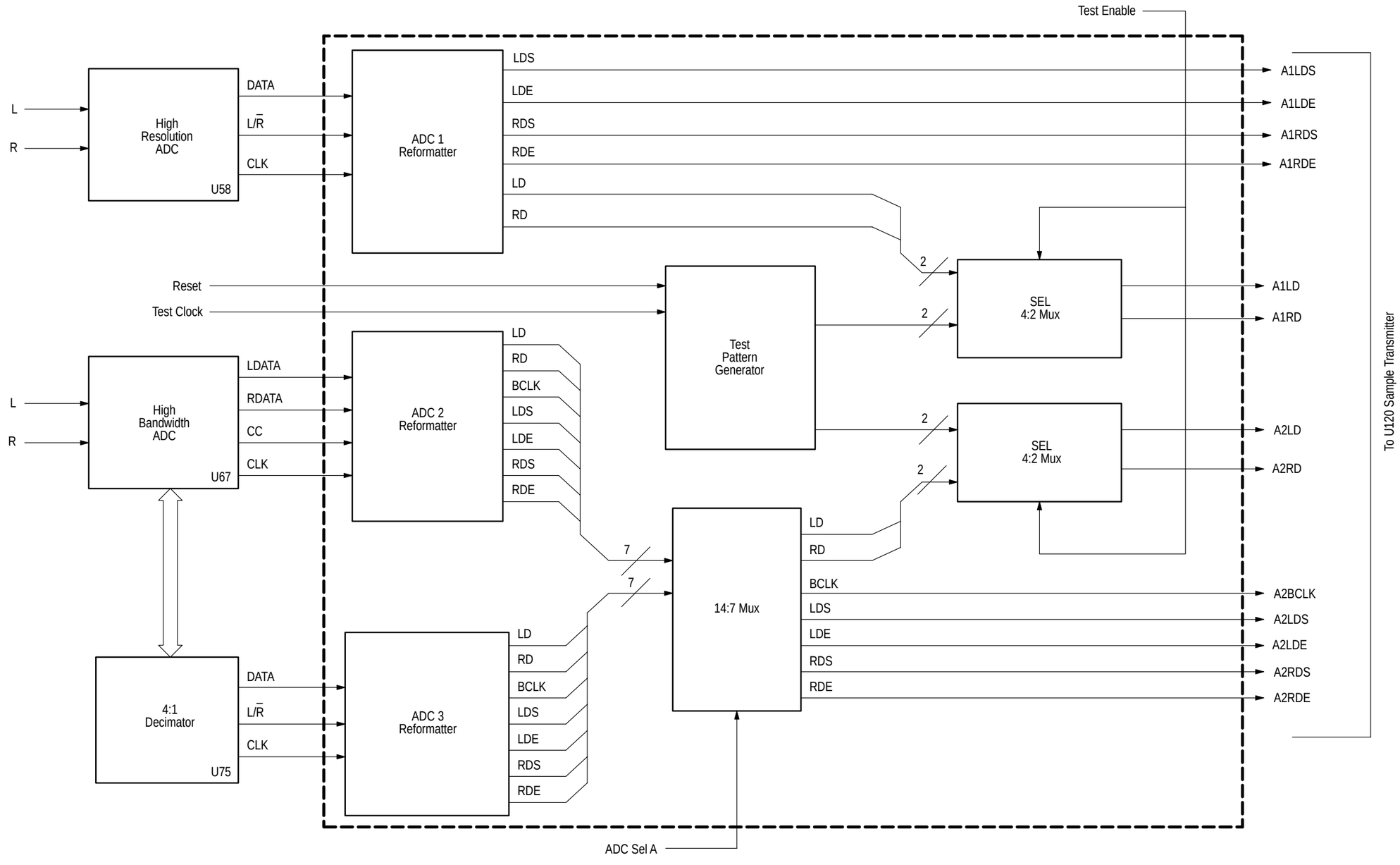


Figure 9–5: Analog acquisition, part 1 of data formatter PAL

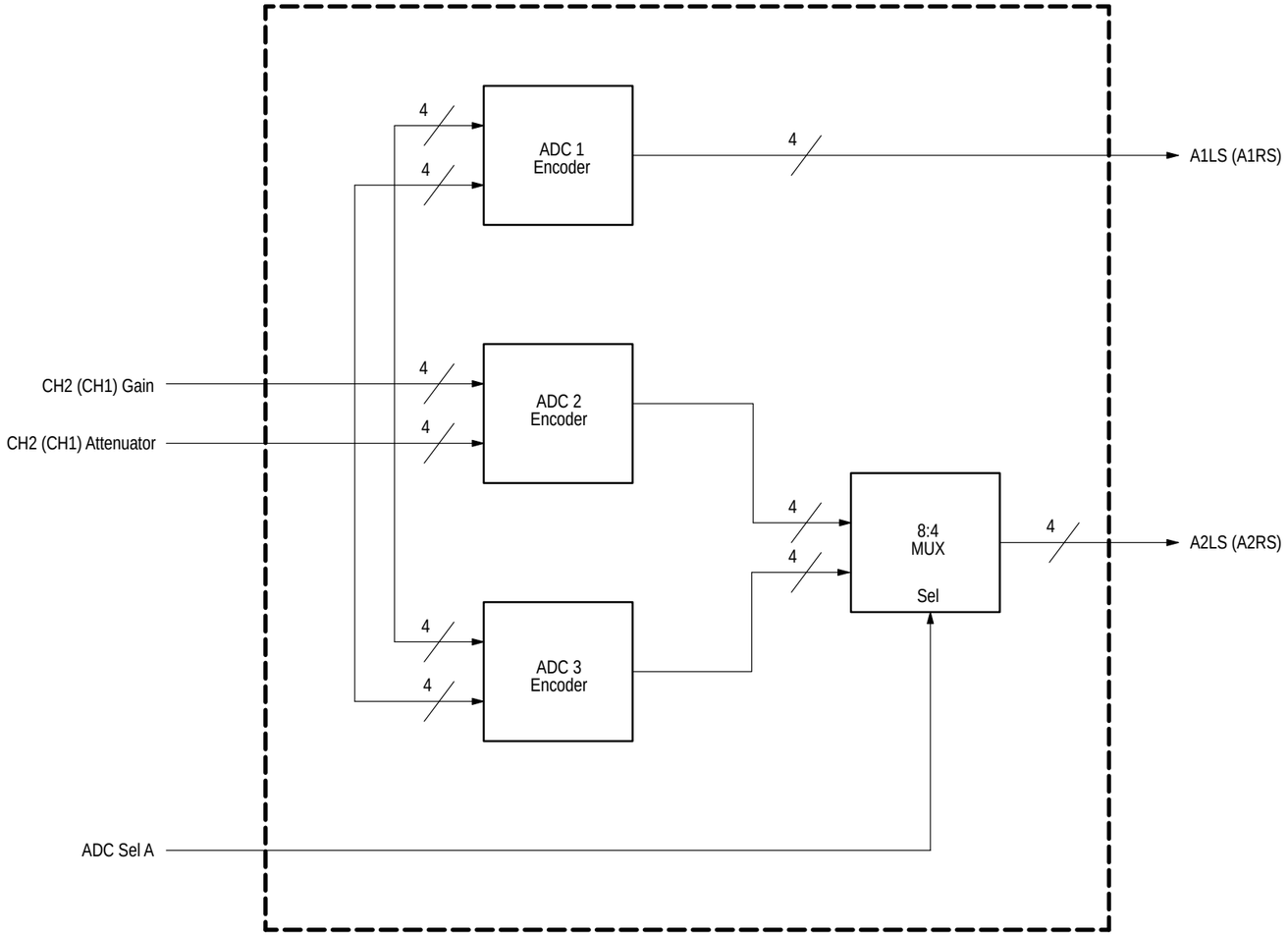


Figure 9–6: Analog acquisition, part 2 of the data formatter PAL

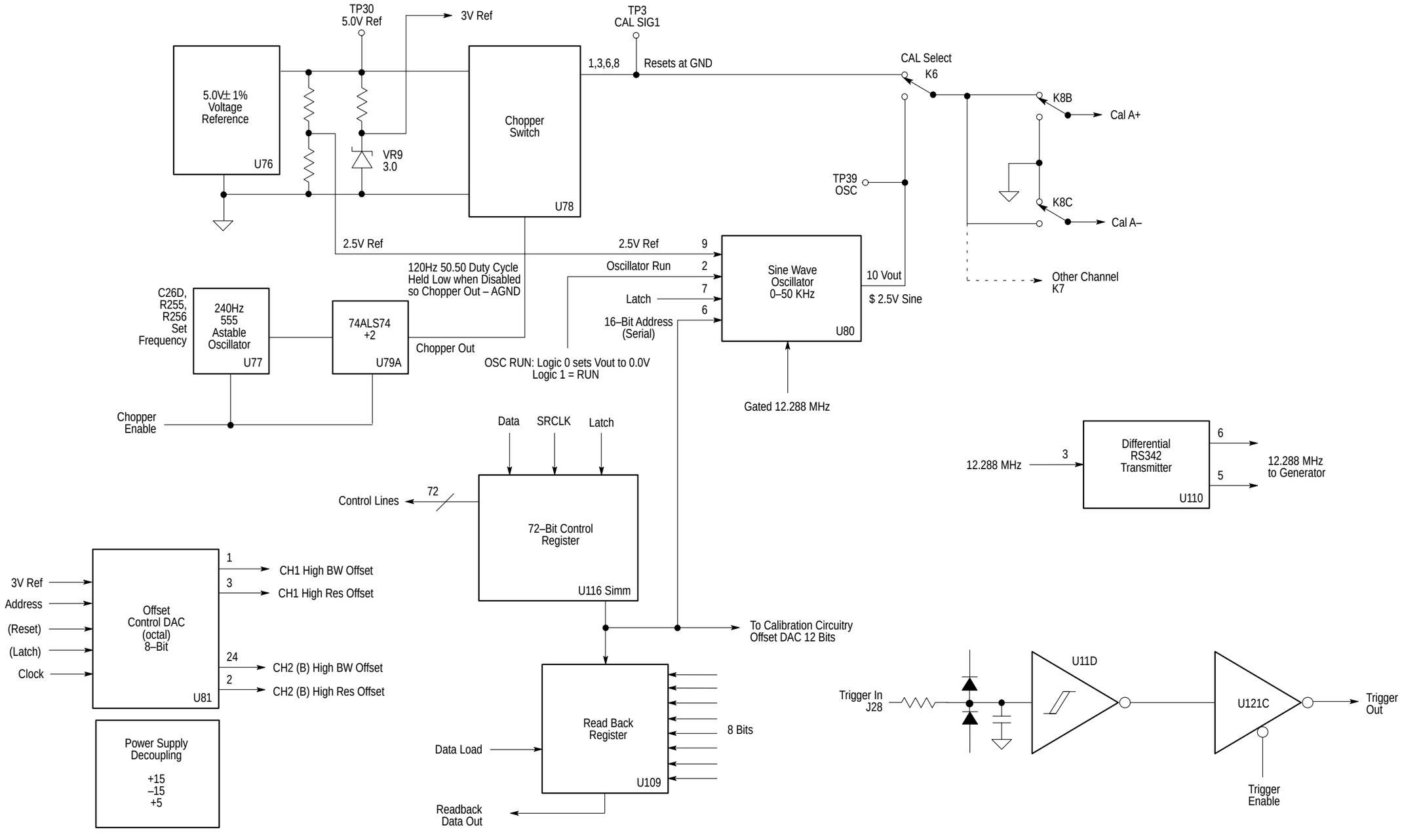


Figure 9–7: Analog acquisition board cal circuitry, control registers, power decoupling, and trigger input

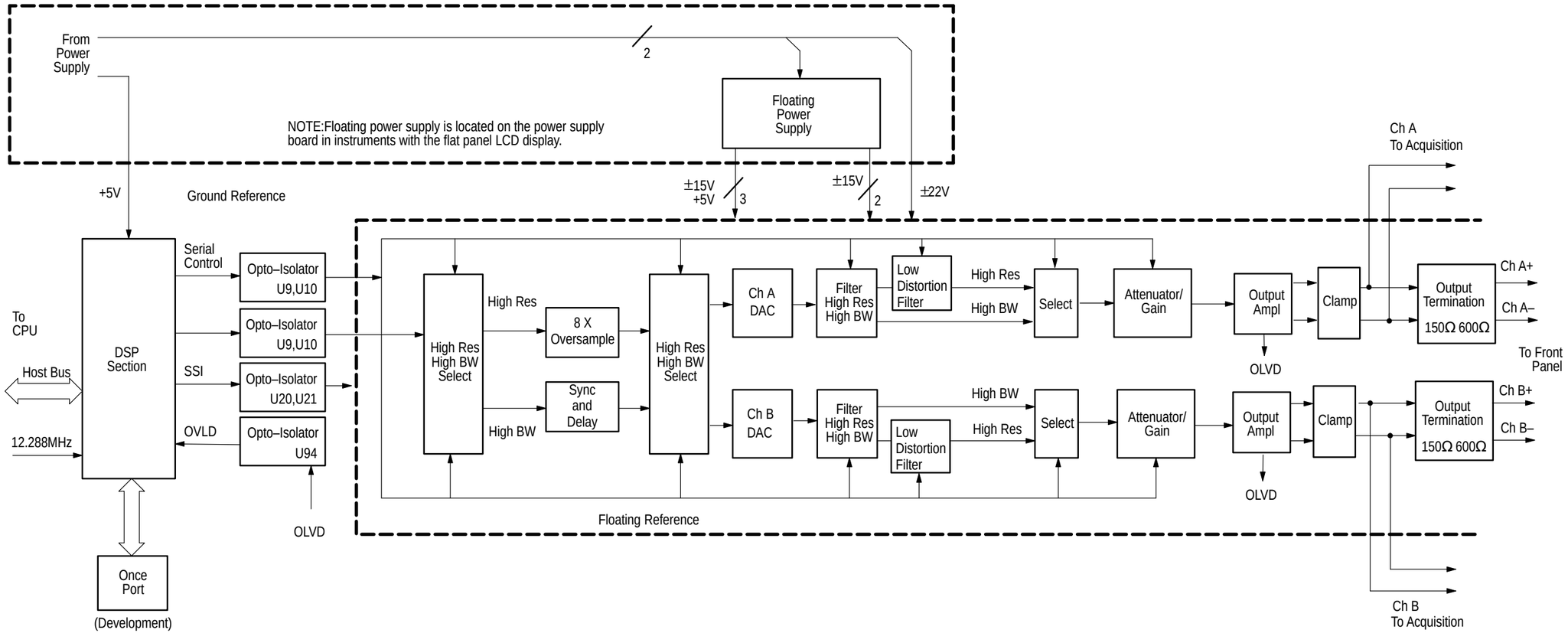


Figure 9–8: Analog generator simplified block diagram

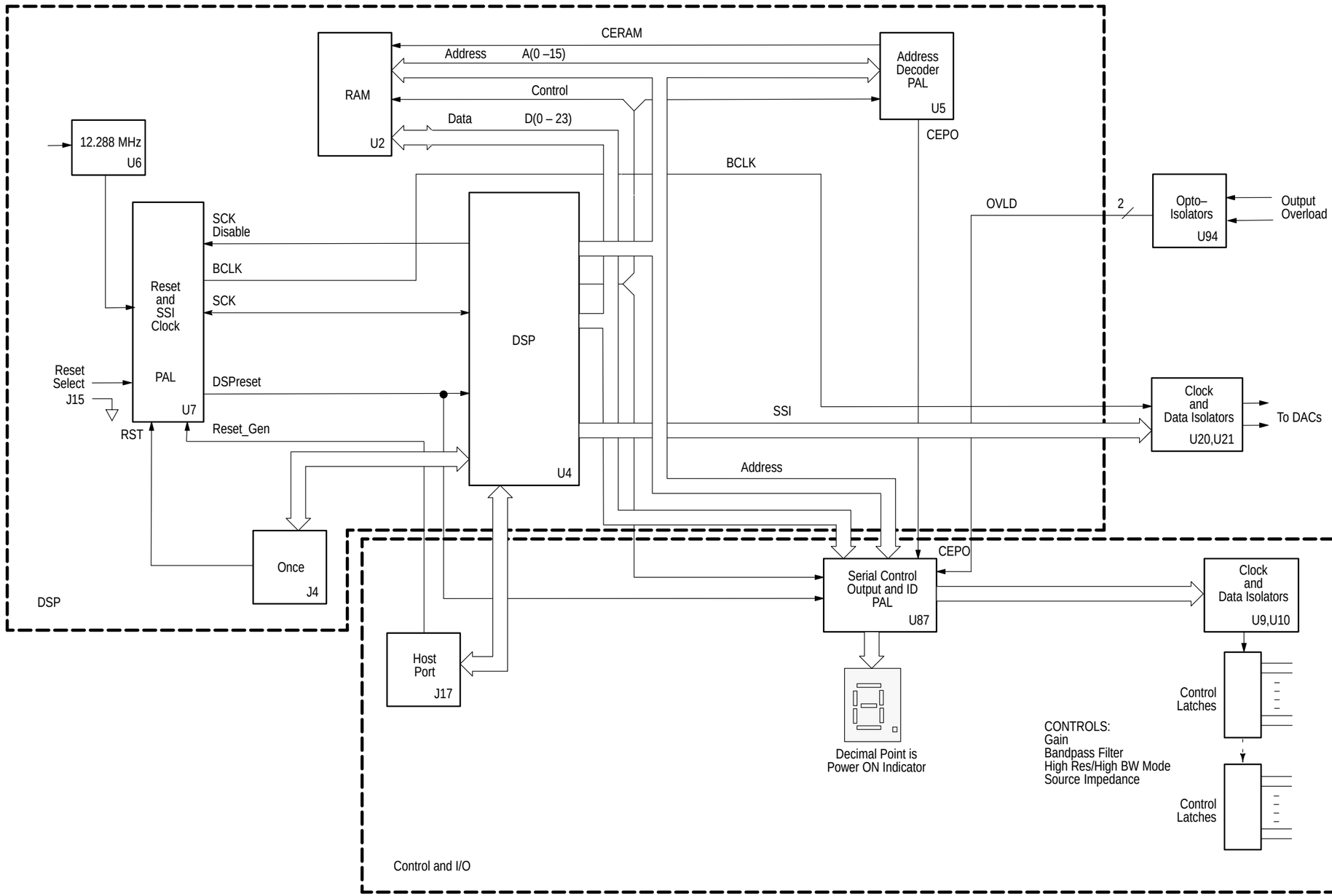


Figure 9–9: Analog generator, DSP section

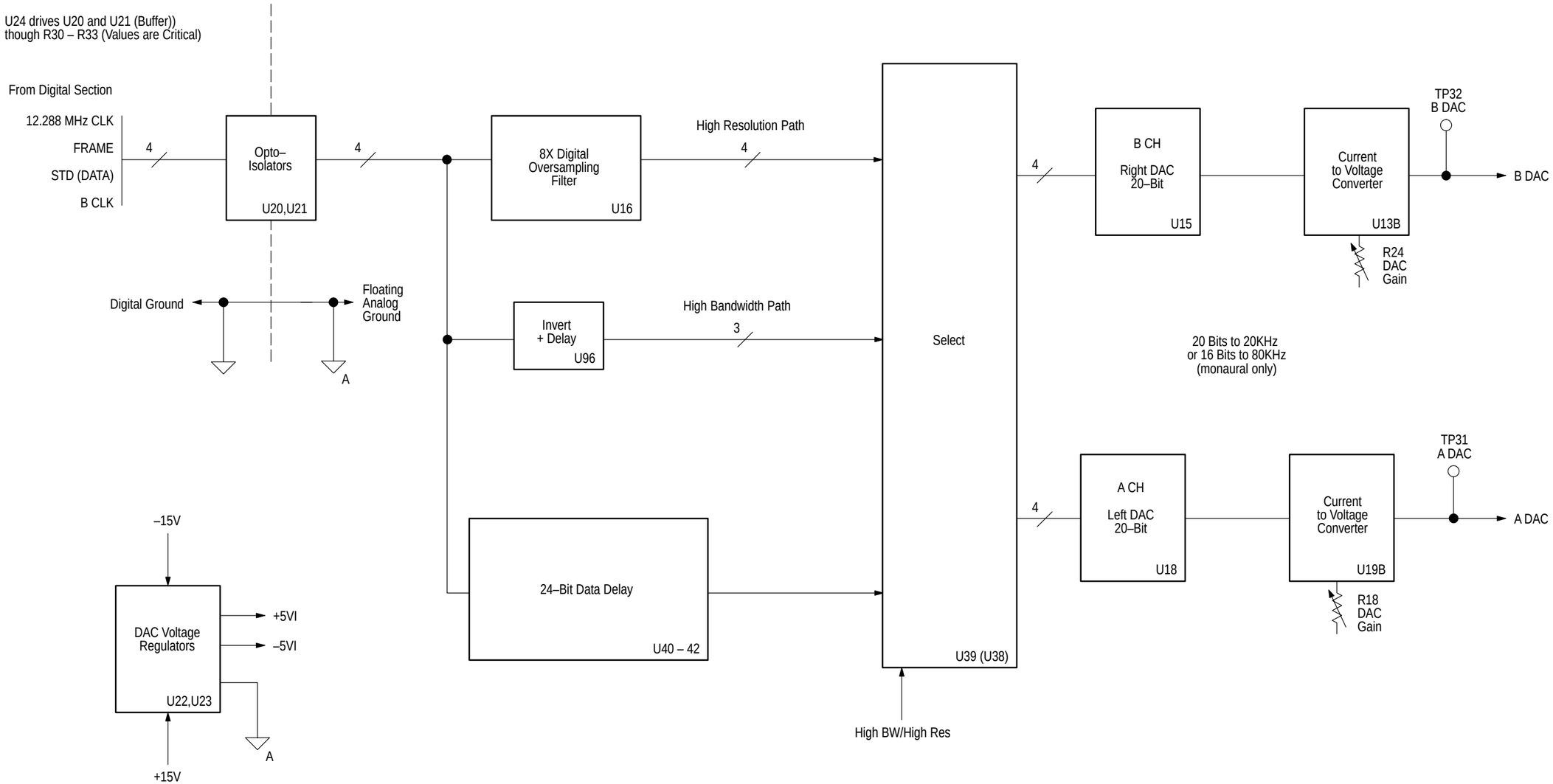


Figure 9–10: Analog generator DAC and current-to-voltage converters

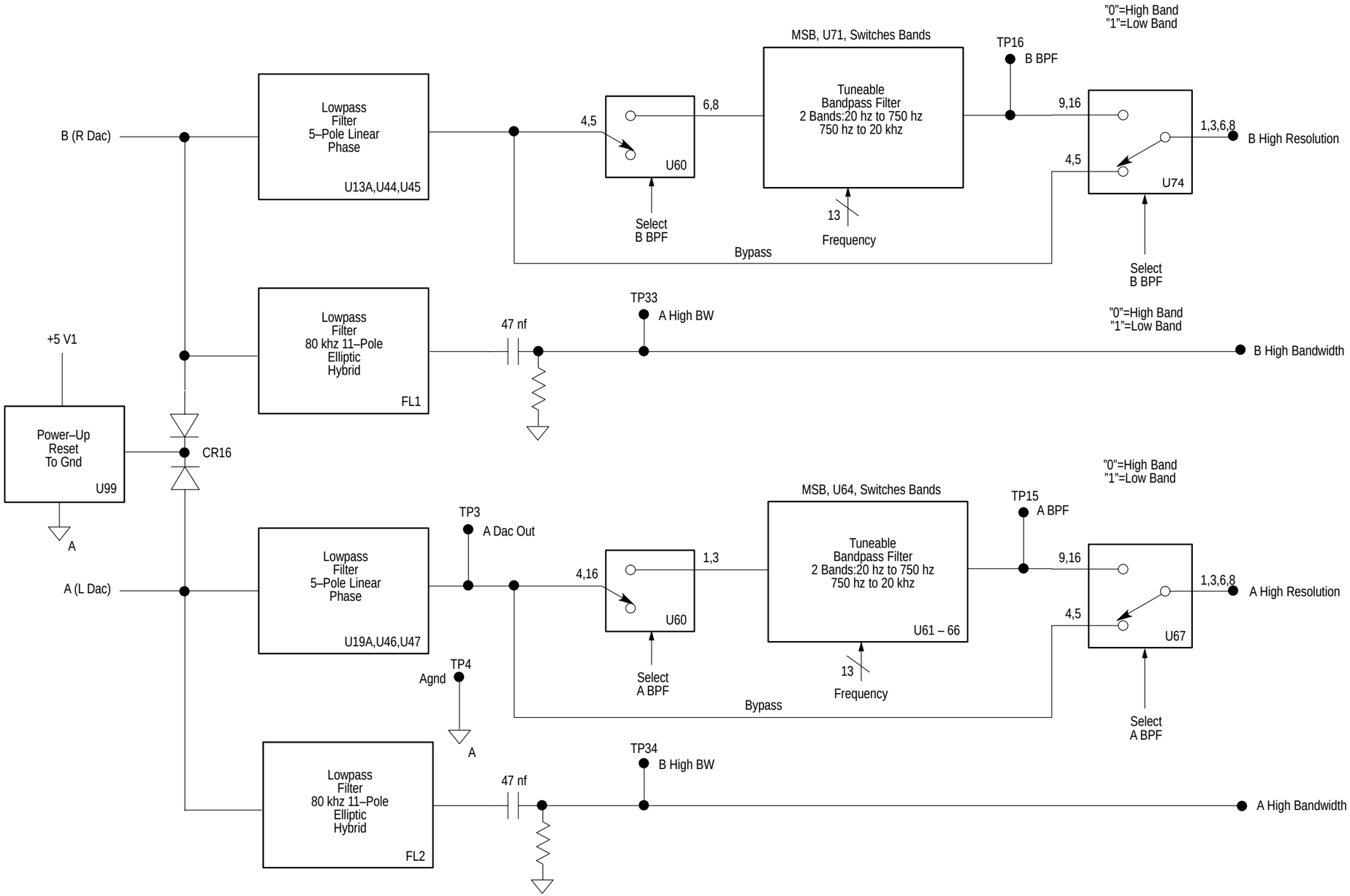


Figure 9–11: Analog Generator, analog filters block diagram

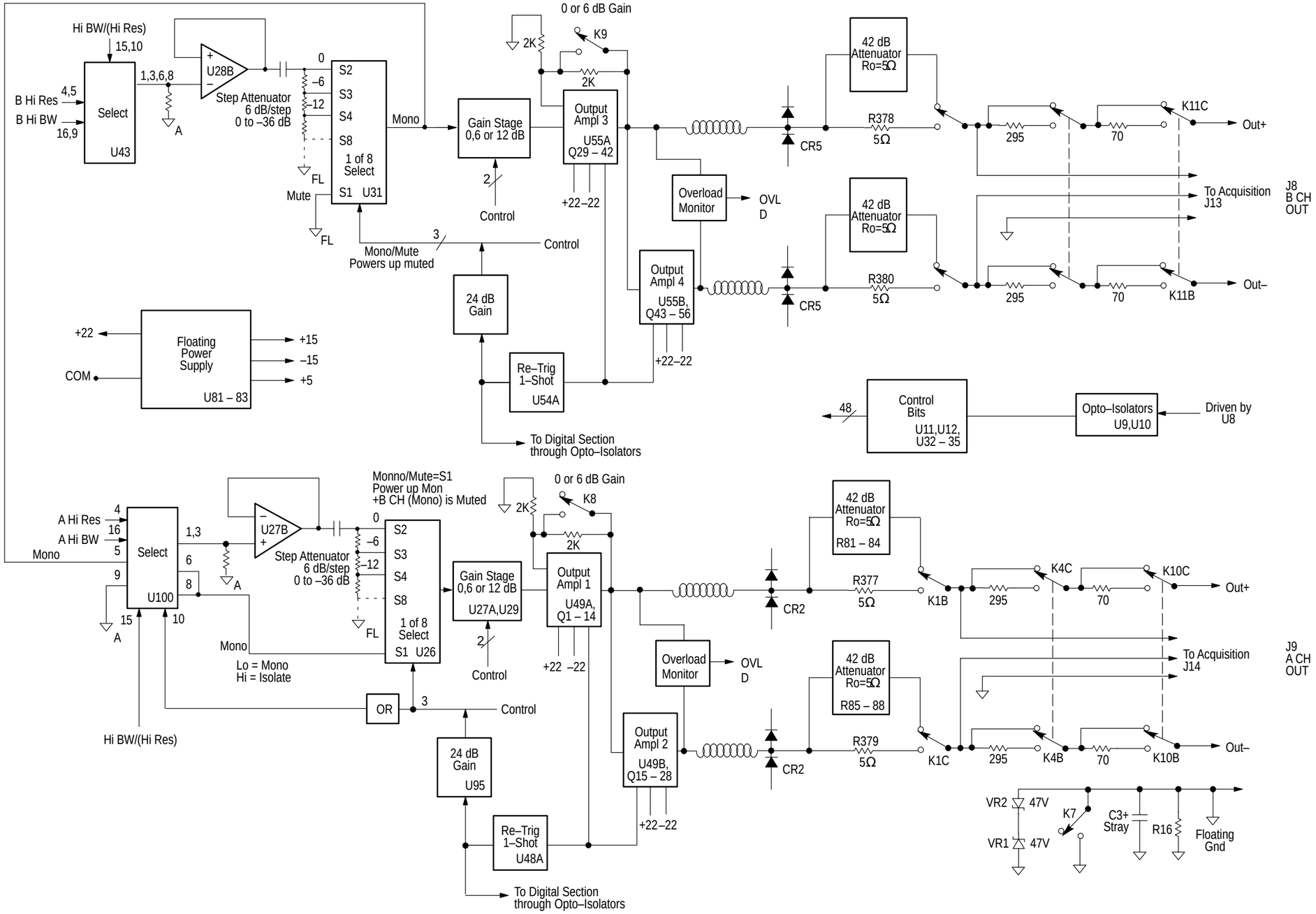


Figure 9–12: Analog Generator output section, attenuators and gain, detailed block diagram

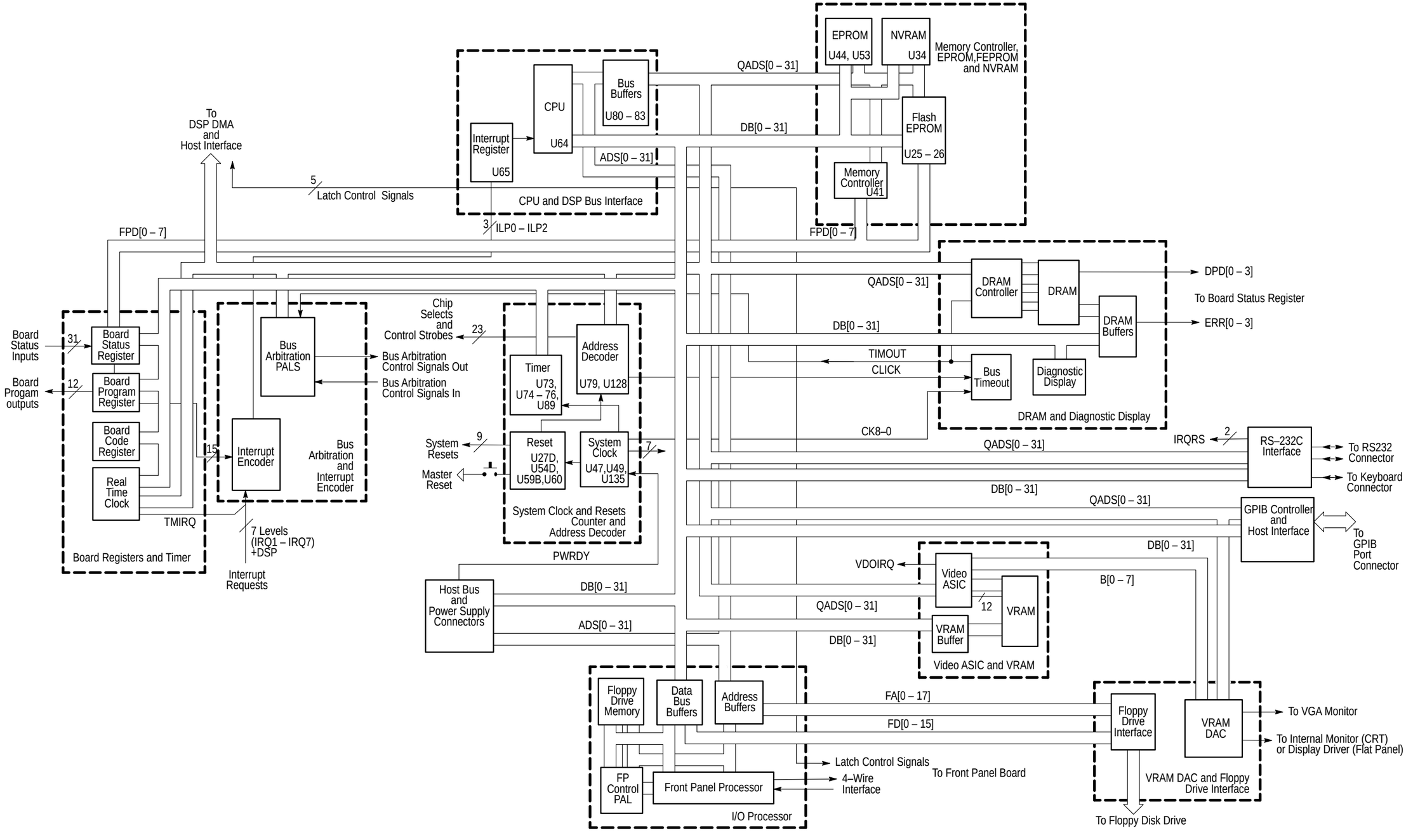


Figure 9–13: CPU block diagram

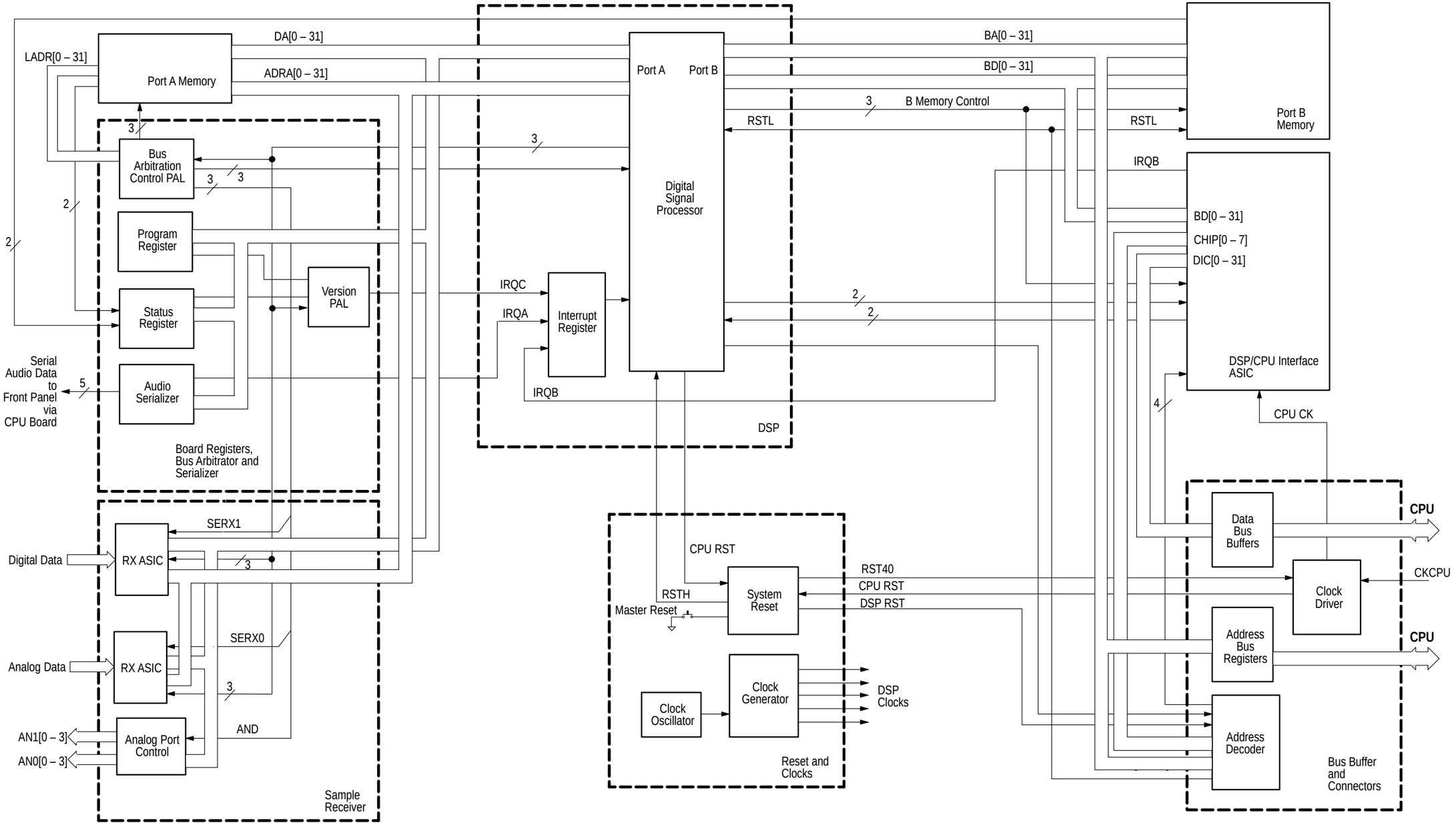


Figure 9–14: DSP block diagram

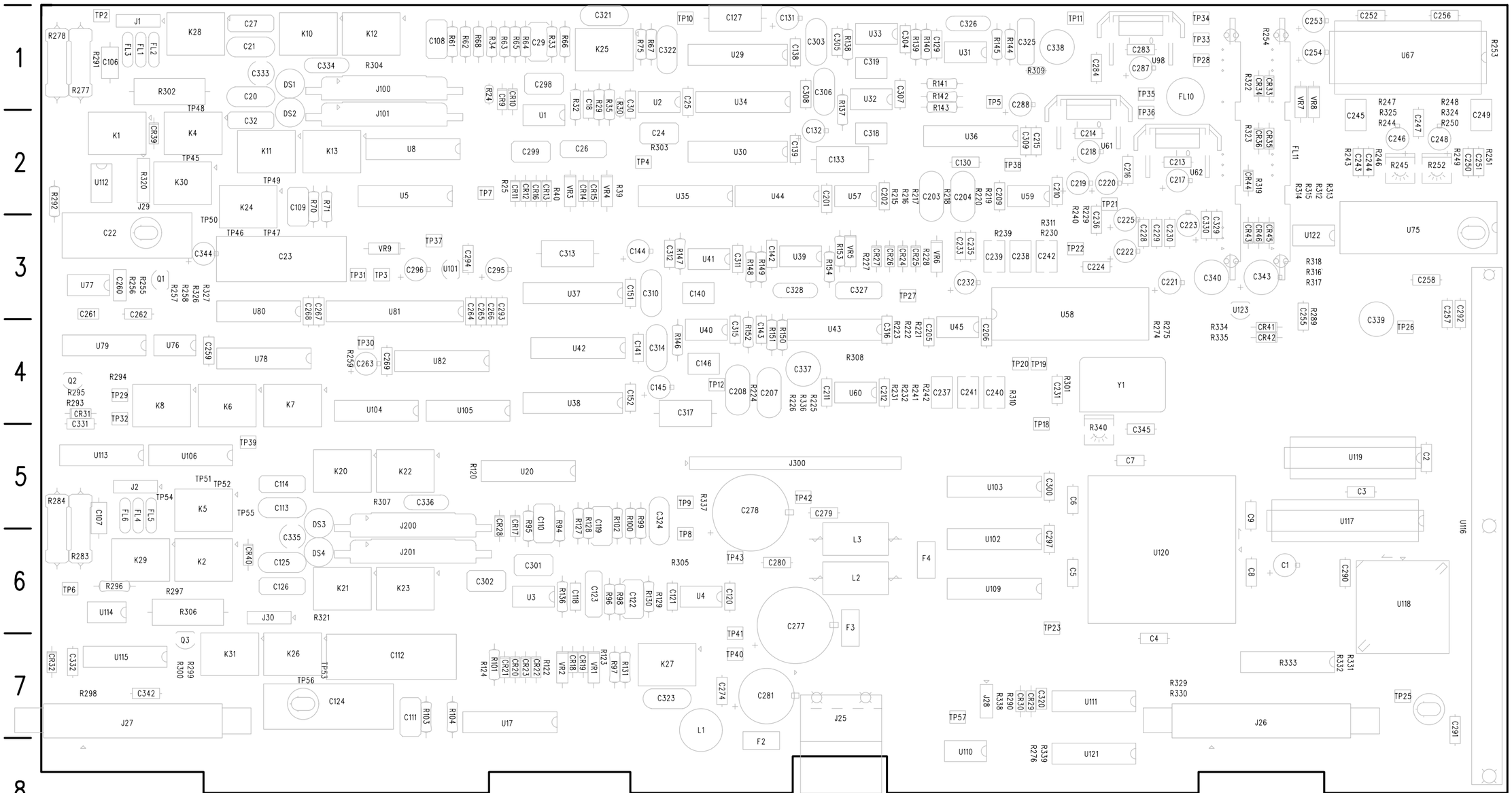
A1A1 Analog Acquisition Board Component Locator

(with cross-references to schematic diagrams 1, 2, 3, 4, 5, and 6)

Use the circuit board table below for schematic <1>.

Comp No	Diag No	Diag Loc	Bd Loc
C1	5	H3	L6
C2	5	C5	N5
C3	5	B2	M5
C4	5	H3	K7
C5	5	H3	J6
C6	5	H3	J5
C7	5	H3	K5
C8	5	H3	L6
C9	5	H3	L5
C18	2	F1	F1
C20	2	D3	B1
C21	2	D1	B1
C22	2	D1	A3
C23	2	D3	C3
C24	2	H2	F2
C25	2	H1	G1
C26	2	H1	F2
C27	2	D1	B1
C29	2	G1	E1
C30	2	H1	F1
C32	2	D3	B2
C106	2	A1	A1
C107	1	A1	A5
C108	2	G1	D1
C109	2	G3	C2
C110	1	G1	E5
C111	1	G3	D7
C112	1	D1	D7
C113	1	D1	C5
C114	1	D1	C5
C118	1	F1	F6
C119	1	G1	F5
C120	1	H1	G6
C121	1	H1	G6
C122	1	H2	F6
C123	1	H1	F6
C124	1	D3	C7
C125	1	D3	C6
C126	1	D3	C6
C127	3	F2	G1
C129	3	C2	I1
C130	3	C2	I2
C131	3	D2	H1
C132	3	G2	H2
C133	3	H1	H2
C138	3	D2	H1
C139	3	G2	H2
C140	3	E4	G3
C141	3	G4	F4
C142	3	C5	G3
C143	3	C4	G4
C144	3	D5	F3
C145	3	G4	F4
C146	3	H4	G4
C151	3	D5	F3
C152	3	G4	F4
C201	4	B2	H2
C202	4	B2	I2
C203	4	D2	I2
C204	4	D2	I2
C205	4	B1	I4
C206	4	B1	I4
C207	4	D1	G4
C208	4	D1	G4
C209	4	D3	J2
C210	4	D2	J2
C211	4	D2	H4
C212	4	D1	I4
C213	6	F5	K2
C214	6	F5	J2
C215	6	E5	J2
C216	6	E5	K2
C217	6	F5	K2
C218	6	F5	J2
C219	6	E5	J2
C220	6	E5	K2
C221	4	H2	K3
C222	4	G2	K3
C223	4	G2	L3
C224	4	G2	J3
C225	4	G2	K3
C228	4	G2	K3
C229	4	H2	K3
C230	4	G2	K3
C231	4	F1	J4
C232	4	F1	I3
C233	4	F1	I3
C235	4	F1	I3
C236	4	G1	K2
C237	4	E1	I4
C238	4	E2	J3
C239	4	E2	J3
C240	4	E2	J4
C241	4	E1	I4
C242	4	E3	J3
C243	4	E3	M2
C244	4	E4	M2
C245	4	D4	M1
C246	4	E3	N2
C247	4	E4	N2
C248	4	E4	N2
C249	4	D5	N1
C250	4	E5	N2
C251	4	E5	N2
C252	4	F4	M1
C253	4	F4	M1
C254	4	F4	M1
C255	4	H4	M3
C256	4	F4	N1
C257	4	G4	N3
C258	4	G3	N3
C259	6	A1	B4
C260	6	A2	A3
C261	6	A2	A3
C262	6	A1	A3
C263	6	B1	D4
C264	4	A3	E3
C265	4	B3	E3
C266	4	B3	E3
C267	6	E1	C3
C268	6	E1	C3
C269	6	G2	D4
C274	6	B4	G7
C277	6	B5	H7
C278	6	B5	G5
C279	6	B5	H5
C280	6	B5	G6
C281	6	B4	G7
C283	6	D5	K1
C284	6	D5	K1
C287	6	D5	K1
C288	6	C5	J1
C290	6	D4	M6
C291	6	D4	N7
C292	6	D4	N3
C293	6	D5	E3
C294	6	D5	E3
C295	6	C5	E3
C296	6	D5	D3
C297	2	B5	J6
C298	2	F1	E1
C299	2	F3	E2
C300	1	B5	J5
C301	1	F1	E6
C302	1	F3	E6
C303	3	D2	H1
C304	3	E2	I1
C305	3	E2	H1
C306	3	G1	H1
C307	3	G1	I1
C308	3	G2	H1
C309	3	G3	J2
C310	3	D4	F3
C311	3	E4	G3
C312	3	E4	F3
C313	3	F4	F3
C314	3	G4	F4
C315	3	G4	G4
C316	3	G5	I4
C317	3	H4	G4
C318	3	H1	H2
C319	3	E2	H1
C320	6	A3	J7
C321	2	G1	F1
C322	2	H1	F1
C323	1	H1	F7
C324	1	G1	F5
C325	3	C2	J1
C327	3	C4	H3
C328	3	C4	H3
C329	4	B4	L3
C330	4	B5	L3
C331	2	A4	A5
C332	1	A4	A7
C333	2	D2	B1
C334	2	D2	C1
C335	1	D2	C6
C336	1	D2	D5
C337	3	G5	H4
C338	3	G2	J1
C339	4	C5	M3
C340	4	C4	L3
C342	6	H4	A7
C343	4	B5	L3
C344	6	B1	B3
C345	4	F1	K5
CR9	2	F1	E1
CR10	2	E1	E1
CR11	2	F3	E2
CR12	2	E3	E2
CR13	2	E2	E2
CR14	2	E2	F2
CR15	2	F2	F2
CR16	2	F2	E2
CR17	1	E1	E5
CR18	1	E2	F7
CR19	1	F2	F7
CR20	1	E3	E7
CR21	1	F3	E7
CR22	1	E2	E7
CR23	1	F2	E7
CR24	4	B2	I3
CR25	4	C2	I3
CR26	4	B1	I3
CR27	4	C1	H3
CR28	1	F1	E5
CR29	6	A3	J7
CR30	6	B3	J7
CR31	2	A4	A4
CR32	1	A4	A7
CR33	4	D4	L1
CR34	4	D4	L1
CR35	4	D4	L2
CR36	4	D4	L2
CR39	2	B4	B2
CR40	1	B4	B6
CR41	4	A4	L4
CR42	4	A4	L4
CR43	4	A4	L3
CR44	4	A4	L2
CR45	4	A4	L3
CR46	4	A4	L3
DS1	2	D1	C1
DS2	2	D3	C2
DS3	1	D1	C6
DS4	1	D3	C6
F2	6	B4	G8
F3	6	B5	H6
F4	6	B5	I6
FL1	2	A1	A1
FL2	2	A1	B1
FL3	2	A3	A1
FL4	1	A1	A6
FL5	1	A1	B5
FL6	1	A3	A5
FL10	4	B4	L1
FL11	4	B5	L2
J1	2	A1	B1
J2	1	A1	B5
J25	6	A4	I7
J26	6	H3	L7
J27	6	H4	B7
J28	6	A3	I7
J29	2	A1	A2
J30	1	A1	C6
J100	2	D1	D1
J101	2	D3	D2
J200	1	D1	E5
J201	1	D3	E6
J300	6	G5	F5
K1A	2	B4	A2
K1B	2	B2	A2
K1C	2	B3	A2
K2A	1	B4	B6
K2B	1	B2	B6
K2C	1	B3	B6
K4A	2	B3	B2
K4B	2	B1	B2
K4C	2	B3	B2
K5A	1	B3	B5
K5B	1	B1	B5
K5C	1	B3	B5
K6A	6	G2	B4
K6B	6	G1	B4
K7A	6	H2	C4
K7B	6	H1	C4
K7C	6	H1	C4
K8A	6	G2	B4
K8B	6	G1	B4
K8C	6	G1	B4
K10A	2	D4	C1
K10B	2	D1	C1
K10C	2	D3	C1
K11A	2	E4	C2
K11B	2	E1	C2
K11C	2	E3	C2
K12A	2	E4	D1
K12B	2	E1	D1
K12C	2	E3	D1
K13A	2	E4	C2
K13B	2	E1	C2
K13C	2	E4	C2
K20A	1	D4	D5
K20B	1	D1	D5
K20C	1	D3	D5
K21A	1	E4	D6
K21B	1	E1	D6
K21C	1	E3	D6
K22A	1	E4	D5
K22B	1	E1	D5
K22C	1	E3	D5
K23A	1	E4	D6
K23B	1	E1	D6
K23C	1	E4	D6
K24A	2	B4	C2
K24B	2	C1	C2
K24C	2	C3	C2
K25A	2	H2	F1
K25B	2	G1	F1
K25C	2	H1	F1
K26A	1	B4	C6
K26B	1	C1	C6
K26C	1	C3	C6
K27A	1	H2	G7
K27B	1	G1	G7
K27C	1	H1	G7
K28A	2	A3	B1
K28B	2	A2	B1
K28C	2	A2	B1
K29A	1	A3	B6
K29B	1	A2	B6
K29C	1	A2	B6
K30A	2	B2	B2
K30B	2	B1	B2
K30C	2	B1	B2
K31A	1	B2	B6
K31B	1	B1	B6
K31C	1	B1	B6
L1	6	B4	G7
L2	6	B5	H6
L3	6	B5	H6
Q1	6	A2	B3
Q2	2	B4	A4
Q3	1	B4	B7
R24	2	E1	E1
R25	2	E3	E2
R29	2	H1	F1
R30	2	H1	F1
R32	2	G3	F1
R33	2	H1	E1
R34	2	G1	E1
R35	2	G1	F1
R39	2	F2	F2
R40	2	E2	E2
R61	2	G1	D1
R62	2	G2	E1
R63	2	G1	E1
R64	2	G1	E1
R65	2	G1	E1
R66	2	H1	E1
R67	2	H2	F1
R68	2	G2	E1
R70	2	G3	C2
R71	2	G2	C2
R75	2	H2	F1
R94	1	G1	E5
R95	1	G2	E5
R96	1	H1	F6
R97	1	H2	F7
R98	1	H2	F6
R99	1	G1	F5
R100	1	G1	F5
R101	1	G2	E7
R102	1	G1	F5
R103	1	G3	D7
R104	1	G2	D7
R120	1	E1	E5
R122	1	E2	E7
R123	1	F2	F7
R124	1	E3	E7
R127	1	G1	F5
R128	1	G1	F5
R129	1	H1	F6
R130	1	H1	F6
R131	1	H1	F7
R136	1	G3	E6
R137	3	G1	H1
R138	3	E2	H1
R139	3	C2	I1
R140	3	C2	I1
R141	3	F3	I1
R142	3	F2	I1
R143	3	F2	I2
R144	3	C2	J1
R145	3	C2	J1
R146	3	G4	G4
R147	3	E4	G3
R148	3	C4	G3
R149	3	C5	G3
R150	3	F5	H4
R151	3	F5	G4
R152	3	F5	G4
R153	3	C4	H3
R154	3	C4	H3
R215	4	B2	I2
R216	4	B2	I2
R217	4	C2	I2
R218	4	C2	I2
R219	4	D2	J2
R220	4	C2	I2
R221	4	B1	I4
R222	4	B1	I4
R223	4	C1	I4
R224	4	C1	G4
R225	4	D1	H4
R226	4	C1	H4
R227	4	B1	H3
R228	4	C2	I3
R229	4	D2	J2
R230	4	D2	J3
R231	4	D1	I4
R232	4	D1	I4
R239	4	E2	J3
R240	4	E3	J2
R241	4	E1	I4
R242	4	E1	I4
R243	4	E3	M2
R244	4	D3	M2
R245	4	D3	M2
R246	4	E3	M2
R247	4	C4	M1
R248	4	C5	N1
R249	4	E4	N2
R250	4	E4	N2
R251	4	E5	N2
R252	4	E4	N2
R253	4	F5	N1
R254	4	F4	L1
R255	6	A1	A3
R256	6	A2	A3
R257	6	A2	B3
R258	6	A2	B3
R259	6	B1	C4
R274	4	G2	K4
R275	4	G3	K4
R276	6	C2	J8
R277	2	B2	A1
R278	2	B2	A1
R283	1	B2	A5
R284	1	B2	A5
R289	4	H4	M3
R290	6	A3	J7
R291	2	A2	A1
R292	2	B2	A2
R293	2	A4	A4
R294	2	B5	A4
R295	2	A4	A4
R296	1	B2	A6
R297	1	A2	B6
R298	1	A4	A7
R299	1	B5	B7
R300	1	A4	B7
R301	6	G4	J4
R302	2	A2	B1
R303	2	H1	F2
R304	2	D2	D1
R305	1	H1	G6
R306	1	A2	B6
R307	1	D2	D5
R308	3	G5	H4
R309	3	G3	J1
R310	4	E1	J4
R311	4	E2	J3
R312	4	C5	M2
R313	4	C5	M2
R314	4	C5	L2
R315	4	C5	M2
R316	4	C4	M3
R317	4	C4	M3
R318	4	C4	M3
R319	4	C4	L2
R320	2	A1	A2
R321	1	A1	C6
R322	4	D4	L1
R323	4	C4	L2
R324			N2
R325			M2
R326	6	B1	B3
R327	6	B1	B3
R329	6	G4	K7
R330	6	G3	K7
R331	6	H2	M7
R332	6	H3	M7
R333	6	H3	M7
R334	4	A4	L4
R335	4	A5	L4
R336	2	H2	H4
R337	1	H2	G5
R338	6	A3	J7
R339	6	C1	J8
R340	4	F1	K5
R341	4	A5	
R342	4	B5	
R343	4	A4	
R344	4	B4	
TP2	2	H3	A1
TP3	2	H3	D3
TP4	2	H1	F2
TP5	2	H3	J2
TP6	1	H3	A6
TP7	1	H3	E2
TP8	1	H1	G6
TP9	1	H3	G5
TP10	3	H2	F1
TP11	3	G2	J1
TP12	3	G5	G4
TP18	4	E3	J4
TP19	4	E1	J4
TP20	4	E1	J4
TP21	4	E2	K2
TP22	4	E2	J3
TP23	6	C4	J6
TP25	4	H1	M7
TP26	4	H3	M4
TP27	4	E2	I3
TP28	4	B4	K1
TP29	6	B1	A4
TP30	6	B1	D4
TP31	6	C1	C3
TP32	6	G1	A4
TP33	4	C4	K1
TP34	4	C5	K1
TP35	6	F5	K1
TP36	6	F5	K1
TP37	6	D5	D3
TP38	6	D5	J2
TP39	6	E1	B5
TP40	6	C4	G7
TP41	6	B5	G6
TP42	6	B5	H5
TP43	6	B5	G6
TP45	2	B3	B2
TP46	2	D3	B3
TP47	2	B3	C3
TP48	2	B1	B2
TP49	2	B1	C2
TP50	2	C1	B3
TP51	1	B1	B5
TP52	1	B1	B5
TP53	1	C1	C7
TP54	1	B3	B5
TP55	1	B3	B5
TP56	1	D3	C7
TP57			I7
U1A	2	F1	F1
U1B	2	F3	F1
U2	2	H1	G1
U3A	1	F1	E6
U3B	1	F3	E6
U4	1	H1	G6
U5	2	F2	D2
U8	2	F1	D2
U17	1	F2	E7
U20	1	F1	E5
U29	3	D2	G1
U30	3	F1	H2
U31A	3	C2	I1
U31B	3	F2	I1
U32A	3	G1	I1
U32B	3	H1	I1
U33A	3	E2	I1
U33B	3	E2	I1
U34A	3	H1	H1
U34B	3	H1	H1
U34C	3	E1	H1
U34D	3	E1	H1
U35	3	B3	G2
U36	3	G2	J1
U37	3	D4	F3
U38	3	F4	F4
U39A	3	C5	H3
U39B	3	F5	H3
U40A	3	G4	G3
U40B	3	H4	G3
U41A	3	E4	G3
U41B	3	E4	G3
U42A	3	H4	F4
U42B	3	H3	F4
U42C	3	E4	F4
U42D	3	E4	F4
U43	3	G5	H3
U44A	3	A3	H2
U44B	3	A3	H2
U45A	4	B1	I3
U45B	4	B1	I3
U57A	4	B2	H2
U57B	4	B2	H2
U58	4	F1	J3
U59A	4	D2	J2
U59B	4	D2	J2
U60A	4	D1	H4
U60B	4	D1	H4
U61	6	E5	K2
U62	6	E5	L2
U67	4	E4	N1
U75	4	G3	N2
U76	6	A1	B4
U77	6	B2	A3
U78	6	C1	C4
U79A	6	B2	A4
U80	6	D1	C3
U81	4	B3	D3
U82	6	F2	E4
U98	6	D5	K1
U101	6	D5	D3
U102	2	B5	J5
U103	1	B5	J5
U104	6	D2	D4
U105	6	E2	E4
U106A	6	A2	B5
U106B	4	A3	B5
U106C	6	B3	B5
U106D	6	B3	B5
U106E	6	B3	B5
U106F	6	B4	B5
U109	6	G3	J6
U110	6	G4	J8
U111A	6	G3	K7
U111B	6	C1	K7
U111C	6	A3	K7
U111D	6	B3	K7
U111E	6	A3	K7
U111F	6	A3	K7
U112	2	B2	A2
U113A	2	A4	A5
U114	1	B2	A6
U115A	1	A4	B7
U116	6	D3	N5
U117	5	C2	N5
U118	5	C3	M6
U119	5	C4	N5
U120	5	G1	L5
U121A	6	C2	K7
U121B	6	B3	K7
U121C	6	B3	K7
U121D	6	B3	K7
U122A	4	C5	M3
U122B	4	C4	M3
U123	4	A4	L3
VR1	1	F2	F7
VR2	1	E2	E7
VR3	2	E2	F2
VR4	2	F2	F2
VR5	4	B2	H3
VR6	4	C1	I3
VR7	4	D4	M1
VR8	4	C4	M1
VR9	6	B1	D3
Y1	4	F1	J4

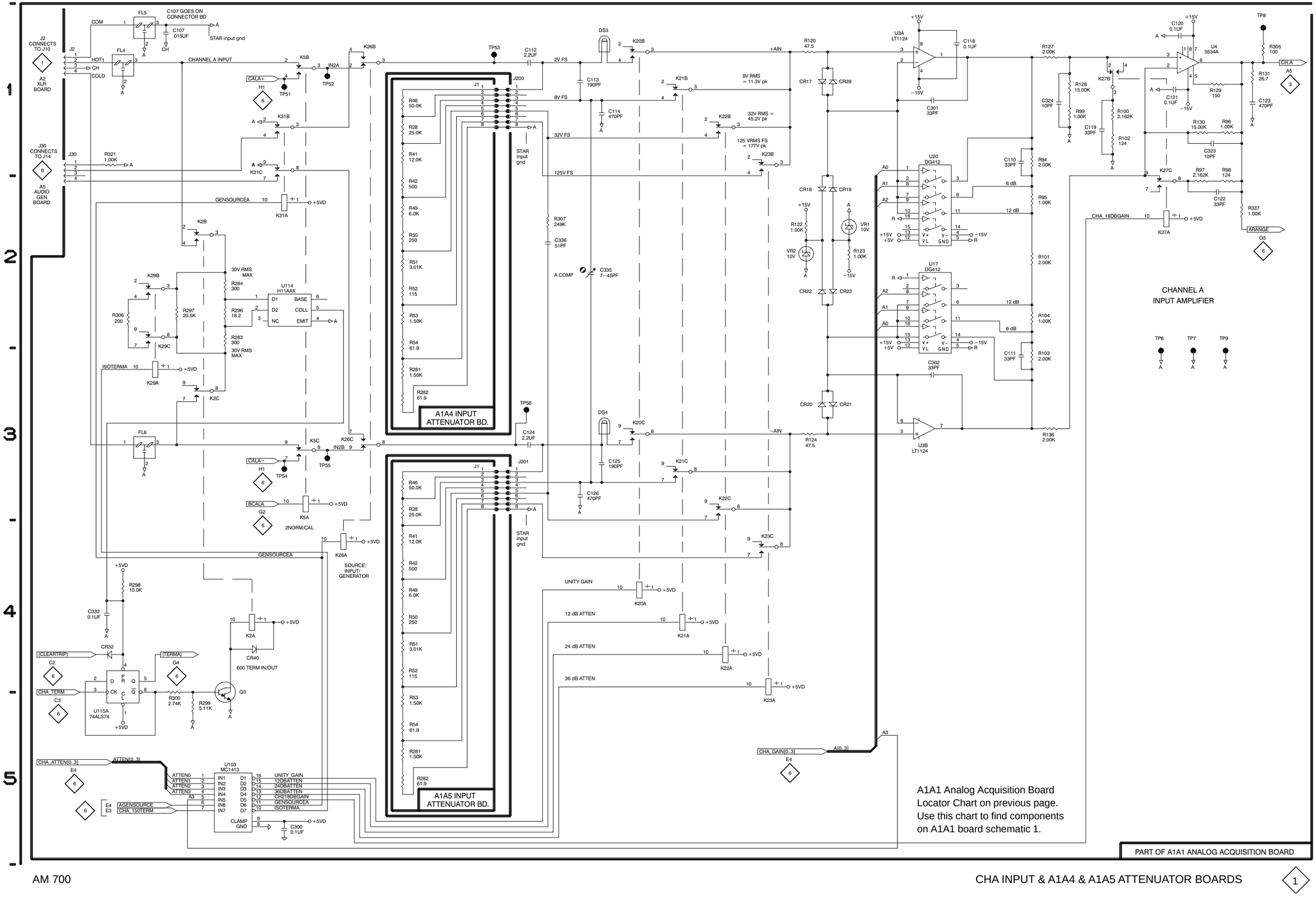
A1A1 Analog Acquisition Board located on back of page.



Static Sensitive Devices
See Maintenance Section

A1A1 Analog Acquisition Board

A1A1 Analog Acquisition Board Locator Chart on front of this page. Use this chart to find components on A1A1 board schematic 1.



A1A1 Analog Acquisition Board Locator Chart on previous page. Use this chart to find components on A1A1 board schematic 1.

PART OF A1A1 ANALOG ACQUISITION BOARD

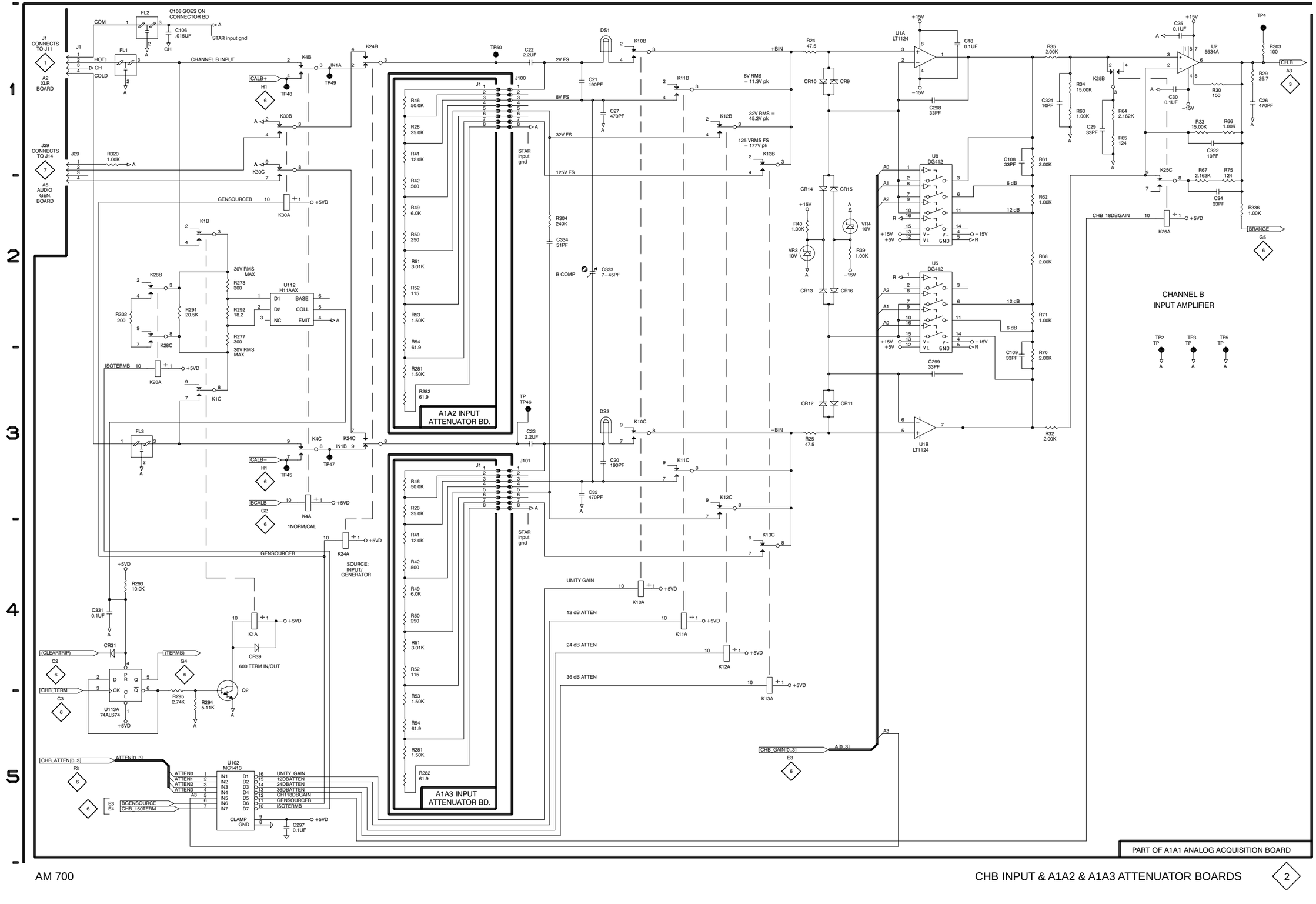
Analog Acquisition Board

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A1A1. Partial Assembly A1A1 also shown on schematic diagrams 1, 3, 4, 5, and 6.

Comp No	Diag Loc	Bd Loc
C18	F1	F1
C20	D3	B1
C21	D1	B1
C22	D1	A3
C23	D3	C3
C24	H2	F2
C25	H1	G1
C26	H1	F2
C27	D1	B1
C29	G1	E1
C30	H1	F1
C32	D3	B2
C106	A1	A1
C108	G1	D1
C109	G3	C2
C297	B5	J6
C298	F1	E1
C299	F3	E2
C321	G1	F1
C322	H1	F1
C331	A4	A5
C333	D2	B1
C334	D2	C1
CR9	F1	E1
CR10	E1	E1
CR11	F3	E2
CR12	E3	E2
CR13	E2	E2
CR14	E2	F2
CR15	F2	F2
CR16	F2	E2
CR31	A4	A4
CR39	B4	B2
DS1	D1	C1
DS2	D3	C2
FL1	A1	A1
FL2	A1	B1
FL3	A3	A1
J1	A1	B1
J29	A1	A2
J100	D1	D1
J101	D3	D2
K1A	B4	A2
K1B	B2	A2
K1C	B3	A2
K4A	B3	B2
K4B	B1	B2
K4C	B3	B2
K10A	D4	C1
K10B	D1	C1
K10C	D3	C1
K11A	E4	C2
K11B	E1	C2
K11C	E3	C2
K12A	E4	D1
K12B	E1	D1
K12C	E3	D1
K13A	E4	C2
K13B	E1	C2
K13C	E4	C2
K24A	B4	C2
K24B	C1	C2
K24C	C3	C2
K25A	H2	F1
K25B	G1	F1
K25C	H1	F1
K28A	A3	B1
K28B	A2	B1
K28C	A2	B1
K30A	B2	B2
K30B	B1	B2
K30C	B1	B2
Q2	B4	A4
R24	E1	E1
R25	E3	E2
R29	H1	F1
R30	H1	F1
R32	G3	F1
R33	H1	E1
R34	G1	E1
R35	G1	F1
R39	F2	F2
R40	E2	E2
R61	G1	D1
R62	G2	E1
R63	G1	E1
R64	G1	E1
R65	G1	E1
R66	H1	E1
R67	H2	F1
R68	G2	E1
R70	G3	C2
R71	G2	C2
R75	H2	F1
R277	B2	A1
R278	B2	A1
R291	A2	A1
R292	B2	A2
R293	A4	A4
R294	B5	A4
R295	A4	A4
R302	A2	B1
R303	H1	F2
R304	D2	D1
R320	A1	A2
R336	H2	H4
TP2	H3	A1
TP3	H3	D3
TP4	H1	F2
TP5	H3	J2
TP45	B3	B2
TP46	D3	B3
TP47	B3	C3
TP48	B1	B2
TP49	B1	C2
TP50	C1	B3
U1A	F1	F1
U1B	F3	F1
U2	H1	G1
U5	F2	D2
U8	F1	D2
U102	B5	J5
U112	B2	A2
U113A	A4	A5
VR3	E2	F2
VR4	F2	F2


CHANNEL B INPUT AMPLIFIER
A1A2 INPUT ATTENUATOR BD.
A1A3 INPUT ATTENUATOR BD.
PART OF A1A1 ANALOG ACQUISITION BOARD
J1 CONNECTS TO J11
A2 XLR BOARD
J29 CONNECTS TO J14
A5 AUDIO GEN. BOARD
CHANNEL B INPUT
STAR input gnd
+BIN
−BIN
2V FS
8V FS
32V FS
125V FS
8V RMS = 11.3V pk
32V RMS = 45.2V pk
125 VRMS FS = 177V pk
B COMP
CHB 18DBGAIN
CHB
BRANGE
GENSOURCEB
UNITY GAIN
12 dB ATTEN
24 dB ATTEN
36 dB ATTEN
SOURCE: INPUT/ GENERATOR
1NORM/CAL
600 TERM IN/OUT
CHB_ATTEN[0..3]
CHB_GAIN[0..3]
A[0..3]
U1A LT1124
U1B LT1124
U2 5534A
U8 DG412
U5 DG412
U112 H11AAX
U113A 74ALS74
U102 MC1413

Analog Acquisition Board

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A1A1. Partial Assembly A1A1 also shown on schematic diagrams 1, 2, 4, 5, and 6.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C127	F2	G1	C319	E2	H1	U31A	C2	I1
C129	C2	I1	C325	C2	J1	U31B	F2	I1
C130	C2	I2				U32A	G1	I1
C131	D2	H1	C326	C2	I1			
C132	G2	H2	C327	C4	H3	U32B	H1	I1
			C328	C4	H3	U33A	E2	I1
C133	H1	H2	C337	G5	H4	U33B	E2	I1
C138	D2	H1	C338	G2	J1	U34A	H1	H1
C139	G2	H2				U34B	H1	H1
C140	E4	G3	R137	G1	H1			
C141	G4	F4	R138	E2	H1	U34C	E1	H1
			R139	C2	I1	U34D	E1	H1
C142	C5	G3	R140	C2	I1	U35	B3	G2
C143	C4	G4	R141	F3	I1	U36	G2	J1
C144	D5	F3				U37	D4	F3
C145	G4	F4	R142	F2	I1			
C146	H4	G4	R143	F2	I2	U38	F4	F4
			R144	C2	J1	U39A	C5	H3
C151	D5	F3	R145	C2	J1	U39B	F5	H3
C152	G4	F4	R146	G4	G4	U40A	G4	G3
C303	D2	H1				U40B	H4	G3
C304	E2	I1	R147	E4	G3			
C305	E2	H1	R148	C4	G3	U41A	E4	G3
			R149	C5	G3	U41B	E4	G3
C306	G1	H1	R150	F5	H4	U42A	H4	F4
C307	G1	I1	R151	F5	G4	U42B	H3	F4
C308	G2	H1				U42C	E4	F4
C309	G3	J2	R152	F5	G4			
C310	D4	F3	R153	C4	H3	U42D	E4	F4
			R154	C4	H3	U43	G5	H3
C311	E4	G3	R308	G5	H4	U44A	A3	H2
C312	E4	F3	R309	G3	J1	U44B	A3	H2
C313	F4	F3						
C314	G4	F4	TP10	H2	F1			
C315	G4	G4	TP11	G2	J1			
			TP12	G5	G4			
C316	G5	I4						
C317	H4	G4	U29	D2	G1			
C318	H1	H2	U30	F1	H2			

BNF[0..12]
BNF[0..12]
CHB NOTCH FREQ DATA
BNF12
E4
6
U34B DG412-D
U34A DG412-D
U34C DG412-D
U34D DG412-D
V+ VL V- GND
+15V
-15V
+5VA
C133 .1UF
C318 3900PF
C307 0.1UF
C308 0.1UF
U32A 5532
U32B 5532
R137 2.00K
U30 AD7541
BNF0 BNF1 BNF2 BNF3 BNF4 BNF5 BNF6 BNF7 BNF8 BNF9 BNF10 BNF11
B12(LSB) B11 B10 B9 B8 B7 B6 B5 B4 B3 B2 B1(MSB)
VREF
OUT1
OUT2
RFEEDBK
VD+ GND
C306 22PF
C139 0.1UF
C132 10UF
TP10
C325 497PF
C326 65PF
R144 2.00K
R145 2.00K
R139 2.00K
R140 5.36K
C130 0.1UF
C129 0.1UF
U31A 5532
for Q=2.7
U29 AD7541
C303 22PF
C138 0.1UF
C131 10UF
C304 0.1UF
C305 0.1UF
U33A 5532
U33B 5532
R138 2.00K
C319 3900PF
C127 .1UF
R142 5.22K
R141 2.00K
R143 20.00K
U31B 5532
C338 10UF
TP11
R309 47.5K
U36 DG403
CHB_HIRES
CHB_HIBW
A2
A4
C309 0.1UF
NEAR U36
Logic "1" inserts notch.
C3 CHB_HRNOT
C3 CHB_HBNOT
H1 CH.B
U44B 74ALS32
U44A 74ALS32
CHB_NOTCH
CHA_NOTCH
U35 DG405
ANF[0..12]
ANF[0..12]
CHA NOTCH FREQ DATA
ANF12
U42B DG412-D
U42A DG412-D
U42C DG412-D
U42D DG412-D
C317 .1UF
C146 3900PF
C315 0.1UF
C141 0.1UF
U40A 5532
U40B 5532
R146 2.00K
U38 AD7541
ANF0 ANF1 ANF2 ANF3 ANF4 ANF5 ANF6 ANF7 ANF8 ANF9 ANF10 ANF11
C314 22PF
C152 0.1UF
C145 10UF
C327 497PF
C328 65PF
R153 2.00K
R148 2.00K
R154 2.00K
R149 5.36K
C143 0.1UF
C142 0.1UF
U39A 5532
U37 AD7541
C310 22PF
C151 0.1UF
C144 10UF
C311 0.1UF
C312 0.1UF
U41A 5532
U41B 5532
R147 2.00K
C140 3900PF
C313 .1UF
R151 5.22K
R150 2.00K
R152 20.00K
U39B 5532
C337 10UF
TP12
R308 47.5K
U43 DG403
CHA_HIRES
CHA_HIBW
A1
A5
C316 0.1UF
C3 CHA_HRNOT
C3 CHA_HBNOT
H1 CH.A
Logic "1" inserts notch.
PART OF A1A1 ANALOG ACQUISITION BOARD

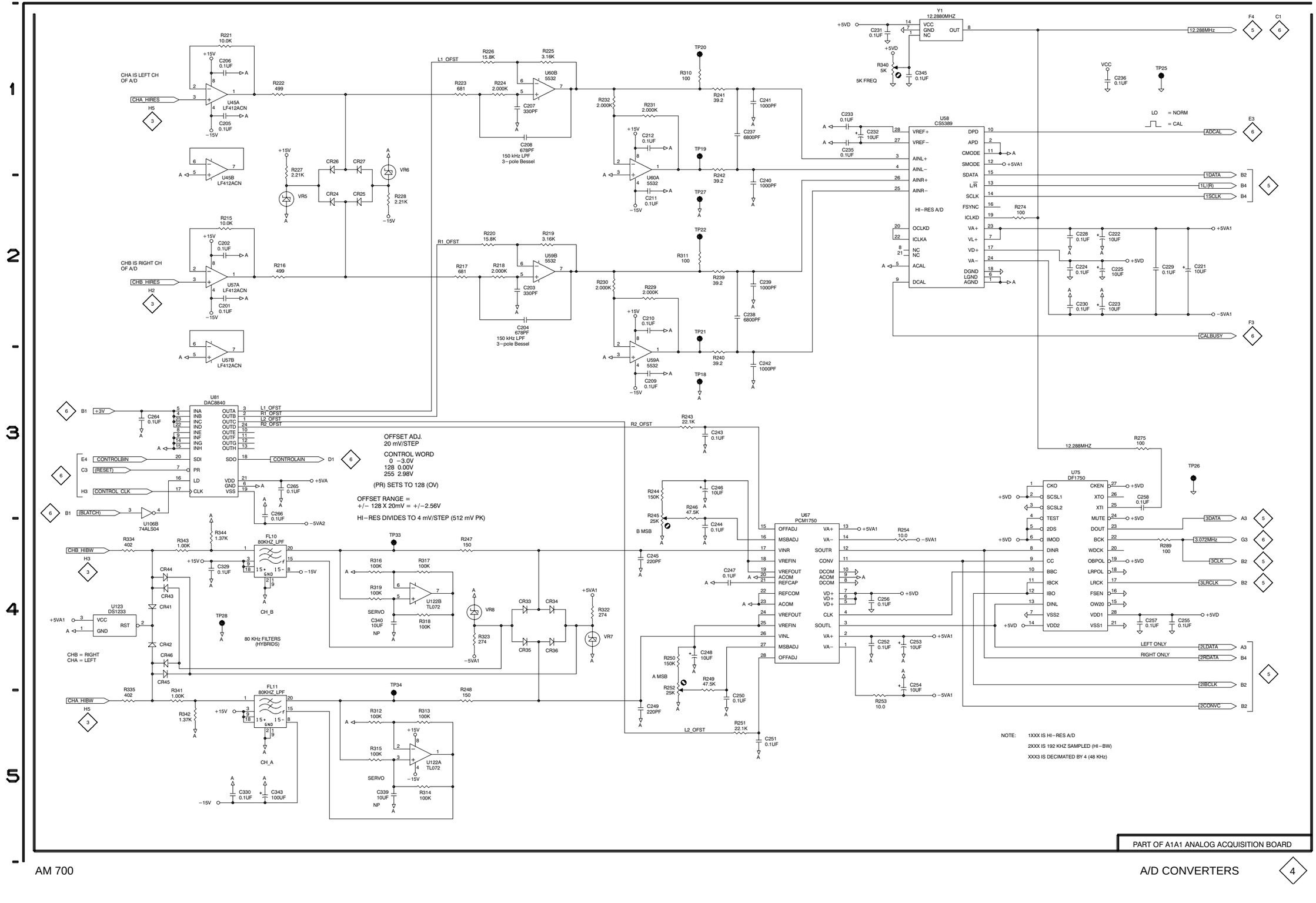
Analog Acquisition Board

Schematic Diagram <4> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A1A1. Partial Assembly A1A1 also shown on schematic diagrams 1, 2, 3, 5, and 6.

Comp No	Diag Loc	Bd Loc
C201	B2	H2
C202	B2	I2
C203	D2	I2
C204	D2	I2
C205	B1	I4
C206	B1	I4
C207	D1	G4
C208	D1	G4
C209	D3	J2
C210	D2	J2
C211	D2	H4
C212	D1	I4
C221	H2	K3
C222	G2	K3
C223	G2	L3
C224	G2	J3
C225	G2	K3
C228	G2	K3
C229	H2	K3
C230	G2	K3
C231	F1	J4
C232	F1	I3
C233	F1	I3
C235	F1	I3
C236	G1	K2
C237	E1	I4
C238	E2	J3
C239	E2	J3
C240	E2	J4
C241	E1	I4
C242	E3	J3
C243	E3	M2
C244	E4	M2
C245	D4	M1
C246	E3	N2
C247	E4	N2
C248	E4	N2
C249	D5	N1
C250	E5	N2
C251	E5	N2
C252	F4	M1
C253	F4	M1
C254	F4	M1
C255	H4	M3
C256	F4	N1
C257	G4	N3
C258	G3	N3
C264	A3	E3
C265	B3	E3
C266	B3	E3
C329	B4	L3
C330	B5	L3
C339	C5	M3
C340	C4	L3
C343	B5	L3
C345	F1	K5
CR24	B2	I3
CR25	C2	I3
CR26	B1	I3
CR27	C1	H3
CR33	D4	L1
CR34	D4	L1
CR35	D4	L2
CR36	D4	L2
CR41	A4	L4
CR42	A4	L4
CR43	A4	L3
CR44	A4	L2
CR45	A4	L3
CR46	A4	L3
FL10	B4	L1
FL11	B5	L2
R215	B2	I2
R216	B2	I2
R217	C2	I2
R218	C2	I2
R219	D2	J2
R220	C2	I2
R221	B1	I4
R222	B1	I4
R223	C1	I4
R224	C1	G4
R225	D1	H4
R226	C1	H4
R227	B1	H3
R228	C2	I3
R229	D2	J2
R230	D2	J3
R231	D1	I4
R232	D1	I4
R239	E2	J3
R240	E3	J2
R241	E1	I4
R242	E1	I4
R243	E3	M2
R244	D3	M2
R245	D3	M2
R246	E3	M2
R247	C4	M1
R248	C5	N1
R249	E4	N2
R250	E4	N2
R251	E5	N2
R252	E4	N2
R253	F5	N1
R254	F4	L1
R274	G2	K4
R275	G3	K4
R289	H4	M3
R310	E1	J4
R311	E2	J3
R312	C5	M2
R313	C5	M2
R314	C5	L2
R315	C5	M2
R316	C4	M3
R317	C4	M3
R318	C4	M3
R319	C4	L2
R322	D4	L1
R323	C4	L2
R334	A4	L4
R335	A5	L4
R340	F1	K5
R341	A5	
R342	B5	
R343	A4	
R344	B4	
TP18	E3	J4
TP19	E1	J4
TP20	E1	J4
TP21	E2	K2
TP22	E2	J3
TP25	H1	M7
TP26	H3	M4
TP27	E2	I3
TP28	B4	K1
TP33	C4	K1
TP34	C5	K1
U45A	B1	I3
U45B	B1	I3
U57A	B2	H2
U57B	B2	H2
U58	F1	J3
U59A	D2	J2
U59B	D2	J2
U60A	D1	H4
U60B	D1	H4
U67	E4	N1
U75	G3	N2
U81	B3	D3
U106B	A3	B5
U122A	C5	M3
U122B	C4	M3
U123	A4	L3
VR5	B2	H3
VR6	C1	I3
VR7	D4	M1
VR8	C4	M1
Y1	F1	J4


CHA IS LEFT CH OF A/D
CHA_HIRES
CHB IS RIGHT CH OF A/D
CHB_HIRES
CHB_HIBW
CHA_HIBW
L1_OFST
R1_OFST
L2_OFST
R2_OFST
U45A LF412ACN
U45B LF412ACN
U57A LF412ACN
U57B LF412ACN
U60A 5532
U60B 5532
U59A 5532
U59B 5532
U122B TL072
U122A TL072
FL10 80KHZ_LPF
FL11 80KHZ_LPF
80 KHz FILTERS (HYBRIDS)
CH_B
CH_A
U81 DAC8840
OFFSET ADJ. 20 mV/STEP
CONTROL WORD
0 −3.0V
128 0.00V
255 2.98V
(PR) SETS TO 128 (OV)
OFFSET RANGE = +/− 128 X 20mV = +/−2.56V
HI−RES DIVIDES TO 4 mV/STEP (512 mV PK)
U106B 74ALS04
U123 DS1233
CHB = RIGHT
CHA = LEFT
U58 CS5389
HI−RES A/D
U67 PCM1750
U75 DF1750
Y1 12.2880MHZ
5K FREQ
LO = NORM
= CAL
ADCAL
1DATA
1L/(R)
1SCLK
CALBUSY
3DATA
3.072MHz
3CLK
3LRCLK
LEFT ONLY
RIGHT ONLY
2LDATA
2RDATA
2IBCLK
2CONVC
NOTE: 1XXX IS HI−RES A/D
2XXX IS 192 KHZ SAMPLED (HI−BW)
XXX3 IS DECIMATED BY 4 (48 KHz)
PART OF A1A1 ANALOG ACQUISITION BOARD

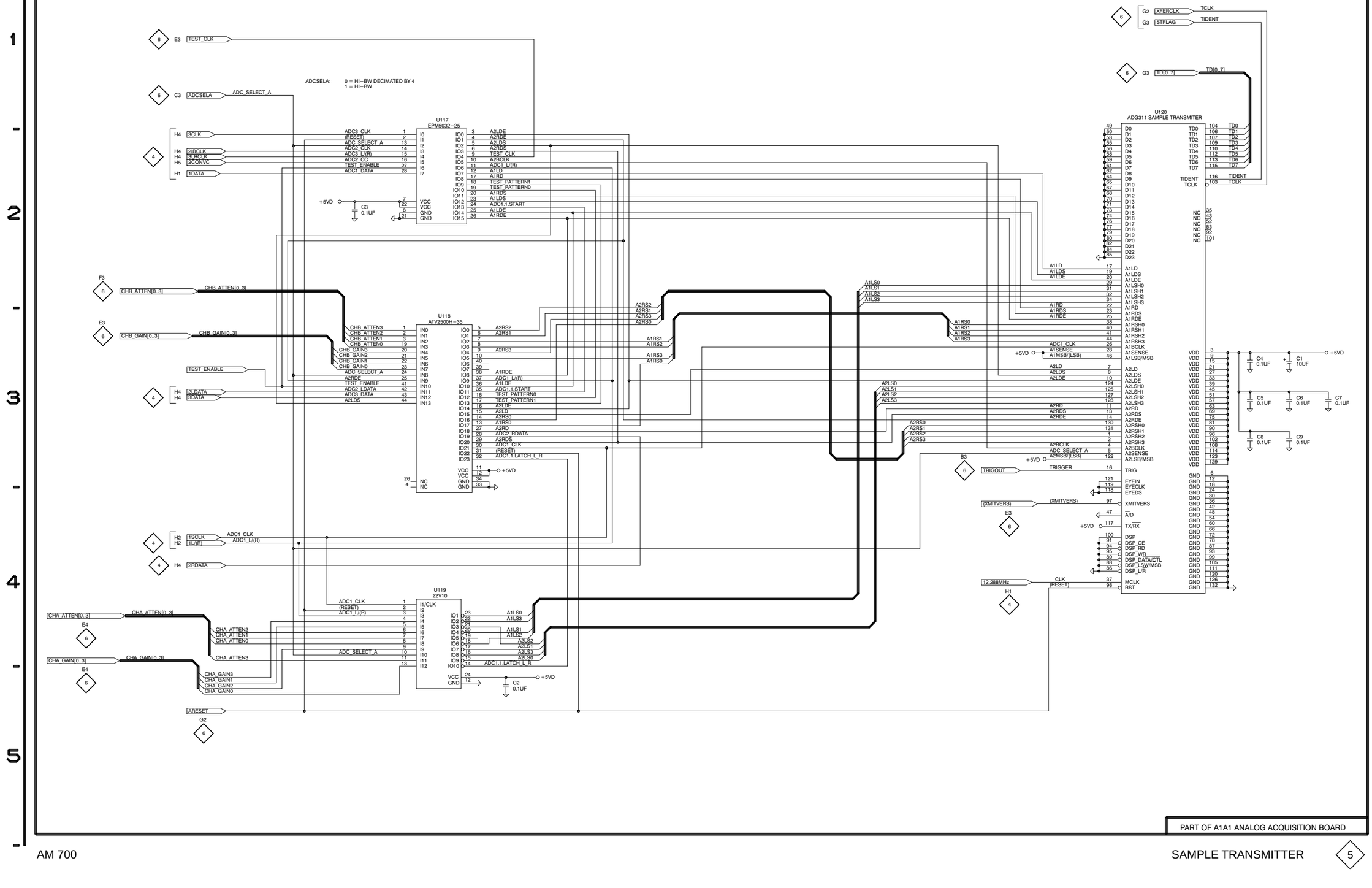
Analog Acquisition Board

Schematic Diagram <5> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A1A1. Partial Assembly A1A1 also shown on schematic diagrams 1, 2, 3, 4, and 6.

Comp No	Diag Loc	Bd Loc
C1	H3	L6
C2	C5	N5
C3	B2	M5
C4	H3	K7
C5	H3	J6
C6	H3	J5
C7	H3	K5
C8	H3	L6
C9	H3	L5
U117	C2	N5
U118	C3	M6
U119	C4	N5
U120	G1	L5


ADCSELA: 0 = HI-BW DECIMATED BY 4
1 = HI-BW
U117
EPM5032-25
U118
ATV2500H-35
U119
22V10
U120
ADG311 SAMPLE TRANSMITTER
PART OF A1A1 ANALOG ACQUISITION BOARD

Analog Acquisition Board

Schematic Diagram <6> Component Locator Chart

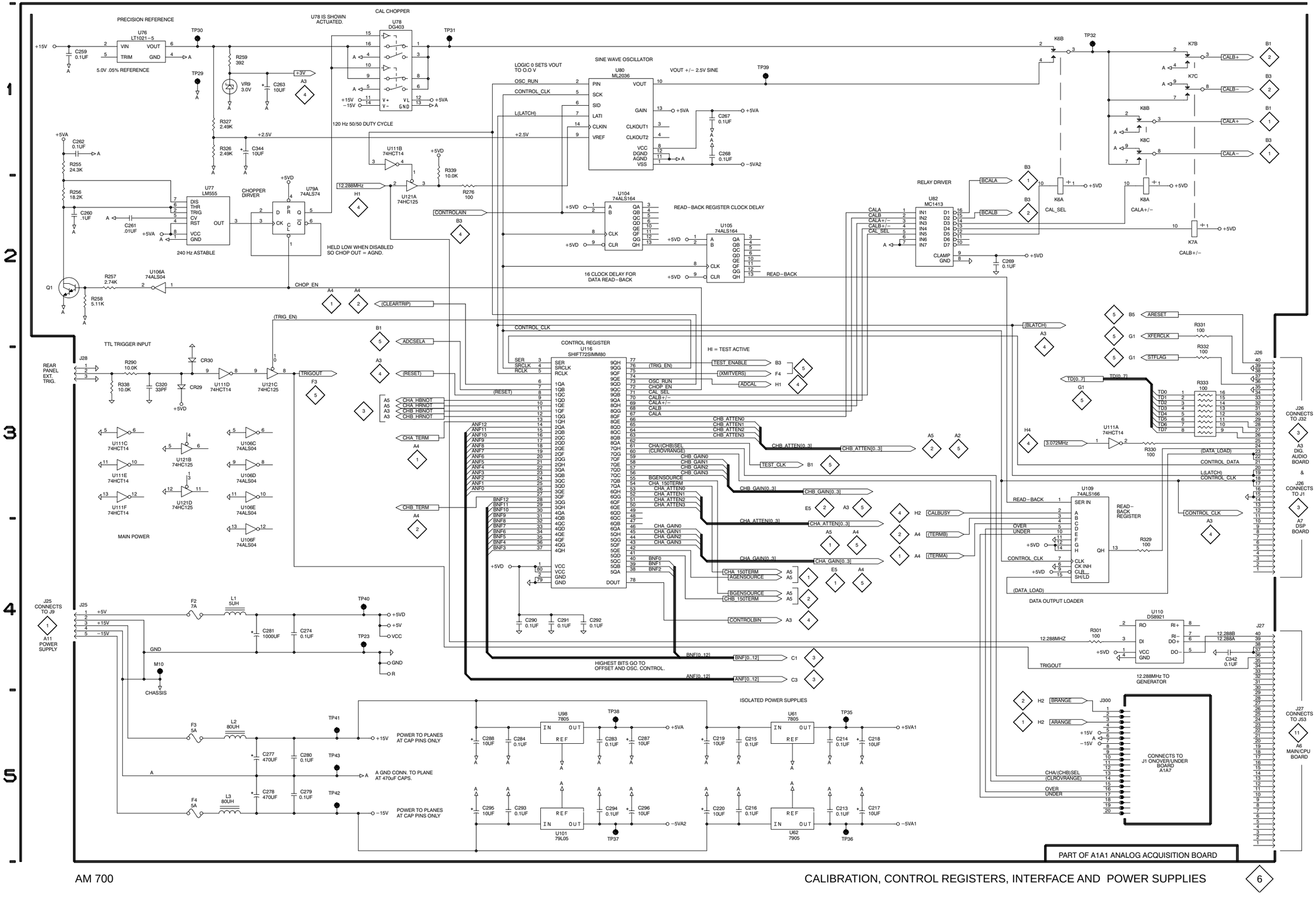
The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

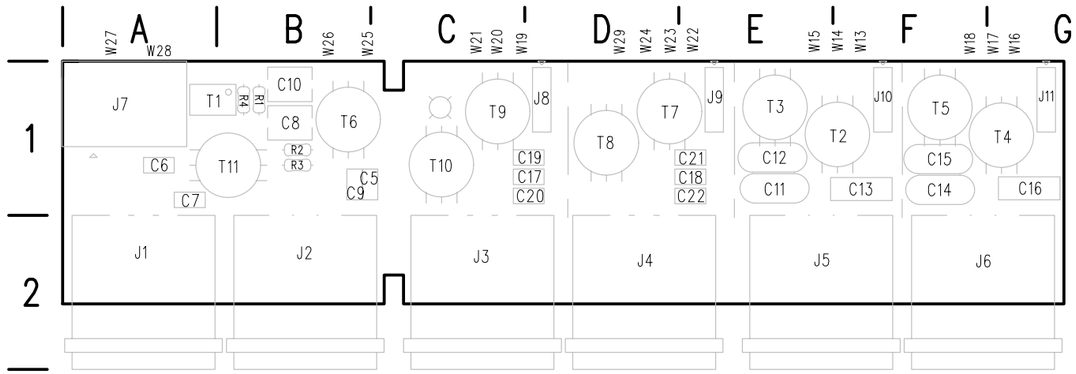
Assembly A1A1. Partial Assembly A1A1 also shown on schematic diagrams 1, 2, 3, 4, and 5.

Comp No	Diag Loc	Bd Loc
C213	F5	K2
C214	F5	J2
C215	E5	J2
C216	E5	K2
C217	F5	K2
C218	F5	J2
C219	E5	J2
C220	E5	K2
C259	A1	B4
C260	A2	A3
C261	A2	A3
C262	A1	A3
C263	B1	D4
C267	E1	C3
C268	E1	C3
C269	G2	D4
C274	B4	G7
C277	B5	H7
C278	B5	G5
C279	B5	H5
C280	B5	G6
C281	B4	G7
C283	D5	K1
C284	D5	K1
C287	D5	K1
C288	C5	J1
C290	D4	M6
C291	D4	N7
C292	D4	N3
C293	D5	E3
C294	D5	E3
C295	C5	E3
C296	D5	D3
C320	A3	J7
C342	H4	A7
C344	B1	B3
CR29	A3	J7
CR30	B3	J7
F2	B4	G8
F3	B5	H6
F4	B5	I6

Comp No	Diag Loc	Bd Loc
J25	A4	I7
J26	H3	L7
J27	H4	B7
J28	A3	I7
J300	G5	F5
K6A	G2	B4
K6B	G1	B4
K7A	H2	C4
K7B	H1	
	C4	
K7C	H1	C4
K8A	G2	B4
K8B	G1	B4
K8C	G1	B4
L1	B4	G7
L2	B5	H6
L3	B5	H6
Q1	A2	B3
R255	A1	A3
R256	A2	A3
R257	A2	B3
R258	A2	B3
R259	B1	C4
R276	C2	J8
R290	A3	J7
R301	G4	J4
R326	B1	B3
R327	B1	B3
R329	G4	K7
R330	G3	K7
R331	H2	M7
R332	H3	M7
R333	H3	M7
R338	A3	J7
R339	C1	J8
TP23	C4	J6
TP29	B1	A4
TP30	B1	D4
TP31	C1	C3
TP32	G1	A4

Comp No	Diag Loc	Bd Loc
TP35	F5	K1
TP36	F5	K1
TP37	D5	D3
TP38	D5	J2
TP39	E1	B5
TP40	C4	G7
TP41	B5	G6
TP42	B5	H5
TP43	B5	G6
U61	E5	K2
U62	E5	L2
U76	A1	B4
U77	B2	A3
U78	C1	C4
U79A	B2	A4
U80	D1	C3
U82	F2	E4
U98	D5	K1
U101	D5	D3
U104	D2	D4
U105	E2	E4
U106A	A2	B5
U106C	B3	B5
U106D	B3	B5
U106E	B3	B5
U106F	B4	B5
U109	G3	J6
U110	G4	J8
U111A	G3	K7
U111B	C1	K7
U111C	A3	K7
U111D	B3	K7
U111E	A3	K7
U111F	A3	K7
U116	D3	N5
U121A	C2	K7
U121B	B3	K7
U121C	B3	K7
U121D	B3	K7
VR9	B1	D3


PRECISION REFERENCE
U76 LT1021−5
5.0V .05% REFERENCE
U78 IS SHOWN ACTUATED.
CAL CHOPPER
U78 DG403
SINE WAVE OSCILLATOR
U80 ML2036
LOGIC 0 SETS VOUT TO 0.0 V
VOUT +/− 2.5V SINE
120 Hz 50/50 DUTY CYCLE
U77 LM555
240 Hz ASTABLE
CHOPPER DRIVER
U79A 74ALS74
HELD LOW WHEN DISABLED SO CHOP OUT = AGND.
12.288MHz
U111B 74HCT14
U121A 74HC125
U104 74ALS164
U105 74ALS164
READ−BACK REGISTER CLOCK DELAY
16 CLOCK DELAY FOR DATA READ−BACK
READ−BACK
U106A 74ALS04
CHOP_EN
(CLEARTRIP)
(TRIG_EN)
CONTROL_CLK
TTL TRIGGER INPUT
REAR PANEL EXT. TRIG.
U111D 74HCT14
U121C 74HC125
TRIGOUT
CONTROL REGISTER
U116 SHIFT72SIMM80
HI = TEST ACTIVE
ADCSELA
(RESET)
CHA_HBNOT
CHA_HRNOT
CHB_HBNOT
CHB_HRNOT
CHA_TERM
CHB_TERM
CHB_ATTEN0
CHB_ATTEN1
CHB_ATTEN2
CHB_ATTEN3
CHB_ATTEN[0..3]
CHA/(CHB)SEL
(CLROVRANGE)
CHB_GAIN0
CHB_GAIN1
CHB_GAIN2
CHB_GAIN3
CHB_GAIN[0..3]
BGENSOURCE
CHA_150TERM
CHA_ATTEN0
CHA_ATTEN1
CHA_ATTEN2
CHA_ATTEN3
CHA_ATTEN[0..3]
CHA_GAIN0
CHA_GAIN1
CHA_GAIN2
CHA_GAIN3
CHA_GAIN[0..3]
AGENSOURCE
CHB_150TERM
CONTROLBIN
BNF[0..12]
ANF[0..12]
HIGHEST BITS GO TO OFFSET AND OSC. CONTROL.
TEST_ENABLE
(XMITVERS)
ADCAL
TEST_CLK
CALBUSY
(TERMB)
(TERMA)
RELAY DRIVER
U82 MC1413
BCALA
BCALB
CAL_SEL
CALA
CALB
CALA+/−
CALB+/−
CLAMP
K6B
K6A
K7B
K7C
K8B
K8C
K7A
K8A
CALB+
CALB−
CALA+
CALA−
U109 74ALS166
READ−BACK REGISTER
OVER UNDER
CONTROL_CLK
(DATA_LOAD)
DATA OUTPUT LOADER
U110 DS8921
12.288MHZ
TRIGOUT
12.288MHz TO GENERATOR
ARESET
XFERCLK
STFLAG
TD[0..7]
U111A 74HCT14
3.072MHz
(DATA_LOAD)
CONTROL_DATA
L(LATCH)
CONTROL_CLK
J26 CONNECTS TO J32
J26 CONNECTS TO J1
J27 CONNECTS TO J53
A3 DIG. AUDIO BOARD
A7 DSP BOARD
A6 MAIN/CPU BOARD
J300
BRANGE
ARANGE
CONNECTS TO J1 ONOVER/UNDER BOARD A1A7
U111C 74HCT14
U121B 74HC125
U106C 74ALS04
U111E 74HCT14
U121D 74HC125
U106D 74ALS04
U111F 74HCT14
U106E 74ALS04
U106F 74ALS04
MAIN POWER
J25 CONNECTS TO J9
A11 POWER SUPPLY
F2 7A
F3 5A
F4 5A
L1 5UH
L2 80UH
L3 80UH
C281 1000UF
C277 470UF
C278 470UF
C274 0.1UF
C280 0.1UF
C279 0.1UF
M10
CHASSIS
POWER TO PLANES AT CAP PINS ONLY
A GND CONN. TO PLANE AT 470uF CAPS.
ISOLATED POWER SUPPLIES
U98 7805
U101 79L05
U61 7805
U62 7905
C288 10UF
C284 0.1UF
C283 0.1UF
C287 10UF
C295 10UF
C293 0.1UF
C294 0.1UF
C296 10UF
C219 10UF
C215 0.1UF
C214 0.1UF
C218 10UF
C220 10UF
C216 0.1UF
C213 0.1UF
C217 10UF
C290 0.1UF
C291 0.1UF
C292 0.1UF
C342 0.1UF
PART OF A1A1 ANALOG ACQUISITION BOARD



Static Sensitive Devices
See Maintenance Section

A2 XLR Board

XLR Board

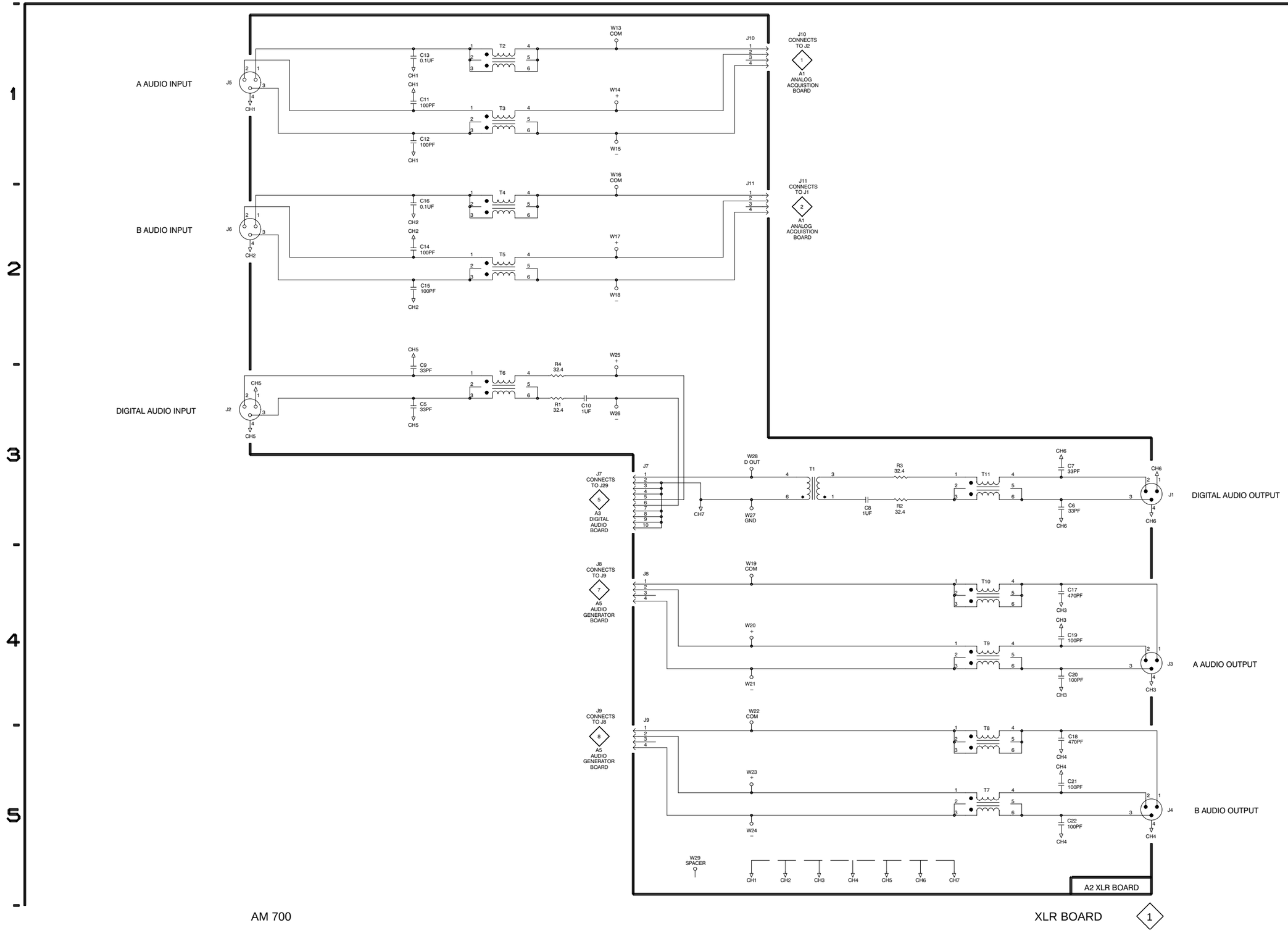
Schematic Diagram <1>

Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A2

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C5	C3	B1	J4	G5	D1	T10	F4	C1
C6	G3	A1	J5	B1	E1	T11	F3	B1
C7	G3	A1						
C8	E3	B1	J6	B2	F1	W13	D1	F1
C9	C3	B1	J7	D3	A1	W14	D1	F1
			J8	D4	D1	W15	D1	E1
C10	D3	B1	J9	D5	E1	W16	D2	G1
C11	C1	E1	J10	E1	F1	W17	D2	G1
C12	C1	E1	J11	E2	G1			
C13	C1	F1				W18	D2	F1
C14	C2	F1	R1	D3	B1	W19	E4	D1
			R2	F3	B1	W20	E4	C1
C15	C2	F1	R3	F3	B1	W21	E4	C1
C16	C2	G1	R4	D3	B1	W22	E4	E1
C17	G4	C1						
C18	G5	E1	T1	E3	A1	W23	E5	D1
C19	G4	C1	T2	C1	F1	W24	E5	D1
			T3	C1	E1	W25	D3	C1
C20	G4	C1	T4	C2	G1	W26	D3	B1
C21	G5	E1	T5	C2	F1	W27	E3	A1
C22	G5	E1						
			T6	C3	C1	W28	E3	A0
J1	G3	A1	T7	F5	E1	W29	D5	D1
J2	B3	B1	T8	F5	D1			
J3	G4	C1	T9	F4	C1			



AM 700

XLR BOARD 1

AM700

A3 Digital Audio Board Component Locator *(with cross-references to schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12)*

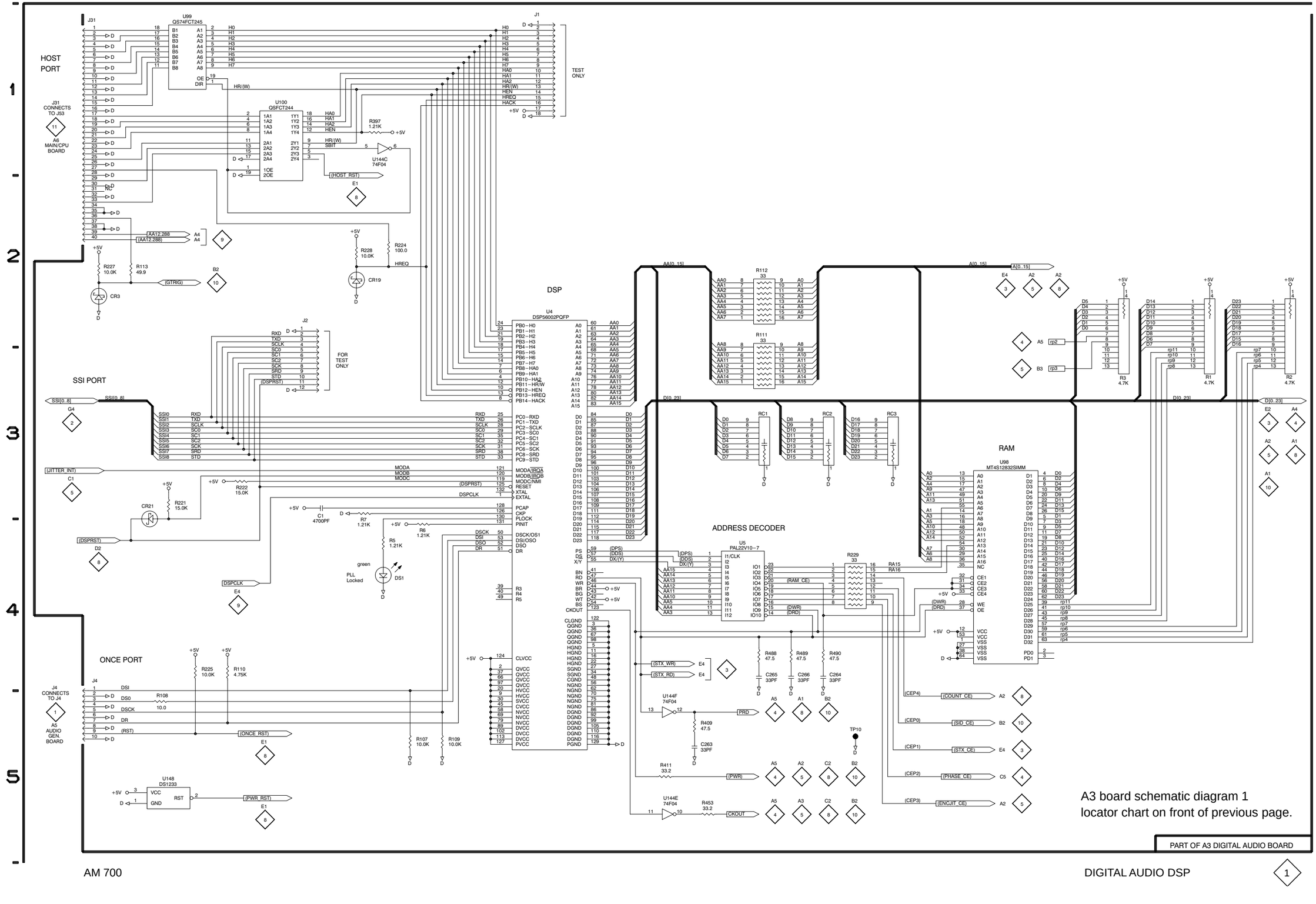
Use the circuit board table below for A3 board schematic <1>.

Comp No	Diag No	Diag Loc	Bd Loc
C1	1	B3	I4
C5	12	C4	A5
C6	12	C4	A5
C7	12	D4	B5
C8	12	D4	A5
C9	12	E4	B5
C10	12	E4	C5
C11	12	E3	C5
C21	6	E3	F9
C23	4	G3	L9
C24	4	F3	M9
C25	4	F3	M9
C26	4	G3	K9
C27	4	F3	L9
C28	4	F3	L9
C29	4	D3	M8
C31	4	F3	L9
C32	4	D3	M8
C33	5	E2	J8
C34	5	F2	I9
C35	5	G2	I8
C37	5	G2	I9
C39	5	D2	J9
C40	5	E2	J9
C42	5	F3	J9
C44	5	G3	J8
C47	6	C3	G9
C48	6	G3	C7
C49	6	C3	G8
C50	6	B3	G8
C51	6	B3	G8
C53	6	G3	B8
C56	6	C2	D9
C57	6	C2	D9
C61	6	F4	B9
C62	6	B4	D8
C63	6	F4	A9
C64	6	E3	E9
C65	7	G2	A4
C66	7	F2	A4
C67	7	E2	B4
C68	7	F5	A2
C69	7	E5	B3
C70	7	D2	B4
C71	7	D4	B3
C75	7	G5	A3
C76	7	E5	A3
C78	7	E4	B3
C81	7	E2	B4
C84	7	E4	B3
C85	8	B5	K5
C86	8	B5	L6
C87	8	B5	J7
C89	8	C5	G5
C90	8	C5	F2
C91	8	C5	I6
C92	8	C5	I4
C93	8	C5	J5
C94	8	D5	H5
C95	8	D5	H5
C96	8	B5	H6
C97	8	B5	E1
C98	8	B5	D5
C99	8	C5	I7
C100	8	C5	D1
C101	8	C5	K7
C102	8	C5	J6
C103	8	C5	G7
C104	8	D5	K4
C105	8	D5	J6
C106	8	B5	H6
C107	8	B5	I2
C108	8	B5	G2
C109	8	C5	G6
C110	8	C5	G5
C111	8	C5	G3
C112	8	C5	N7
C113	8	C5	H4
C114	8	D5	G1
C115	8	D5	H3
C116	8	B5	J3
C117	8	B5	K2
C118	8	B5	C1
C119	8	C5	F5
C120	8	C5	F3
C121	8	C5	C2
C122	8	B3	E3
C123	8	B4	C2
C124	8	C4	D2
C125	8	C3	E2
C126	8	C4	D2
C127	8	B5	F1
C129	9	C2	F4
C130	9	C4	E4
C131	9	C1	G4
C132	9	C2	F3
C133	9	C3	E5
C134	9	C4	E4
C135	8	C5	J2
C136	3	F3	L2
C137	3	F3	L4
C138	3	G3	K6
C139	3	G3	N3
C140	3	G2	N3
C141	4	H4	K8
C142	4	C2	L8
C143	4	C2	L7
C144	4	C2	L8
C147	5	D2	J9
C148	5	D3	K9
C149	5	D2	K9
C150	5	G2	I8
C151	5	G2	H9
C152	5	G3	H8
C153	5	D5	K8
C154	5	D5	K8
C155	5	D5	J8
C157	5	C2	G9
C158	6	G4	A8
C160	6	E3	E9
C161	6	F4	A9
C162	6	F3	A8
C163	6	F3	A8
C164	6	F3	A8
C165	6	E3	A8
C166	7	D4	B2
C167	7	B2	C4
C168	7	G4	B2
C170	7	C4	C3
C171	7	D1	B4
C172	8	B4	C3
C173	8	C3	C4
C174	9	B1	E6
C177	11	D1	D7
C179	11	F2	D8
C180	11	F2	E8
C181	11	G2	D9
C182	11	E1	E9
C183	11	B1	E7
C184	11	F1	E8
C185	11	E1	E8
C186	11	C3	D6
C187	11	C3	D6
C188	11	C3	E6
C189	11	C3	D6
C190	11	D3	E5
C191	11	D3	E6
C192	11	D3	D6
C193	11	D3	D6
C194	11	E3	E6
C195	11	D5	H7
C196	11	D5	E7
C197	11	E5	F7
C199	11	D5	G7
C202	11	E1	E8
C203	11	B1	F8
C204	11	B1	F9
C205	12	E2	B7
C206	12	E2	A7
C207	12	H2	C6
C208	12	H2	C6
C209	12	G1	B7
C210	12	G1	B7
C211	12	C4	B5
C212	12	C5	C5
C213	12	A3	B5
C214	12	A4	A6
C215	12	D2	A7
C216	12	D2	A7
C217	12	C2	B6
C218	12	C2	C7
C219	12	E1	A8
C220	12	E1	B8
C221	12	G1	B6
C222	12	G1	B6
C223	8	G2	D4
C224	8	H2	C3
C226	8	F2	C5
C227	8	F2	C4
C230	8	G2	D4
C232	8	B3	D4
C234	7	D2	A4
C235	7	D2	B3
C236	7	D2	B3
C237	7	E2	A3
C238	7	D5	A3
C239	7	D5	B3
C240	7	D4	B3
C241	7	E4	A3
C242	9	C1	E4
C243	11	H2	D7
C244	4	E4	L8
C245	4	D3	M8
C246	4	D2	N7
C247	6	C3	G8
C248	6	C3	G9
C250	11	C4	G7
C251	11	B5	H7
C252	11	C5	G8
C253	11	C4	F7
C254	11	C5	G7
C255	11	E4	F8
C256	4	C3	J7
C257	8	H3	K1
C258	8	H4	K1
C259	8	H4	K1
C260	8	H4	K1
C261	5	C4	N8
C262	9	G4	I1
C263	1	E5	H6
C264	1	E4	M5
C265	1	E4	M5
C266	1	E4	M6
C267	11	F3	E7
C268	4	D1	L8
C269	4	D1	M8
C270	5	H2	H8
C271	6	G3	B7
C272	11	G3	D6
C273	11	F3	D6
C274	11	G2	D9
CR3	1	A2	B1
CR7	2	D2	G6
CR8	2	D2	G6
CR9	4	F3	L8
CR16	7	E2	B4
CR18	7	E4	B2
CR19	1	C2	C1
CR21	1	A3	G2
CR22	6	G4	B8
CR23	6	G4	A8
CR24	11	F1	E8
CR25	8	H2	D4
CR27	4	H3	K7
CR30	11	H1	F5
CR31	4	F3	L8
CR32	11	C5	G8
CR33	11	D4	G8
CR34	12	D4	B5
CR35	12	D4	B5
CR36	11	F1	E7
DS1	1	C4	N1
DS2	10	C1	I1
F1	2	B2	B8
F2	2	B1	B8
F3	8	A5	F1
J1	1	D1	J4
J2	1	B2	H6
J4	1	A4	H6
J27	2	B2	C8
J29	5	H2	H8
J30	8	A4	E2
J31	1	A1	B1
J32	3	H1	K1
J33	8	H4	K1
L1	4	F3	L8
L2	4	G3	L9
L5	7	F2	B4
L7	7	F4	B2
L10	8	B4	C2
L11	8	B3	F2
L14	4	D1	L8
L15	5	D2	J9
L16	11	F1	E8
L18	12	C2	B6
L19	4	D2	L8
L20	8	B5	F2
L21	9	G4	I1
L22	9	G4	I2
L23	9	G4	I1
L24	9	G4	I1
Q4	7	G2	A4
Q7	5	D3	J9
Q8	5	C3	J9
Q10	12	B4	B5
Q11	12	B4	A5
Q12	4	H3	K8
Q13	4	H3	K8
Q14	7	G4	B2
Q15	7	G4	B2
Q16	11	H1	D8
Q17	11	H1	C8
Q18	4	E4	L8
Q19	4	E3	L8
Q20	9	C3	E5
Q21	9	C1	F4
Q22	11	G2	E8
Q23	11	G2	E9
R1	1	H2	L5
R2	1	H2	L4
R3	1	G2	L5
R5	1	C4	H4
R6	1	C4	H4
R7	1	C3	I4
R8	12	D4	B5
R17	12	C4	A5
R19	12	C4	A5
R21	12	B4	A5
R22	12	E4	B5
R107	1	C5	I6
R108	1	A5	H6
R109	1	C5	H6
R110	1	B4	H6
R111	1	E2	J4
R112	1	E2	J5
R113	1	A2	B1
R122	2	C3	F5
R123	2	C3	F5
R124	2	E2	G5
R128	4	E3	L9
R129	4	E3	M8
R131	4	E3	M9
R132	4	E3	M8
R136	4	D3	M8
R137	4	D3	M8
R138	4	D3	M8
R139	4	D3	M8
R140	4	F3	L8
R144	5	D3	K8
R145	5	D3	J9
R146	5	C3	K8
R148	5	E3	J9
R150	5	E1	J8
R151	5	E2	J8
R152	5	E2	J8
R153	5	G2	I8
R156	5	F2	I9
R158	5	G2	I8
R162	5	G2	I8
R165	5	G2	I8
R166	5	H2	I8
R170	6	B3	G8
R173	6	C3	G9
R174	6	H3	C7
R175	6	C3	G9
R176	6	B3	G8
R177	6	B3	G8
R178	6	B3	G8
R179	6	B3	G8
R181	6	C4	G9
R182	6	G3	B7
R183	6	G3	B7
R185	6	C2	G9
R186	6	C2	E9
R187	6	B2	E9
R188	6	B2	D9
R193	6	B4	D8
R197	6	D3	E9
R198	6	E3	E9
R199	7	G2	A4
R213	7	E2	A3
R214	7	E4	B3
R216	9	A3	D5
R218	9	C1	F4
R219	9	C3	E5
R221	1	A3	I4
R222	1	B3	I4
R224	1	C2	C1
R225	1	B4	I2
R227	1	A2	C1
R228	1	C2	C1
R229	1	F4	L4
R231	3	F2	M3
R232	3	G2	N2
R233	3	G2	M2
R234	3	H3	K2
R235	3	G2	N2
R236	4	H3	K8
R238	4	H4	K7
R240	4	D3	N8
R241	4	D3	N8
R244	4	B1	L8
R245	4	B1	L8
R246	5	D2	K9
R247	5	D3	J8
R248	5	E2	J9
R249	5	E3	J8
R250	5	D2	K9
R251	5	C3	K9
R252	5	C4	K8
R253	5	C4	K8
R256	5	C2	K8
R257	6	E3	A8
R258	6	G4	B8
R259	6	G4	A8
R260	6	G4	B9
R266	6	H3	C7
R267	6	G3	B7
R268	6	E3	A8
R269	6	D3	F9
R273	6	B4	D8
R284	7	G2	A4
R285	7	G4	A2
R286	7	C2	C4
R287	7	G2	A4
R290	7	B2	C5
R292	7	B2	H3
R293	7	C4	C3
R294	8	B4	C3
R299	10	C1	J1
R304	11	H2	D8
R307	11	F1	E8
R315	11	C4	D6
R316	11	C4	D6
R317	11	D4	D6
R318	11	D4	D5
R319	11	D5	G8
R320	11	E5	F7
R323	11	E1	E8
R324	11	E2	E7
R325	11	E2	E7
R326	11	F3	E7
R327	11	F3	E7
R328	11	E2	E7
R329	11	E3	E6
R330	11	D3	E6
R331	11	D3	E6
R332	11	C3	D6
R333	11	C3	D6
R334	11	C3	D6
R335	11	D3	E6
R338	11	E1	E8
R339	11	C1	F8
R340	11	B1	F8
R341	11	B1	D7
R342	11	B1	D7
R343	11	B1	F8
R344	11	B1	F8
R346	12	D2	A7
R347	12	E2	A7
R348	12	E1	A7
R350	12	E1	A7
R351	12	E1	A7
R352	12	E1	B7
R353	12	F1	B7
R355	12	F1	B7
R356	12	G1	B6
R357	12	G1	B6
R358	12	G1	B6
R361	12	G2	B6
R362	12	H2	B6
R364	12	A3	B5
R365	12	A4	B5
R366	12	A4	A6
R367	12	A4	A6
R370	12	B4	A5
R371	12	B4	A5
R373	12	H3	B6
R374	12	H3	B6
R375	12	A4	A6
R376	12	A4	A6
R377	12	A4	B5
R378	12	E2	A6
R379	12	E2	A6
R380	12	C2	A6
R381	12	C2	A6
R382	12	B5	C5
R383	12	C5	C5
R384	12	B5	B5
R385	12	C4	B5
R386	12	H2	C6
R387	8	H2	D4
R388	8	H2	D4
R390	8	F2	C5
R391	8	F2	C5
R394	3	E4	K2
R395	12	B4	A5
R396	12	C4	A5
R397	1	C1	C1
R398	7	G2	A4
R399	8	B3	D3
R400	8	F2	D4
R401	8	F2	D4
R403	9	E2	G3
R404	8	B2	J2
R409	1	E5	I6
R411	1	D5	I6
R412	3	H3	K2
R415	4	H3	K7
R416	4	H3	J7
R417	5	C1	K7
R418	7	D2	B4
R419	7	D2	B3
R420	7	D2	A3
R421	7	D2	B4
R422	7	D2	B3
R423	7	D2	A3
R424	7	D4	B3
R425	7	D4	B3
R426	7	D4	A3
R427	7	D4	B3
R428	7	D4	B3
R429	7	D4	A3
R430	7	E5	C3
R431	7	E4	B3
R432	7	G4	B2
R434	9	D1	F3
R435	9	D1	F5
R436	9	D1	F6
R437	9	A5	B2
R438	9	A5	B2
R441	11	H2	D8
R442	11	H1	D8
R443	11	H1	D7
R444	9	B5	J2
R445	4	F4	M9
R446	6	E5	C5
R447	7	E2	C3
R448	7	E4	C3
R449	9	B5	J1
R450	11	F2	F8
R451	12	E3	J1
R452	12	C5	J1
R453	1	E5	H4
R454	4	D4	J8
R455	4	D4	L8
R456	4	E4	L8
R457	4	E4	M8
R458	4	E4	L8
R459	4	E3	M8
R460	4	F3	L8
R461	5	F1	H9
R462	5	H3	G7
R464	11	C5	G7
R465	11	C5	G8
R466	11	C5	G8
R467	11	C4	G7
R468	11	C4	G7
R469	11	C5	G8
R470	11	D5	F7
R471	11	B5	H8
R472	11	B4	H7
R473	11	B5	H7
R474	11	G3	D7
R475	12	D4	B5
R476	12	C4	A4
R477	4	C3	J7
R478	11	E1	F8
R479	11	E2	E8
R480	11	F1	E8
R481	11	E2	F8
R482	11	G3	D6
TP1	6	E4	A9
TP3	6	G3	B6
TP4	6	D3	F9
TP5	6	C2	J8
TP8	8	C3	E2
TP10	1	F5	C2
TP11	8	A5	G2
TP12	8	B5	H4
TP13	8	B5	K4
TP14	8	A5	K5
TP15	8	B5	H7
TP16	8	B5	M2
TP17	12	H2	C7
TP18	5	H2	H8
TP19	12	H2	C6
U2	12	D4	A5
U3A	12	E4	B5
U3B	12	C5	B5
U4	1	D2	I4
U5	1	E4	K4
U21A	4	E3	M9
U21B	4	E3	M9
U39A	7	E4	B3
U39B	7	E2	B3
U59	2	E3	G4
U64	4	G3	K8
U71	5	F2	I8
U72	5	E2	J8
U74	6	B3	H8
U75	6	D3	F9
U76	6	B2	D9
U78	7	F2	A4
U79	7	F4	A2
U81	7	C2	C4
U82	7	C4	C3
U83	8	B4	D3
U84	8	B4	E3
U85	8	B3	E3
U86	9	C1	E3
U87	9	C3	D4
U88	9	F3	H1
U89	9	B4	C1
U93	10	F4	F2
U94	10	F5	E2
U95	10	F1	G3
U96	10	F2	G2
U97	10	F2	H6
U98	1	F3	M7
U99	1	A1	E1
U100	1	B1	E1
U101	3	F2	K2
U102	3	B2	M2
U103	4	B1	L7
U104	4	B4	J6
U105	4	B3	K7
U106	5	G2	H9
U107	5	C4	J8
U108	5	B2	L6
U109	6	D3	F8
U110A	6	E3	A8
U111	6	G3	B7
U112A	6	F4	B9
U112B	6	F5	B9
U113A	11	E1	E8
U113B	11	C1	E8
U114	9	E2	G3
U115	9	E4	G1
U116	10	B1	J5
U117	10	C2	I6
U118A	10	G4	F6
U118B	10	G4	F6
U122	11	A1	D7
U123	11	F1	D8
U124	11	E5	G7
U125	11	E2	F7
U126A	11	B3	D6
U126B	11	C3	D6
U127A	11	D3	E5
U127B	11	D3	E5
U128A	11	E3	F7
U128B	11	E3	F7
U129	11	G2	E6
U130	11	G4	G6
U132A	12	D2	B6
U132B	12	F1	B6
U133	12	E2	A7
U134	12	G2	C6
U135	12	F1	B7
U136	12	A4	B5
U137	8	G2	C4
U138	8	G3	C5
U139	8	B1	J2
U140	8	D1	I2
U141	10	F3	G6
U142	10	F3	H6
U143	8	B3	D3
U144A	10	F1	G3
U144B	10	F1	G3
U144C	1	C1	G3
U144D	10	F3	G3
U144E	1	D5	G3
U144F	1	D5	G3
U145	9	B3	D5
U146A	11	B4	H7
U146B	11	B5	H7
U148	1	A5	I4
U149	7	G5	C3
U150	7	G3	B4
VR1	12	C2	B6
Y1	9	B5	H2

A3 Digital Audio Board located on back of page.

AM700

A3 Digital Audio Board Locator Chart on front of this page.
Use this chart to find components on A3 board schematic 1.



A3 board schematic diagram 1
locator chart on front of previous page.

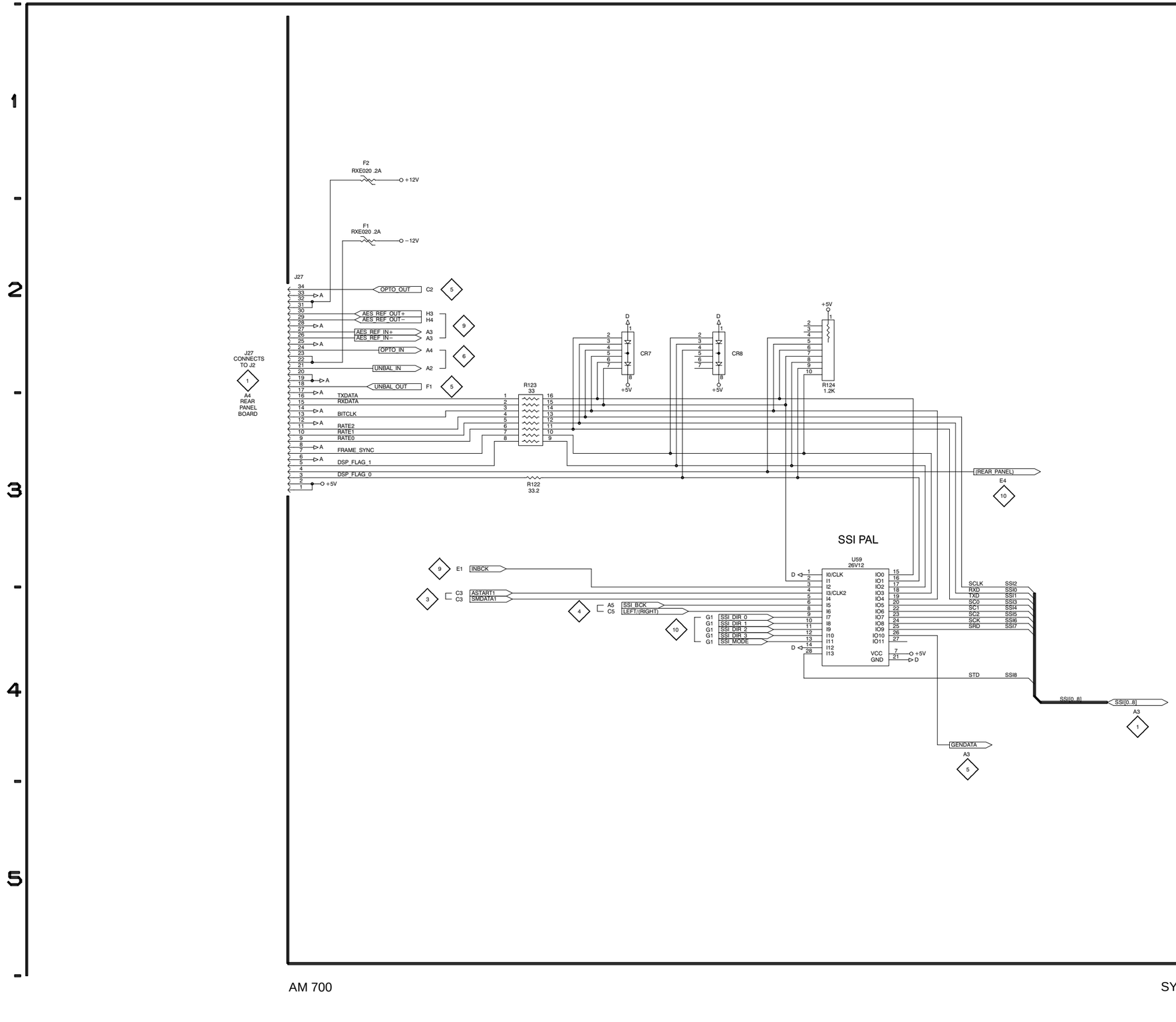
Digital Audio Board

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 3, 4, 5. 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
CR7	D2	G6
CR8	D2	G6
F1	B2	B8
F2	B1	B8
J27	B2	C8
R122	C3	F5
R123	C3	F5
R124	E2	G5
U59	E3	G4



PART OF A3 DIGITAL AUDIO BOARD

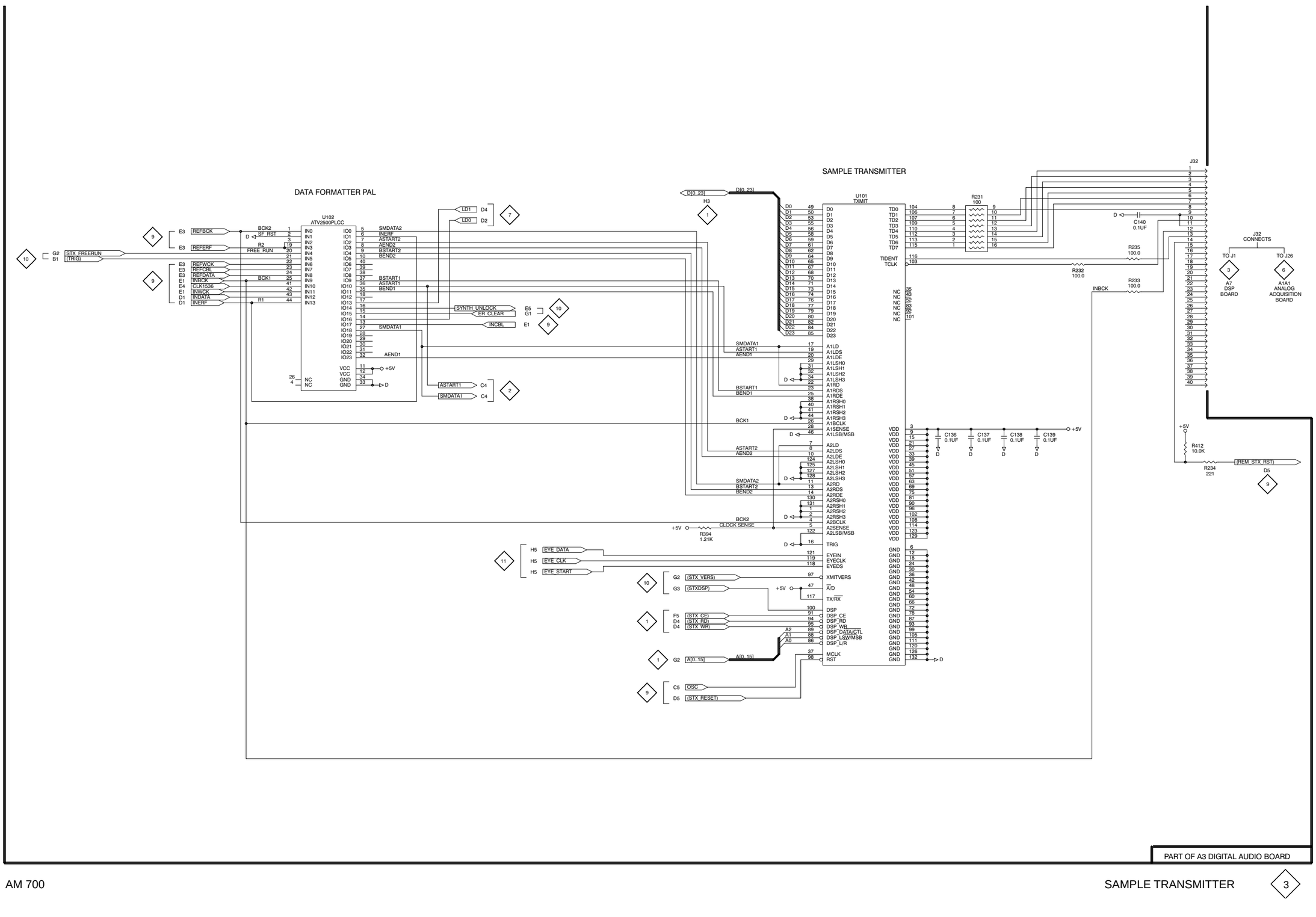
Digital Audio Board

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 4, 5. 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C136	F3	L2
C137	F3	L4
C138	G3	K6
C139	G3	N3
C140	G2	N3
J32	H1	K1
R231	F2	M3
R232	G2	N2
R233	G2	M2
R234	H3	K2
R235	G2	N2
R394	E4	K2
R412	H3	K2
U101	F2	K2
U102	B2	M2


DATA FORMATTER PAL
SAMPLE TRANSMITTER
U102
ATV2500PLCC
U101
TXMIT
J32
J32 CONNECTS
TO J1
TO J26
A7 DSP BOARD
A1A1 ANALOG ACQUISITION BOARD
REFBCK
REFERF
REFWCK
REFCBL
REFDATA
INBCK
CLK1536
INWCK
INDATA
INERF
STX_FREERUN
(TRIG)
SF_RST
FREE_RUN
BCK1
BCK2
R1
R2
SMDATA2
INERF
ASTART2
AEND2
BSTART2
BEND2
BSTART1
ASTART1
BEND1
AEND1
SMDATA1
SYNTH UNLOCK
ER_CLEAR
INCBL
LD1
LD0
D[0..23]
TIDENT
TCLK
INBCK
R231 100
R232 100.0
R233 100.0
R235 100.0
C140 0.1UF
C136 0.1UF
C137 0.1UF
C138 0.1UF
C139 0.1UF
R394 1.21K
CLOCK SENSE
EYE_DATA
EYE_CLK
EYE_START
EYEIN
EYECLK
EYEDS
XMITVERS
(STX_VERS)
(STXDSP)
A/D
TX/RX
DSP
DSP_CE
DSP_RD
DSP_WR
DSP_DATA/CTL
DSP_LSW/MSB
DSP_L/R
MCLK
RST
A[0..15]
(STX_CE)
(STX_RD)
(STX_WR)
OSC
(STX_RESET)
R412 10.0K
R234 221
(REM_STX_RST)
+5V
PART OF A3 DIGITAL AUDIO BOARD

Digital Audio Board

Schematic Diagram <4> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C23	G3	L9
C24	F3	M9
C25	F3	M9
C26	G3	K9
C27	F3	L9
C28	F3	L9
C29	D3	M8
C31	F3	L9
C32	D3	M8
C141	H4	K8
C142	C2	L8
C143	C2	L7
C144	C2	L8
C244	E4	L8
C245	D3	M8
C246	D2	N7
C256	C3	J7
C268	D1	L8
C269	D1	M8
CR9	F3	L8
CR27	H3	K7
CR31	F3	L8

Comp No	Diag Loc	Bd Loc
L1	F3	L8
L2	G3	L9
L14	D1	L8
L19	D2	L8
Q12	H3	K8
Q13	H3	K8
Q18	E4	L8
Q19	E3	L8
R128	E3	L9
R129	E3	M8
R131	E3	M9
R132	E3	M8
R136	D3	M8
R137	D3	M8
R138	D3	M8
R139	D3	M8
R140	F3	L8
R236	H3	K8
R238	H4	K7
R240	D3	N8
R241	D3	N8
R244	B1	L8

Comp No	Diag Loc	Bd Loc
R245	B1	L8
R415	H3	K7
R416	H3	J7
R445	F4	M9
R454	D4	J8
R455	D4	L8
R456	E4	L8
R457	E4	M8
R458	E4	L8
R459	E3	M8
R460	F3	L8
R477	C3	J7
R493	C1	M8
U21A	E3	M9
U21B	E3	M9
U64	G3	K8
U103	B1	L7
U104	B4	J6
U105	B3	K7

JITTER DAC

U103 DAC−10

R244 3.09K

R245 3.83K

+5VA

JITTER0 JITTER1 JITTER2 JITTER3 JITTER4 JITTER5 JITTER6 JITTER7 JITTER8 JITTER9

B10(LSB) B9 B8 B7 B6 B5 B4 B3 B2 B1

VREF+ VREF− IO IO VLC V+ COMP V−

C142 .01UF

C143 0.1UF

C144 0.1UF

+12V −12V

C268 510PF

L14 2.2MH

C269 510PF

L19 2.2MH

R493 1.82K

IN PLACE OF C145

JITTER[0..9] JITTER[0..9]

A3

5

PCOMP

U105 EPM5032

I0 I1 I2 I3 I4 I5 I6 I7 IO0 IO1 IO2 IO3 IO4 IO5 IO6 IO7 IO8 IO9 IO10 IO11 IO12 IO13 IO14 IO15 IO16

VCC VCC GND GND VCC VCC GND GND

CLK0/I2 I3 I4 CLK1/I5

C256 33PF

R477 332

+5V D

10 G3 SLOW

G2 ER CLEAR

CSBLK B2

PH UNLOCK E5

10

8 D2 (DSPRST)

JITTER OFF A4

5

9 F2 PHMCK F2 PHWCK F2 PHCBL

PROGRAMMABLE PHASE SHIFT PAL

U104 MACH210PLCC

D6 D7 D8 D9

IO0 IO1 IO2 IO3 IO4 IO5 IO6 IO7 IO8 IO9 IO10 IO11 IO12 IO13 IO14 IO15

IO31 IO30 IO29 IO28 IO27 IO26 IO25 IO24 IO23 IO22 IO21 IO20 IO19 IO18 IO17 IO16

D5 D4 D3 D2 D1 D0

D[0..23] D[0..23]

H3

1

newdataflag

SSI_FRAME

A2

5

WPLS

SHIFTED_DIV16

pll_setl

SSI_BCK

2 D4

(DSPRST)

VCLK

E5 PRD

G3 rp2 E5 (PWR) E5 CKOUT

1

(GENSYMCK) A3 PRE A2 5

(PHASE_CE) F5 1

LEFT/(RIGHT) D4 2

+5V D

slow

+5VA

C246 10UF

C245 0.1UF

R240 221

R241 221

R137 1.00K

R136 1.00K

C29 2700PF

C32 2700PF

JITTER

R138 10.0K

R139 10.0K

R129 20.0K

R131 20.0K

U21B MC34082

R132 200.0K

R459 2.00K

Q19

R454 1.00K

R455 5.00K

R456 20.0K

Q18

R458 20.0K

R457 5.00K

C244 0.1UF

R128 2.21K

C28 1UF

C24 0.1UF

C25 0.1UF

U21A MC34082

R140 2.21K

R445 2.21K

PHASE_PLL

G3

8

VCO

CR31

R460 3.32K

CR9

C31 1000PF

C27 0.1UF

L1 2.2−3.2UH

U64 MC1648

TANK OUT BIAS AGC VCC1 VCC2 VEE1 VEE2

C26 0.1UF

L2 27UH

C23 0.1UF

CURRENT−TO−TTL CONVERTER

R416 121

R415 392

CR27

Q13 Q12

R236 150.0

R238 1.00K

C141 0.1UF

PART OF A3 DIGITAL AUDIO BOARD

Digital Audio Board

Schematic Diagram <5> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C33	E2	J8
C34	F2	I9
C35	G2	I8
C37	G2	I9
C39	D2	J9
C40	E2	J9
C42	F3	J9
C44	G3	J8
C147	D2	J9
C148	D3	K9
C149	D2	K9
C150	G2	I8
C151	G2	H9
C152	G3	H8
C153	D5	K8
C154	D5	K8
C155	D5	J8
C157	C2	G9
C261	C4	N8
C270	H2	H8
J29	H2	H8
L15	D2	J9
Q7	D3	J9
Q8	C3	J9
R144	D3	K8
R145	D3	J9
R146	C3	K8
R148	E3	J9
R150	E1	J8
R151	E2	J8
R152	E2	J8
R153	G2	I8
R156	F2	I9
R158	G2	I8
R162	G2	I8
R165	G2	I8
R166	H2	I8
R246	D2	K9
R247	D3	J8
R248	E2	J9
R249	E3	J8
R250	D2	K9
R251	C3	K9
R252	C4	K8
R253	C4	K8
R256	C2	K8
R417	C1	K7
R461	F1	H9
R462	H3	G7
R483	C4	M1
R484	C4	N8
R491	D3	K8
TP18	H2	H8
U71	F2	I8
U72	E2	J8
U106	G2	H9
U107	C4	J8
U108	B2	L6

PART OF A3 DIGITAL AUDIO BOARD

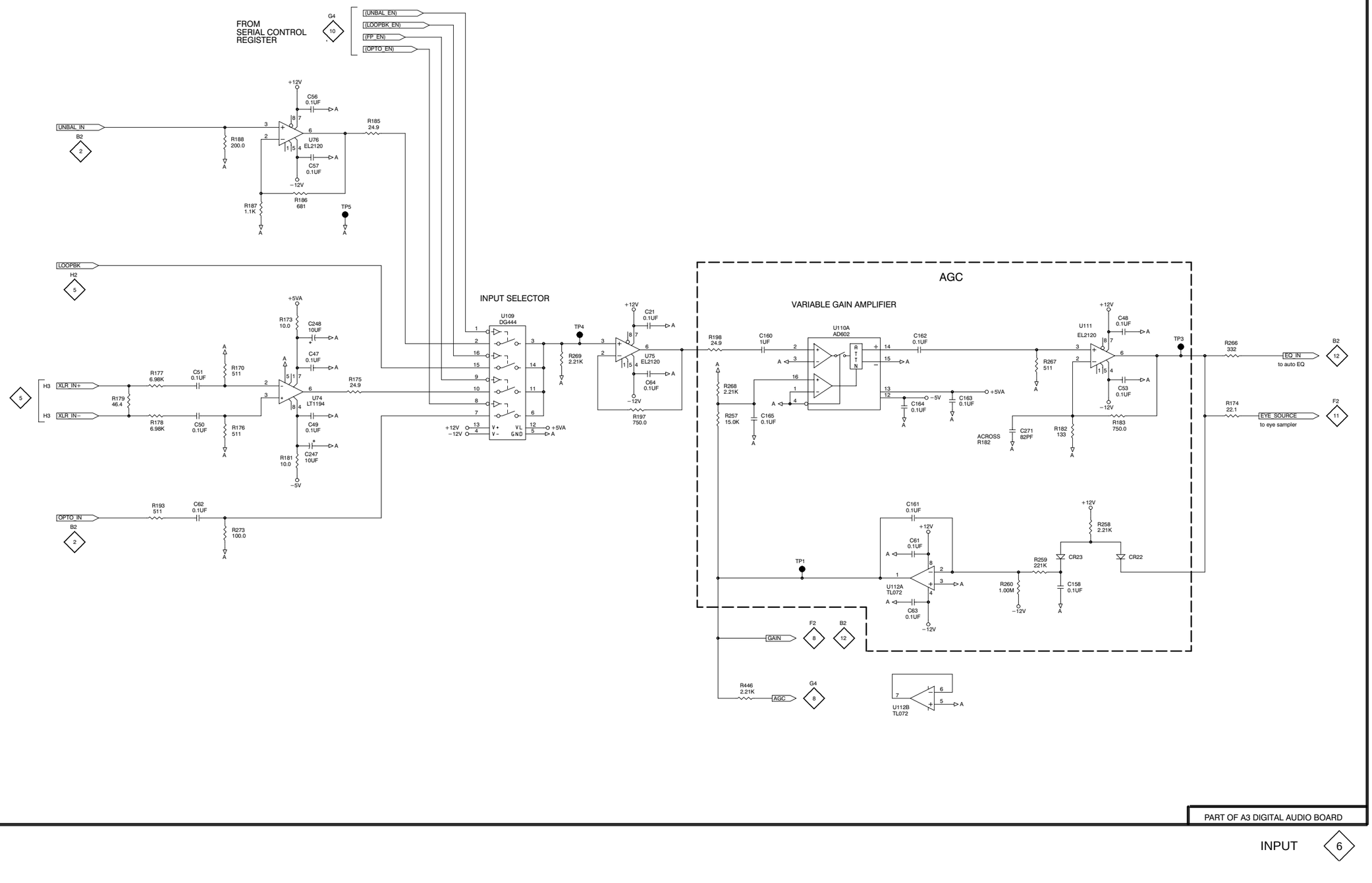
Digital Audio Board

Schematic Diagram <6> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C21	E3	F9
C47	C3	G9
C48	G3	C7
C49	C3	G8
C50	B3	G8
C51	B3	G8
C53	G3	B8
C56	C2	D9
C57	C2	D9
C61	F4	B9
C62	B4	D8
C63	F4	A9
C64	E3	E9
C158	G4	A8
C160	E3	E9
C161	F4	A9
C162	F3	A8
C163	F3	A8
C164	F3	A8
C165	E3	A8
C247	C3	G8
C248	C3	G9
C271	G3	B7
CR22	G4	B8
CR23	G4	A8
R170	B3	G8
R173	C3	G9
R174	H3	C7
R175	C3	G9
R176	B3	G8
R177	B3	G8
R178	B3	G8
R179	B3	G8
R181	C4	G9
R182	G3	B7
R183	G3	B7
R185	C2	G9
R186	C2	E9
R187	B2	E9
R188	B2	D9
R193	B4	D8
R197	D3	E9
R198	E3	E9
R257	E3	A8
R258	G4	B8
R259	G4	A8
R260	G4	B9
R266	H3	C7
R267	G3	B7
R268	E3	A8
R269	D3	F9
R273	B4	D8
R446	E5	C5
TP1	E4	A9
TP3	G3	B6
TP4	D3	F9
TP5	C2	J8
U74	B3	H8
U75	D3	F9
U76	B2	D9
U109	D3	F8
U110A	E3	A8
U111	G3	B7
U112A	F4	B9
U112B	F5	B9



PART OF A3 DIGITAL AUDIO BOARD

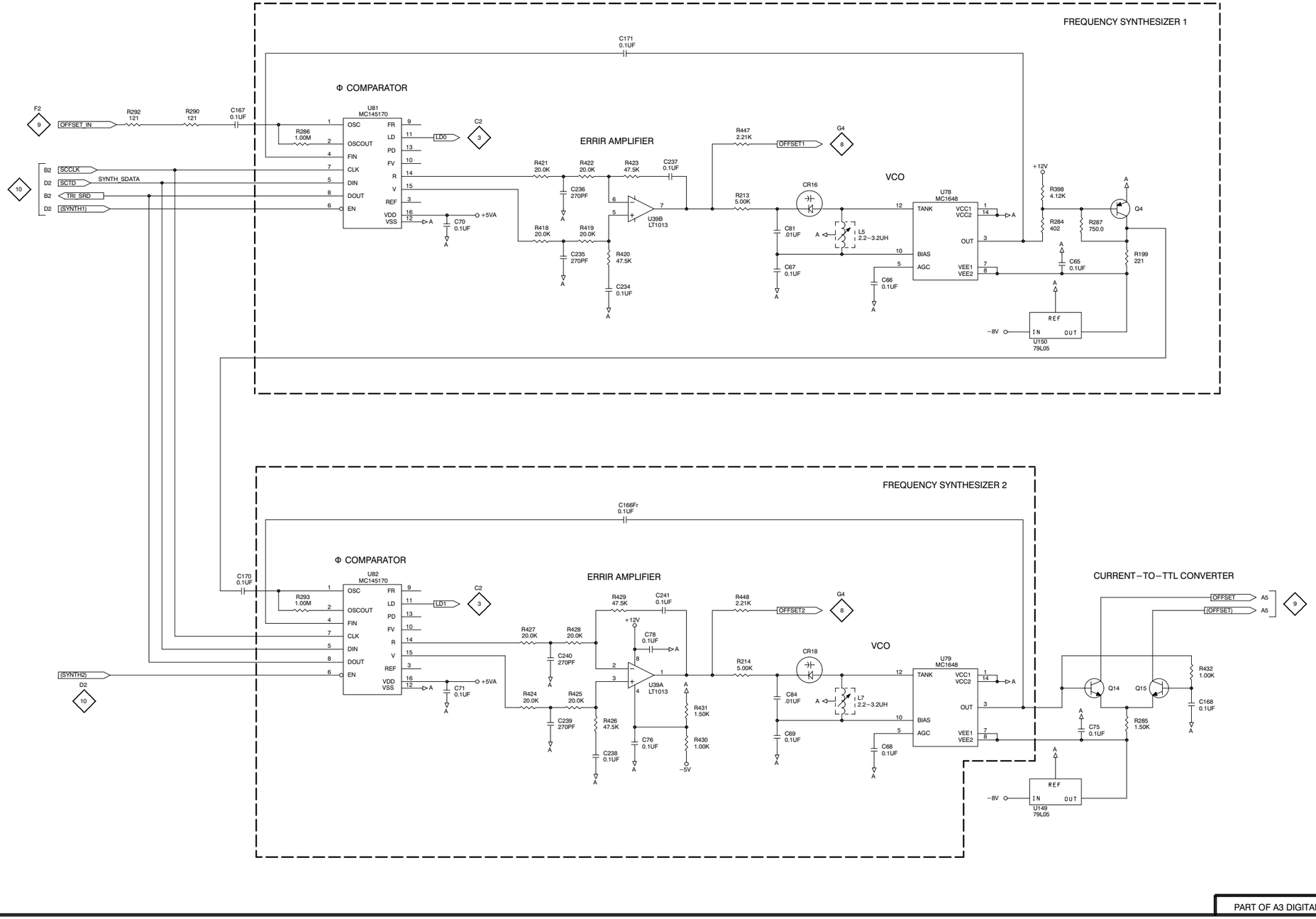
Digital Audio Board

Schematic Diagram <7> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C65	G2	A4	C241	E4	A3	R421	D2	B4
C66	F2	A4						
C67	E2	B4	CR16	E2	B4	R422	D2	B3
C68	F5	A2	CR18	E4	B2	R423	D2	A3
C69	E5	B3				R424	D4	B3
			L5	F2	B4	R425	D4	B3
C70	D2	B4	L7	F4	B2	R426	D4	A3
C71	D4	B3						
C75	G5	A3	Q4	G2	A4	R427	D4	B3
C76	E5	A3	Q14	G4	B2	R428	D4	B3
C78	E4	B3	Q15	G4	B2	R429	D4	A3
						R430	E5	C3
C81	E2	B4	R199	G2	A4	R431	E4	B3
C84	E4	B3	R213	E2	A3			
C166	D4	B2	R214	E4	B3	R432	G4	B2
C167	B2	C4	R284	G2	A4	R447	E2	C3
C168	G4	B2	R285	G4	A2	R448	E4	C3
C170	C4	C3	R286	C2	C4	U39A	E4	B3
C171	D1	B4	R287	G2	A4	U39B	E2	B3
C234	D2	A4	R290	B2	C5	U78	F2	A4
C235	D2	B3	R292	B2	H3	U79	F4	A2
C236	D2	B3	R293	C4	C3	U81	C2	C4
C237	E2	A3	R398	G2	A4	U82	C4	C3
C238	D5	A3	R418	D2	B4	U149	G5	C3
C239	D5	B3	R419	D2	B3	U150	G3	B4
C240	D4	B3	R420	D2	A3			


FREQUENCY SYNTHESIZER 1
C171
0.1UF
Φ COMPARATOR
F2
9
OFFSET_IN
R292
121
R290
121
C167
0.1UF
U81
MC145170
R286
1.00M
OSC
OSCOUT
FIN
CLK
DIN
DOUT
EN
FR
LD
PD
FV
R
V
REF
VDD
VSS
C2
3
LD0
+5VA
C70
0.1UF
B2
SCCLK
D2
SCTD
SYNTH_SDATA
B2
TRI_SRD
D2
(SYNTH1)
10
ERRIR AMPLIFIER
R421
20.0K
R422
20.0K
R423
47.5K
C237
0.1UF
C236
270PF
R418
20.0K
R419
20.0K
C235
270PF
R420
47.5K
C234
0.1UF
U39B
LT1013
R447
2.21K
OFFSET1
G4
8
R213
5.00K
VCO
CR16
C81
.01UF
L5
2.2–3.2UH
C67
0.1UF
C66
0.1UF
U78
MC1648
TANK
BIAS
AGC
VCC1
VCC2
OUT
VEE1
VEE2
+12V
R398
4.12K
R284
402
R287
750.0
Q4
C65
0.1UF
R199
221
REF
–8V
IN
OUT
U150
79L05
FREQUENCY SYNTHESIZER 2
C166Fr
0.1UF
Φ COMPARATOR
C170
0.1UF
U82
MC145170
R293
1.00M
C2
3
LD1
+5VA
C71
0.1UF
[SYNTH2]
D2
10
ERRIR AMPLIFIER
R429
47.5K
C241
0.1UF
R427
20.0K
R428
20.0K
C240
270PF
R424
20.0K
R425
20.0K
C239
270PF
R426
47.5K
C238
0.1UF
C78
0.1UF
U39A
LT1013
R431
1.50K
R430
1.00K
C76
0.1UF
–5V
R448
2.21K
OFFSET2
G4
8
R214
5.00K
VCO
CR18
C84
.01UF
L7
2.2–3.2UH
C69
0.1UF
C68
0.1UF
U79
MC1648
TANK
BIAS
AGC
VCC1
VCC2
OUT
VEE1
VEE2
CURRENT–TO–TTL CONVERTER
OFFSET
A5
(OFFSET)
A5
9
Q14
Q15
R432
1.00K
C168
0.1UF
C75
0.1UF
R285
1.50K
REF
–8V
IN
OUT
U149
79L05
PART OF A3 DIGITAL AUDIO BOARD

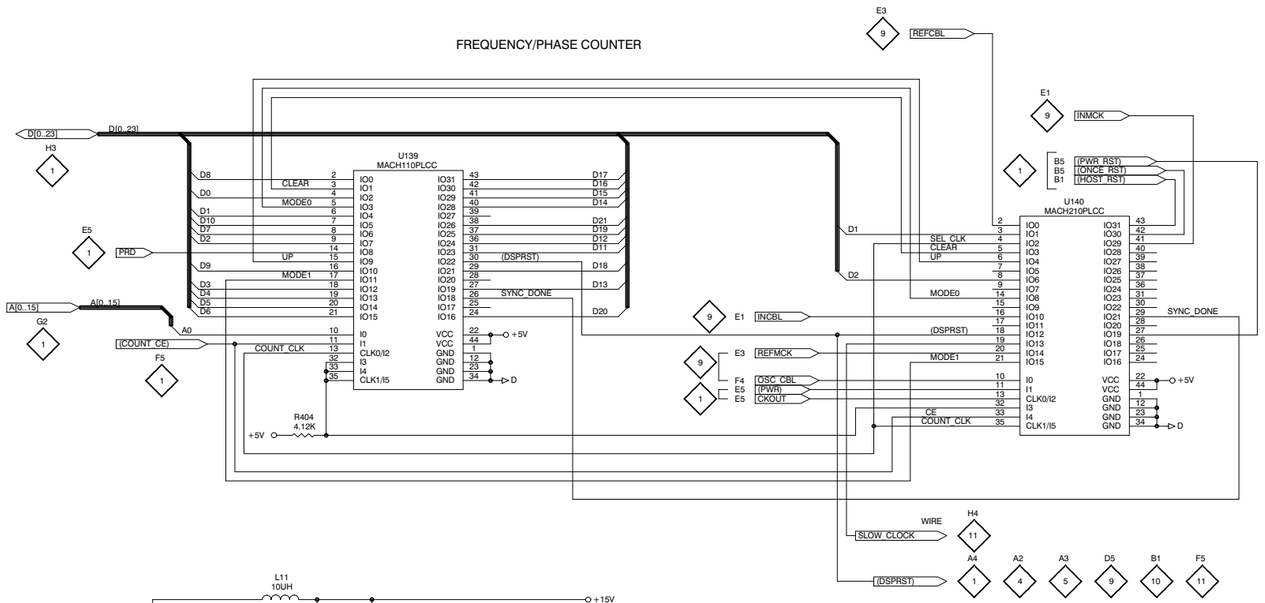
Digital Audio Board

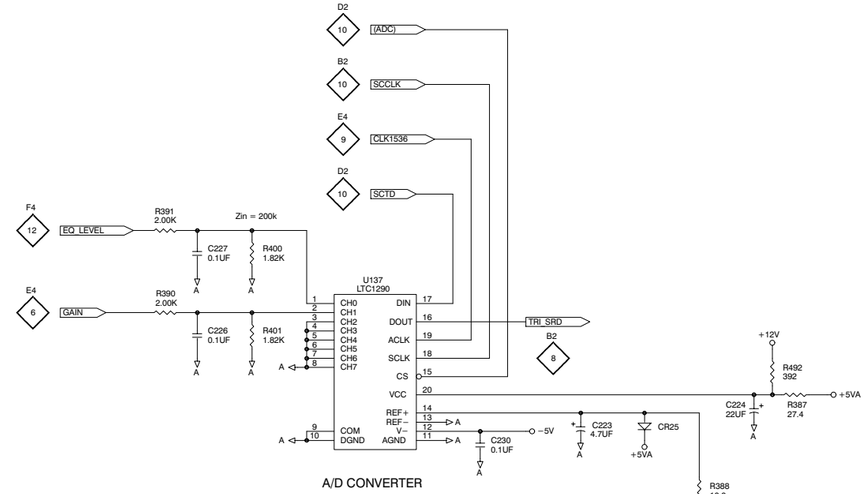
Schematic Diagram <8> Component Locator Chart

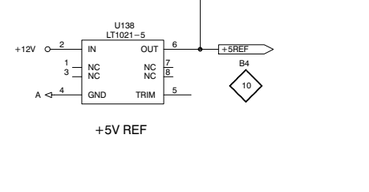
The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

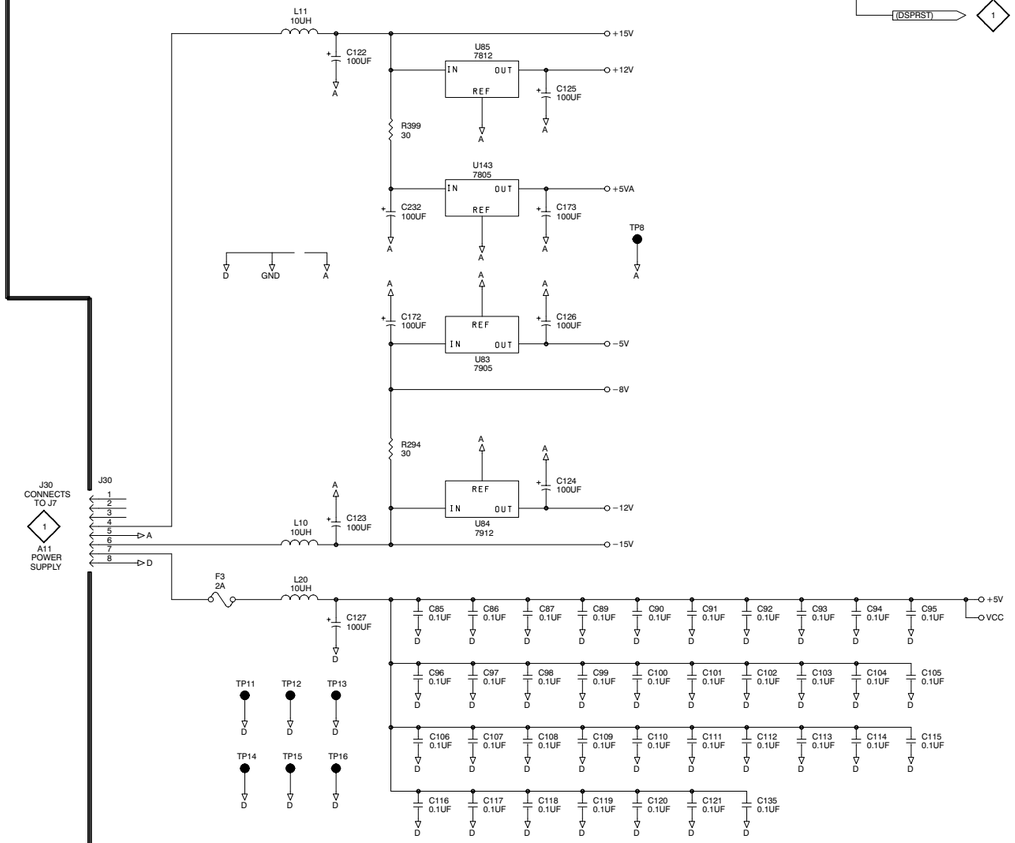
Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, and 12.

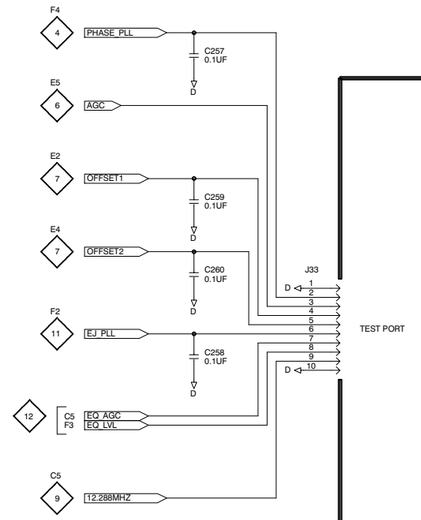
Comp No	Diag Loc	Bd Loc
C85	B5	K5
C86	B5	L6
C87	B5	J7
C89	C5	G5
C90	C5	F2
C91	C5	I6
C92	C5	I4
C93	C5	J5
C94	D5	H5
C95	D5	H5
C96	B5	H6
C97	B5	E1
C98	B5	D5
C99	C5	I7
C100	C5	D1
C101	C5	K7
C102	C5	J6
C103	C5	G7
C104	D5	K4
C105	D5	J6
C106	B5	H6
C107	B5	I2
C108	B5	G2
C109	C5	G6
C110	C5	G5
C111	C5	G3
C112	C5	N7
C113	C5	H4
C114	D5	G1
C115	D5	H3
C116	B5	J3
C117	B5	K2
C118	B5	C1
C119	C5	F5
C120	C5	F3
C121	C5	C2
C122	B3	E3
C123	B4	C2
C124	C4	D2
C125	C3	E2
C126	C4	D2
C127	B5	F1
C135	C5	J2
C172	B4	C3
C173	C3	C4
C223	G2	D4
C224	H2	C3
C226	F2	C5
C227	F2	C4
C230	G2	D4
C232	B3	D4
C257	H3	K1
C258	H4	K1
C259	H4	K1
C260	H4	K1
CR25	H2	D4
F3	A5	F1
J30	A4	E2
J33	H4	K1
L10	B4	C2
L11	B3	F2
L20	B5	F2
R294	B4	C3
R387	H2	D4
R388	H2	D4
R390	F2	C5
R391	F2	C5
R399	B3	D3
R400	F2	D4
R401	F2	D4
R404	B2	J2
R492	H2	D4
TP8	C3	E2
TP11	A5	G2
TP12	B5	H4
TP13	B5	K4
TP14	A5	K5
TP15	B5	H7
TP16	B5	M2
U83	B4	D3
U84	B4	E3
U85	B3	E3
U137	G2	C4
U138	G3	C5
U139	B1	J2
U140	D1	I2
U143	B3	D3











PART OF A3 DIGITAL AUDIO BOARD

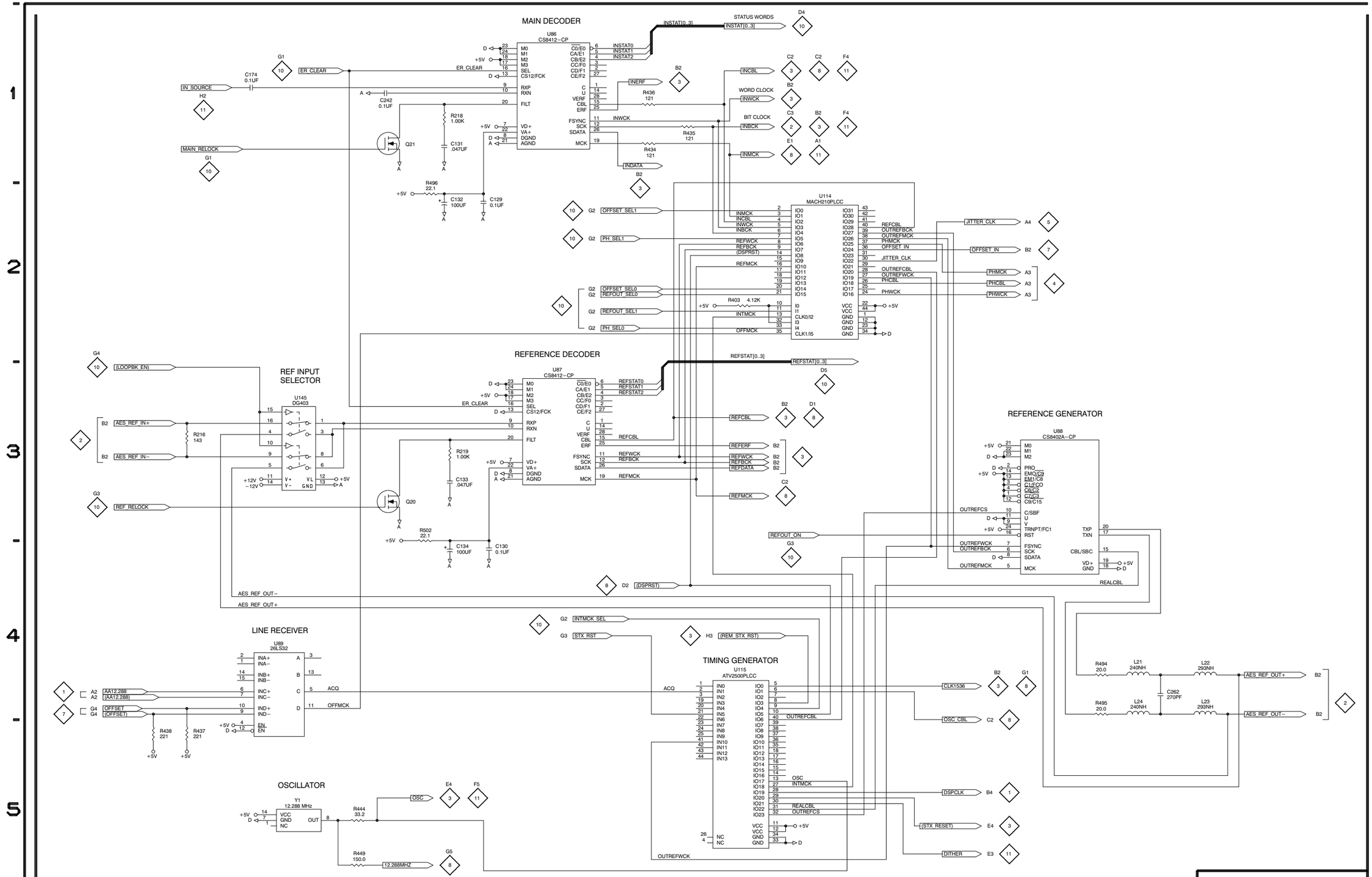
Digital Audio Board

Schematic Diagram <9> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C129	C2	F4
C130	C4	E4
C131	C1	G4
C132	C2	F3
C133	C3	E5
C134	C4	E4
C174	B1	E6
C242	C1	E4
C262	G4	I1
L21	G4	I1
L22	G4	I2
L23	G4	I1
L24	G4	I1
Q20	C3	E5
Q21	C1	F4
R216	A3	D5
R218	C1	F4
R219	C3	E5
R403	E2	G3
R434	D1	F3
R435	D1	F5
R436	D1	F6
R437	A5	B2
R438	A5	B2
R444	B5	J2
R449	B5	J1
R494	G4	H1
R495	G4	H1
R496	C2	F4
R502	C3	E4
U86	C1	E3
U87	C3	D4
U88	F3	H1
U89	B4	C1
U114	E2	G3
U115	E4	G1
U145	B3	D5
Y1	B5	H2


MAIN DECODER
U86
CS8412-CP
INSTAT[0..3]
STATUS WORDS
INSTAT[0..3]
ER_CLEAR
IN_SOURCE
C174
0.1UF
C242
0.1UF
R218
1.00K
C131
.047UF
Q21
MAIN_RELOCK
R496
22.1
C132
100UF
C129
0.1UF
INERF
R436
121
WORD CLOCK
INWCK
BIT CLOCK
INBCK
R435
121
INMCK
R434
121
INDATA
INCBL
OFFSET_SEL1
PH_SEL1
OFFSET_SEL0
REFOUT_SEL0
REFOUT_SEL1
PH_SEL0
U114
MACH210PLCC
R403 4.12K
INTMCK
OFFMCK
JITTER_CLK
OFFSET_IN
PHMCK
PHCBL
PHWCK
REFCBL
OUTREFBCK
OUTREFMCK
OFFSET_IN
JITTER_CLK
OUTREFCBL
OUTREFWCK
PHCBL
PHWCK
REFERENCE DECODER
U87
CS8412-CP
REFSTAT[0..3]
REFCBL
REFERF
REFWCK
REFBCK
REFDATA
REFMCK
R219
1.00K
C133
.047UF
Q20
R502
22.1
C134
100UF
C130
0.1UF
REFOUT_ON
REFERENCE GENERATOR
U88
CS8402A-CP
OUTREFCS
OUTREFWCK
OUTREFBCK
OUTREFMCK
TXP
TXN
CBL/SBC
REALCBL
REF INPUT SELECTOR
U145
DG403
AES_REF_IN+
AES_REF_IN-
R216
143
REF_RELOCK
(LOOPBK_EN)
AES_REF_OUT-
AES_REF_OUT+
(DSPRST)
INTMCK_SEL
STX_RST
(REM_STX_RST)
LINE RECEIVER
U89
26LS32
AA12.288
(AA12.288)
OFFSET
(OFFSET)
ACQ
OFFMCK
R438
221
R437
221
TIMING GENERATOR
U115
ATV2500PLCC
ACQ
OUTREFCBL
OSC
INTMCK
REALCBL
OUTREFCS
OUTREFWCK
CLK1536
OSC_CBL
DSPCLK
(STX_RESET)
DITHER
R494
20.0
L21
240NH
L22
293NH
C362
270PF
R495
20.0
L24
240NH
L23
293NH
AES_REF_OUT+
AES_REF_OUT-
OSCILLATOR
Y1
12.288 MHz
R444
33.2
R449
150.0
OSC
12.288MHZ
PART OF A3 DIGITAL AUDIO BOARD

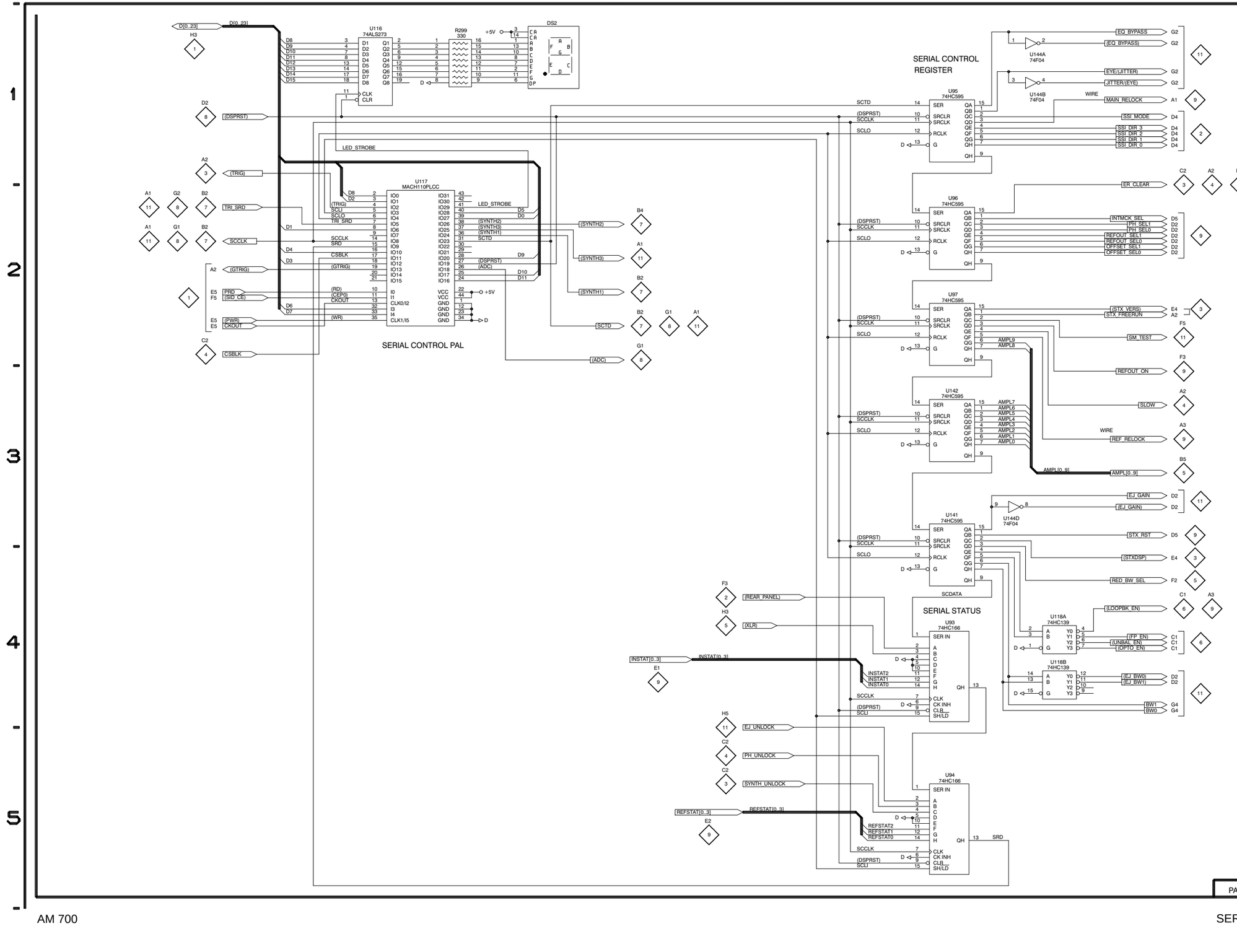
Digital Audio Board

Schematic Diagram <10> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, and 12.

Comp No	Diag Loc	Bd Loc
DS2	C1	I1
R299	C1	J1
U93	F4	F2
U94	F5	E2
U95	F1	G3
U96	F2	G2
U97	F2	H6
U116	B1	J5
U117	C2	I6
U118A	G4	F6
U118B	G4	F6
U141	F3	G6
U142	F3	H6
U144A	F1	G3
U144B	F1	G3
U144D	F3	G3


SERIAL CONTROL PAL
SERIAL CONTROL REGISTER
SERIAL STATUS
U116 74ALS273
U117 MACH110PLCC
U95 74HC595
U96 74HC595
U97 74HC595
U142 74HC595
U141 74HC595
U93 74HC166
U94 74HC166
U144A 74F04
U144B 74F04
U144D 74F04
U118A 74HC139
U118B 74HC139
R299 330
DS2
D[0..23]
LED_STROBE
SCLK
SCLO
SRD
SCDATA
EQ_BYPASS
EYE/(JITTER)
JITTER/(EYE)
MAIN_RELOCK
SSI_MODE
SSI_DIR_3
SSI_DIR_2
SSI_DIR_1
SSI_DIR_0
ER_CLEAR
INTMCK_SEL
PH_SEL1
PH_SEL0
REFOUT_SEL1
REFOUT_SEL0
OFFSET_SEL1
OFFSET_SEL0
STX_VERS
STX_FREERUN
SM_TEST
REFOUT_ON
SLOW
REF_RELOCK
AMPL[0..9]
EJ_GAIN
STX_RST
STXDSP
RED_BW_SEL
LOOPBK_EN
FP_EN
UNBAL_EN
OPTO_EN
EJ_BW0
EJ_BW1
BW1
BW0
INSTAT[0..3]
REFSTAT[0..3]
REAR_PANEL
XLR
EJ_UNLOCK
PH_UNLOCK
SYNTH_UNLOCK
PART OF A3 DIGITAL AUDIO BOARD

Digital Audio Board

Schematic Diagram <11> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 12.

Comp No	Diag Loc	Bd Loc
C177	D1	D7
C179	F2	D8
C180	F2	E8
C181	G2	D9
C182	E1	E9
C183	B1	E7
C184	F1	E8
C185	E1	E8
C186	C3	D6
C187	C3	D6
C188	C3	E6
C189	C3	D6
C190	D3	E5
C191	D3	E6
C192	D3	D6
C193	D3	D6
C194	E3	E6
C195	D5	H7
C196	D5	E7
C197	E5	F7
C199	D5	G7
C202	E1	E8
C203	B1	F8
C204	B1	F9
C243	H2	D7
C250	C4	G7
C251	B5	H7
C252	C5	G8
C253	C4	F7
C254	C5	G7
C255	E4	F8
C267	F3	E7
C272	G3	D6
C273	F3	D6
C274	G2	D9
CR24	F1	E8
CR30	H1	F5
CR32	C5	G8
CR33	D4	G8
CR36	F1	E7
L16	F1	E8
Q16	H1	D8
Q17	H1	C8
Q22	G2	E8
Q23	G2	E9
R304	H2	D8
R307	F1	E8
R315	C4	D6
R316	C4	D6
R317	D4	D6
R318	D4	D5
R319	D5	G8
R320	E5	F7
R323	E1	E8
R324	E2	E7
R325	E2	E7
R326	F3	E7
R327	F3	E7
R328	E2	E7
R329	E3	E6
R330	D3	E6
R331	D3	E6
R332	C3	D6
R333	C3	D6
R334	C3	D6
R335	D3	E6
R338	E1	E8
R339	C1	F8
R340	B1	F8
R341	B1	D7
R342	B1	D7
R343	B1	F8
R344	B1	F8
R441	H2	D8
R442	H1	D8
R443	H1	D7
R450	F2	F8
R464	C5	G7
R465	C5	G8
R466	C5	G8
R467	C4	G7
R468	C4	G7
R469	C5	G8
R470	D5	F7
R471	B5	H8
R472	B4	H7
R473	B5	H7
R474	G3	D7
R478	E1	F8
R479	E2	E8
R480	F1	E8
R481	E2	F8
R482	G3	D6
R497	F3	H2
R498	F3	E7
R499	G2	E8
R500	G2	E9
R501	G2	E9
U113A	E1	E8
U113B	C1	E8
U122	A1	D7
U123	F1	D8
U124	E5	G7
U125	E2	F7
U126A	B3	D6
U126B	C3	D6
U127A	D3	E5
U127B	D3	E5
U128A	E3	F7
U128B	E3	F7
U129	G2	E6
U130	G4	G6
U146A	B4	H7
U146B	B5	H7

EYE/JITTER PLL

CURRENT–TO–TTL CONVERTER

VCO

Φ COMPARATOR

ERROR AMPLIFIER

JITTER GAIN SELECTOR

EYE/JITTER DATA SELECTOR

50 kHz LPF

A/D REFERENCE

A/D

EYE SAMPLER PAL

PART OF A3 DIGITAL AUDIO BOARD

Digital Audio Board

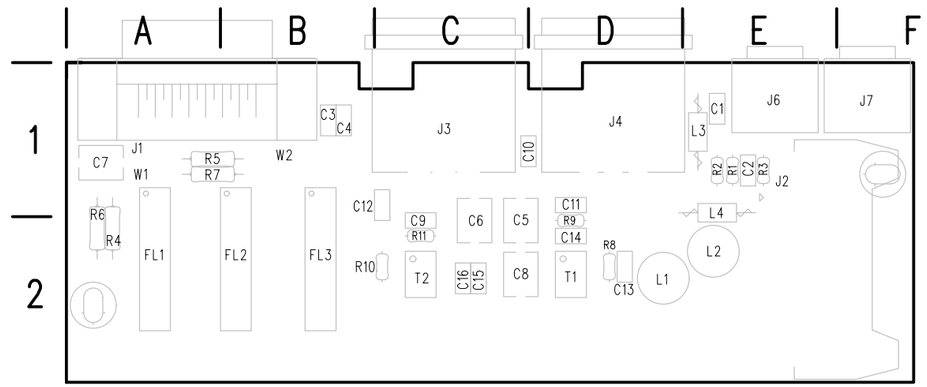
Schematic Diagram <12> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A3. Partial Assembly A3 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C5	C4	A5	R8	D4	B5	R380	C2	A6
C6	C4	A5	R17	C4	A5	R381	C2	A6
C7	D4	B5	R19	C4	A5	R382	B5	C5
C8	D4	A5	R21	B4	A5	R383	C5	C5
C9	E4	B5	R22	E4	B5			
						R384	B5	B5
C10	E4	C5	R346	D2	A7	R385	C4	B5
C11	E3	C5	R347	E2	A7	R386	H2	C6
C205	E2	B7	R348	E1	A7	R395	B4	A5
C206	E2	A7	R350	E1	A7	R396	C4	A5
C207	H2	C6	R351	E1	A7			
						R451	E3	J1
C208	H2	C6	R352	E1	B7	R452	C5	J1
C209	G1	B7	R353	F1	B7	R475	D4	B5
C210	G1	B7	R355	F1	B7	R476	C4	A4
C211	C4	B5	R356	G1	B6	R485	C2	A6
C212	C5	C5	R357	G1	B6			
						R486	B2	C5
C213	A3	B5	R358	G1	B6	R487	E3	C5
C214	A4	A6	R361	G2	B6			
C215	D2	A7	R362	H2	B6	TP17	H2	C7
C216	D2	A7	R364	A3	B5	TP19	H2	C6
C217	C2	B6	R365	A4	B5			
						U2	D4	A5
C218	C2	C7	R366	A4	A6	U3A	E4	B5
C219	E1	A8	R367	A4	A6	U3B	C5	B5
C220	E1	B8	R370	B4	A5	U132A	D2	B6
C221	G1	B6	R371	B4	A5	U132B	F1	B6
C222	G1	B6	R373	H3	B6			
						U133	E2	A7
CR34	D4	B5	R374	H3	B6	U134	G2	C6
CR35	D4	B5	R375	A4	A6	U135	F1	B7
			R376	A4	A6	U136	A4	B5
L18	C2	B6	R377	A4	B5			
			R378	E2	A6	VR1	C2	B6
Q10	B4	B5						
Q11	B4	A5	R379	E2	A6			

PART OF A3 DIGITAL AUDIO BOARD



Static Sensitive Devices
See Maintenance Section

A4 Rear Panel Board

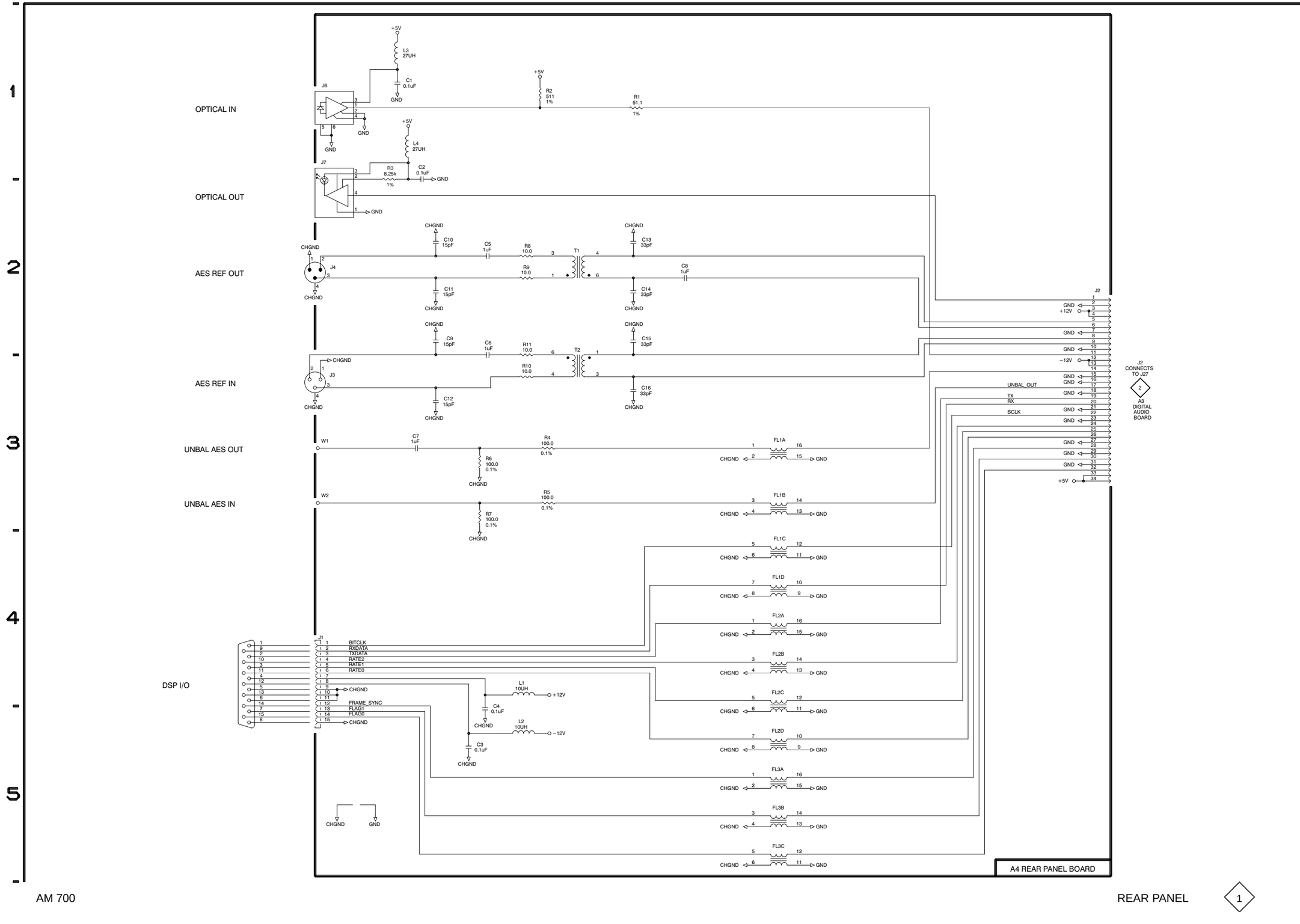
Rear Panel Board

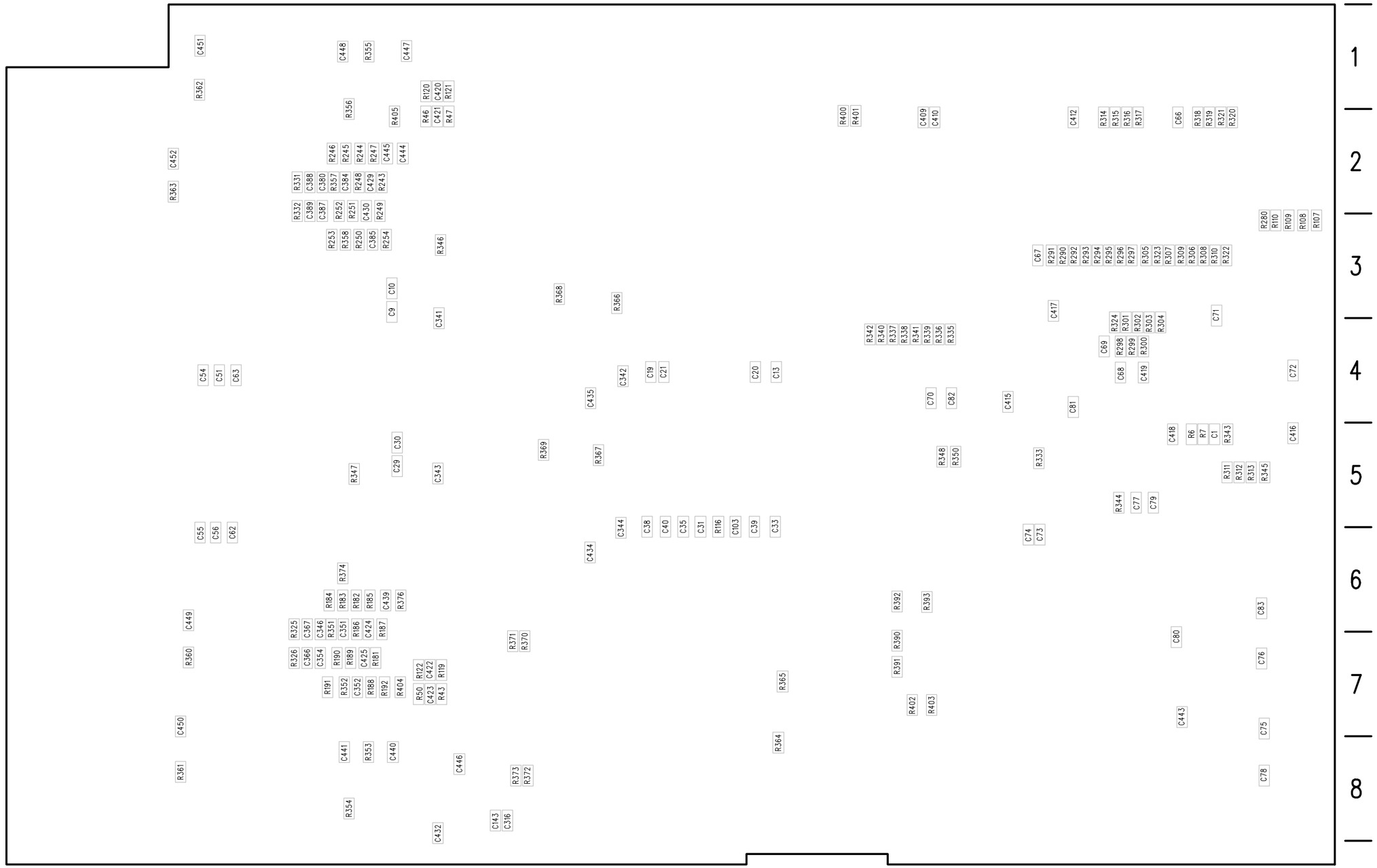
Schematic Diagram <1> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A4

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C1	C1	E1	FL1C	E4	A2	L4	C1	E2
C2	C1	E1	FL1D	E4	A2			
C3	C5	B1	FL2A	E4	B2	R1	D1	E1
C4	C5	B1				R2	D1	E1
C5	C2	C2	FL2B	E4	B2	R3	C1	E1
			FL2C	E4	B2	R4	D3	A2
C6	C2	C2	FL2D	E5	B2	R5	D3	A1
C7	C3	A1	FL3A	E5	B2			
C8	E2	C2	FL3B	E5	B2	R6	C3	A2
C9	C2	C2	FL3C	E5	B2	R7	C3	A1
C10	C2	D1				R8	D2	D2
			J1	B4	A1	R9	D2	D2
C11	C2	D1	J2	G2	E1	R10	D3	C2
C12	C3	C1	J3	B3	C1	R11	D2	C2
C13	D2	D2	J4	B2	D1			
C14	D2	D2	J6	B1	E1	T1	D2	D2
C15	D2	C2	J7	B1	F1	T2	D3	C2
C16	D3	C2						
			L1	C4	D2	W1	B3	A1
FL1A	E3	A2	L2	C5	E2	W2	B3	B1
FL1B	E3	A2	L3	C1	E1			


OPTICAL IN
OPTICAL OUT
AES REF OUT
AES REF IN
UNBAL AES OUT
UNBAL AES IN
DSP I/O
J6
J7
J4
J3
J1
J2
W1
W2
T1
T2
+5V
GND
CHGND
+12V
−12V
L3 27UH
L4 27UH
C1 0.1uF
C2 0.1uF
R1 51.1 1%
R2 511 1%
R3 8.25k 1%
C5 1uF
C6 1uF
C7 1uF
C8 1uF
C9 15pF
C10 15pF
C11 15pF
C12 15pF
C13 33pF
C14 33pF
C15 33pF
C16 33pF
R4 100.0 0.1%
R5 100.0 0.1%
R6 100.0 0.1%
R7 100.0 0.1%
R8 10.0
R9 10.0
R10 10.0
R11 10.0
L1 10UH
L2 10UH
C3 0.1uF
C4 0.1uF
BITCLK
RXDATA
TXDATA
RATE2
RATE1
RATE0
FRAME_SYNC
FLAG1
FLAG0
FL1A
FL1B
FL1C
FL1D
FL2A
FL2B
FL2C
FL2D
FL3A
FL3B
FL3C
UNBAL_OUT
TX
RX
BCLK
J2 CONNECTS TO J27
A3 DIGITAL AUDIO BOARD
A4 REAR PANEL BOARD



A5 Audio Generator Board (back)

Static Sensitive Devices
See Maintenance Section

See back of A5 Audio Generator Board Component Locator Chart for front of A5 board.

A5 Audio Generator Board Component Locator *(with cross-references to schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, and 9)*

A5 Audio Generator Board located on back of this page.

Comp No	Diag No	Diag Loc	Bd Loc
C1	1	C3	B5
C2	2	F2	B8
C3	6	C4	D6
C6	4	F4	H3
C7	4	F4	H3
C8	4	F4	H4
C9	4	E4	J3
C10	4	E4	J3
C11	3	G4	G3
C12	3	G4	F3
C13	3	G4	F4
C14	3	F5	G4
C15	3	F4	G4
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C19	3	G4	G4
C20	3	G4	F4
C21	3	G4	G4
C22	3	D4	D7
C23	3	C4	C8
C24	4	E2	I5
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C26	4	F2	G5
C27	4	F2	H5
C28	4	F1	H5
C29	4	E2	I5
C30	4	E2	I5
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C39	3	G2	F6
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C44	3	G5	F3
C45	3	A1	D8
C46	3	A2	D8
C47	3	B2	D8
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C50	3	B3	C6
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C52	6	F2	J5
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C54	6	G4	K4
C55	6	G1	K6
C56	6	G2	K6
C57	7	F2	L6
C58	8	F2	M2
C59	7	H5	L4
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C63	6	G4	K4
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C65	7	G2	M7
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C74	9	E5	C6
C75	9	E5	A7
C76	9	E5	A7
C77	9	E5	B5
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C83	9	D5	A6
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C331	4	C4	H4
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C339	4	D2	I6
C340	4	D2	I6
C341	4	C4	I4
C342	4	C4	G4
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C398	9	G2	H1
C399	9	G2	H1
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C401	9	G2	G1
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C405	9	G3	H2
C406	9	G3	H2
C407	9	G4	H8
C409	9	D5	D2
C410	9	F5	D2
C412	9	D5	C2
C415	9	D5	D4
C416	9	E5	A5
C417	9	E5	C3
C418	9	E5	B5
C419	9	E5	B4
C420	8	C1	I1
C421	8	C3	I2
C422	7	C1	I7
C423	7	C3	I7
C424	7	B2	J7
C425	7	B3	J7
C426	7	B4	J8
C427	7	B5	J8
C428	8	B2	J1
C429	8	B4	J2
C430	8	B5	J3
C431	8	B3	J1
C432	8	F3	I9
C433	3	C4	D7
C434	4	C1	H6
C435	4	C4	H4
C436	4	D3	J5
C437	4	D3	J4
C438	7	B2	I7
C439	7	C2	J6
C440	7	B4	J8
C441	7	C4	J8
C443	2	F2	B7
C444	8	B4	I2
C445	8	C4	J2
C446	9	C2	I8
C447	8	B2	I1
C448	8	C2	J1
C449	7	E2	K6
C450	7	E5	L7
C451	8	E2	K1
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C453	9	C3	M8
C454	9	D3	M2
C455	9	D3	A2
C456	9	C2	L4
C457	9	C2	L5
CR1	7	E3	I8
CR2	7	F4	L8
CR4	8	E3	H1
CR5	8	F4	L2
CR10	9	F3	F2
CR11	9	F2	F1
CR12	9	F2	F1
CR14	2	B5	B6
CR15	2	B3	D5
CR16	4	B3	E4
CR17	6	D2	J6
CR18	6	D3	J6
DS1	1	C3	A3
DS2	2	B2	D3
E12	9	B2	
E13	9	B1	
E15	9	B1	
F1	9	B2	D8
F12	9	B2	
F13	9	B1	
F15	9	B1	
FL1	4	C3	H4
FL2	4	C3	H5
J1	1	A1	A3
J2	1	A5	B5
J4	1	A3	A1
J5	1	B4	B6
J8	8	H3	M4
J9	7	H3	M5
J13	8	H4	L4
J14	7	H4	L6
J15	1	A5	A6
J16	9	A2	E8
J17	2	A4	A8
J32	6	H3	K4
J31A1	1	H2	D1
J31B1	1	H1	D1
K1A	7	G2	L7
K1B	7	G2	L7
K1C	7	G4	L7
K2A	8	G2	L3
K2B	8	G4	L3
K2C	8	G2	L3
K3A	8	G2	M3
K3B	8	G4	M3
K3C	8	G2	M3
K4A	7	G2	M7
K4B	7	G4	M7
K4C	7	G2	M7
K7A	6	C4	D5
K7B	6	C4	D5
K7C	6	B4	D5
K8A	7	C1	I7
K8B	7	C1	I7
K8C	7	B1	I7
K9A	8	C1	I3
K9B	8	C1	I3
K9C	8	B1	I3
K10A	7	H2	L6
K10B	7	H4	L6
K10C	7	H2	L6
K11A	8	H2	L4
K11B	8	H4	L4
K11C	8	H2	L4
L1	7	E2	L8
L2	7	E4	L8
L3	8	E2	L1
L4	8	E4	M1
L5	9	F2	G1
L6	9	G2	G1
L7	9	G2	G1
L8	9	F2	G1
L9	9	G3	G2
L10	9	F3	G2
L11	9	B2	E8
L12	0		G9
L13	0		G9
L14	9	C2	D7
L15	0		D8
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Q2	7	C2	J6
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Q6	7	C2	K7
Q7	7	D2	K7
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Q14	7	D3	K7
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R33	3	B4	C6
R38	6	F1	K5
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R46	8	C3	I2
R47	8	C3	I2
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R104	7	G2	M6
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R110	1	A3	A3
R111	2	D2	C5
R112	2	D2	C5
R113	2	C2	C6
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R118	7	A5	I7
R119	7	C1	I7
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R137	5	G2	H7
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R314	1	G4	C2
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R326	7	C2	J7
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R329	8	C2	J1
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R333	2	B3	C5
R334	2	B3	B8
R335	2	B2	D4
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R351	7	B2	J7
R352	7	B2	J7
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R354	7	B5	J8
R355	8	B2	J1
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R357	8	B4	J2
R358	8	B5	J3
R359	9	G4	I1
R360	7	E2	K7
R361	7	E5	L8
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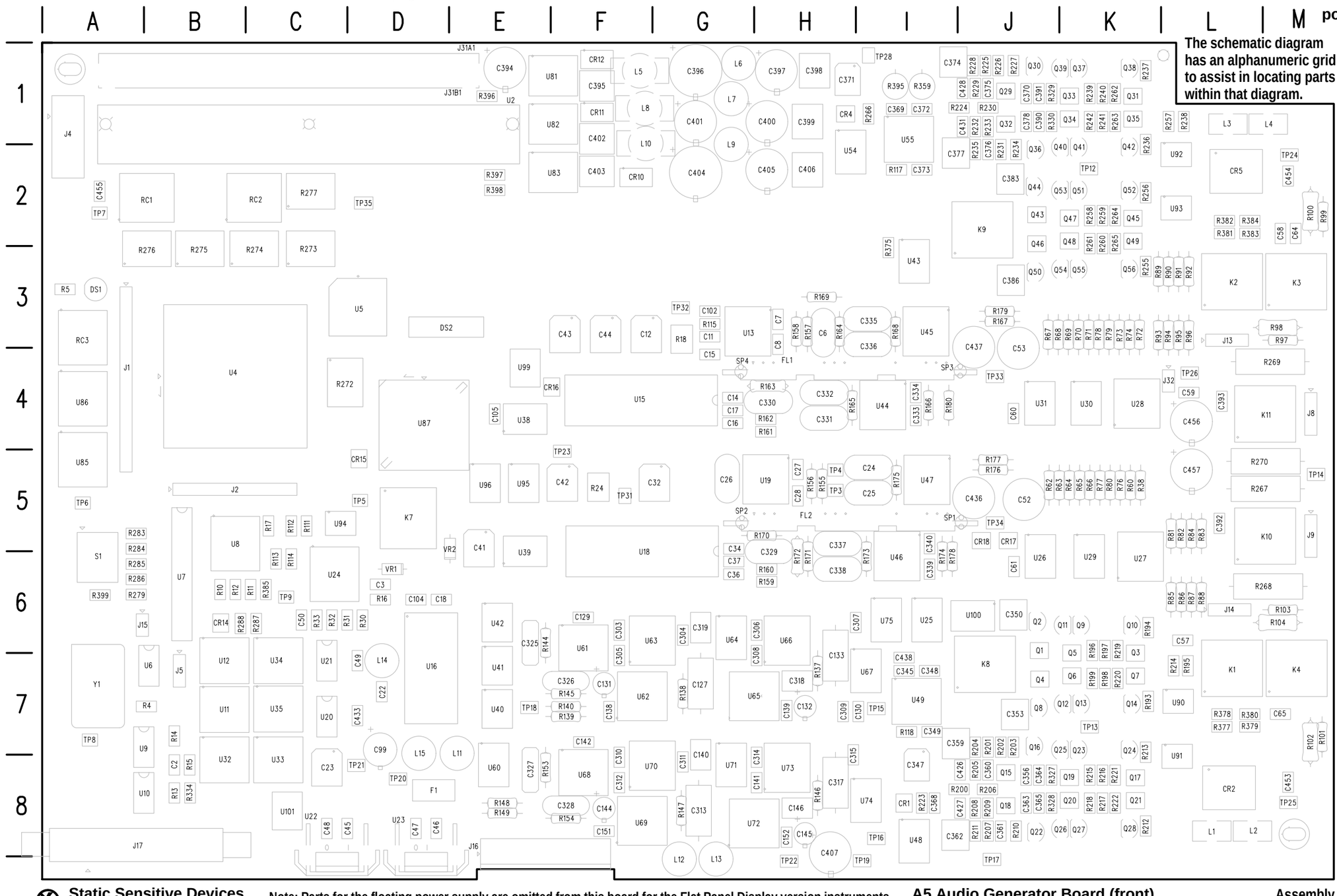
R363	8	E5	L2
R364	5	B3	F8
R365	5	B3	F7
R366	4	B4	G3
R367	4	B1	H5
R368	4	F5	H3
R369	4	F2	H5
R370	5	F2	H7
R371	0		H7
R372	5	F5	H8
R373	0		H8
R374	6	E2	J6
R375	6	E4	I3
R376	6	D3	I6
R377	7	F2	L7
R378	7	F2	L7
R379	7	F4	L7
R380	7	F4	L7
R381	8	F2	L2
R382	8	F2	L2
R383	8	F4	L2
R384	8	F4	L2
R385	2	E2	C6
R390	3	C3	E7
R391	3	C3	E7
R392	3	C3	E6
R393	3	C4	D6
R395	9	G1	I1
R396	9	B3	E1
R397	9	B3	E2
R398	9	B3	E2
R399	9	B3	A6
R400	9	C1	E2
R401	9	C1	E2
R402	9	B3	E7
R403	9	B3	D7
R404	7	C1	I7
R405	8	C1	J2
RC1	1	G3	A2
RC2	1	G2	B2
RC3	2	B3	A3
S1	1	B2	A5
SP1	0		J5
SP2	0		G5
SP3	0		J4
SP4	0		G4
TP3	4	G1	H5
TP4	4	F3	H5
TP5	9	D4	D5
TP6	9	D4	A5
TP7	9	D4	A2
TP8	9	D4	A7
TP9	9	E4	C6
TP12	9	D4	K2
TP13	9	D4	K7
TP14	5	F3	M5
TP15	5	G2	I7
TP16	5	G5	I8
TP17	9	C1	J8
TP18	9	B3	E7
TP19	9	C2	I9
TP20	9	C2	D8
TP21	9	B2	D8
TP22	9	D4	H9
TP23	9	D4	F4
TP24	9	E4	M2
TP25	9	G3	M8
TP26	9	G3	L4
TP28	9	G2	I1
TP31	3	H2	F5
TP32	3	H4	G3
TP33	4	D3	J4
TP34	4	D3	J5
TP35	9	B3	D2
U2	1	F3	E1
U4	1	D2	B4
U5	1	E4	D3
U6	1	A4	A6
U7	1	B4	B5
U8	2	D1	B5
U9	2	F1	A7
U10	2	F2	A8
U11	2	G1	B7
U12	2	G2	B6
U13A	4	F4	H3
U13B	3	G4	H3
U15	3	F4	G4
U16	3	D4	D6
U18	3	F2	G5
U19A	4	F1	H5
U19B	3	G2	H5
U20	3	B4	C7
U21	3	B3	C6
U22	3	B1	C8
U23	3	B2	D8
U24	3	B4	C5
U25	6	B3	I6
U26	6	G2	J5
U27A	6	G2	K6
U27B	6	F2	K6
U28A	6	G4	K4
U28B	6	F4	K4
U29	6	G1	K5
U30	6	G3	K4
U31	6	G4	J4
U32	2	G3	B7
U33	2	G3	C8
U34	2	G4	C6
U35	2	G2	C7
U38	3	F4	E4
U39	3	F2	E6
U40	3	C1	E7
U41	3	D1	E6
U42	3	E1	E6
U43	6	E4	I2
U44A	4	D4	I4
U44B	4	C5	I4
U45A	4	E4	I3
U45B	4	D5	I3
U46A	4	D2	I6
U46B	4	C2	I6
U47A	4	E2	I5
U47B	4	D2	I5
U48A	7	E3	I9
U49A	7	A2	I7
U49B	7	A4	I7
U52A	8	E3	H2
U52B	8	A2	I1
U55A	8	A2	I1
U55B	8	A4	I1
U60	5	A3	E7
U61A	5	C2	F6
U61B	5	B3	F6
U62	5	C2	F7
U63A	5	D2	F7
U63B	5	E2	F7
U64A	5	G1	G6
U64B	5	G1	G6
U64C	5	E1	G6
U64D	5	E1	G6
U65	5	E2	G7
U66A	5	F2	H6
U66B	5	G2	H6
U67	5	H2	H6
U68A	5	C4	F7
U68B	5	B3	F7
U69	5	C4	F8
U70A	5	D4	F8
U70B	5	E4	F8
U71A	5	G4	G7
U71B	5	G3	G7
U71C	5	E3	G7
U71D	5	E4	G7
U72	5	E4	G8
U73A	5	F4	H7
U73B	5	G4	H7
U74	5	H5	H8
U75	6	B2	I6
U81	9	E1	E1
U82	9	E2	E1
U83	9	E3	E2
U85	2	C4	A4
U86	2	C4	A4
U87	2	B1	D4
U90A	7	D2	K7
U90B	7	D3	K7
U91A	7	D4	L7
U91B	7	D5	L7
U92A	8	D2	K1
U92B	8	D3	K1
U93A	8	D4	K2
U93B	8	D5	K2
U94A	2	C2	C5
U94B	2	C2	C5
U95A	6	F1	E5
U95B	6	E1	E5
U95C	6	E4	E5
U95D	6	F4	E5
U96A	3	D3	E5
U96B	3	D3	E5
U96C	3	D3	E5
U96D	3	E3	E5
U99	4	B3	E4
U100	6	E2	J6
U101	2	F4	C8
VR1	6	C4	D6
VR2	6	C4	D6
Y1	1	A4	A6

Use this chart for locating parts for A5 board schematic 1.

See back of previous page for back of A5 board.

A5 Audio Generator Board Locator Chart on front of this page.

Audio Generator Bd. Schematic Diagram <1> Component Locator Chart



The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

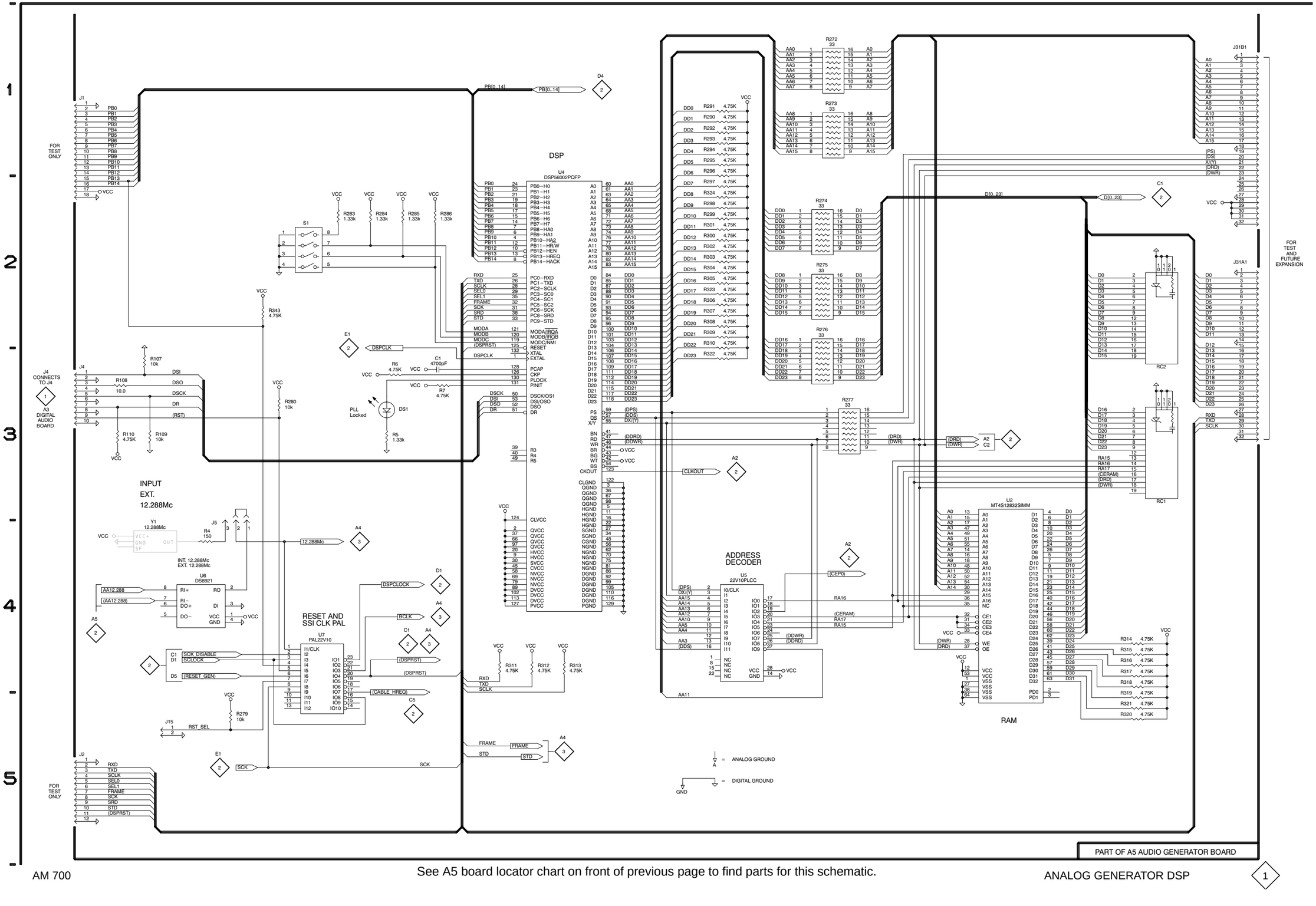
Comp No	Diag Loc	Bd Loc
C1	C3	B5
DS1	C3	A3
J1	A1	A3
J2	A5	B5
J4	A3	A1
J5	B4	B6
J15	A5	A6
J31A1	H2	D1
J31B1	H1	D1
R4	B4	A7
R5	C3	A3
R6	C3	B5
R7	C3	B5
R107	A3	A3
R108	A3	A3
R109	A3	A3
R110	A3	A3
R272	E1	C4
R273	E1	C3
R274	E2	B3
R275	E2	B3
R276	E2	A3
R277	F3	C2
R279	B5	A6
R280	B3	A3
R283	B2	A5
R284	C2	A6
R285	C2	A6
R286	C2	A6
R290	E1	C3
R291	E1	C3
R292	E1	C3
R293	E1	C3
R294	E1	C3
R295	E1	C3
R296	E1	C3
R297	E2	B3
R298	E2	C4
R299	E2	B4
R300	E2	B4
R301	E2	C4
R302	E2	B4
R303	E2	B4
R304	E2	B4
R305	E2	B3
R306	E2	B3
R307	E2	B3
R308	E2	B3
R309	E2	B3
R310	E2	B3
R311	C4	B5
R312	D4	A5
R313	D4	A5
R314	G4	C2
R315	G4	C2
R316	G4	C2
R317	G4	B2
R318	G4	B2
R319	G5	B2
R320	G5	B2
R321	G5	B2
R322	E3	B3
R323	E2	B3
R324	E2	C4
R343	B2	B5
RC1	G3	A2
RC2	G2	B2
S1	B2	A5
U2	F3	E1
U4	D2	B4
U5	E4	D3
U6	A4	A6
U7	B4	B5
Y1	A4	A6

Static Sensitive Devices
See Maintenance Section

Note: Parts for the floating power supply are omitted from this board for the Flat Panel Display version instruments.

A5 Audio Generator Board (front)

Assembly A5. Partial Assembly A5 also shown on schematic diagrams 2, 3, 4, 5. 6, 7, 8, and 9.


DSP
U4
DSP56002PQFP
ADDRESS DECODER
U5
22V10PLCC
RESET AND SSI CLK PAL
U7
PAL22V10
U6
DS8921
U2
MT4S12832SIMM
RAM
INPUT EXT. 12.288Mc
Y1 12.288Mc
INT. 12.288Mc EXT. 12.288Mc
FOR TEST ONLY
J4 CONNECTS TO J4
A3 DIGITAL AUDIO BOARD
FOR TEST AND FUTURE EXPANSION
PLL Locked
= ANALOG GROUND
= DIGITAL GROUND
PART OF A5 AUDIO GENERATOR BOARD

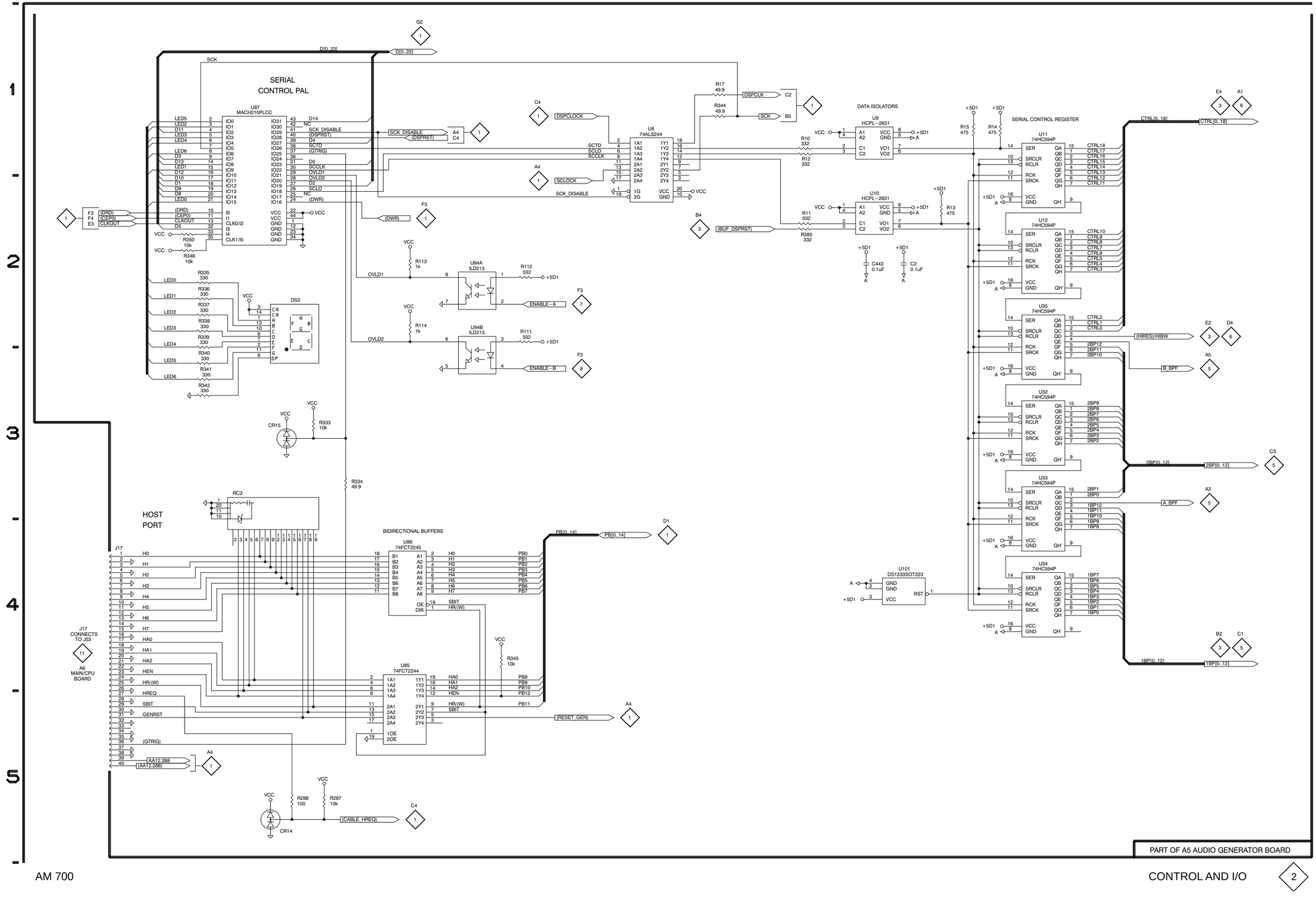
Audio Generator Board

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5 Partial Assembly A5 also shown on schematic diagrams 1, 3, 4, 5, 6, 7, 8, and 9.

Comp No	Diag Loc	Bd Loc
C2	F2	B8
C443	F2	B7
CR14	B5	B6
CR15	B3	D5
DS2	B2	D3
J17	A4	A8
R10	E1	B6
R11	E2	C6
R12	E1	B6
R13	F2	B8
R14	G1	B7
R15	F1	B8
R17	E1	C5
R111	D2	C5
R112	D2	C5
R113	C2	C6
R114	C2	C6
R287	B5	C6
R288	B5	B6
R333	B3	C5
R334	B3	B8
R335	B2	D4
R336	B2	D4
R337	B2	E4
R338	B2	E4
R339	B2	D4
R340	B3	E4
R341	B3	E4
R342	B3	E4
R344	E1	C5
R345	C4	A5
R348	A2	D5
R350	A2	D5
R385	E2	C6
RC3	B3	A3
U8	D1	B5
U9	F1	A7
U10	F2	A8
U11	G1	B7
U12	G2	B6
U32	G3	B7
U33	G3	C8
U34	G4	C6
U35	G2	C7
U85	C4	A4
U86	C4	A4
U87	B1	D4
U94A	C2	C5
U94B	C2	C5
U101	F4	C8


SERIAL
CONTROL PAL
U87
MACH210PLCC
SCK
D[0..23]
SCK_DISABLE
(DSPRST)
(DWR)
(DRD)
(CEP0)
CLKOUT
VCC
R350
10k
R348
10k
LED0
LED1
LED2
LED3
LED4
LED5
LED6
R335
330
R336
330
R337
330
R338
330
R339
330
R340
330
R341
330
R342
330
DS2
CR15
R333
10k
R334
49.9
RC3
HOST
PORT
J17
J17
CONNECTS
TO J53
A6
MAIN/CPU
BOARD
H0
H1
H2
H3
H4
H5
H6
H7
HA0
HA1
HA2
HEN
HR/(W)
HREQ
SBIT
GENRST
(GTRIG)
(AA12:288)
BIDIRECTIONAL BUFFERS
U86
74FCT2245
U85
74FCT2244
PB[0..14]
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PB8
PB9
PB10
PB11
R345
10k
(RESET_GEN)
OVLD1
OVLD2
R113
1k
R114
1k
U94A
ILD213
U94B
ILD213
R112
332
R111
332
+5D1
ENABLE-A
ENABLE-B
R288
100
R287
10k
CR14
(CABLE_HREQ)
DSPCLOCK
SCLOCK
SCTD
SCLO
SCCLK
U8
74ALS244
R17
49.9
R344
49.9
DSPCLK
SCK
B5
DATA ISOLATORS
U9
HCPL-2631
U10
HCPL-2631
R10
332
R12
332
R11
332
R385
332
(BUF_DSPRST)
C443
0.1uF
C2
0.1uF
R15
475
R14
475
R13
475
SERIAL CONTROL REGISTER
U11
74HC594P
U12
74HC594P
U35
74HC594P
U32
74HC594P
U33
74HC594P
U34
74HC594P
CTRL[0..18]
(HIRES)/HIBW
B_BPF
A_BPF
2BP[0..12]
1BP[0..12]
U101
DS1233SOT223
PART OF A5 AUDIO GENERATOR BOARD
AM 700
CONTROL AND I/O
2

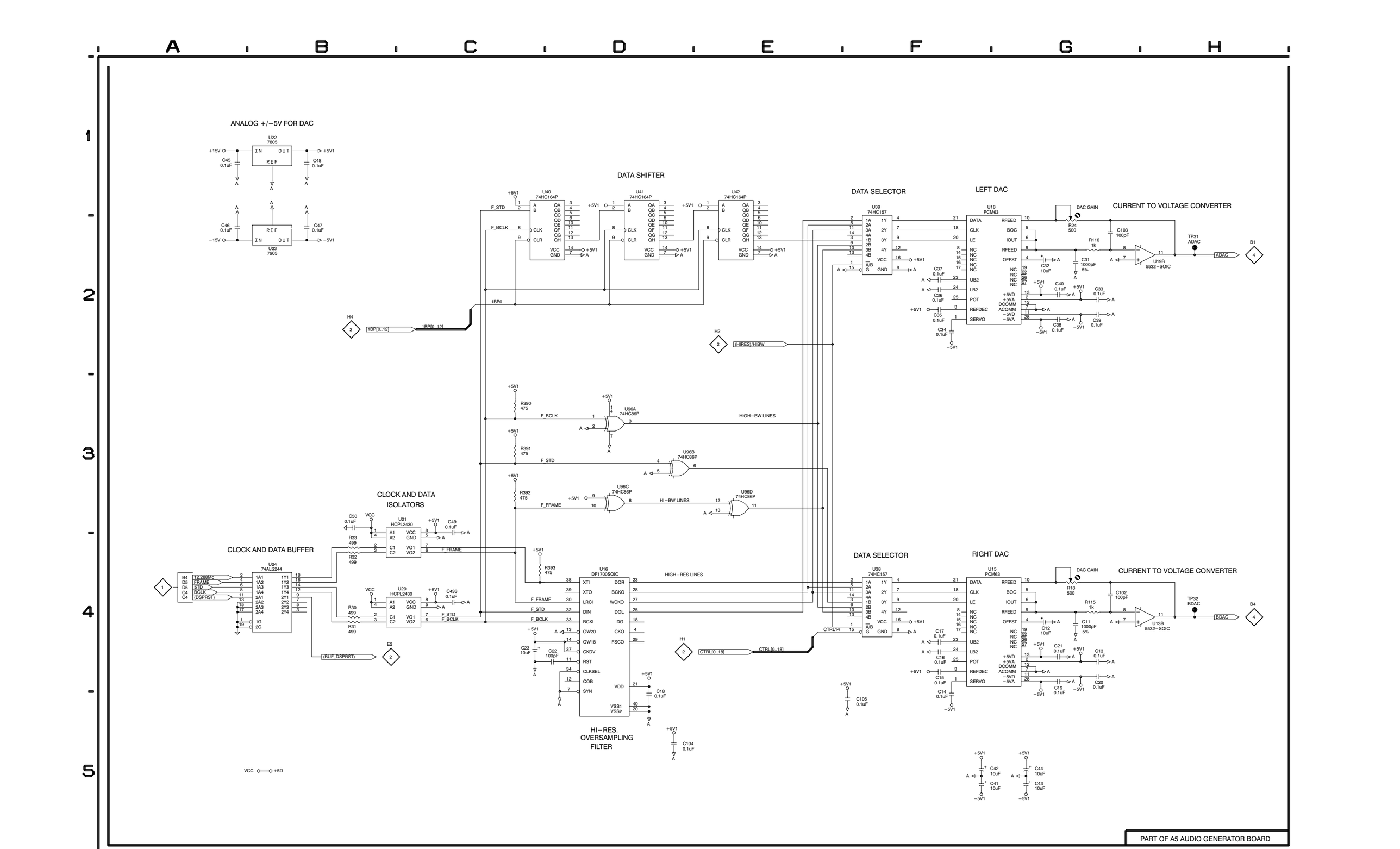
Audio Generator Board

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5 Partial Assembly A5 also shown on schematic diagrams 1, 2, 4, 5, 6, 7, 8, and 9.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C11	G4	G3	C43	G5	F3	R393	C4	D6
C12	G4	F3	C44	G5	F3			
C13	G4	F4	C45	A1	D8	TP31	H2	F5
C14	F5	G4	C46	A2	D8	TP32	H4	G3
C15	F4	G4	C47	B2	D8			
						U13B	G4	H3
C16	F4	G4	C48	B1	C8	U15	F4	G4
C17	F4	G4	C49	C3	D7	U16	D4	D6
C18	D5	D6	C50	B3	C6	U18	F2	G5
C19	G4	G4	C102	G4	G3	U19B	G2	H5
C20	G4	F4	C103	G2	F6			
						U20	B4	C7
C21	G4	G4	C104	D5	D6	U21	B3	C6
C22	D4	D7	C105	F5	E4	U22	B1	C8
C23	C4	C8	C433	C4	D7	U23	B2	D8
C31	G2	G6				U24	B4	C5
C32	G2	F5	R18	G4	G4			
			R24	G1	F5	U38	F4	E4
C33	G2	F6	R30	B4	D6	U39	F2	E6
C34	F2	G6	R31	B4	D6	U40	C1	E7
C35	F2	G6	R32	B4	C6	U41	D1	E6
C36	F2	G6				U42	E1	E6
C37	F2	G6	R33	B4	C6			
			R115	G4	G3	U96A	D3	E5
C38	G2	G6	R116	G2	F6	U96B	D3	E5
C39	G2	F6	R390	C3	E7	U96C	D3	E5
C40	G2	G6	R391	C3	E7	U96D	E3	E5
C41	F5	E5						
C42	F5	F5	R392	C3	E6			


ANALOG +/−5V FOR DAC
U22
7805
+15V
IN
OUT
+5V1
REF
C45
0.1uF
C48
0.1uF
C46
0.1uF
C47
0.1uF
−15V
−5V1
U23
7905
DATA SHIFTER
U40
74HC164P
U41
74HC164P
U42
74HC164P
F_STD
F_BCLK
1BP0
1BP[0..12]
H4
DATA SELECTOR
U39
74HC157
LEFT DAC
U18
PCM63
DAC GAIN
R24
500
CURRENT TO VOLTAGE CONVERTER
R116
1k
C103
100pF
C31
1000pF
5%
C32
10uF
U19B
5532−SOIC
TP31
ADAC
B1
ADAC
C37
0.1uF
C36
0.1uF
C35
0.1uF
C34
0.1uF
C40
0.1uF
C33
0.1uF
C38
0.1uF
C39
0.1uF
H2
{HIRES}/HIBW
R390
475
R391
475
R392
475
U96A
74HC86P
U96B
74HC86P
U96C
74HC86P
U96D
74HC86P
HIGH−BW LINES
HI−BW LINES
CLOCK AND DATA
ISOLATORS
U21
HCPL2430
U20
HCPL2430
C50
0.1uF
C49
0.1uF
C433
0.1uF
R33
499
R32
499
R30
499
R31
499
F_FRAME
F_STD
F_BCLK
CLOCK AND DATA BUFFER
U24
74ALS244
B4 12.288Mc
D5 FRAME
D5 STD
C5 BCLK
C4 (DSPRST)
(BUF_DSPRST)
E2
R393
475
U16
DF1700SOIC
HIGH−RES LINES
C23
10uF
C22
100pF
C18
0.1uF
C104
0.1uF
HI−RES.
OVERSAMPLING
FILTER
H1
CTRL[0..18]
CTRL14
C105
0.1uF
DATA SELECTOR
U38
74HC157
RIGHT DAC
U15
PCM63
DAC GAIN
R18
500
CURRENT TO VOLTAGE CONVERTER
R115
1k
C102
100pF
C11
1000pF
5%
C12
10uF
U13B
5532−SOIC
TP32
BDAC
BDAC
C17
0.1uF
C16
0.1uF
C15
0.1uF
C14
0.1uF
C21
0.1uF
C13
0.1uF
C19
0.1uF
C20
0.1uF
C42
10uF
C41
10uF
C44
10uF
C43
10uF
VCC
+5D
PART OF A5 AUDIO GENERATOR BOARD

Audio Generator Board

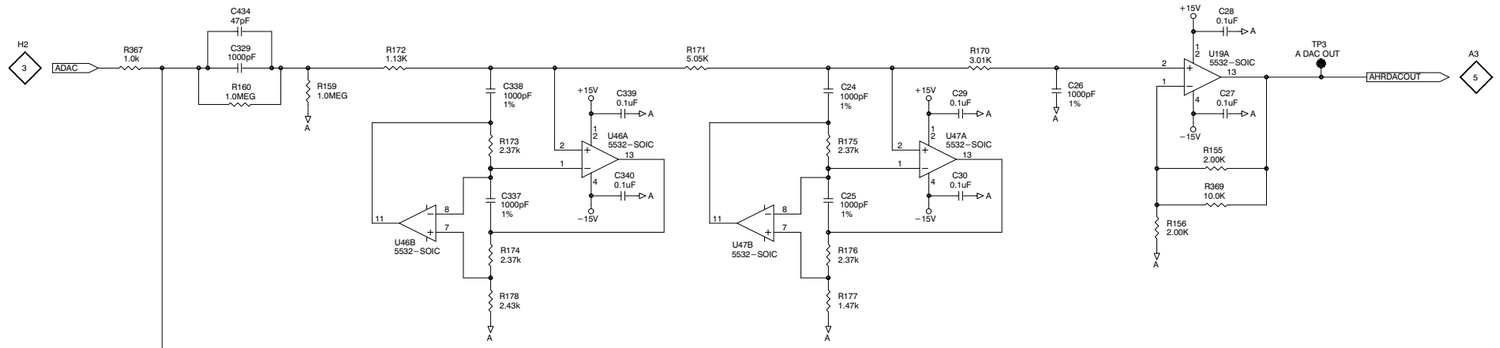
Schematic Diagram <4> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

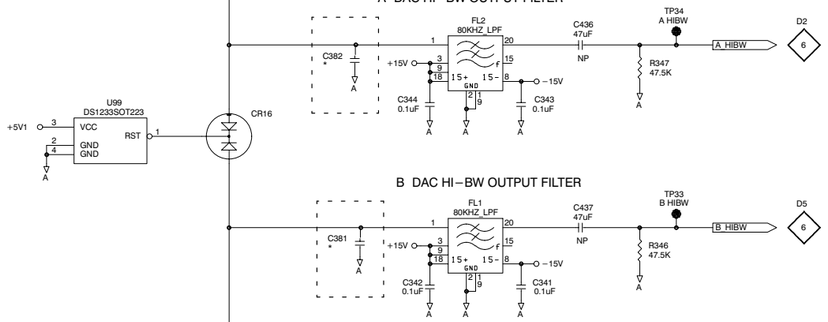
Assembly A5 Partial Assembly A5 also shown on schematic diagrams 1, 2, 3, 5, 6, 7, 8, and 9.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C6	F4	H3				R177	E2	J5
C7	F4	H3	C436	D3	J5	R178	C2	I6
C8	F4	H4	C437	D3	J4	R179	E5	J3
C9	E4	J3						
C10	E4	J3	CR16	B3	E4	R180	C5	I4
						R346	D3	I3
C24	E2	I5	FL1	C3	H4	R347	D3	J5
C25	E2	I5	FL2	C3	H5	R366	B4	G3
C26	F2	G5				R367	B1	H5
C27	F2	H5	R155	F2	H5			
C28	F1	H5	R156	F2	H5	R368	F5	H3
			R157	F4	H3	R369	F2	H5
C29	E2	I5	R158	F5	H3			
C30	E2	I5	R159	C2	H6	TP3	G1	H5
C329	C1	H6				TP4	F3	H5
C330	C4	H4	R160	C2	H6	TP33	D3	J4
C331	C4	H4	R161	C4	H4	TP34	D3	J5
			R162	C4	H4			
C332	C5	H4	R163	C4	H4	U13A	F4	H3
C333	D4	I4	R164	D4	H3	U19A	F1	H5
C334	D4	I4				U44A	D4	I4
C335	E4	I3	R165	C4	H4	U44B	C5	I4
C336	E5	I4	R166	C5	I4	U45A	E4	I3
			R167	E5	J3			
C337	C2	H6	R168	E4	I3	U45B	D5	I3
C338	C2	H6	R169	E4	H3	U46A	D2	I6
C339	D2	I6				U46B	C2	I6
C340	D2	I6	R170	E1	H5	U47A	E2	I5
C341	C4	I4	R171	D1	H6	U47B	D2	I5
			R172	C1	H6	U99	B3	E4
C342	C4	G4	R173	C2	I6			
C343	C3	I5	R174	C2	I6			
C344	C3	G6						
C434	C1	H6	R175	E2	I5			
C435	C4	H4	R176	E2	J5			

A DAC HI–RES OUTPUT FILTER

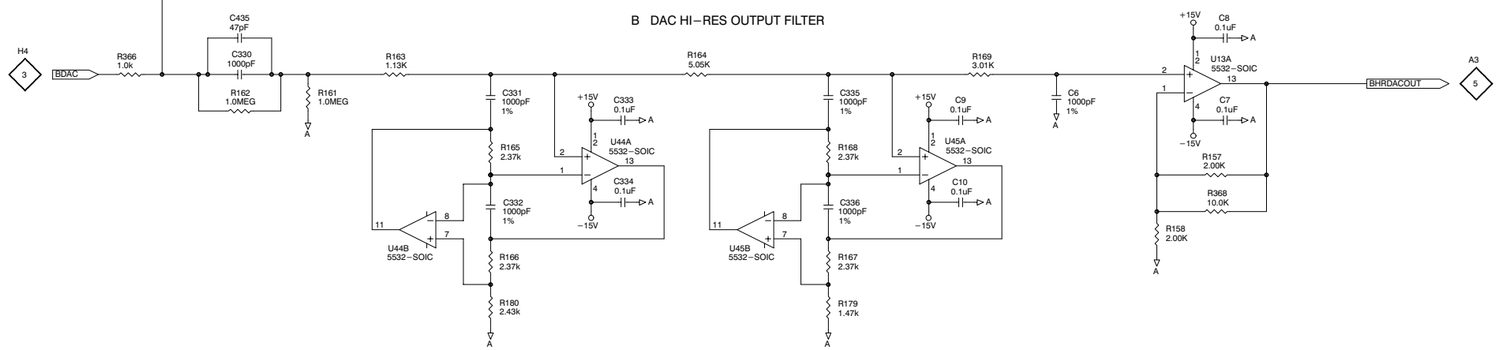


A DAC HI–BW OUTPUT FILTER



B DAC HI–BW OUTPUT FILTER

B DAC HI–RES OUTPUT FILTER



TP4
A GND

*Test selectable in manufacturing. Added C may not be required.
Selection values are 220 PF, 150 PF, or 100 PF
Nominal value, if needed, is 100 PF
See Electrical Replaceable Parts list for changes.

PART OF A5 AUDIO GENERATOR BOARD

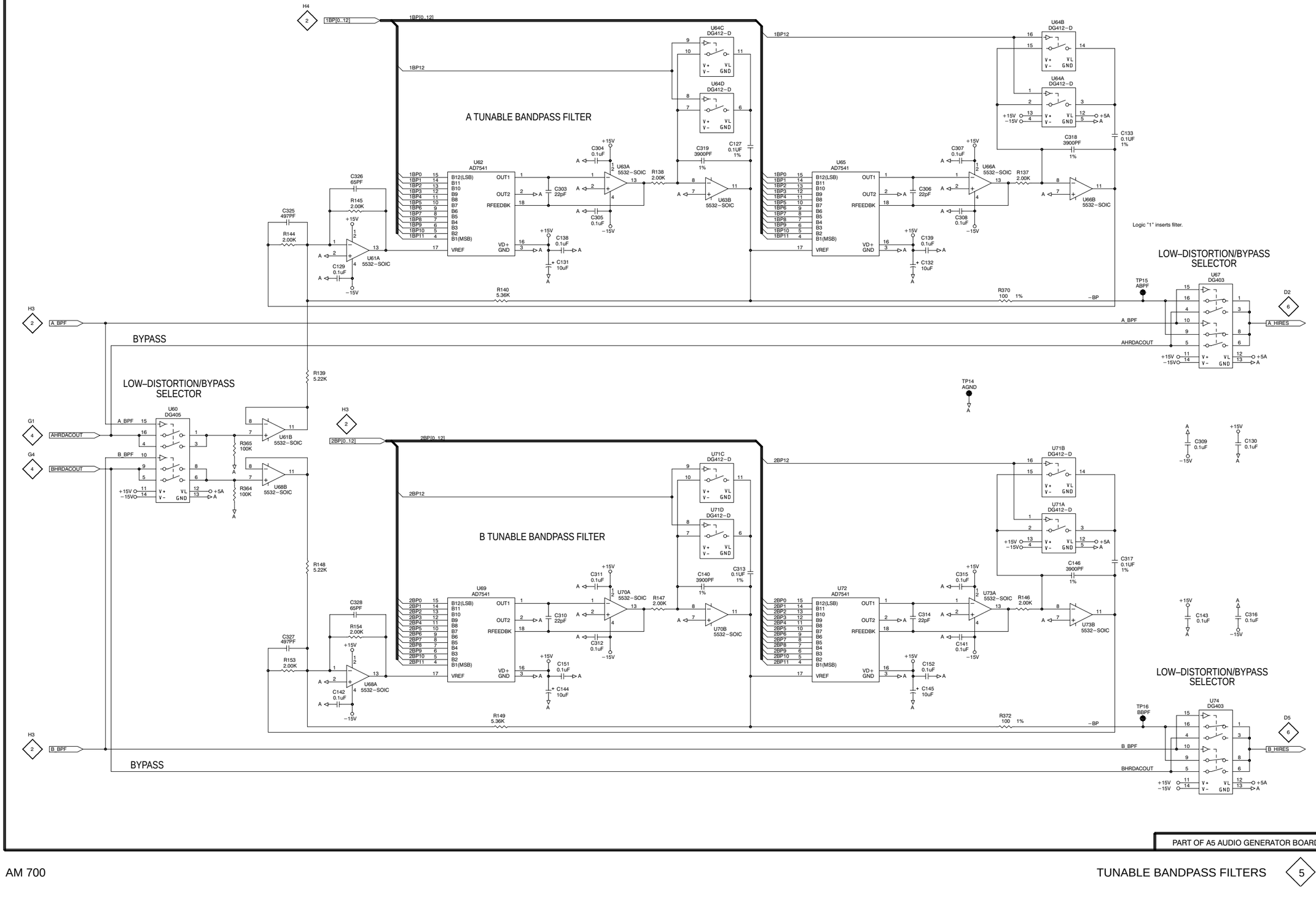
Audio Generator Board

Schematic Diagram <5> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5 Partial Assembly A5 also shown on schematic diagrams 1, 2, 3, 4, 6, 7, 8, and 9.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C127	E2	G7				U61A	C2	F6
C129	C2	F6	C316	H4	H8	U61B	B3	F6
C130	H3	I7	C317	G4	H8	U62	C2	F7
C131	D2	F7	C318	G2	H7	U63A	D2	F7
C132	F2	H7	C319	E2	G6			
			C325	B2	E6	U63B	E2	F7
C133	G1	H7				U64A	G1	G6
C138	D2	F7	C326	C2	F7	U64B	G1	G6
C139	F2	H7	C327	B4	E8	U64C	E1	G6
C140	E4	G8	C328	C4	F8	U64D	E1	G6
C141	F4	H8						
			R137	G2	H7	U65	E2	G7
C142	C5	F7	R138	D2	G7	U66A	F2	H6
C143	H4	I8	R139	B3	F7	U66B	G2	H6
C144	D5	F8	R140	C2	F7	U67	H2	H6
C145	F5	H8	R144	B2	E6	U68A	C4	F7
C146	G4	H8				U68B	B3	F7
			R145	C2	F7			
C151	D4	F8	R146	G4	H8	U69	C4	F8
C152	F4	H8	R147	D4	G8	U70A	D4	F8
C303	D2	F6	R148	B4	E8	U70B	E4	F8
C304	D2	G6	R149	C5	E8	U71A	G4	G7
C305	D2	F7				U71B	G3	G7
			R153	B4	E8			
C306	F2	H6	R154	C4	F8	U71C	E3	G7
C307	F2	I6	R364	B3	F8	U71D	E4	G7
C308	F2	H7	R365	B3	F7	U72	E4	G8
C309	H3	H7	R370	F2	H7	U73A	F4	H7
C310	D4	F8	R372	F5	H8	U73B	G4	H7
						U74	H5	H8
C311	D4	G8	TP14	F3	M5			
C312	D4	F8	TP15	G2	I7			
C313	E4	G8	TP16	G5	I8			
C314	F4	H8						
C315	F4	I8	U60	A3	E7			



PART OF A5 AUDIO GENERATOR BOARD

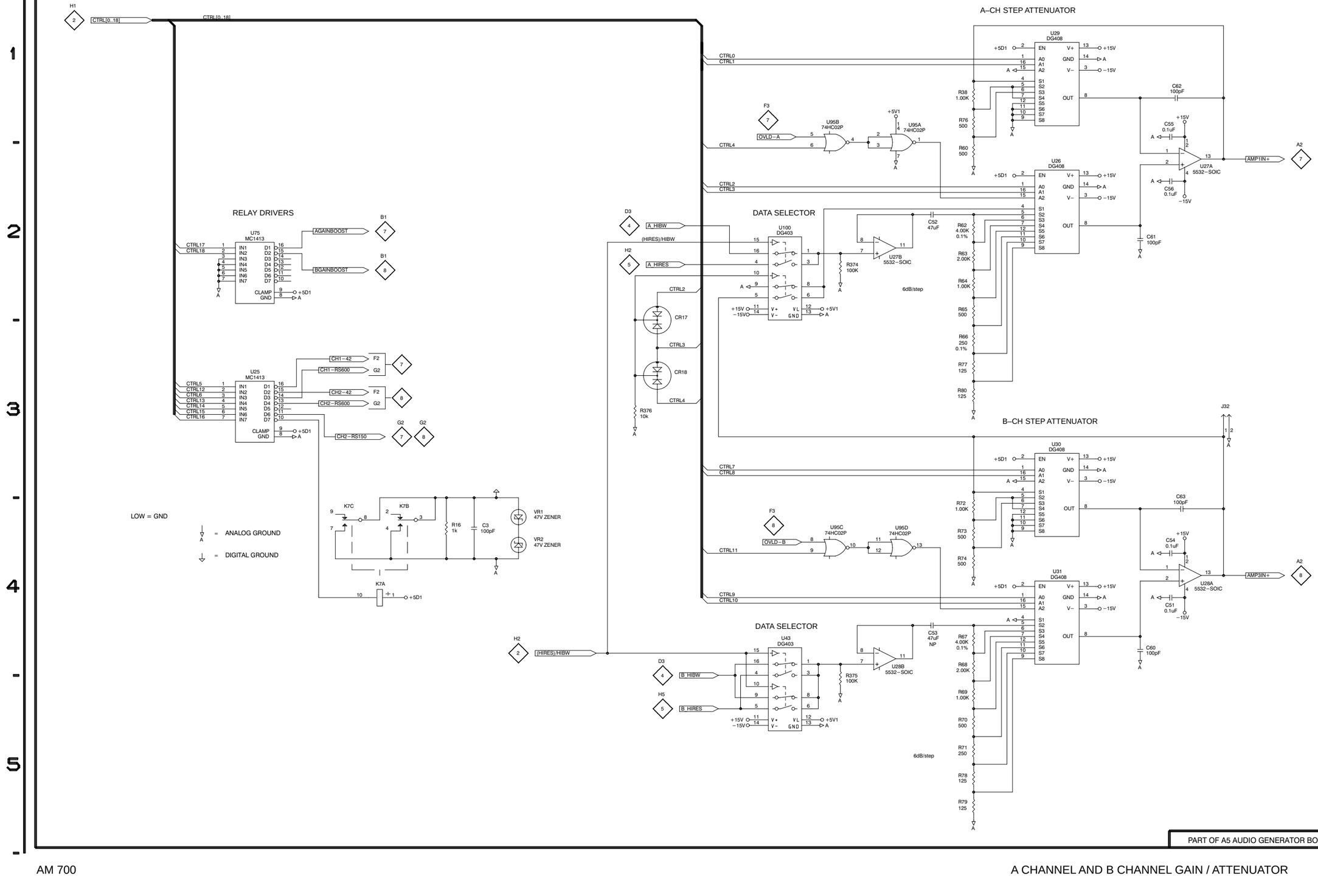
Audio Generator Board

Schematic Diagram <6> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5 Partial Assembly A5 also shown on schematic diagrams 1, 2, 3, 4, 5, 7, 8, and 9.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C3	C4	D6	R62	F2	J5	R376	D3	I6
C51	G4	K4	R63	F2	K5	U25	B3	I6
C52	F2	J5						
C53	F4	J4	R64	F2	K5	U26	G2	J5
C54	G4	K4	R65	F2	K5	U27A	G2	K6
			R66	F3	K5	U27B	F2	K6
C55	G1	K6	R67	F4	J3	U28A	G4	K4
C56	G2	K6	R68	F4	K3	U28B	F4	K4
C60	G4	J4						
C61	G2	J6	R69	F5	K3	U29	G1	K5
C62	G1	K6	R70	F5	K3	U30	G3	K4
C63	G4	K4	R71	F5	K3	U31	G4	J4
			R72	F4	K3	U43	E4	I2
CR17	D2	J6	R73	F4	K3	U75	B2	I6
CR18	D3	J6						
			R74	F4	K3	U95A	F1	E5
J32	H3	K4	R76	F1	K5	U95B	E1	E5
K7A	C4	D5	R77	F3	K5	U95C	E4	E5
K7B	C4	D5	R78	F5	K3	U95D	F4	E5
K7C	B4	D5	R79	F5	K3	U100	E2	J6
R16	C4	D6	R80	F3	K5	VR1	C4	D6
R38	F1	K5	R374	E2	J6	VR2	C4	D6
R60	F2	K5	R375	E4	I3			


A–CH STEP ATTENUATOR
B–CH STEP ATTENUATOR
RELAY DRIVERS
DATA SELECTOR
CTRL[0..18]
AGAINBOOST
BGAINBOOST
CH1–42
CH1–RS600
CH2–42
CH2–RS600
CH2–RS150
OVLD–A
OVLD–B
A_HIBW
A_HIRES
B_HIBW
B_HIRES
(HIRES)/HIBW
AMP1IN+
AMP3IN+
6dB/step
LOW = GND
= ANALOG GROUND
= DIGITAL GROUND
PART OF A5 AUDIO GENERATOR BOARD

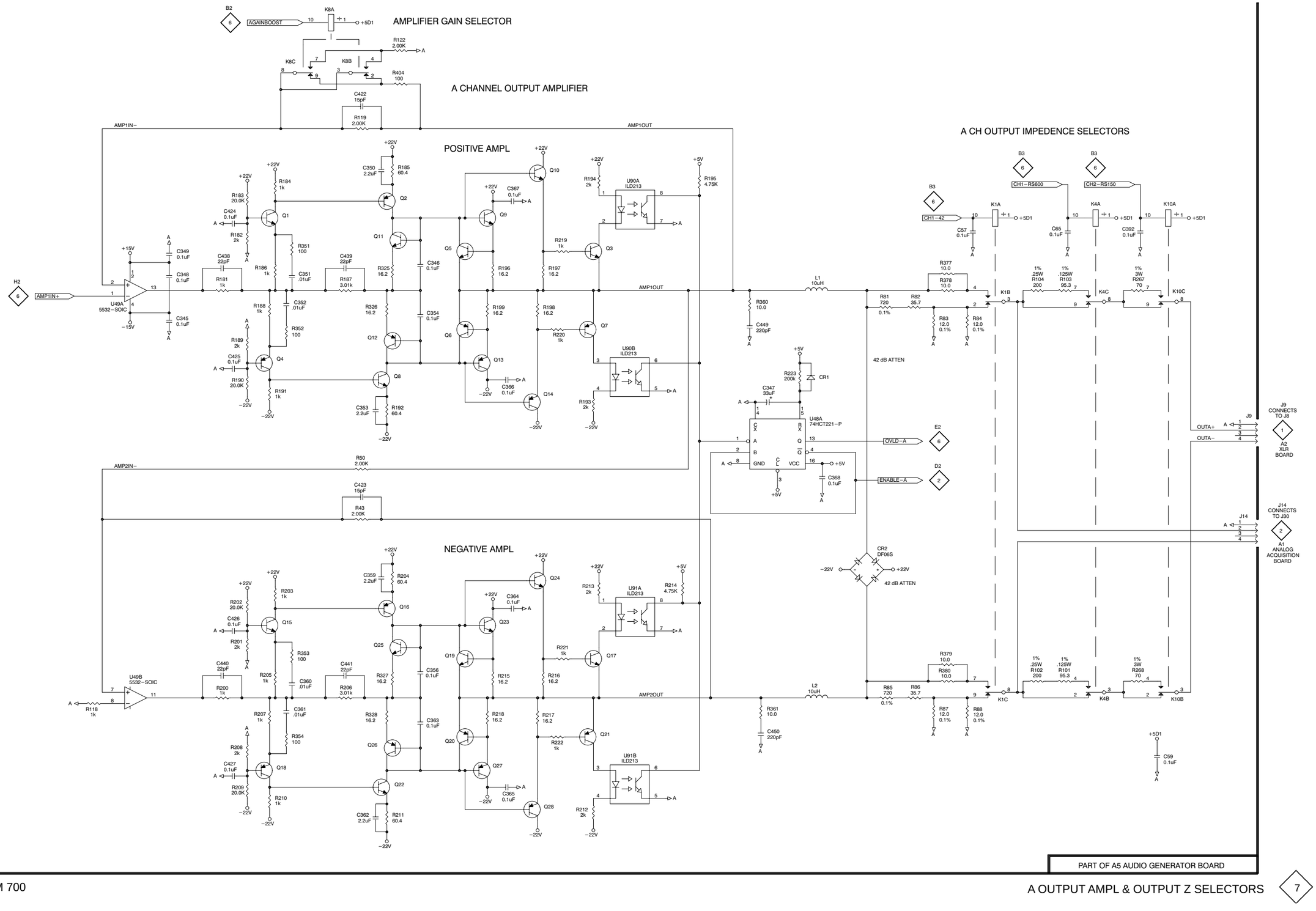
Audio Generator Board

Schematic Diagram <7> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5 Partial Assembly A5 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 8, and 9.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C57	F2	L6	Q1	B2	J6	R193	D3	K7
C59	H5	L4	Q2	C2	J6			
C65	G2	M7	Q3	D2	K6	R194	D2	K6
C345	B2	I7	Q4	B3	J7	R195	E2	L7
C346	C2	J7	Q5	C2	K6	R196	D2	K7
						R197	D2	K7
C347	E3	I8	Q6	C2	K7	R198	D2	K7
C348	B2	I7	Q7	D2	K7			
C349	B2	I7	Q8	C3	J7	R199	D2	K7
C350	C2	J6	Q9	D2	K6	R200	B4	I8
C351	B2	J7	Q10	D2	K6	R201	B4	J7
						R202	B4	J7
C352	B2	J7	Q11	C2	J6	R203	B4	J8
C353	C3	J7	Q12	C2	J7			
C354	C2	J7	Q13	C3	K7	R204	C4	J8
C356	C4	J8	Q14	D3	K7	R205	B4	J8
C359	C4	J7	Q15	B4	J8	R206	C4	J8
						R207	B5	J8
C360	B4	J8	Q16	C4	J7	R208	B5	J8
C361	B5	J8	Q17	D4	K8			
C362	C5	J8	Q18	B5	J8	R209	B5	J8
C363	C5	J8	Q19	C4	K8	R210	B5	J8
C364	D4	J8	Q20	C5	K8	R211	C5	J8
						R212	D5	K8
C365	D5	J8	Q21	D5	K8	R213	D4	K8
C366	D3	J7	Q22	C5	J8			
C367	D2	J7	Q23	D4	K7	R214	E4	L7
C368	F3	I8	Q24	D4	K7	R215	D4	K8
C392	G2	L5	Q25	C4	J7	R216	D4	K8
						R217	D5	K8
C422	C1	I7	Q26	C5	J8	R218	D5	K8
C423	C3	I7	Q27	C5	K8			
C424	B2	J7	Q28	D5	K8	R219	D2	K7
C425	B3	J7				R220	D2	K7
C426	B4	J8	R43	C3	I7	R221	D4	K8
			R50	C3	I7	R222	D5	K8
C427	B5	J8	R81	F2	L5	R223	E3	I8
C438	B2	I7	R82	F2	L5			
C439	C2	J6	R83	F2	L5	R267	G2	L5
C440	B4	J8				R268	G4	L6
C441	C4	J8	R84	F2	L5	R325	C2	J7
			R85	F4	L6	R326	C2	J7
C449	E2	K6	R86	F4	L6	R327	C4	J8
C450	E5	L7	R87	F5	L6			
			R88	F5	L6	R328	C5	J8
CR1	E3	I8				R351	B2	J7
CR2	F4	L8	R101	G4	M7	R352	B2	J7
			R102	G4	M7	R353	B4	J8
J9	H3	M5	R103	G2	M6	R354	B5	J8
J14	H4	L6	R104	G2	M6			
			R118	A5	I7	R360	E2	K7
K1A	G2	L7				R361	E5	L8
K1B	G2	L7	R119	C1	I7	R377	F2	L7
K1C	G4	L7	R122	C1	I7	R378	F2	L7
K4A	G2	M7	R181	B2	J7	R379	F4	L7
K4B	G4	M7	R182	B2	J6			
			R183	B2	J6	R380	F4	L7
K4C	G2	M7				R404	C1	I7
K8A	C1	I7	R184	B2	J6			
K8B	C1	I7	R185	C2	J6	U48A	E3	I9
K8C	B1	I7	R186	B2	J7	U49A	A2	I7
K10A	H2	L6	R187	C2	J7	U49B	A4	I7
			R188	B2	J7	U90A	D2	K7
K10B	H4	L6				U90B	D3	K7
K10C	H2	L6	R189	B2	J7			
			R190	B3	J7	U91A	D4	L7
L1	E2	L8	R191	B3	J7	U91B	D5	L7
L2	E4	L8	R192	C3	J7			


AMPLIFIER GAIN SELECTOR
A CHANNEL OUTPUT AMPLIFIER
POSITIVE AMPL
NEGATIVE AMPL
A CH OUTPUT IMPEDENCE SELECTORS
AMP1IN+
AMP1IN−
AMP1OUT
AMP2IN−
AMP2OUT
AGAINBOOST
+5D1
U49A 5532−SOIC
U49B 5532−SOIC
U48A 74HCT221−P
U90A ILD213
U90B ILD213
U91A ILD213
U91B ILD213
CR1
CR2 DF06S
42 dB ATTEN
OVLD−A
ENABLE−A
CH1−RS600
CH2−RS150
CH1−42
J9 CONNECTS TO J8
J14 CONNECTS TO J30
A2 XLR BOARD
A1 ANALOG ACQUISITION BOARD
OUTA+
OUTA−
PART OF A5 AUDIO GENERATOR BOARD

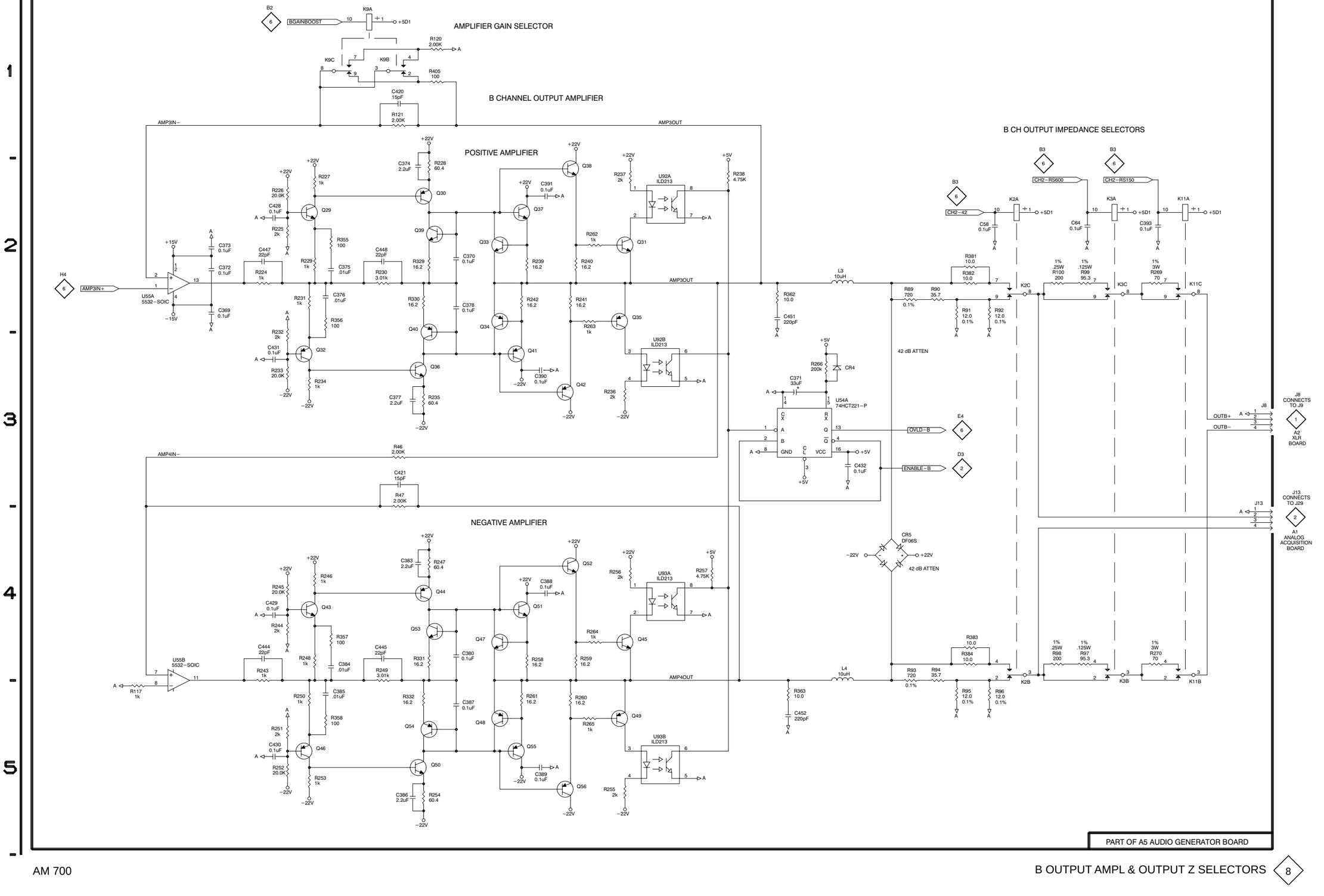
Audio Generator Board

Schematic Diagram <8> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5 Partial Assembly A5 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, and 9.

Comp No	Diag Loc	Bd Loc
C58	F2	M2
C64	G2	M2
C369	B2	I1
C370	C2	J1
C371	E3	H1
C372	B2	I1
C373	B2	I2
C374	C2	I1
C375	B2	J1
C376	B2	J2
C377	C3	J2
C378	C2	J1
C380	C4	J2
C383	C4	J2
C384	B4	J2
C385	B5	J3
C386	C5	J3
C387	C5	J3
C388	D4	J2
C389	D5	J3
C390	D3	J1
C391	D2	J1
C393	G2	L4
C420	C1	I1
C421	C3	I2
C428	B2	J1
C429	B4	J2
C430	B5	J3
C431	B3	J1
C432	F3	I9
C444	B4	I2
C445	C4	J2
C447	B2	I1
C448	C2	J1
C451	E2	K1
C452	E5	L2
CR4	E3	H1
CR5	F4	L2
J8	H3	M4
J13	H4	L4
K2A	G2	L3
K2B	G4	L3
K2C	G2	L3
K3A	G2	M3
K3B	G4	M3
K3C	G2	M3
K9A	C1	I3
K9B	C1	I3
K9C	B1	I3
K11A	H2	L4
K11B	H4	L4
K11C	H2	L4
L3	E2	L1
L4	E4	M1
Q29	B2	J1
Q30	C2	J1
Q31	D2	K1
Q32	B3	J1
Q33	C2	K1
Q34	C2	K1
Q35	D2	K1
Q36	C3	J1
Q37	D2	K1
Q38	D2	K1
Q39	C2	J1
Q40	C2	J2
Q41	C3	K2
Q42	D3	K2
Q43	B4	J2
Q44	C4	J2
Q45	D4	K2
Q46	B5	J3
Q47	C4	K2
Q48	C5	K3
Q49	D5	K3
Q50	C5	J3
Q51	D4	K2
Q52	D4	K2
Q53	C4	J2
Q54	C5	J3
Q55	C5	K3
Q56	D5	K3
R46	C3	I2
R47	C3	I2
R89	F2	L3
R90	F2	L3
R91	F2	L3
R92	F2	L3
R93	F4	K3
R94	F4	L3
R95	F5	L3
R96	F5	L3
R97	G4	M3
R98	G4	M3
R99	G2	M2
R100	G2	M2
R117	A5	I2
R120	C1	I1
R121	C1	I1
R224	B2	I1
R225	B2	J1
R226	B2	J1
R227	B2	J1
R228	C2	J1
R229	B2	J1
R230	C2	J1
R231	B2	J2
R232	B2	J1
R233	B3	J1
R234	B3	J2
R235	C3	J2
R236	D3	K2
R237	D2	K1
R238	E2	L1
R239	D2	K1
R240	D2	K1
R241	D2	K1
R242	D2	K1
R243	B4	J2
R244	B4	J2
R245	B4	J2
R246	B4	J2
R247	C4	J2
R248	B4	J2
R249	C4	J3
R250	B5	J3
R251	B5	J3
R252	B5	J3
R253	B5	J3
R254	C5	J3
R255	D5	K3
R256	D4	K2
R257	E4	L1
R258	D4	K2
R259	D4	K2
R260	D5	K3
R261	D5	K3
R262	D2	K1
R263	D2	K1
R264	D4	K2
R265	D5	K3
R266	E3	I1
R269	G2	M4
R270	G4	L5
R329	C2	J1
R330	C2	J1
R331	C4	J2
R332	C5	J3
R355	B2	J1
R356	B2	J2
R357	B4	J2
R358	B5	J3
R362	E2	K1
R363	E5	L2
R381	F2	L2
R382	F2	L2
R383	F4	L2
R384	F4	L2
R405	C1	J2
U54A	E3	H2
U55A	A2	I1
U55B	A4	I1
U92A	D2	K1
U92B	D3	K1
U93A	D4	K2
U93B	D5	K2


AMPLIFIER GAIN SELECTOR
B CHANNEL OUTPUT AMPLIFIER
POSITIVE AMPLIFIER
NEGATIVE AMPLIFIER
B CH OUTPUT IMPEDANCE SELECTORS
BGAINBOOST
AMP3IN−
AMP3IN+
AMP3OUT
AMP4IN−
AMP4OUT
U55A 5532−SOIC
U55B 5532−SO/C
U54A 74HCT221−P
U92A ILD213
U92B ILD213
U93A ILD213
U93B ILD213
42 dB ATTEN
OVLD−B
ENABLE−B
CH2−RS600
CH2−RS150
CH2−42
OUTB+
OUTB−
J8 CONNECTS TO J9
J13 CONNECTS TO J29
A2 XLR BOARD
A1 ANALOG ACQUISITION BOARD
PART OF A5 AUDIO GENERATOR BOARD

Audio Generator Board

Schematic Diagram <9> Component Locator Chart

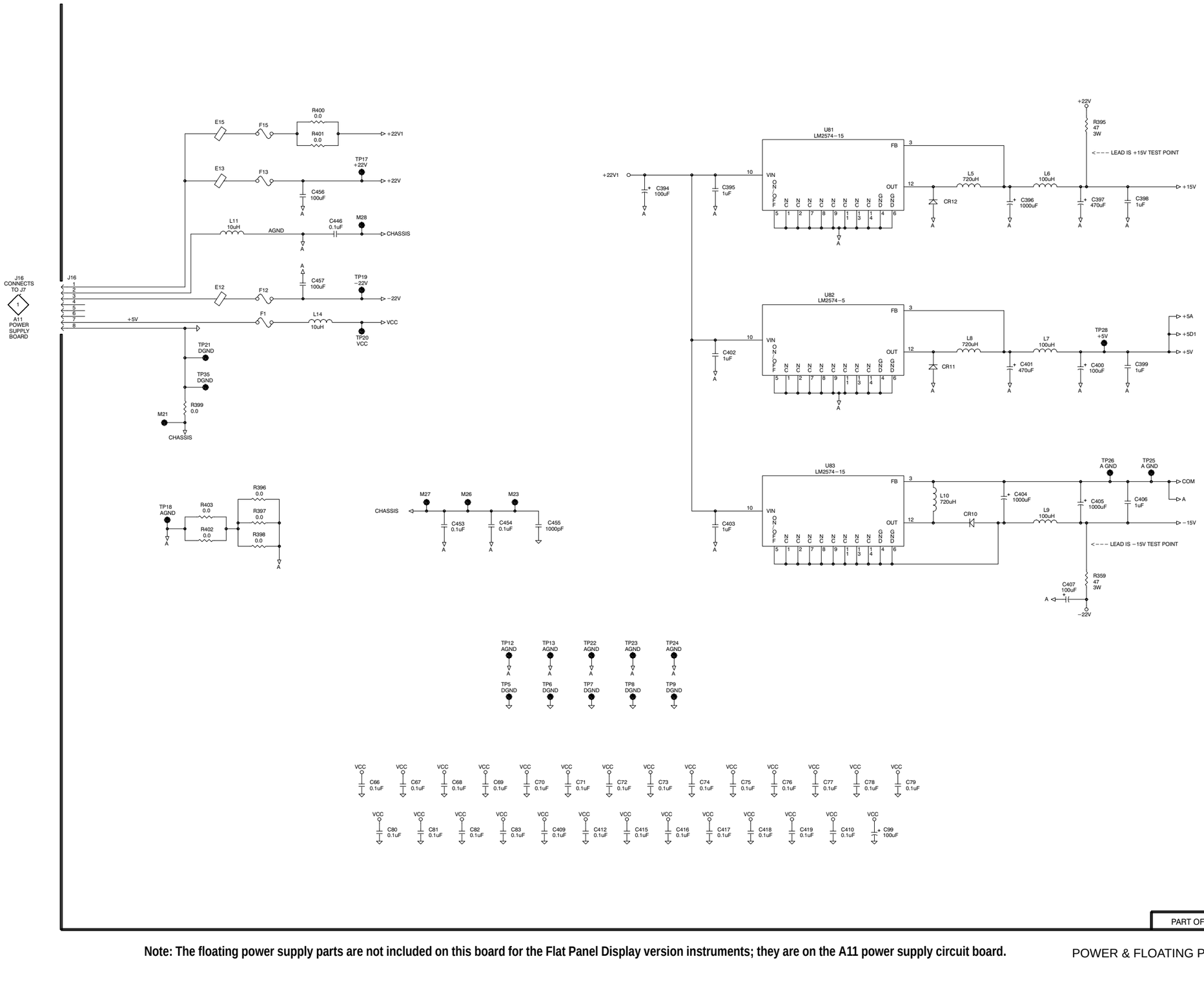
The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A5 Partial Assembly A5 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, and 8.

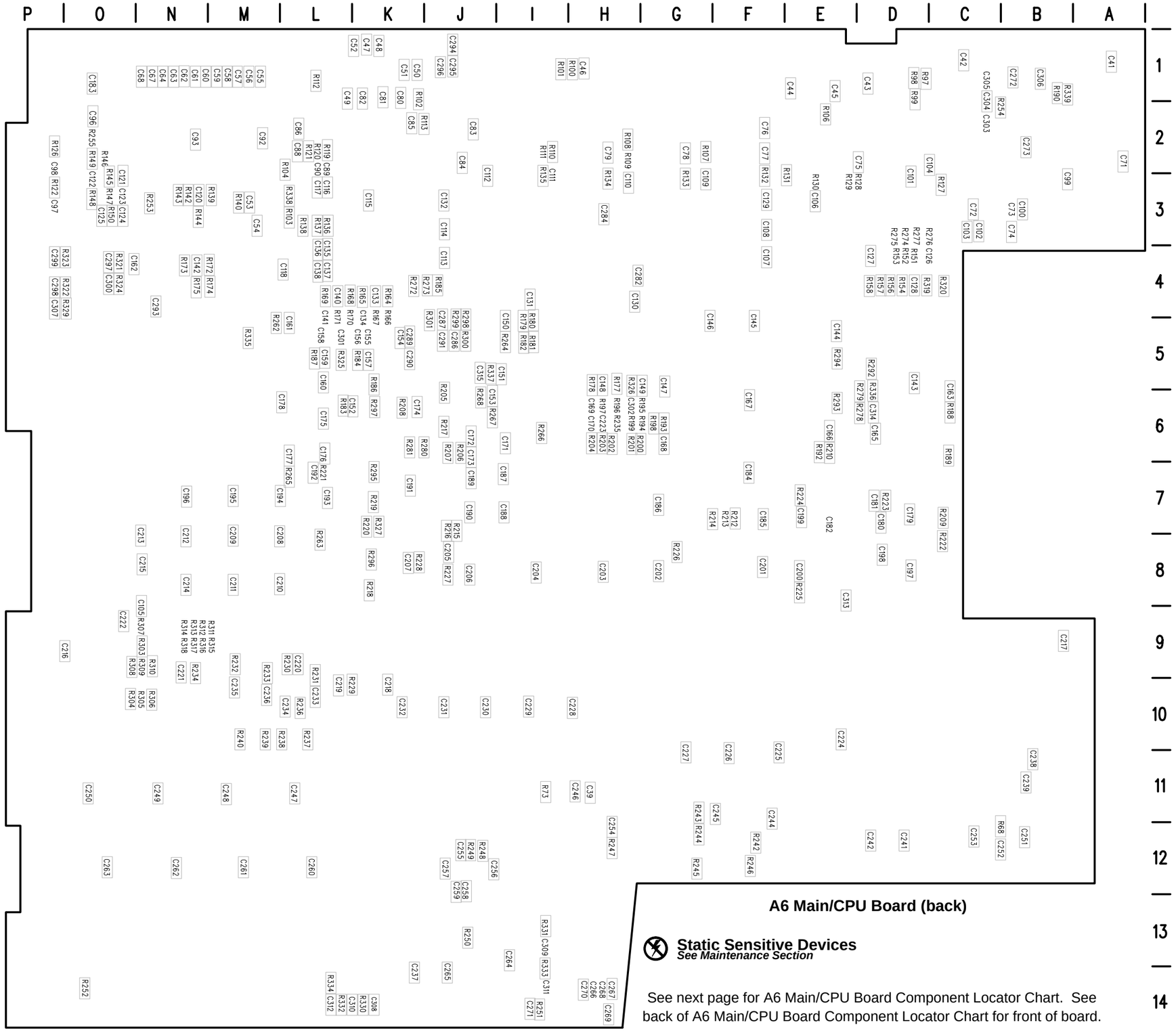
Comp No	Diag Loc	Bd Loc
C66	C5	B2
C67	C5	C3
C68	C5	C4
C69	D5	C4
C70	D5	D4
C71	D5	B4
C72	D5	A4
C73	E5	C6
C74	E5	C6
C75	E5	A7
C76	E5	A7
C77	E5	B5
C78	F5	A8
C79	F5	B5
C80	C5	B7
C81	C5	C4
C82	C5	D4
C83	D5	A6
C99	F5	D7
C394	D2	E1
C395	E2	F1
C396	G2	G1
C397	G2	H1
C398	G2	H1
C399	G2	H1
C400	G2	H1
C401	G2	G1
C402	E2	F1
C403	E3	F2
C404	G3	G2
C405	G3	H2
C406	G3	H2
C407	G4	H8
C409	D5	D2
C410	F5	D2

Comp No	Diag Loc	Bd Loc
C412	D5	C2
C415	D5	D4
C416	E5	A5
C417	E5	C3
C418	E5	B5
C419	E5	B4
C446	C2	I8
C453	C3	M8
C454	D3	M2
C455	D3	A2
C456	C2	L4
C457	C2	L5
CR10	F3	F2
CR11	F2	F1
CR12	F2	F1
E12	B2	
E13	B1	
E15	B1	
F1	B2	D8
F12	B2	
F13	B1	
F15	B1	
J16	A2	E8
L5	F2	G1
L6	G2	G1
L7	G2	G1
L8	F2	G1
L9	G3	G2
L10	F3	G2
L11	B2	E8
L14	C2	D7
R359	G4	I1

Comp No	Diag Loc	Bd Loc
R395	G1	I1
R396	B3	E1
R397	B3	E2
R398	B3	E2
R399	B3	A6
R400	C1	E2
R401	C1	E2
R402	B3	E7
R403	B3	D7
TP5	D4	D5
TP6	D4	A5
TP7	D4	A2
TP8	D4	A7
TP9	E4	C6
TP12	D4	K2
TP13	D4	K7
TP17	C1	J8
TP18	B3	E7
TP19	C2	I9
TP20	C2	D8
TP21	B2	D8
TP22	D4	H9
TP23	D4	F4
TP24	E4	M2
TP25	G3	M8
TP26	G3	L4
TP28	G2	I1
TP35	B3	D2
U81	E1	E1
U82	E2	E1
U83	E3	E2



Note: The floating power supply parts are not included on this board for the Flat Panel Display version instruments; they are on the A11 power supply circuit board.


A6 Main/CPU Board (back)
Static Sensitive Devices
See Maintenance Section
See next page for A6 Main/CPU Board Component Locator Chart. See back of A6 Main/CPU Board Component Locator Chart for front of board.

A6 Main/CPU Board Component Locator *(with cross-references to schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12)*

Comp No	Diag No	Diag Loc	Bd Loc
BT1	3	A5	A1
C1	3	F5	C2
C2	10	G4	L1
C3	3	F5	B3
C6	9	C5	L2
C7	10	G3	M2
C8	10	F3	M2
C9	10	G3	M2
C10	10	G1	N2
C11	10	F3	M2
C12	10	F1	N2
C13	10	G1	N2
C14	10	F1	N2
C15	3	F5	D3
C16	3	G5	E3
C17	9	A1	M3
C18	9	C4	L3
C19	3	D5	E3
C20	3	D5	J4
C21	2	A2	K4
C22	2	A5	L4
C23	12	B3	N4
C24	12	B3	G5
C25	12	B3	D7
C26	3	B3	F7
C27	12	B3	O8
C28	12	B3	I8
C29	12	A4	P9
C30	12	D5	B9
C31	12	A4	O9
C32	12	C3	D10
C33	12	C3	K10
C34	8	G5	L12
C35	8	G5	M12
C36	8	G5	N12
C37	8	H5	O12
C38	12	C3	O11
C39	7	A4	H11
C40	12	C3	L13
C41	2	A1	A1
C42	10	C5	C1
C43	12	B2	D1
C44	12	B2	E1
C45	12	B2	E1
C46	9	G4	H1
C47	10	G4	K1
C48	10	G4	K1
C49	10	F4	L1
C50	10	G5	K1
C51	10	G4	K1
C52	10	G4	K1
C53	9	D1	M3
C54	9	D2	M3
C55	10	H4	M1
C56	10	H3	M1
C57	10	H3	M1
C58	10	H4	M1
C59	10	H4	M1
C60	10	H3	M1
C61	10	H1	N1
C62	10	H2	N1
C63	10	H1	N1
C64	10	H1	N1
C67	10	H2	N1
C68	10	H2	N1
C71	12	B2	A2
C72	3	F5	C3
C73	3	E5	B3
C74	3	E5	B3
C75	11	D2	D2
C76	12	C2	F2
C77	12	C2	F2
C78	12	C2	G2
C79	12	C2	H2
C80	9	G5	K2
C81	9	G5	K2
C82	9	G5	K2
C83	12	C2	J2
C84	12	D2	J2
C85	12	D2	K2
C86	9	D2	L2
C88	9	E2	L2
C89	9	C5	L2
C90	9	C5	L2
C92	12	D2	M2

Comp No	Diag No	Diag Loc	Bd Loc
C93	12	D2	N2
C96	12	B2	O2
C97	12	F3	P3
C98	2	D2	P2
C99	12	B2	A3
C100	12	B2	B3
C101	3	F5	D2
C102	3	E5	C3
C103	3	E5	C3
C104	3	F5	C2
C105	12	B2	N9
C106	2	D3	E3
C107	12	C2	F4
C108	12	C2	F3
C109	12	C2	G3
C110	12	C2	H3
C111	12	C2	I2
C112	12	D2	J2
C113	12	D2	J4
C114	12	D2	J3
C115	12	D2	K3
C116	9	C5	L3
C117	9	C5	L3
C118	9	A1	M4
C120	12	B2	N3
C121	12	B2	O2
C122	12	B2	O2
C123	2	C5	O3
C124	12	B2	O3
C125	12	F2	O3
C126	12	C2	C4
C127	12	C2	D4
C128	12	C2	D4
C129	3	D5	F3
C130	12	C2	H4
C131	12	C2	I4
C132	3	D5	J3
C133	2	A2	K4
C134	2	A2	K4
C135	9	C4	L4
C136	9	C4	L3
C137	9	C4	L4
C138	9	C4	L4
C140	2	A5	L4
C141	2	A5	L4
C142	12	D2	N4
C143	12	D2	D5
C144	12	D2	E4
C145	12	D2	F4
C146	12	B2	F4
C147	12	B2	G5
C148	2	F3	H5
C149	12	B2	H5
C150	12	B2	I4
C151	12	C2	I5
C152	2	A1	K6
C153	12	C2	J6
C154	12	C2	K5
C155	12	C2	K5
C156	12	C2	K5
C157	12	D2	K5
C158	12	D2	L5
C159	2	B5	L5
C160	12	D2	L5
C161	12	D2	L5
C162	12	B2	O4
C163	2	C5	C5
C165	12	B2	D6
C166	12	B2	E6
C167	12	B2	F6
C168	12	C2	G6
C169	12	C2	H6
C170	2	C2	H6
C171	12	C2	I6
C172	12	C2	J6
C173	2	C2	J6
C174	12	C2	J6
C175	12	D2	L6
C176	12	D2	L6
C177	12	D2	L6
C178	12	D2	M6
C179	12	B2	D7
C180	12	B2	D7
C181	2	C2	D7
C182	12	B2	E7
C183	12	B2	O1

Comp No	Diag No	Diag Loc	Bd Loc
C184	12	C2	F7
C185	12	C2	F7
C186	12	C2	G7
C187	12	C2	I7
C188	12	C2	I7
C189	12	D2	J7
C190	12	D2	J7
C191	12	D2	K7
C192	2	C2	L7
C193	12	D2	L7
C194	12	B2	L7
C195	12	B2	M7
C196	12	B2	N7
C197	12	B2	D8
C198	12	C2	D8
C199	2	F3	E7
C200	2	E1	E8
C201	12	C2	F8
C202	12	C2	G8
C203	12	C2	H8
C204	12	C2	I8
C205	2	C5	J8
C206	12	D2	J8
C207	12	D2	K8
C208	12	D2	L8
C209	12	D2	M7
C210	12	B3	L8
C211	12	B3	M8
C212	12	B3	N7
C213	12	B3	N7
C214	12	C3	N8
C215	12	C3	N8
C216	12	B4	O9
C217	12	D5	B9
C218	12	C3	K10
C219	8	B2	L10
C220	12	C3	L9
C221	12	C3	N9
C222	12	B4	O9
C223	2	D2	H6
C224	12	D3	E10
C225	12	D3	F11
C226	12	D3	F11
C227	12	D3	G11
C228	12	B3	H10
C229	12	B3	I10
C230	12	B3	J10
C231	12	B3	J10
C232	12	C3	K10
C233	12	C3	L10
C234	12	C3	L10
C235	8	B2	M10
C236	12	C3	M10
C237	12	C3	K14
C238	12	D3	B10
C239	12	D3	B11
C241	12	D3	D11
C242	12	D3	D12
C244	12	B3	F12
C245	12	B3	F11
C246	7	A4	H11
C247	12	B3	L11
C248	12	B3	M11
C249	12	C3	N11
C250	12	C3	O11
C251	12	C3	B12
C252	9	G3	B12
C253	9	G3	C12
C254	12	C3	H12
C255	12	C3	J12
C256	12	D3	I12
C257	12	D3	J12
C258	12	D3	J12
C259	7	D4	J12
C260	12	D3	L12
C261	12	B3	M12
C262	12	B3	N12
C263	12	B3	O12
C264	12	B3	I13
C265	12	C3	J14
C266	12	A5	H14
C267	12	A5	H14
C268	12	A5	H14
C269	12	A5	H14
C270	12	A5	H14
C271	12	A5	I14

Comp No	Diag No	Diag Loc	Bd Loc
C272	10	D4	B1
C273	10	D5	B2
C282	3	D4	G4
C284	3	D4	H3
C285	2	A4	J5
C286	2	A4	J5
C287	2	A4	J4
C289	12	C3	K5
C290	12	C3	K5
C291	12	C3	J5
C293	12	C3	N4
C294	9	H5	J1
C295	9	H5	J1
C296	9	H5	J1
C297	1	F5	O4
C298	1	F4	P4
C299	1	D2	P3
C300	1	D2	O4
C301	2	B1	L5
C302	2	C3	H6
C303	10	D5	C2
C304	10	D5	C1
C305	10	D5	C1
C306	10	E5	B1
C307	1	B4	P4
C308	7	H4	K14
C309	7	G5	I13
C310	7	H5	K14
C311	7	G5	I14
C312	7	H5	L14
C313	12	B4	E8
C314	4	D4	D6
C315	2	E3	J5
CR1	10	B5	C1
CR4	3	F5	C3
CR5	9	E1	L3
CR6	9	E2	L3
CR7	10	D4	N3
CR8	10	D4	N3
DS1	4	E3	A2
DS2	4	F4	C6
E8	9	A1	L4
E9	12	D4	A9
E10	12	D5	B9
E14	10	E5	L1
F1	12	A3	O7
F2	12	A4	O9
F3	12	A4	O9
FL1A	11	F1	E1
FL1B	11	F2	E1
FL1C	11	F2	E1
FL1D	11	F2	E1
FL2	10	G5	K1
FL3	10	G4	K1
FL8A	11	F1	F2
FL8B	11	F1	F2
FL8C	11	F1	F2
FL8D	11	F1	F2
FL9A	11	F3	G2
FL9B	11	F3	G2
FL9C	11	F4	G2
FL9D	11	F4	G2
FL10A	11	F3	H2
FL10B	11	F3	H2
FL10C	11	F3	H2
FL10D	11	F3	H2
FL11A	9	G4	I2
FL11B	9	G4	I2
FL11C	9	G3	I2
FL11D	9	G4	I2
FL12A	9	G4	J2
FL12B	9	G5	J2
FL12C	9	G5	J2
FL12D	9	G5	J2
FL13	10	H4	M1
FL14	10	H3	M1
FL15	10	H3	M1
FL16	10	H4	M1
FL17	10	H3	M1
FL18	10	H3	N1
FL19	10	H1	N1

Comp No	Diag No	Diag Loc	Bd Loc
FL20	10	H2	N1
FL21	10	H1	N1
FL22	10	H1	N1
FL23	10	H2	N1
FL24	10	H2	N1
FL25	10	D4	C1
FL26	10	F4	K1
FL27	10	F4	K1
J1	10	H5	B1
J2	11	H2	G1
J3	9	H5	I1
J4	10	H5	K1
J5	10	H3	N1
J6	10	H1	O1
J7	3	A5	A1
J8	9	H4	D1
J10	11	H4	E2
J11	10	B1	M2
J13	4	F1	E3
J14	10	B1	M3
J17	4	F1	C5
J21	12	E2	M5
J22	12	E1	N5
J23A	12	H1	P6
J23B	12	H2	P6
J23C	12	H3	P6
J23D	12	H4	P6
J29	6	C2	L6
J30	6	C2	M6
J31	12	A3	O6
J32	1	F4	H8
J33	12	A4	O8
J34	12	E5	B9
J36A	1	A1	I9
J36B	1	A2	I9
J36C	1	A3	I9
J36D	1	A4	I9
J40	9	H2	C10
J41	7	H5	P10
J42	9	H1	A10
J43	7	H2	I11
J44	7	A5	I11
J45	7	B1	K11
J46	7	H5	P11
J48	12	A5	I14
J49	7	A3	K14
J50	7	H4	K14
J52	5	F5	P14
J53	11	H4	O1
J54	9	H1	L14
J55	2	G4	L7
K1	10	C5	C1
L3	3	F5	C2
L4	3	F5	D2
L5	9	G4	J2
L6	9	G3	K2
L11	9	G5	K1
L12	9	G5	K2
L13	9	G5	K2
L15	12	A3	N8
P1	10	C1	
P2	10	B1	
Q1	10	B5	D1
Q2	9	E2	M3
Q3	9	E2	M3
R1	6	A1	A1
R2	10	B5	C1
R3	10	D5	B2
R4	11	E1	D2
R5	11	E3	D2
R6	4	F2	K2
R7	4	E3	A3
R8	4	E3	A3
R10	4	A3	B3
R11	4	E1	E3
R12	4	E1	E3
R13	4	E1	E3
R14	3	G2	K3
R15	3	G3	K3
R16	12	F2	O3
R17	3	C1	E4

Comp No	Diag No	Diag Loc	Bd Loc
R18	3	G2	E4
R19	3	G2	E4
R20	3	E2	E4
R21	3	C1	G4
R22	3	G2	G4
R23	3	G2	F4
R24	3	B1	H4
R25	3	G1	H4
R26	3	G1	H4
R27	3	B1	I4
R28	3	G1	I4
R29	3	G1	I4
R30	3	D5	J4
R31	12	F5	O3
R32	4	E1	C5
R33	3	E2	E5
R34	1	F2	H5
R35	1	G2	I5
R37	2	G3	J5
R38	5	B3	K5
R39	1	D4	I6
R40	5	B3	K6
R41	1	B2	G7
R42	1	F2	H7
R43	1	F2	H7
R44	3	B4	J7
R45	6	C2	L7
R46	2	G2	F8
R47	1	G5	F8
R48	2	G3	F8
R49	1	H2	F8
R50	1	H2	G8
R51	1	H1	H8
R52	1	H1	H8
R53	1	H2	H8
R54	1	H2	I8
R55	1	H1	I8
R56	1	H1	J8
R57	1	A2	E9
R58	1	C1	E10
R59	1	D1	F10
R60	1	E1	I9
R61	1	F1	J9
R62	9	G1	B10
R63	1	C1	E10
R64	1	D1	F10
R65	1	F1	I10
R66	1	F1	J10
R67	9	G2	C10
R68	9	G2	B12
R69	7	D1	G11
R70	7	D2	H11
R71	7	D1	H11
R72	7	A5	I11
R73	7	A4	I11
R74	7	D3	J11
R75	7	B2	K11
R76	7	F3	K11
R77	8	D1	K11
R78	8	D1	K11
R79	8	A3	M11
R80	8	A3	L11
R81	8	A3	M11
R82	7	G1	H12
R83	7	G1	I12
R84	7	C2	I11
R85	7	D3	K12
R86	7	B2	K12
R87	8	G1	L12
R88	8	G2	M12
R89	8	G3	M12
R90	8	G4	N12
R91	7	G1	H12
R92	7	G2	H12
R93	7	C2	I12
R94	7	C2	I12
R95	7	A3	K13
R97	10	B5	D1
R98	10	B5	D1
R99	10	B5	D1
R100	9	G4	H1
R101	9	G4	H1
R102	9	G3	K1
R103	9	E2	L3
R104	9	E2	L2
R106	11	D3	E2

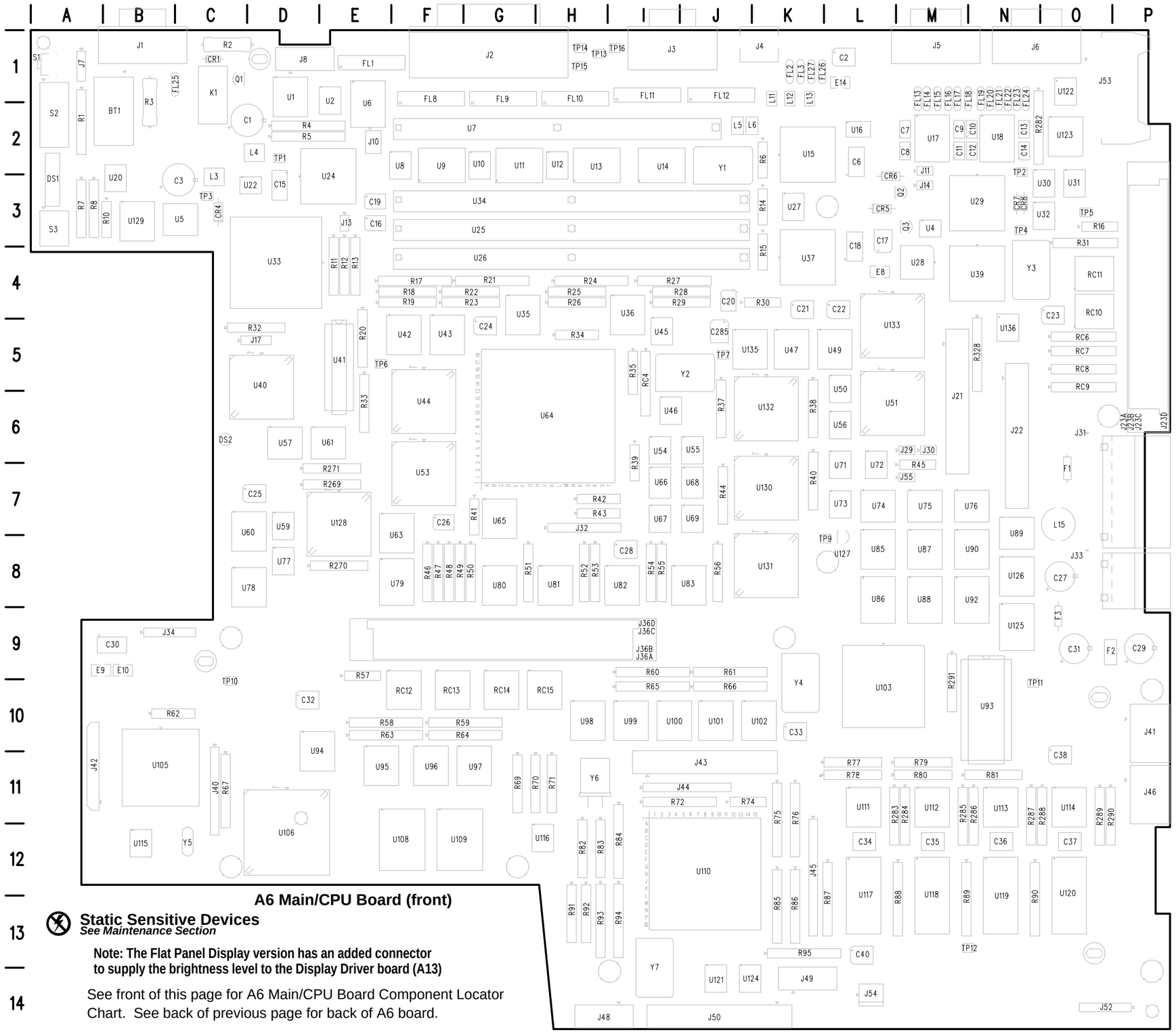
Comp No	Diag No	Diag Loc	Bd Loc
R107	4	G3	G2
R108	4	G4	H2
R109	4	G5	H2
R110	4	G5	I2
R111	4	G4	I2
R112	10	F4	L1
R113	9	G3	K2
R119	9	F5	L2
R120	9	F5	L2
R121	9	F5	L2
R122	12	F3	P3
R126	2	D2	O2
R127	3	G5	C3
R128	11	C1	E3
R129	11	B1	D3
R130	2	D3	E3
R131	4	C3	F2
R132	4	F4	F2
R133	4	G3	G3
R134	4	G4	H3
R135	4	G4	I3
R136	9	G4	L3
R137	9	C4	L3
R138	9	C4	L3
R139	10	E1	M3
R140	10	F5	M3
R142	10	B1	N3
R143	10	B1	N3
R144	10	D2	N3
R145	10	B2	O2
R146	10	A1	O2
R147	2	C5	O3
R148	10	B3	O3
R149	10	A3	O2
R150	12	F2	O3
R151	4	E2	D4
R152	4	F2	D4
R153	4	F2	D4
R154	4	C2	D4
R156	4	C2	D4
R157	4	C2	D4
R158	4	B2	D4
R164	2	A2	K4
R165	2	A2	K4
R166	2	A2	K4
R167	2	A2	K4
R168	2	A5	K4
R169	2	A5	L4
R170	2	A5	K4
R171	2	A5	L4
R172	10	E3	N4
R173	10	C4	N4
R174	10	D3	M4
R175	10	D4	N4
R177	2	F3	H5
R178	1	D2	H5
R179	5	F3	I4
R180	5	F3	I5
R181	5	F3	I5
R182	5	G3	I5
R183	2	A2	L6
R184	2	B3	K5
R185	11	C2	J4
R186	6	D4	K5
R187	2	B5	L5
R188	2	C5	C6
R189	4	F4	C6
R190	3	A5	B1
R192	3	B5	E6
R193	1	D2	G6
R194	1	C3	G6
R195	1	D2	H6
R196	1	C4	H6
R197	1	F3	H6
R198	1	C3	H6
R199	1	D3	H6
R200	1	D2	H6
R201	1	F3	H6
R202	1	C3	H6
R203	1	D3	H6
R204	2	C2	H6
R205	3	A2	J5
R206	2	C2	J6
R207	11	C2	J6
R208	6	D5	K6
R209	2	D4	C7

Comp No	Diag No	Diag Loc	Bd Loc
R210	3	B5	E6
R212	1	B2	F7
R213	1	B2	F7
R214	1	B2	F7
R215	3	E3	J7
R216	2	C5	J7
R217	4	D3	J6
R218	6	F4	K8
R219	11	C2	K7
R220	6	F4	K7
R221	2	C2	L7
R222	2	D4	C8
R223	2	C2	D7
R224	2	F3	E7
R225	2	E1	E8
R226	1	B2	G8
R227	3	E4	J8
R228	3	C5	K8
R229	8	B2	K10
R230	8	D3	L9
R231	8	C3	L9
R232	8	B2	M9
R233	8	D3	M9
R234	6	F4	N9
R235	2	D2	H6
R236	8	C2	L10
R237	8	D2	L10
R238	8	E4	M10
R239	8	E5	M10
R240	8	E4	M10
R242	7	G3	F12
R243	7	G2	G11
R244	7	G2	G12
R245	7	G3	G12
R246	7	G3	F12
R247	7	D5	H12
R248	7	A4	J12
R249	7	B4	J12
R250	7	D4	J13
R251	12	A4	I14
R252	5	F5	O14
R253	10	D4	N3
R254	10	D4	C2
R255	11	B5	O2
R262	5	E5	L5
R263	6	G3	L8
R264	6	F3	I5
R265	2	F4	L7
R266	2	G4	I6
R267	2	E3	J6
R268	2	E3	J5
R269	2	H1	D7
R270	2	G2	D8
R271	2	G1	D7
R272	3	C4	K4
R273	3	B4	J4
R274	4	B2	D3
R275	4	B2	D3
R276	4	B2	C3
R277	4	B2	D3
R278	3	B4	D6
R279	3	B4	D5
R280	5	C1	K6
R281	5	C1	K6
R282	11	B3	O2
R283	8	H1	L11
R284	8	H1	M11
R285	8	H2	M11
R286	8	H2	N11
R287	8	H3	N11
R288	8	H3	O11
R289	8	H4	O11
R290	8	H4	P11
R291	8	D2	M9
R292	4	C4	D5
R293	3	D2	E6
R294	3	D2	E5
R295	5	D2	K7
R296	5	D3	K8
R297	5	D4	K6
R298	2	A4	J4
R299	2	A4	J4
R300	2	A4	J5
R301	2	A4	J4
R303	6	C3	N9

Comp No	Diag No	Diag Loc	Bd Loc
R304	6	C3	N10
R305	6	B3	N10
R306	6	B3	N10
R307	6	C3	N9
R308	6	C3	N9
R309	6	B3	N9
R310	6	B3	N9
R311	6	A3	N9
R312	6	A3	N9
R313	6	A3	N9
R314	6	B3	N9
R315	6	A3	N9
R316	6	A3	N9
R317	6	A3	N9
R318	6	B3	N9
R319	4	F2	D4
R320	4	F2	C4
R321	1	F5	O4
R322	1	F4	P4
R323	1	D2	P4
R324	1	D2	O4
R325	2	B1	L5
R326	2	C3	H5
R327	5	C2	K7
R328	10	B2	N4
R329	1	B4	O4
R330	7	H5	K14
R331	7	G5	I13
R332	7	H5	L14
R333	7	G5	I13
R334	7	H5	L14
R335	5	C5	M5
R336	4	D4	D5
R337	2	E3	J5
R338	9	E2	L3
R339	3	A5	B1
RC4	2	F3	I5
RC6	12	H1	O5
RC7	12	H2	O5
RC8	12	H3	O5
RC9	12	H4	O5
RC10	12	G2	O5
RC11	12	G4	O4
RC12	1	C2	F9
RC13	1	C2	F9
RC14	1	B1	G9
RC15	1	B1	G9
S1	2	A1	A1
S2	6	A2	A1
S3	4	A4	A3
TP1	3	F4	D2
TP2	10	E2	N3
TP3	12	B4	C3
TP4	12	B4	N3
TP5	10	F4	O3
TP6	12	C4	E5
TP7	5	G3	J5
TP9	12	C4	K8
TP10	12	C4	C10
TP11	6	E5	N9
TP12	12	C4	M13
TP13	9	H3	H1
TP14	9	H4	H1
TP15	9	H4	H1
TP16	9	H5	I1
U1	11	F1	D1
U2A	11	E2	E1
U2B	11	E2	E1
U2C	11	E2	E1
U2D	11	E2	E1
U4A	9	D2	M3
U4B	9	D2	M3
U5	3	E5	B3
U6	11	F3	E1
U7	4	G1	E2
U8A	4	C3	E2
U8B	4	C3	E2
U8C	4	A2	E2
U8D	4	A2	E2
U9	4	F3	F3
U10A	4	H4	G2

Comp No	Diag No	Diag Loc	Bd Loc
U10B	4	H3	G2
U11	4	F4	G3
U12A	4	H5	H2
U12B	4	H4	H2
U13	4	F5	H3
U14	4	F4	I3
U15	9	B4	K2
U16	9	D2	L2
U17	10	G3	M2
U18	10	G1	N2
U20	2	A1	B2
U22	3	F5	C3
U24	11	C1	D2
U25	3	F1	E3
U26	3	F3	E4
U27A	8	A2	K3
U27B	8	A2	K3
U27C	8	A2	K3
U27D	2	C3	K3
U28	9	C1	M4
U29	10	C1	M2
U30A	10	E2	O2
U30B	10	E3	O2
U31A	10	A1	O3
U31B	10	B2	O3
U31C	10	D2	O3
U31D	10	E4	O3
U31E	10	B3	O3
U31F	10	A3	O3
U32A	10	E4	N3
U32B	10	C4	N3
U32C	10	C4	N3
U32D	10	A4	N3
U32E	10	A4	N3
U32F	10	A4	N3
U33	4	D1	E3
U34	3	C4	E3
U35	3	H1	G4
U36	3	H1	I4
U37	9	B3	K4
U39	10	C3	N3
U40	4	C4	D5
U41	3	D2	E5
U42	3	H2	E4
U43	3	H2	F4
U44	3	B2	F5
U45A	5	F3	I4
U45B	5	F3	I4
U45C	6	G3	I4
U45D	5	F2	I4
U46	2	F3	J6
U47	2	B2	K5
U49	2	B5	K5
U50A	5	A2	L5
U50B	5	B2	L5
U51	5	G4	L5
U53	3	B1	F6
U54A	2	G4	I6
U54B	2	F3	I6
U54C	2	F3	I6
U54D	2	C3	I6
U54E	4	E4	I6
U54F	4	E4	I6
U55A	2	D2	J6
U55B	2	C2	J6
U56A	10	E3	L6
U56B	10	E1	L6
U57	3	A5	D6
U59A	2	A1	D7
U59B	2	C3	D7
U59C	6	G2	D7
U60	2	C3	C7
U61	3	B5	D6
U63	1	F5	E7
U64	1	E2	G7
U65	1	C3	G7
U66	4	B5	I7
U67A	2	E2	I7
U67B	2	F2	I7
U68	4	A5	J7
U69A	2	F3	J7
U69B	2	E1	J7
U69C	2	E2	J7
U71	5	A3	L6
U72A	4	B5	L6

Comp No	Diag No	Diag Loc	Bd Loc
U72B	10	D3	L6
U73A	2	F5	L7
U73B	2	F5	L7
U74	2	G4	L7
U75	2	G4	M7
U76	2	G5	M7
U77A	6	G2	D8
U77B	4	E4	D8
U78	6	B2	C8
U79	2	G2	E8
U80	1	G2	G8
U81	1	G1	H8
U82	1	G2	H8
U83	1	G1	I8
U85	6	D1	L7
U86	6	F1	L8
U87	6	D2	M7
U88	6	F2	M8
U89	2	G5	N7
U90	6	D2	M7
U92	6	F3	M8
U93	6	D4	M9
U94	7	A1	D10
U95	7	A1	E10
U96	7	A2	F10
U97	7	A2	F10
U98	7	C1	H10
U99	7	C1	I10
U100	7	F1	I10
U101	7	F1	J10
U102	7	F2	J10
U103	8	C1	L9
U105	9	G1	B10
U106	7	F4	D11
U108	7	H2	E11
U109	7	H1	F11
U110	7	C3	I11
U111	8	G1	L11
U112	8	G2	M11
U113	8	G3	N11
U114	8	G4	O11
U115A	7	G4	B12
U115B	9	F1	B12
U115C	9	F1	B12
U115D	9	F2	B12
U115E	7	G3	B12
U115F	7	H3	B12
U116A	7	D2	G11
U116B	7	G3	G11
U116C	7	C5	G11
U116D	7	D2	G11
U117	8	F1	L12
U118	8	F2	M12
U119	8	F3	N12
U120	8	F4	O12
U121A	7	A4	J13
U121B	7	E5	J13
U122	11	B4	O1
U123	11	B5	O2
U124A	7	D5	J13
U124B	7	D5	J13
U124C	7	D1	J13
U124D	7	D1	J13
U124E	7	D1	J13
U124F	7	D2	J13
U125	6	F4	N8
U126	6	D3	N8
U127	6	G3	L8
U128	2	G1	E7
U129	4	D3	B3
U130	5	D1	J6
U131	5	D2	K7
U132	5	D4	J5
U133	5	D5	L4
U135	2	B4	J5
U136	10	B2	N4
Y1	8	A2	J3
Y2	2	A1	I6
Y3	10	A1	N3
Y4	8	A2	K9
Y5	9	G3	C12
Y6	7	A4	H11
Y7	7	A4	I13



A6 Main/CPU Board (front)

Static Sensitive Devices
See Maintenance Section

Note: The Flat Panel Display version has an added connector to supply the brightness level to the Display Driver board (A13)

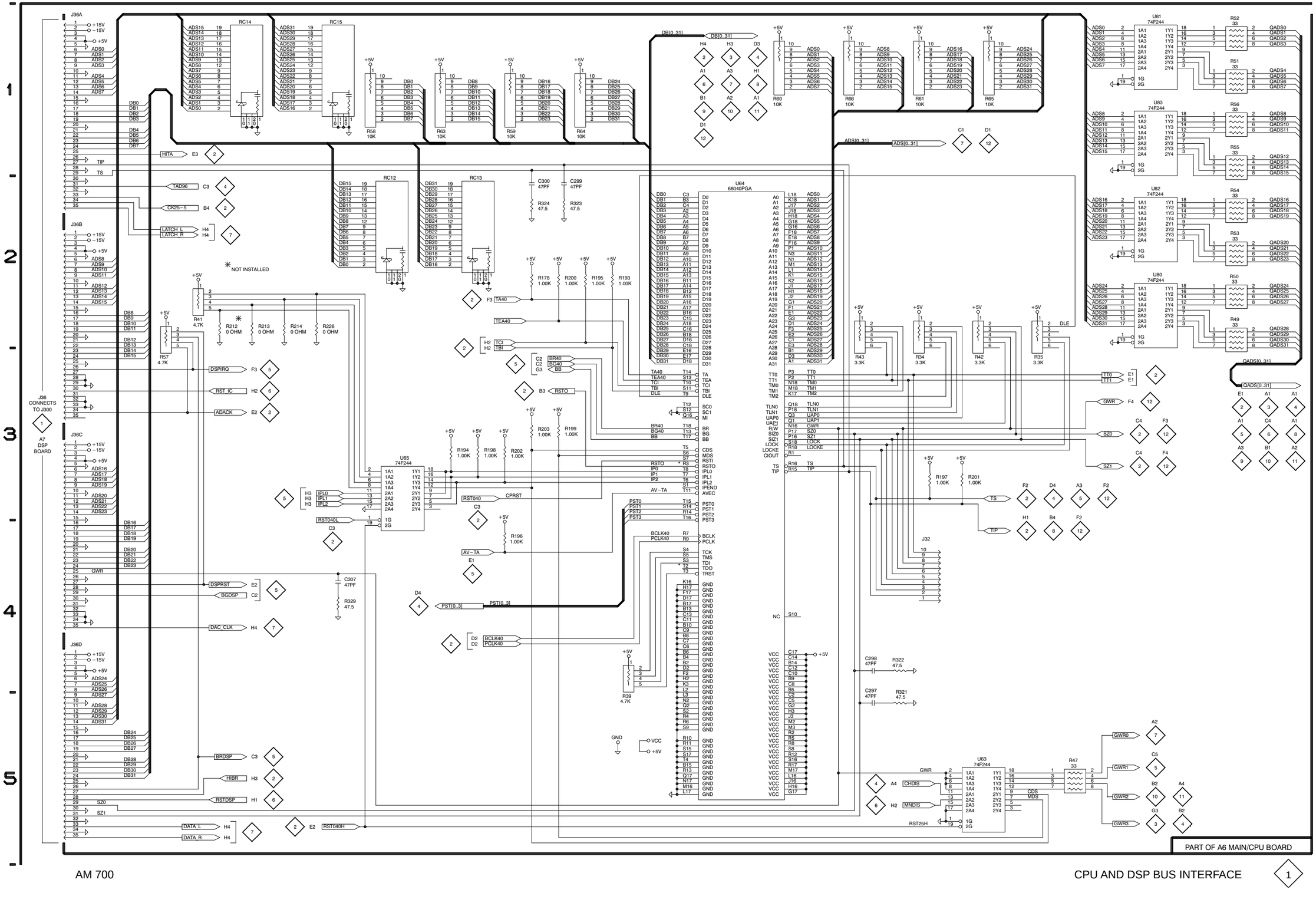
See front of this page for A6 Main/CPU Board Component Locator Chart. See back of previous page for back of A6 board.

Main/CPU Board
Schematic Diagram <1>
Component Locator Chart

The schematic diagram has an alpha-numeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C297	F5	O4
C298	F4	P4
C299	D2	P3
C300	D2	O4
C307	B4	P4
J32	F4	H8
J36A	A1	I9
J36B	A2	I9
J36C	A3	I9
J36D	A4	I9
R34	F2	H5
R35	G2	I5
R39	D4	I6
R41	B2	G7
R42	F2	H7
R43	F2	H7
R47	G5	F8
R49	H2	F8
R50	H2	G8
R51	H1	H8
R52	H1	H8
R53	H2	H8
R54	H2	I8
R55	H1	I8
R56	H1	J8
R57	A2	E9
R58	C1	E10
R59	D1	F10
R60	E1	I9
R61	F1	J9
R63	C1	E10
R64	D1	F10
R65	F1	I10
R66	F1	J10
R178	D2	H5
R193	D2	G6
R194	C3	G6
R195	D2	H6
R196	C4	H6
R197	F3	H6
R198	C3	H6
R199	D3	H6
R200	D2	H6
R201	F3	H6
R202	C3	H6
R203	D3	H6
R212	B2	F7
R213	B2	F7
R214	B2	F7
R226	B2	G8
R321	F5	O4
R322	F4	P4
R323	D2	P4
R324	D2	O4
R329	B4	O4
RC12	C2	F9
RC13	C2	F9
RC14	B1	G9
RC15	B1	G9
U63	F5	E7
U64	E2	G7
U65	C3	G7
U80	G2	G8
U81	G1	H8
U82	G2	H8
U83	G1	I8


J36A
J36B
J36C
J36D
J36 CONNECTS TO J300
A7 DSP BOARD
HITA
TIP
TS
TAD96
CK25-5
LATCH_L
LATCH_R
NOT INSTALLED
DSPIRQ
RST_IC
ADACK
DSPRST
BGDSP
DAC_CLK
BRDSP
HIBR
RSTDSP
DATA_L
DATA_R
RC14
RC15
RC12
RC13
U64
68040PGA
U65
74F244
U81
U83
U82
U80
U63
J32
DB[0..31]
ADS[0..31]
PST[0..3]
TA40
TEA40
TCI
TBI
BR40
BG40
BB
RSTO
IPL0
IPL1
IPL2
RST040
CPRST
AV-TA
BCLK40
PCLK40
GWR
SZ0
SZ1
TT0
TT1
DLE
CHDIS
MNDIS
RST25H
RST040H
CDS
MDS
GWR0
GWR1
GWR2
GWR3
PART OF A6 MAIN/CPU BOARD

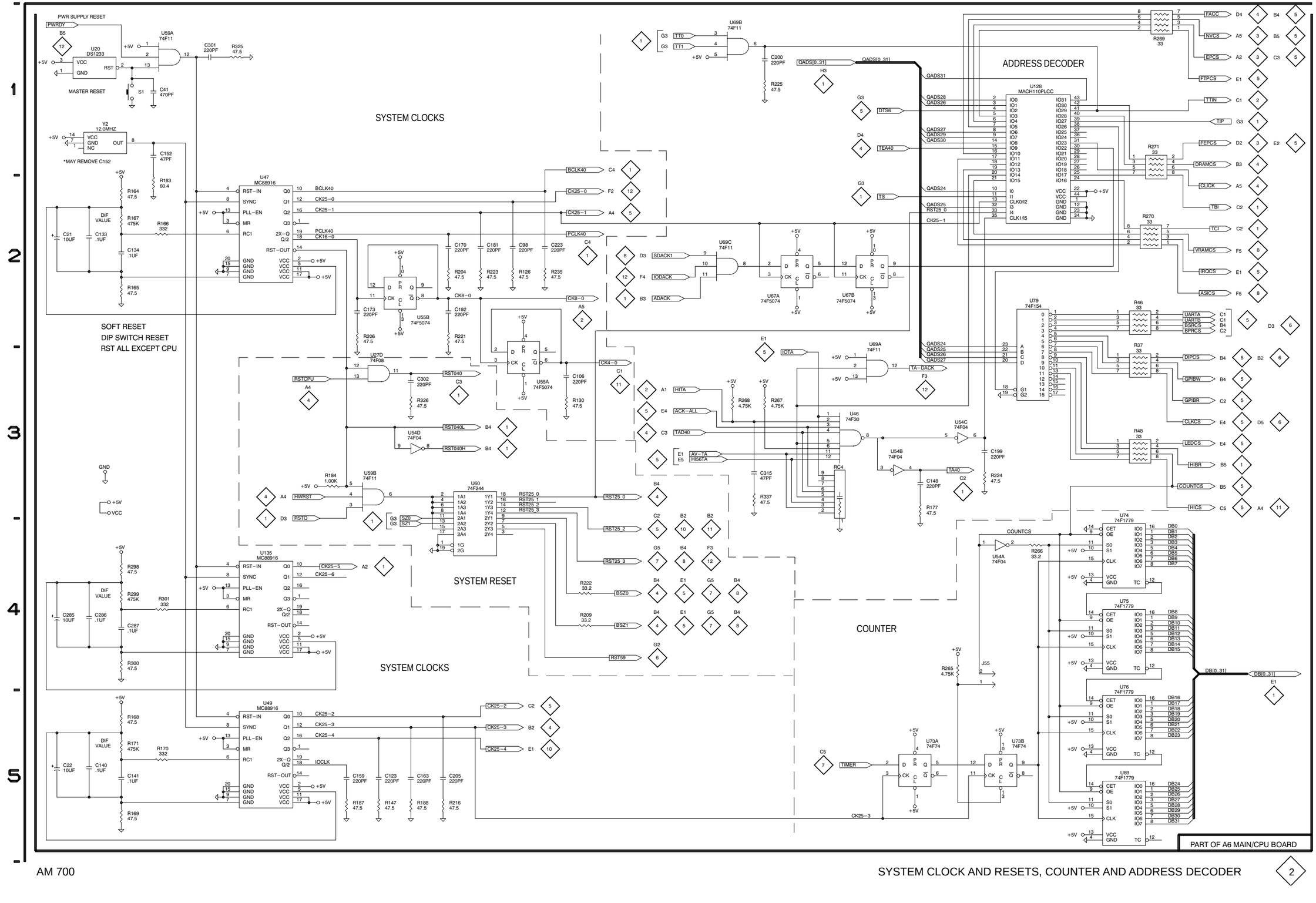
Main/CPU Board

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C21	A2	K4
C22	A5	L4
C41	A1	A1
C98	D2	P2
C106	D3	E3
C123	C5	O3
C133	A2	K4
C134	A2	K4
C140	A5	L4
C141	A5	L4
C148	F3	H5
C152	A1	K6
C159	B5	L5
C163	C5	C5
C170	C2	H6
C173	C2	J6
C181	C2	D7
C192	C2	L7
C199	F3	E7
C200	E1	E8
C205	C5	J8
C223	D2	H6
C285	A4	J5
C286	A4	J5
C287	A4	J4
C301	B1	L5
C302	C3	H6
C315	E3	J5
J55	G4	L7
R37	G3	J5
R46	G2	F8
R48	G3	F8
R126	D2	O2
R130	D3	E3
R147	C5	O3
R164	A2	K4
R165	A2	K4
R166	A2	K4
R167	A2	K4
R168	A5	K4
R169	A5	L4
R170	A5	K4
R171	A5	L4
R177	F3	H5
R183	A2	L6
R184	B3	K5
R187	B5	L5
R188	C5	C6
R204	C2	H6
R206	C2	J6
R209	D4	C7
R216	C5	J7
R221	C2	L7
R222	D4	C8
R223	C2	D7
R224	F3	E7
R225	E1	E8
R235	D2	H6
R265	F4	L7
R266	G4	I6
R267	E3	J6
R268	E3	J5
R269	H1	D7
R270	G2	D8
R271	G1	D7
R298	A4	J4
R299	A4	J4
R300	A4	J5
R301	A4	J4
R325	B1	L5
R326	C3	H5
R337	E3	J5
RC4	F3	I5
S1	A1	A1
U20	A1	B2
U27D	C3	K3
U46	F3	J6
U47	B2	K5
U49	B5	K5
U54A	G4	I6
U54B	F3	I6
U54C	F3	I6
U54D	C3	I6
U55A	D2	J6
U55B	C2	J6
U59A	A1	D7
U59B	C3	D7
U60	C3	C7
U67A	E2	I7
U67B	F2	I7
U69A	F3	J7
U69B	E1	J7
U69C	E2	J7
U73A	F5	L7
U73B	F5	L7
U74	G4	L7
U75	G4	M7
U76	G5	M7
U79	G2	E8
U89	G5	N7
U128	G1	E7
U135	B4	J5
Y2	A1	I6


SYSTEM CLOCKS
SYSTEM RESET
SYSTEM CLOCKS
COUNTER
ADDRESS DECODER
PWR SUPPLY RESET
MASTER RESET
SOFT RESET
DIP SWITCH RESET
RST ALL EXCEPT CPU
*MAY REMOVE C152
PART OF A6 MAIN/CPU BOARD

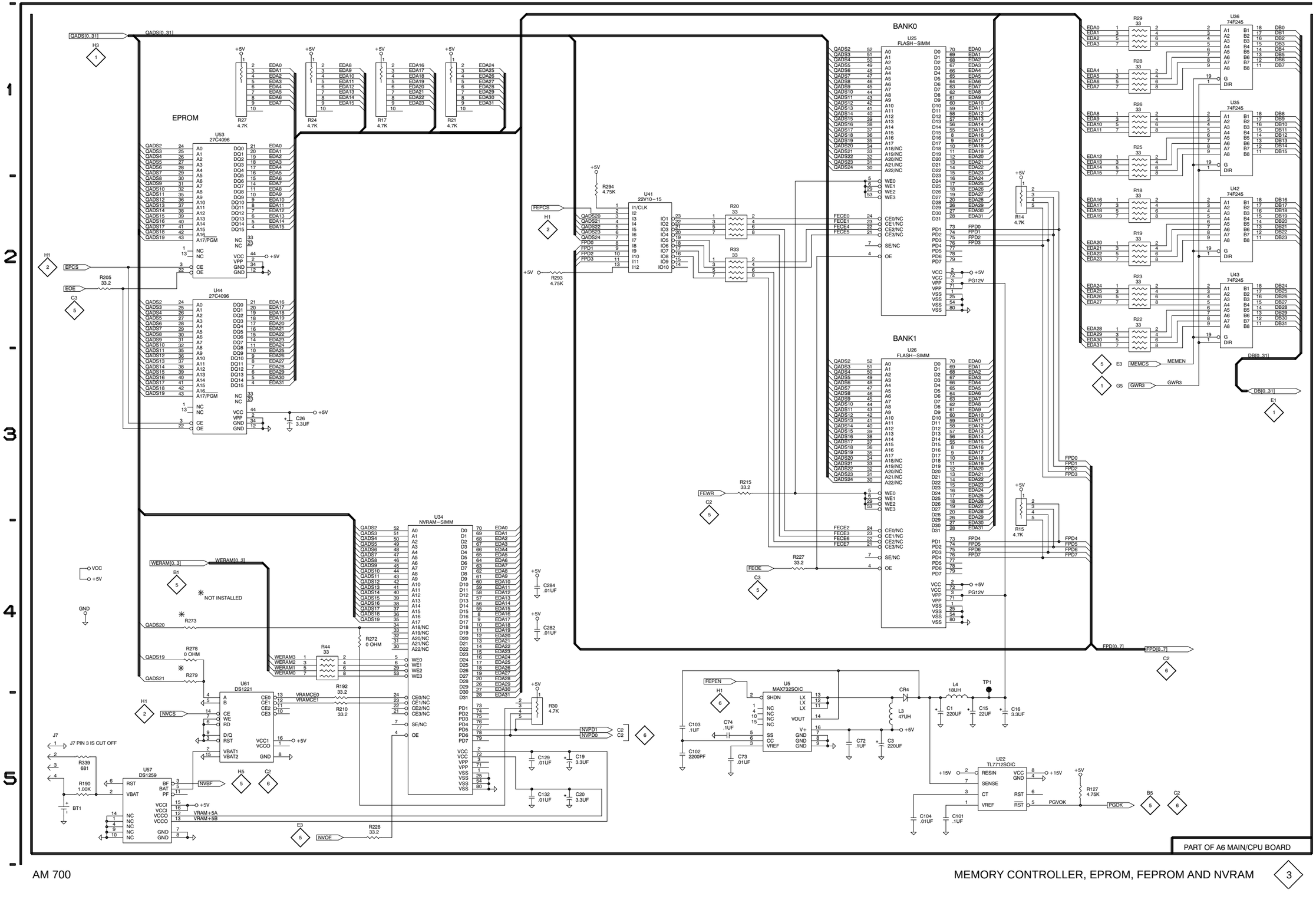
Main/CPU Board

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 4, 5, 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
BT1	A5	A1
C1	F5	C2
C3	F5	B3
C15	F5	D3
C16	G5	E3
C19	D5	E3
C20	D5	J4
C26	B3	F7
C72	F5	C3
C73	E5	B3
C74	E5	B3
C101	F5	D2
C102	E5	C3
C103	E5	C3
C104	F5	C2
C129	D5	F3
C132	D5	J3
C282	D4	G4
C284	D4	H3
CR4	F5	C3
J7	A5	A1
L3	F5	C2
L4	F5	D2
R14	G2	K3
R15	G3	K3
R17	C1	E4
R18	G2	E4
R19	G2	E4
R20	E2	E4
R21	C1	G4
R22	G2	G4
R23	G2	F4
R24	B1	H4
R25	G1	H4
R26	G1	H4
R27	B1	I4
R28	G1	I4
R29	G1	I4
R30	D5	J4
R33	E2	E5
R44	B4	J7
R127	G5	C3
R190	A5	B1
R192	B5	E6
R205	A2	J5
R210	B5	E6
R215	E3	J7
R227	E4	J8
R228	C5	K8
R272	C4	K4
R273	B4	J4
R278	B4	D6
R279	B4	D5
R293	D2	E6
R294	D2	E5
R339	A5	B1
TP1	F4	D2
U5	E5	B3
U22	F5	C3
U25	F1	E3
U26	F3	E4
U34	C4	E3
U35	H1	G4
U36	H1	I4
U41	D2	E5
U42	H2	E4
U43	H2	F4
U44	B2	F5
U53	B1	F6
U57	A5	D6
U61	B5	D6



AM 700

MEMORY CONTROLLER, EPROM, FEPROM AND NVRAM

3

Main/CPU Board

Schematic Diagram <4> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C314	D4	D6	R133	G3	G3	U7	G1	E2
			R134	G4	H3	U8A	C3	E2
DS1	E3	A2	R135	G4	I3	U8B	C3	E2
DS2	F4	C6	R151	E2	D4	U8C	A2	E2
			R152	F2	D4	U8D	A2	E2
J13	F1	E3				U9	F3	F3
J17	F1	C5	R153	F2	D4			
			R154	C2	D4	U10A	H4	G2
R6	F2	K2	R156	C2	D4	U10B	H3	G2
R7	E3	A3	R157	C2	D4	U11	F4	G3
R8	E3	A3	R158	B2	D4	U12A	H5	H2
R10	A3	B3				U12B	H4	H2
R11	E1	E3	R189	F4	C6			
			R217	D3	J6	U13	F5	H3
R12	E1	E3	R274	B2	D3	U14	F4	I3
R13	E1	E3	R275	B2	D3	U33	D1	E3
R32	E1	C5	R276	B2	C3	U40	C4	D5
R107	G3	G2				U54E	E4	I6
R108	G4	H2	R277	B2	D3			
			R292	C4	D5	U54F	E4	I6
R109	G5	H2	R319	F2	D4	U66	B5	I7
R110	G5	I2	R320	F2	C4	U68	A5	J7
R111	G4	I2	R336	D4	D5	U72A	B5	L6
R131	C3	F2				U77B	E4	D8
R132	F4	F2	S3	A4	A3	U129	D3	B3

SW3−1	UP	NORMAL SYSTEM OPERATION
	DOWN	DISABLE 30uS TIMER
SW3−2	UP	NORMAL SYSTEM OPERATION
	DOWN	DISABLE CACHE
SW3−3	UP	NORMAL SYSTEM OPERATION
	DOWN	RESET CPU
SW3−4	UP	NORMAL SYSTEM OPERATION
	DOWN	SYSTEM RESET ACTIVE

BSR6	BSR5	BSR4	
DPD3	DPD1	DPD0	DESCRIPTION
0	1	0	16 MB
0	1	1	8 MB
0	0	0	4 MB
1	1	1	NO DRAM INSTALLED

DIGNOSTIC DISPLAY

BUS HALT

BUS TIMEOUT BLOCK

PART OF A6 MAIN/CPU BOARD

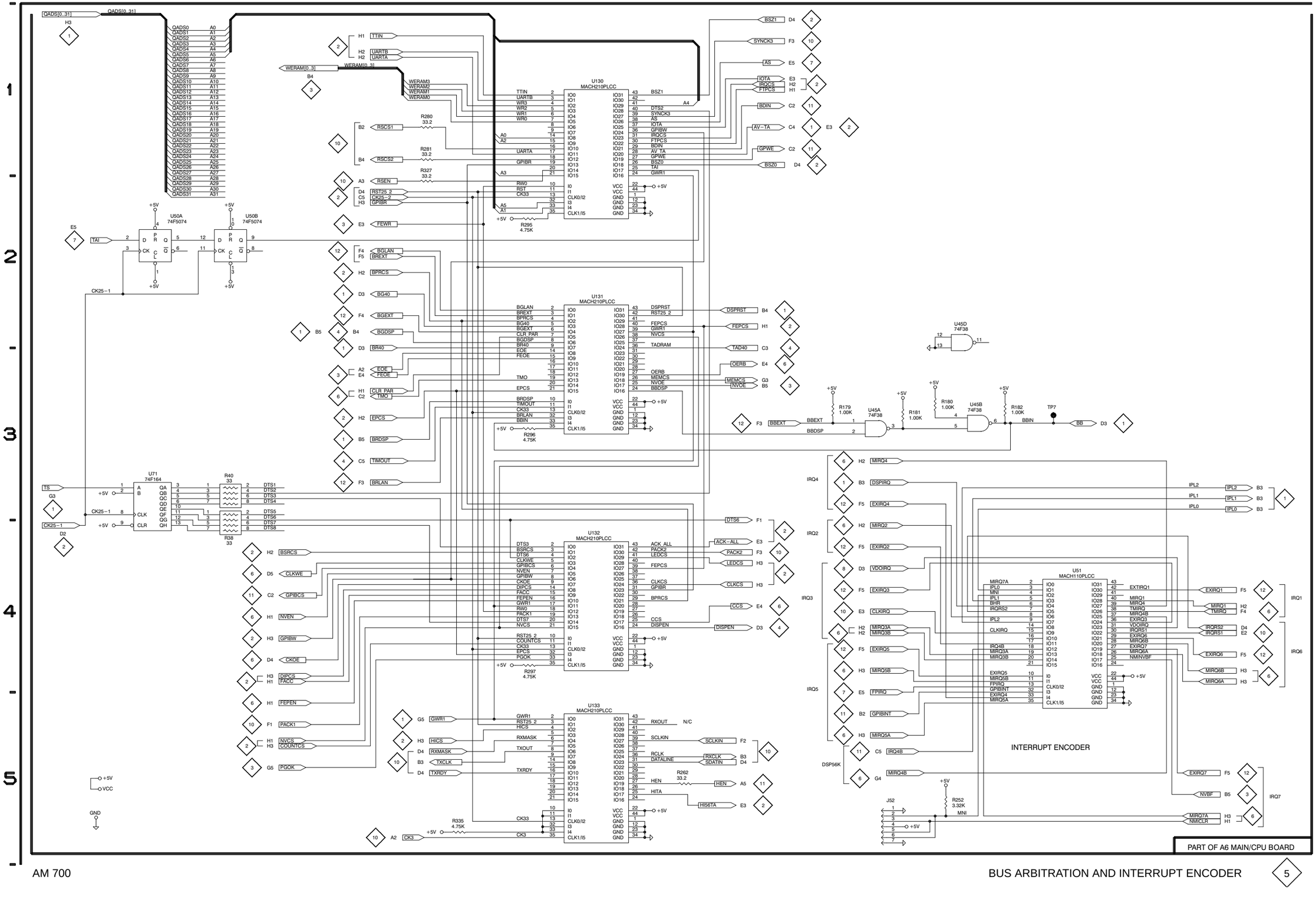
Main/CPU Board

Schematic Diagram <5> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
J52	F5	P14	R281	C1	K6	U45D	F2	I4
						U50A	A2	L5
R38	B3	K5	R295	D2	K7	U50B	B2	L5
R40	B3	K6	R296	D3	K8			
R179	F3	I4	R297	D4	K6	U51	G4	L5
R180	F3	I5	R327	C2	K7	U71	A3	L6
R181	F3	I5	R335	C5	M5	U130	D1	J6
						U131	D2	K7
R182	G3	I5	TP7	G3	J5	U132	D4	J5
R252	F5	O14				U133	D5	L4
R262	E5	L5	U45A	F3	I4			
R280	C1	K6	U45B	F3	I4			


QADS[0..31]
WERAM[0..3]
U130
MACH210PLCC
U131
MACH210PLCC
U132
MACH210PLCC
U133
MACH210PLCC
U50A
74F5074
U50B
74F5074
U71
74F164
R40
33
R38
33
R280
33.2
R281
33.2
R327
33.2
R295
4.75K
R296
4.75K
R297
4.75K
R335
4.75K
R262
33.2
U45A
74F38
U45B
74F38
U45D
74F38
R179
1.00K
R180
1.00K
R181
1.00K
R182
1.00K
TP7
U51
MACH110PLCC
INTERRUPT ENCODER
J52
R252
3.32K
MNI
PART OF A6 MAIN/CPU BOARD

Main/CPU Board

Schematic Diagram <6> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
J29	C2	L6
J30	C2	M6
R1	A1	A1
R45	C2	L7
R186	D4	K5
R208	D5	K6
R218	F4	K8
R220	F4	K7
R234	F4	N9
R263	G3	L8
R264	F3	I5
R303	C3	N9
R304	C3	N10
R305	B3	N10
R306	B3	N10
R307	C3	N9
R308	C3	N9
R309	B3	N9
R310	B3	N9
R311	A3	N9
R312	A3	N9
R313	A3	N9
R314	B3	N9
R315	A3	N9
R316	A3	N9
R317	A3	N9
R318	B3	N9
S2	A2	A1
TP11	E5	N9
U45C	G3	I4
U59C	G2	D7
U77A	G2	D8
U78	B2	C8
U85	D1	L7
U86	F1	L8
U87	D2	M7
U88	F2	M8
U90	D2	M7
U92	F3	M8
U93	D4	M9
U125	F4	N8
U126	D3	N8
U127	G3	L8

BOARD CODE REGISTER

BOARD STATUS REGISTER

BOARD PROGRAM REGISTER

DB[0..31]

SW0 SW1 SW2 SW3 SW4 SW5 SW6 SW7

R1 4.7K

S2

U78 74F244

DIPCS

EPROM JUMPERS

J30 J29

R45 4.7K

EPD0 EPD1

FPD[0..7]

ERR[0..3] DPD[0..3] TOEN TIME OUT CKT ENABLE

U85 74F244 U87 74F244 U90 74F244 U126 74F244

NVPD0 NVPD1 NVBF PGOK uP TIME OUT TMO

R315 R311 0 OHM R316 4.75K R312 R317 R313 0 OHM R318 R314 0 OHM R306 R310 0 OHM R305 R309 0 OHM R304 R308 0 OHM R303 R307 0 OHM

BSRCS

✳ NOT INSTALLED

MASK/CLEAR TIMEOUT STATUS

U86 74F651 U88 74F651 U92 74F651 U125 74F651

NVRAM WRITE ENABLE
FLASH EPROM WRITE ENABLE
DRAM PARITY BIT
STATUS CLEAR STCLR
GO TO TEST BOARD
RESET DSP
GENERATOR/AES RESET –0
GENERATOR/AES RESET –1

NVEN FEPEN ODEV CLR_PAR NMICLR RSTDSP RSTOA RSTOB

MNDIS GPIBC MIRQ1 MIRQ2 MIRQ3A MIRQ3B MIRQ4 RST IC

U77A 74F20 U59C 74F11 RST59

MIRQ5A MIRQ5B MIRQ6A MIRQ6B MIRQ7A RSTIO BKEN

U45C 74F38 R263 4.75K R264 4.75K U127 DS2401 DATA GND NC

MIRQ4B

OERB CCS R218 33.2 R220 33.2

QADS[0..31]

U93 DS1286

CKOE CLKCS CLKWE R186 33.2 R208 33.2

INTA INTB SQW TP11

(ADDED) R234 3.32K TMIRQ

REAL TIME CLOCK

VCC +5V GND

PART OF A6 MAIN/CPU BOARD

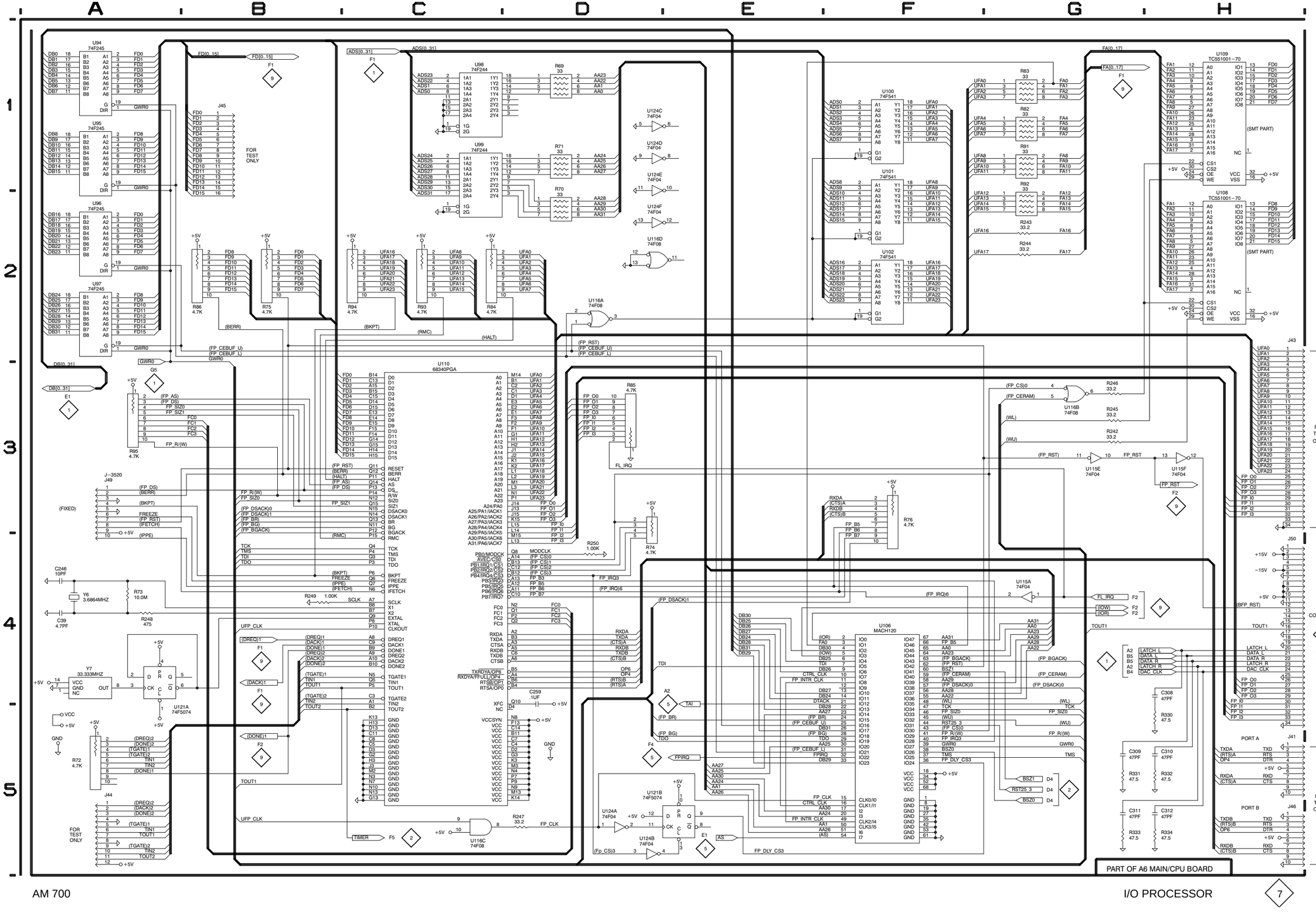
Main/CPU Board

Schematic Diagram <7> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C39	A4	H11
C246	A4	H11
C259	D4	J12
C308	H4	K14
C309	G5	I13
C310	H5	K14
C311	G5	I14
C312	H5	L14
J41	H5	P10
J43	H2	I11
J44	A5	I11
J45	B1	K11
J46	H5	P11
J49	A3	K14
J50	H4	K14
R69	D1	G11
R70	D2	H11
R71	D1	H11
R72	A5	I11
R73	A4	I11
R74	D3	J11
R75	B2	K11
R76	F3	K11
R82	G1	H12
R83	G1	I12
R84	C2	I11
R85	D3	K12
R86	B2	K12
R91	G1	H12
R92	G2	H12
R93	C2	I12
R94	C2	I12
R95	A3	K13
R242	G3	F12
R243	G2	G11
R244	G2	G12
R245	G3	G12
R246	G3	F12
R247	D5	H12
R248	A4	J12
R249	B4	J12
R250	D4	J13
R330	H5	K14
R331	G5	I13
R332	H5	L14
R333	G5	I13
R334	H5	L14
U94	A1	D10
U95	A1	E10
U96	A2	F10
U97	A2	F10
U98	C1	H10
U99	C1	I10
U100	F1	I10
U101	F1	J10
U102	F2	J10
U106	F4	D11
U108	H2	E11
U109	H1	F11
U110	C3	I11
U115A	G4	B12
U115E	G3	B12
U115F	H3	B12
U116A	D2	G11
U116B	G3	G11
U116C	C5	G11
U116D	D2	G11
U121A	A4	J13
U121B	E5	J13
U124A	D5	J13
U124B	D5	J13
U124C	D1	J13
U124D	D1	J13
U124E	D1	J13
U124F	D2	J13
Y6	A4	H11
Y7	A4	I13


A
B
C
D
E
F
G
H
1
2
3
4
5
U94 74F245
U95 74F245
U96 74F245
U97 74F245
DB[0..31]
GWR0
DIR
FD[0..15]
J45
FOR TEST ONLY
U98 74F244
U99 74F244
ADS[0..31]
R69 33
R71 33
R70 33
U124C 74F04
U124D 74F04
U124E 74F04
U124F 74F04
U116D 74F08
U100 74F541
U101 74F541
U102 74F541
R83 33
R82 33
R91 33
R92 33
R243 33.2
R244 33.2
FA[0..17]
U109 TC551001-70
U108 TC551001-70
(SMT PART)
R86 4.7K
R75 4.7K
R94 4.7K
R93 4.7K
R84 4.7K
(BERR)
(BKPT)
(RMC)
(HALT)
U116A 74F08
(FP_RST)
(FP_CEBUF_U)
(FP_CEBUF_L)
U110 68340PGA
R85 4.7K
FL_IRQ
R246 33.2
R245 33.2
R242 33.2
U116B 74F08
U115E 74F04
U115F 74F04
(FP_CS)0
(FP_CERAM)
(WL)
(WU)
J43
FOR TEST ONLY
J49
J-3520
R95 4.7K
R76 4.7K
R74 4.7K
R250 1.00K
U115A 74F04
J50
J50 CONNECTS TO J1
A9 FRONT PANEL BOARD
C246 10PF
Y6 3.6864MHZ
R73 10.0M
C39 4.7PF
R248 475
R249 1.00K
SCLK
UFP_CLK
Y7 33.333MHZ
U121A 74F5074
R72 4.7K
J44
FOR TEST ONLY
U106 MACH120
U121B 74F5074
U124A 74F04
U124B 74F04
U116C 74F08
R247 33.2
FP_CLK
TIMER
AS
FP_DLY_CS3
C308 47PF
R330 47.5
C309 47PF
C310 47PF
R331 47.5
R332 47.5
C311 47PF
C312 47PF
R333 47.5
R334 47.5
PORT A
PORT B
J41
J46
FOR TEST ONLY
PART OF A6 MAIN/CPU BOARD
AM 700
I/O PROCESSOR
7

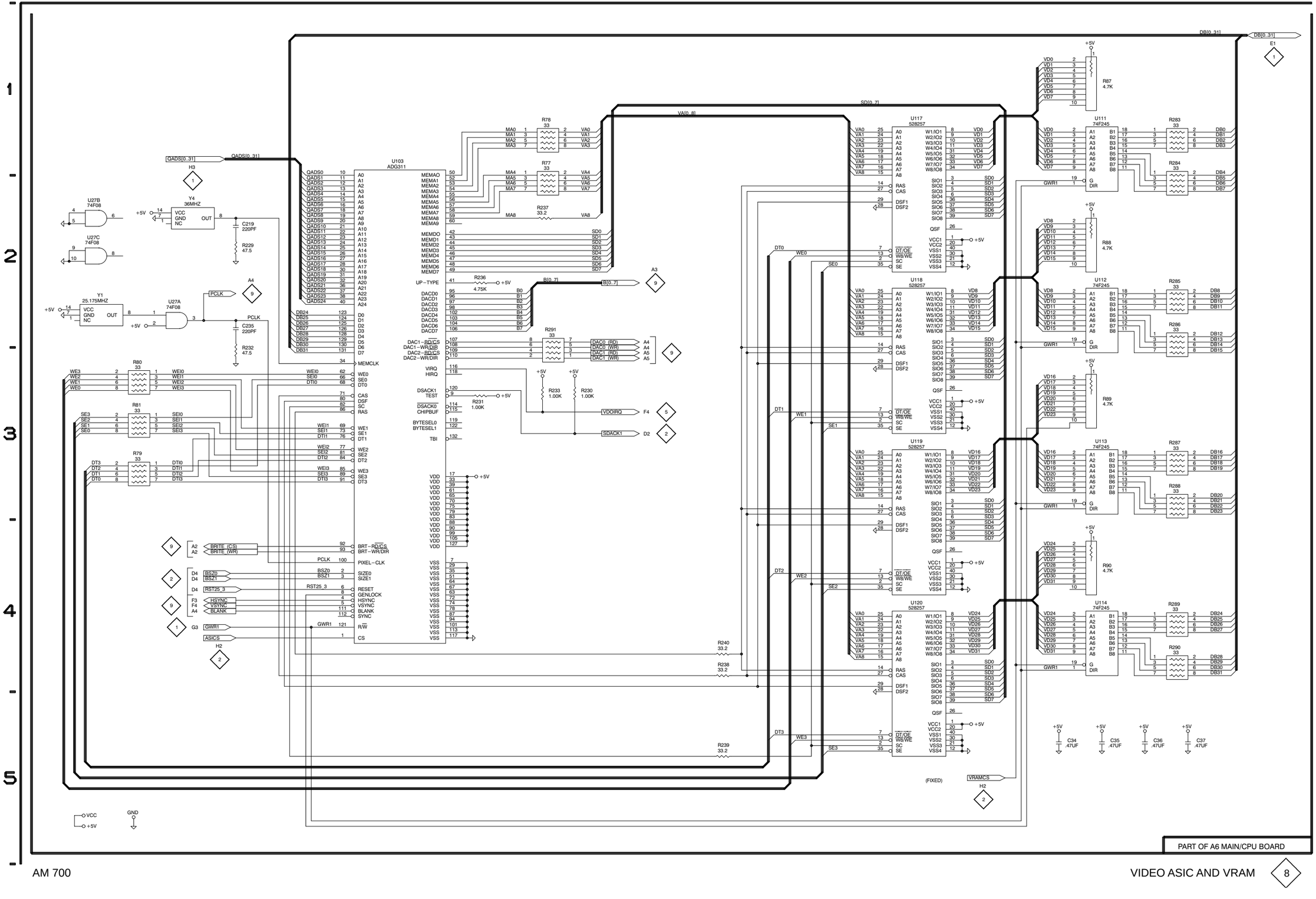
Main/CPU Board

Schematic Diagram <8> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 9, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C34	G5	L12	R230	D3	L9	R290	H4	P11
C35	G5	M12	R231	C3	L9	R291	D2	M9
C36	G5	N12						
			R232	B2	M9	U27A	A2	K3
C37	H5	O12	R233	D3	M9	U27B	A2	K3
C219	B2	L10	R236	C2	L10	U27C	A2	K3
C235	B2	M10	R237	D2	L10	U103	C1	L9
R77	D1	K11	R238	E4	M10	U111	G1	L11
R78	D1	K11	R239	E5	M10	U112	G2	M11
R79	A3	M11	R240	E4	M10	U113	G3	N11
R80	A3	L11	R283	H1	L11	U114	G4	O11
R81	A3	M11	R284	H1	M11	U117	F1	L12
R87	G1	L12	R285	H2	M11	U118	F2	M12
R88	G2	M12	R286	H2	N11	U119	F3	N12
R89	G3	M12	R287	H3	N11	U120	F4	O12
R90	G4	N12	R288	H3	O11	Y1	A2	J3
R229	B2	K10	R289	H4	O11	Y4	A2	K9


DB[0..31]
QADS[0..31]
VA[0..8]
SD[0..7]
U103
ADG311
U117
U118
U119
U120
528257
U111
U112
U113
U114
74F245
U27A
U27B
U27C
74F08
Y1
25.175MHZ
Y4
36MHZ
U80
U81
U79
33
R78
R77
R237
33.2
R236
4.75K
R231
1.00K
R233
1.00K
R230
1.00K
R291
R87
R88
R89
R90
4.7K
R80
R81
R79
R240
R238
R239
C219
220PF
R229
47.5
C235
220PF
R232
47.5
C34
C35
C36
C37
47UF
PCLK
MEMCLK
BRITE_(CS)
BRITE_(WR)
PIXEL-CLK
RESET
GENLOCK
HSYNC
VSYNC
BLANK
SYNC
R/W
CS
ASICS
GWR1
VDOIRQ
SDACK1
VRAMCS
(FIXED)
PART OF A6 MAIN/CPU BOARD

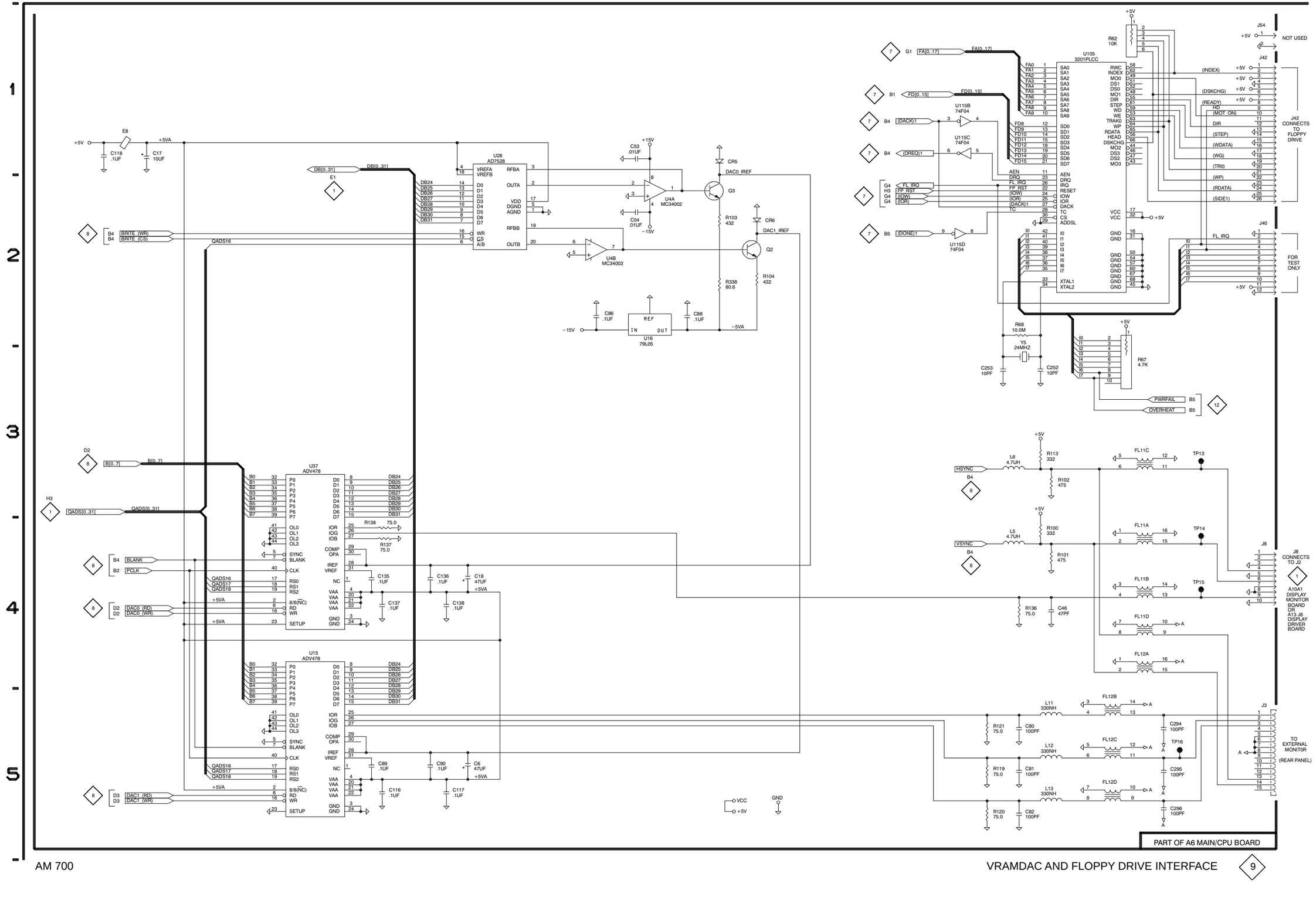
Main/CPU Board

Schematic Diagram <9> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, and 12.

Comp No	Diag Loc	Bd Loc
C6	C5	L2
C17	A1	M3
C18	C4	L3
C46	G4	H1
C53	D1	M3
C54	D2	M3
C80	G5	K2
C81	G5	K2
C82	G5	K2
C86	D2	L2
C88	E2	L2
C89	C5	L2
C90	C5	L2
C116	C5	L3
C117	C5	L3
C118	A1	M4
C135	C4	L4
C136	C4	L3
C137	C4	L4
C138	C4	L4
C252	G3	B12
C253	G3	C12
C294	H5	J1
C295	H5	J1
C296	H5	J1
CR5	E1	L3
CR6	E2	L3
E8	A1	L4
FL11A	G4	I2
FL11B	G4	I2
FL11C	G3	I2
FL11D	G4	I2
FL12A	G4	J2
FL12B	G5	J2
FL12C	G5	J2
FL12D	G5	J2
J3	H5	I1
J8	H4	D1
J40	H2	C10
J42	H1	A10
J54	H1	L14
L5	G4	J2
L6	G3	K2
L11	G5	K1
L12	G5	K2
L13	G5	K2
Q2	E2	M3
Q3	E2	M3
R62	G1	B10
R67	G2	C10
R68	G2	B12
R100	G4	H1
R101	G4	H1
R102	G3	K1
R103	E2	L3
R104	E2	L2
R113	G3	K2
R119	F5	L2
R120	F5	L2
R121	F5	L2
R136	G4	L3
R137	C4	L3
R138	C4	L3
R338	E2	L3
TP13	H3	H1
TP14	H4	H1
TP15	H4	H1
TP16	H5	I1
U4A	D2	M3
U4B	D2	M3
U15	B4	K2
U16	D2	L2
U28	C1	M4
U37	B3	K4
U105	G1	B10
U115B	F1	B12
U115C	F1	B12
U115D	F2	B12
Y5	G3	C12


E8
C118 .1UF
C17 10UF
+5V
+5VA
DB[0..31]
U28 AD7528
VREFA
VREFB
RFBA
OUTA
OUTB
RFBB
VDD
DGND
AGND
WR
CS
A/B
D0
D1
D2
D3
D4
D5
D6
D7
C53 .01UF
C54 .01UF
U4A MC34002
U4B MC34002
CR5
DAC0 IREF
Q3
CR6
DAC1 IREF
Q2
R103 432
R104 432
R338 80.6
C86 .1UF
C88 .1UF
U16 79L05
−15V
−5VA
BRITE (WR)
BRITE (CS)
QADS16
U37 ADV478
U15 ADV478
B[0..7]
QADS[0..31]
BLANK
PCLK
DAC0 (RD)
DAC0 (WR)
DAC1 (RD)
DAC1 (WR)
SYNC
BLANK
CLK
RS0
RS1
RS2
8/6(NC)
RD
WR
SETUP
IOR
IOG
IOB
COMP
OPA
IREF
VREF
NC
VAA
GND
R138 75.0
R137 75.0
C135 .1UF
C136 .1UF
C18 47UF
C137 .1UF
C138 .1UF
C89 .1UF
C90 .1UF
C6 47UF
C116 .1UF
C117 .1UF
R68 10.0M
Y5 24MHZ
C253 10PF
C252 10PF
R67 4.7K
U105 3201PLCC
U115B 74F04
U115C 74F04
U115D 74F04
FA[0..17]
FD[0..15]
[DACK]1
[DREQ]1
[DONE]1
FL_IRQ
PP_RST
(IOW)
(IOR)
(DACK)1
TC
AEN
DRQ
IRQ
RESET
IOW
IOR
DACK
CS
ADDSL
XTAL1
XTAL2
RWC
INDEX
MO0
DS1
DS0
MO1
DIR
STEP
WD
WE
TRAK0
WP
RDATA
HEAD
DSKCHG
MO2
DS3
DS2
MO3
VCC
GND
R62 10K
J54
NOT USED
J42
J42 CONNECTS TO FLOPPY DRIVE
(INDEX)
(DSKCHG)
(READY)
HD
(MOT ON)
DIR
(STEP)
(WDATA)
(WG)
(TR0)
(WP)
(RDATA)
(SIDE1)
J40
FOR TEST ONLY
PWRFAIL
OVERHEAT
HSYNC
VSYNC
L6 4.7UH
L5 4.7UH
R113 332
R100 332
R102 475
R101 475
R136 75.0
C46 47PF
FL11C
FL11A
FL11B
FL11D
FL12A
FL12B
FL12C
FL12D
TP13
TP14
TP15
TP16
J8
J8 CONNECTS TO J2
A10A1 DISPLAY MONITOR BOARD OR A13 J8 DISPLAY DRIVER BOARD
L11 330NH
L12 330NH
L13 330NH
R121 75.0
R119 75.0
R120 75.0
C80 100PF
C81 100PF
C82 100PF
C294 100PF
C295 100PF
C296 100PF
J3
TO EXTERNAL MONITOR
(REAR PANEL)
PART OF A6 MAIN/CPU BOARD

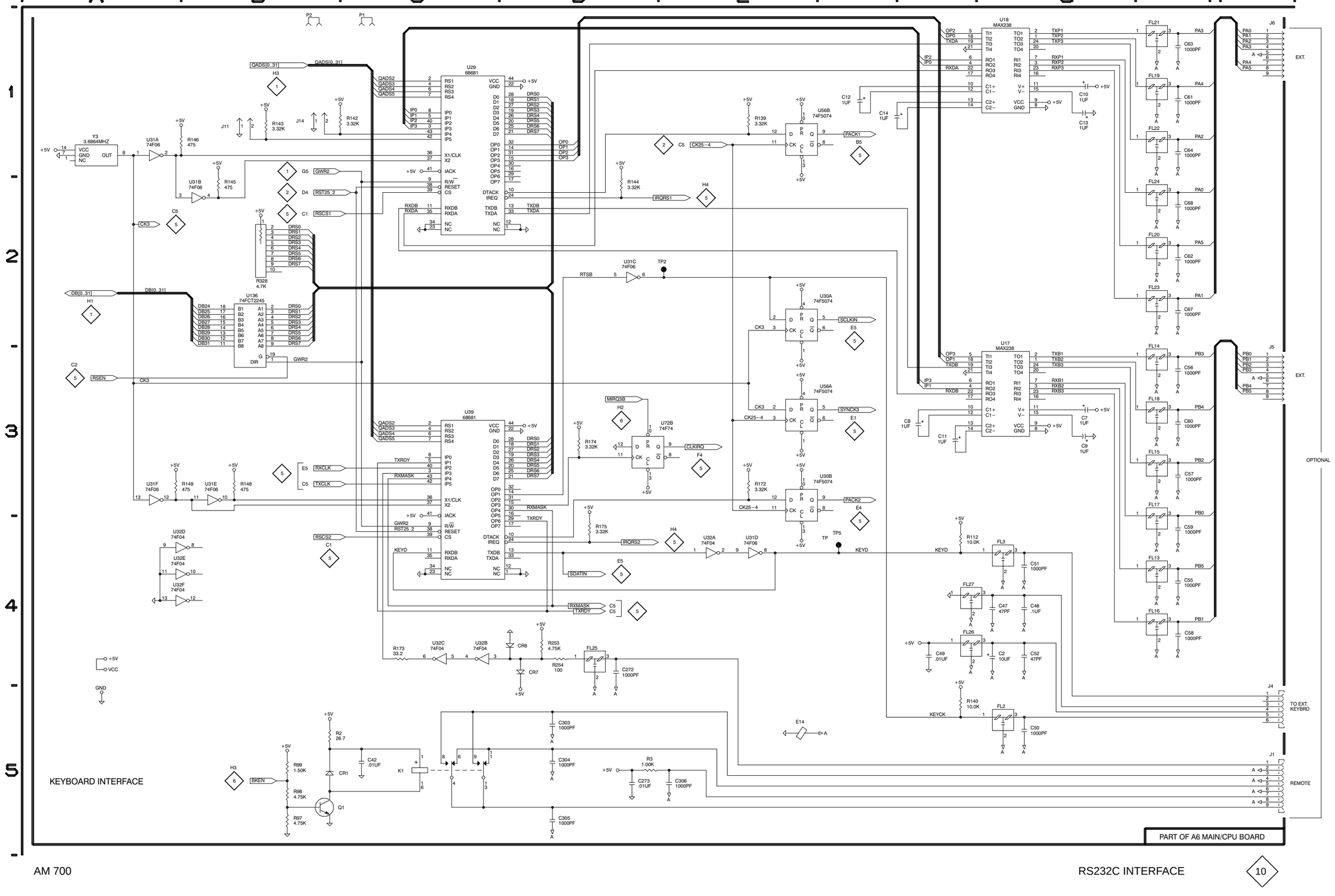
Main/CPU Board

Schematic Diagram <10> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, and 12.

Comp No	Diag Loc	Bd Loc
C2	G4	L1
C7	G3	M2
C8	F3	M2
C9	G3	M2
C10	G1	N2
C11	F3	M2
C12	F1	N2
C13	G1	N2
C14	F1	N2
C42	C5	C1
C47	G4	K1
C48	G4	K1
C49	F4	L1
C50	G5	K1
C51	G4	K1
C52	G4	K1
C55	H4	M1
C56	H3	M1
C57	H3	M1
C58	H4	M1
C59	H4	M1
C60	H3	M1
C61	H1	N1
C62	H2	N1
C63	H1	N1
C64	H1	N1
C67	H2	N1
C68	H2	N1
C272	D4	B1
C273	D5	B2
C303	D5	C2
C304	D5	C1
C305	D5	C1
C306	E5	B1
CR1	B5	C1
CR7	D4	N3
CR8	D4	N3
E14	E5	L1
FL2	G5	K1
FL3	G4	K1
FL13	H4	M1
FL14	H3	M1
FL15	H3	M1
FL16	H4	M1
FL17	H3	M1
FL18	H3	N1
FL19	H1	N1
FL20	H2	N1
FL21	H1	N1
FL22	H1	N1
FL23	H2	N1
FL24	H2	N1
FL25	D4	C1
FL26	F4	K1
FL27	F4	K1
J1	H5	B1
J4	H5	K1
J5	H3	N1
J6	H1	O1
J11	B1	M2
J14	B1	M3
K1	C5	C1
P1	C1	
P2	B1	
Q1	B5	D1
R2	B5	C1
R3	D5	B2
R97	B5	D1
R98	B5	D1
R99	B5	D1
R112	F4	L1
R139	E1	M3
R140	F5	M3
R142	B1	N3
R143	B1	N3
R144	D2	N3
R145	B2	O2
R146	A1	O2
R148	B3	O3
R149	A3	O2
R172	E3	N4
R173	C4	N4
R174	D3	M4
R175	D4	N4
R253	D4	N3
R254	D4	C2
R328	B2	N4
TP2	E2	N3
TP5	F4	O3
U17	G3	M2
U18	G1	N2
U29	C1	M2
U30A	E2	O2
U30B	E3	O2
U31A	A1	O3
U31B	B2	O3
U31C	D2	O3
U31D	E4	O3
U31E	B3	O3
U31F	A3	O3
U32A	E4	N3
U32B	C4	N3
U32C	C4	N3
U32D	A4	N3
U32E	A4	N3
U32F	A4	N3
U39	C3	N3
U56A	E3	L6
U56B	E1	L6
U72B	D3	L6
U136	B2	N4
Y3	A1	N3


KEYBOARD INTERFACE
PART OF A6 MAIN/CPU BOARD
U29 68681
U39 68681
U18 MAX238
U17 MAX238
U136 74FCT2245
U56A 74F5074
U56B 74F5074
U30A 74F5074
U30B 74F5074
U72B 74F74
U31A 74F06
U31B 74F06
U31C 74F06
U31D 74F06
U31E 74F06
U31F 74F06
U32A 74F04
U32B 74F04
U32C 74F04
U32D 74F04
U32E 74F04
U32F 74F04
Y3 3.6864MHZ
QADS[0..31]
DB[0..31]
DRS0
DRS1
DRS2
DRS3
DRS4
DRS5
DRS6
DRS7
GWR2
RST25_2
RSCS1
RSCS2
RSEN
CK3
CK25-4
RXCLK
TXCLK
RXMASK
TXRDY
IRQRS1
IRQRS2
MIRQ3B
CLKIRQ
SCLKIN
SYNCK3
PACK1
PACK2
KEYD
KEYCK
SDATIN
BKEN
RTSB
RXDB
TXDB
RXDA
TXDA
CR1
CR7
CR8
K1
Q1
J1
J4
J5
J6
TO EXT. KEYBRD
REMOTE
EXT.
OPTIONAL

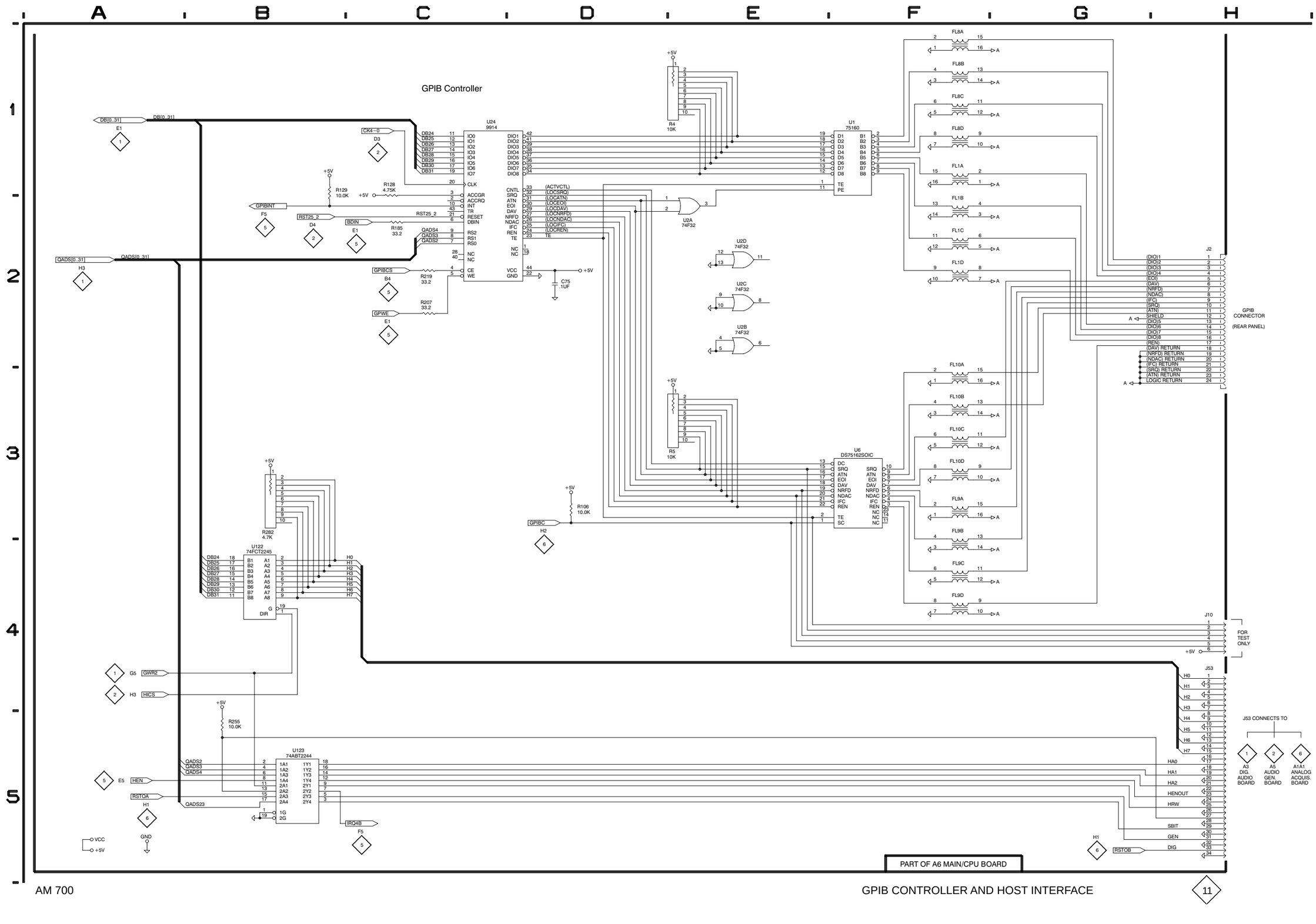
Main/CPU Board

Schematic Diagram <11> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 12.

Comp No	Diag Loc	Bd Loc
C75	D2	D2
FL1A	F1	E1
FL1B	F2	E1
FL1C	F2	E1
FL1D	F2	E1
FL8A	F1	F2
FL8B	F1	F2
FL8C	F1	F2
FL8D	F1	F2
FL9A	F3	G2
FL9B	F3	G2
FL9C	F4	G2
FL9D	F4	G2
FL10A	F3	H2
FL10B	F3	H2
FL10C	F3	H2
FL10D	F3	H2
J2	H2	G1
J10	H4	E2
J53	H4	O1
R4	E1	D2
R5	E3	D2
R106	D3	E2
R128	C1	E3
R129	B1	D3
R185	C2	J4
R207	C2	J6
R219	C2	K7
R255	B5	O2
R282	B3	O2
U1	F1	D1
U2A	E2	E1
U2B	E2	E1
U2C	E2	E1
U2D	E2	E1
U6	F3	E1
U24	C1	D2
U122	B4	O1
U123	B5	O2


GPIB Controller
U24
9914
U1
75160
U6
DS75162SOIC
U122
74FCT2245
U123
74ABT2244
U2A
74F32
U2B
74F32
U2C
74F32
U2D
74F32
R4
10K
R5
10K
R106
10.0K
R282
4.7K
R129
10.0K
R128
4.75K
R185
33.2
R219
33.2
R207
33.2
R255
10.0K
C75
.1UF
FL8A
FL8B
FL8C
FL8D
FL1A
FL1B
FL1C
FL1D
FL10A
FL10B
FL10C
FL10D
FL9A
FL9B
FL9C
FL9D
J2
GPIB
CONNECTOR
(REAR PANEL)
J10
FOR
TEST
ONLY
J53
J53 CONNECTS TO
A3
DIG.
AUDIO
BOARD
A5
AUDIO
GEN.
BOARD
A1A1
ANALOG
ACQUIS.
BOARD
PART OF A6 MAIN/CPU BOARD

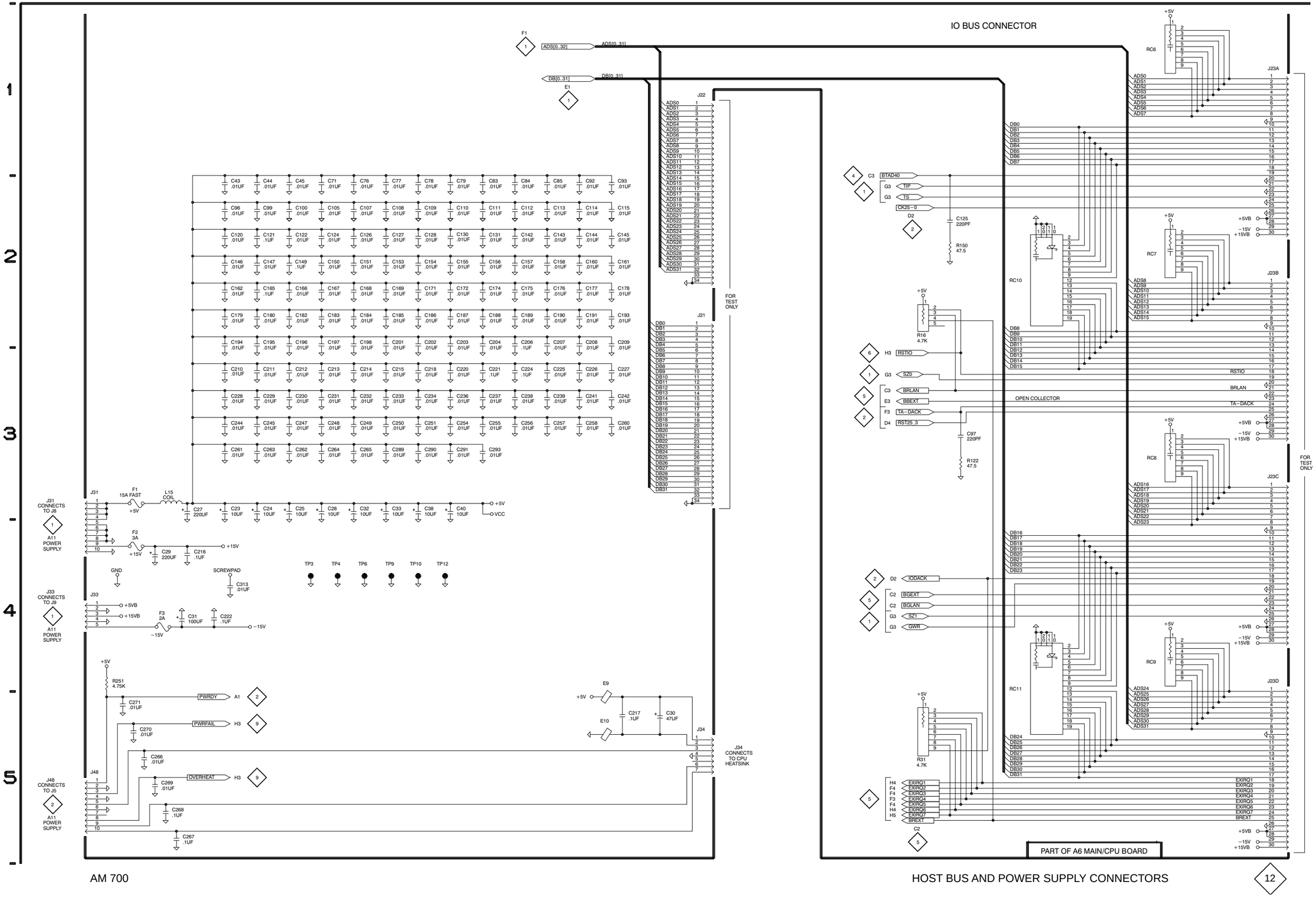
Main/CPU Board

Schematic Diagram <12> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A6 Partial Assembly A6 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C23	B3	N4	C143	D2	D5	C204	C2	I8	C264	B3	I13
C24	B3	G5	C144	D2	E4	C206	D2	J8	C265	C3	J14
C25	B3	D7	C145	D2	F4	C207	D2	K8	C266	A5	H14
C27	B3	O8	C146	B2	F4	C208	D2	L8	C267	A5	H14
C28	B3	I8	C147	B2	G5	C209	D2	M7	C268	A5	H14
C29	A4	P9	C149	B2	H5	C210	B3	L8	C269	A5	H14
C30	D5	B9	C150	B2	I4	C211	B3	M8	C270	A5	H14
C31	A4	O9	C151	C2	I5	C212	B3	N7	C271	A5	I14
C32	C3	D10	C153	C2	J6	C213	B3	N7	C289	C3	K5
C33	C3	K10	C154	C2	K5	C214	C3	N8	C290	C3	K5
C38	C3	O11	C155	C2	K5	C215	C3	N8	C291	C3	J5
C40	C3	L13	C156	C2	K5	C216	B4	O9	C293	C3	N4
C43	B2	D1	C157	D2	K5	C217	D5	B9	C313	B4	E8
C44	B2	E1	C158	D2	L5	C218	C3	K10			
C45	B2	E1	C160	D2	L5	C220	C3	L9	E9	D4	A9
									E10	D5	B9
C71	B2	A2	C161	D2	L5	C221	C3	N9			
C76	C2	F2	C162	B2	O4	C222	B4	O9	F1	A3	O7
C77	C2	F2	C165	B2	D6	C224	D3	E10	F2	A4	O9
C78	C2	G2	C166	B2	E6	C225	D3	F11	F3	A4	O9
C79	C2	H2	C167	B2	F6	C226	D3	F11			
									J21	E2	M5
C83	C2	J2	C168	C2	G6	C227	D3	G11	J22	E1	N5
C84	D2	J2	C169	C2	H6	C228	B3	H10	J23A	H1	P6
C85	D2	K2	C171	C2	I6	C229	B3	I10	J23B	H2	P6
C92	D2	M2	C172	C2	J6	C230	B3	J10	J23C	H3	P6
C93	D2	N2	C174	C2	J6	C231	B3	J10			
									J23D	H4	P6
C96	B2	O2	C175	D2	L6	C232	C3	K10	J31	A3	O6
C97	F3	P3	C176	D2	L6	C233	C3	L10	J33	A4	O8
C99	B2	A3	C177	D2	L6	C234	C3	L10	J34	E5	B9
C100	B2	B3	C178	D2	M6	C236	C3	M10	J48	A5	I14
C105	B2	N9	C179	B2	D7	C237	C3	K14			
									L15	A3	N8
C107	C2	F4	C180	B2	D7	C238	D3	B10			
C108	C2	F3	C182	B2	E7	C239	D3	B11	R16	F2	O3
C109	C2	G3	C183	B2	O1	C241	D3	D11	R31	F5	O3
C110	C2	H3	C184	C2	F7	C242	D3	D12	R122	F3	P3
C111	C2	I2	C185	C2	F7	C244	B3	F12	R150	F2	O3
									R251	A4	I14
C112	D2	J2	C186	C2	G7	C245	B3	F11			
C113	D2	J4	C187	C2	I7	C247	B3	L11	RC6	H1	O5
C114	D2	J3	C188	C2	I7	C248	B3	M11	RC7	H2	O5
C115	D2	K3	C189	D2	J7	C249	C3	N11	RC8	H3	O5
C120	B2	N3	C190	D2	J7	C250	C3	O11	RC9	H4	O5
									RC10	G2	O5
C121	B2	O2	C191	D2	K7	C251	C3	B12	RC11	G4	O4
C122	B2	O2	C193	D2	L7	C254	C3	H12			
C124	B2	O3	C194	B2	L7	C255	C3	J12	TP3	B4	C3
C125	F2	O3	C195	B2	M7	C256	D3	I12	TP4	B4	N3
C126	C2	C4	C196	B2	N7	C257	D3	J12	TP6	C4	E5
									TP9	C4	K8
C127	C2	D4	C197	B2	D8	C258	D3	J12	TP10	C4	C10
C128	C2	D4	C198	C2	D8	C260	D3	L12	TP12	C4	M13
C130	C2	H4	C201	C2	F8	C261	B3	M12			
C131	C2	I4	C202	C2	G8	C262	B3	N12			
C142	D2	N4	C203	C2	H8	C263	B3	O12			



AM 700

HOST BUS AND POWER SUPPLY CONNECTORS

12

AM700

A7 DSP Board Component Locator *(with cross-references to schematic diagrams 1, 2, 3, 4, 5, 6, 7, and 8)*

A7 DSP Board located on back of this page.

Comp No	Diag No	Diag Loc	Bd Loc
C1	2	B4	K6
C2	2	B4	I5
C3	2	B4	F5
C4	2	B4	C6
C5	2	C4	D3
C6	2	C4	D3
C7	2	C4	C3
C8	2	C4	C3
C9	2	D4	I3
C10	2	D4	I2
C11	2	D4	I3
C12	2	D4	I3
C13	2	D4	C5
C14	2	E4	C4
C15	2	E4	D4
C16	2	E4	F3
C17	2	E4	E5
C18	2	F4	D5
C19	2	F4	H5
C20	2	F4	G3
C21	2	F4	J5
C22	2	G4	F4
C23	2	G4	J4
C24	2	G4	F5
C25	2	B5	K4
C26	2	B5	G2
C27	2	B5	L4
C28	2	B5	N2
C29	2	C5	K3
C30	2	C5	H4
C31	2	C5	L5
C32	2	C5	I5
C33	2	D5	L3
C34	2	D5	E3
C35	2	D5	L2
C36	2	D5	J5
C37	2	D5	N3
C38	2	E5	K4
C39	2	E5	K1
C40	2	E5	L4
C41	2	E5	H1
C42	2	F5	L2
C43	2	F5	F3
C44	2	F5	K1
C45	2	F5	F1
C46	2	G5	K1
C47	2	G5	D1
C48	2	G5	L1
C49	2	B5	E3
C50	2	B5	G1
C51	2	B5	C1
C52	2	B5	F2
C53	2	C5	A2
C54	2	C5	E1
C55	2	C5	O5
C56	2	C5	C1
C57	2	D5	M3
C58	2	D5	B1
C59	2	D5	O3
C60	2	D5	M4
C61	2	D5	F3
C62	2	E5	N3
C63	2	E5	N2
C64	2	E5	M2
C65	2	E5	N4
C66	2	F5	M3
C67	2	F5	C3
C68	2	F5	C3
C69	2	F5	K5
C70	2	G5	K5
C71	2	G5	J6
C72	2	G5	J5
C73	2	B5	J6
C74	2	B5	I5
C75	2	C5	H5
C76	2	C5	H5
C77	2	C5	F6
C78	2	C5	F5
C79	2	D5	E6
C80	2	D5	E6
C81	2	D5	D5
C82	2	D5	D6
C83	2	D5	C6
C84	2	E5	C6
C85	2	F5	I1
C86	2	F5	B4
C87	2	F5	G3
C88	2	F5	G4
C89	2	G5	K1
C90	2	G5	L5
C91	4	C3	I6
C92	4	C3	J5
C93	4	F4	K4
C94	4	G4	N1
C98	6	C3	C3
C99	6	E3	D3
C100	2	F2	K1
C102	2	F3	I2
C103	2	C3	G3
C104	2	D2	G3
C105	2	F3	D3
C106	2	F3	M2
C108	2	F4	K3
C110	8	G2	E4
C111	8	G2	E4
C112	8	G3	H2
C113	8	G4	H2
C114	8	G3	E4
C115	8	B2	K2
C116	8	B2	M3
C117	8	B3	M3
C118	8	C5	J2
C119	8	C5	J2
C120	8	C5	J2
C121	8	E5	I3
C122	8	G3	I2
C123	8	G3	G3
C124	8	G3	G2
C125	8	B3	I2
C126	8	B4	J3
C127	8	A5	K2
C128	8	A4	K2
C129	8	B3	K2
C130	5	E4	E6
C131	5	E4	D6
C132	5	G5	E5
C133	5	E5	E3
C134	5	E5	G3
C135	1	C2	C2
C136	1	C2	B2
C137	1	D2	C3
C138	1	B2	C1
C139	1	B2	B1
C140	7	E2	J2
C141	7	E2	J1
C142	7	D2	M3
C143	7	D2	M5
C144	7	D4	L3
C145	7	D3	K2
C146	7	D1	M5
C147	3	D3	N4
C148	3	F3	M3
C149	1	E1	B2
C150	1	E1	C3
C151	2	E5	E4
C152	2	E5	E4
C153	1	C4	D2
DS1	8	B4	L1
DS2	8	B4	K2
F1	1	B1	I1
J300A	1	A1	G1
J300B	1	A2	G1
J300C	1	A3	G1
J300D	1	A4	G1
R1	4	C3	K6
R2	4	C3	K6
R3	4	C3	I6
R4	4	C3	J6
R5	4	F4	K5
R6	4	G4	N2
R7	3	E5	M5
R8	3	E5	M5
R9	3	G5	L3
R10	3	E5	M5
R11	3	G5	M3
R12	6	D3	C3
R13	6	D4	C2
R14	6	D4	C2
R15	6	F3	D3
R16	6	C3	C3
R17	6	E3	D3
R18	2	F2	K1
R20	2	F3	I1
R21	2	C3	G3
R22	2	F3	D3
R23	2	F3	M1
R25	2	F4	K3
R27	8	G4	I2
R28	8	E3	H2
R29	8	G3	H2
R30	8	G3	H1
R31	8	G2	H2
R32	8	G2	H2
R33	8	C5	K2
R34	8	C5	K2
R35	8	C5	I2
R36	8	D3	H2
R37	8	D3	H2
R38	8	B3	I3
R39	8	B2	J3
R40	8	B2	I3
R41	8	G5	H2
R42	8	G5	G2
R43	8	F4	G2
R44	8	F4	G2
R45	8	B4	M5
R46	8	G2	E4
R47	8	G2	E4
R48	8	G4	H2
R49	8	G4	H1
R50	8	G3	E4
R51	8	B2	K2
R52	8	B3	M3
R53	8	B3	M3
R54	8	G4	D1
R55	8	C5	J2
R56	8	C5	J2
R57	8	C5	J2
R58	8	C1	M4
R59	8	C1	M5
R60	8	C2	L5
R61	8	C2	L5
R62	8	F2	H2
R63	8	F2	H3
R64	8	G1	J2
R65	8	G1	J2
R66	8	B1	J3
R67	8	C3	I4
R68	8	F1	I1
R69	8	F1	J1
R70	8	F2	H3
R71	8	F3	G3
R72	8	B1	J3
R73	8	C2	I4
R74	8	G5	G2
R75	8	G3	I3
R76	8	G3	G3
R77	8	G3	G2
R78	8	B3	I2
R79	8	B4	J3
R80	8	A5	L2
R81	8	A4	K2
R82	8	D4	I3
R83	8	F4	H2
R84	8	B4	J3
R85	8	D4	I2
R86	8	B5	L2
R87	8	B5	L2
R88	8	B3	K2
R89	5	E4	L3
R90	5	E4	L3
R91	5	E4	E5
R92	5	E4	D5
R93	5	G5	E5
R94	1	F2	B1
R95	1	E1	C1
R96	1	C2	B2
R97	1	C2	B2
R98	1	B4	E1
R99	1	D2	C2
R100	1	B2	B1
R101	1	H1	E2
R102	1	H2	D2
R103	1	D1	B1
R104	1	G2	D2
R105	1	G1	E2
R106	1	C2	C2
R107	1	C2	C2
R108	3	B1	L2
R109	3	B1	L2
R110	3	C1	L2
R111	3	C1	L2
R112	7	F4	L1
R113	7	F4	M1
R114	7	F4	M1
R115	7	F3	M1
R116	7	H3	M1
R117	7	F3	M1
R118	7	F4	M2
R119	7	D3	K1
R120	7	E2	J1
R121	7	E2	J1
R122	7	D2	M3
R123	7	D2	M5
R124	7	F3	K1
R125	7	D4	L3
R126	7	D3	L2
R127	7	A2	K3
R128	7	A2	K3
R129	7	A2	K3
R130	7	C2	K3
R131	7	C2	K4
R132	7	D1	K3
R133	7	C1	K3
R134	7	C1	K3
R135	7	D1	M5
R136	3	D3	M5
R137	3	F3	M3
R138	1	E1	B2
R139	1	E1	C3
R140	2	C3	F3
R141	2	C3	F3
R142	2	D3	E3
R143	2	D3	F3
R144	7	F4	M2
R147	2	C2	F3
R148	2	C2	F3
R149	2	D2	F3
R150	2	D3	F3
R151	2	D2	G2
R152	2	D2	G2
RC1	6	E2	C4
RC2	6	F2	B3
RC3	6	B2	B3
RC4	6	C2	C2
RC5	3	H3	N1
RC6	3	H2	N1
RC7	4	E3	K4
RC8	4	E2	H4
RC9	5	F1	F4
RC10	5	F2	B5
RC11	5	A4	D4
RC12	5	A3	E2
RC111	3	H4	N5
S1	2	D2	A3
TP2	2	C4	G5
TP3	2	C4	O5
TP4	2	C4	K1
TP5	2	D4	B2
U1	4	D2	K5
U2	4	B2	J4
U3	4	B3	I4
U4	4	B4	L2
U5	4	B3	J4
U6	4	G2	K4
U7	4	G2	K4
U8	4	G3	H4
U9	4	G3	H4
U10	3	D2	M4
U11	3	F2	M2
U12	3	C2	O2
U13	3	B3	N5
U14	3	B4	N2
U15	6	D2	B2
U16A	2	C3	G3
U16B	2	F2	G3
U17	2	E2	A3
U18A	2	D2	G2
U18B	2	E2	G2
U18C	8	E5	G2
U18D	8	G3	G2
U19	2	D3	F3
U20	8	B5	K2
U21	8	D1	J2
U22A	8	B3	J1
U22B	8	D4	J1
U22C	8	D5	J1
U23	5	F3	G5
U24	5	G3	E4
U25	5	G3	E5
U26	5	G4	C5
U27	5	G4	B4
U28	5	B3	D4
U29	5	B3	D5
U30	5	B4	G4
U31	5	B4	F2
U32	5	D3	E3
U33A	1	F2	B1
U33B	1	H4	B1
U33C	1	H4	B1
U33D	1	H4	B1
U34	1	C2	B2
U36	1	D1	C1
U37	1	D5	G1
U47	3	C1	L2
U48	3	D1	L1
U49	7	G3	M1
U50	7	E3	J1
U51A	7	E3	K1
U51B	7	G2	K1
U52	7	D3	L4
U53	7	D4	L3
U54	7	B3	K4
U55	7	C1	K2
U56	7	C3	J4
U57	1	G3	G1
U58	1	G4	F1
U59	1	G1	E1
U60	1	G2	E1
U61	1	D3	D1
U62	7	B3	L4
U63A	6	G3	E3
U63B	6	G4	E3
Y1	2	B3	G4

DSP Board Schematic Diagram <1>

Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7 Partial Assembly A7 also shown on schematic diagrams 1, 2, 3, 4, 5, 7, and 8.

Comp No	Diag Loc	Bd Loc
C135	C2	C2
C136	C2	B2
C137	D2	C3
C138	B2	C1
C139	B2	B1
C149	E1	B2
C150	E1	C3
C153	C4	D2
F1	B1	I1
J300A	A1	G1
J300B	A2	G1
J300C	A3	G1
J300D	A4	G1
R94	F2	B1
R95	E1	C1
R96	C2	B2
R97	C2	B1
R98	B4	E1
R99	D2	C3
R100	B2	B1
R101	H1	E2
R102	H2	D2
R103	D1	B1
R104	G2	D2
R105	G1	E2
R106	C2	C2
R107	C2	C2
R138	E1	B2
R139	E1	C3
R151	D2	B1
R152	C4	D2
U33A	F2	B1
U33B	H4	B1
U33C	H4	B1
U33D	H4	B1
U34	C2	B2
U36	D1	C1
U37	D5	G1
U57	G3	G1
U58	G4	F1
U59	G1	E1
U60	G2	E1
U61	D3	D1

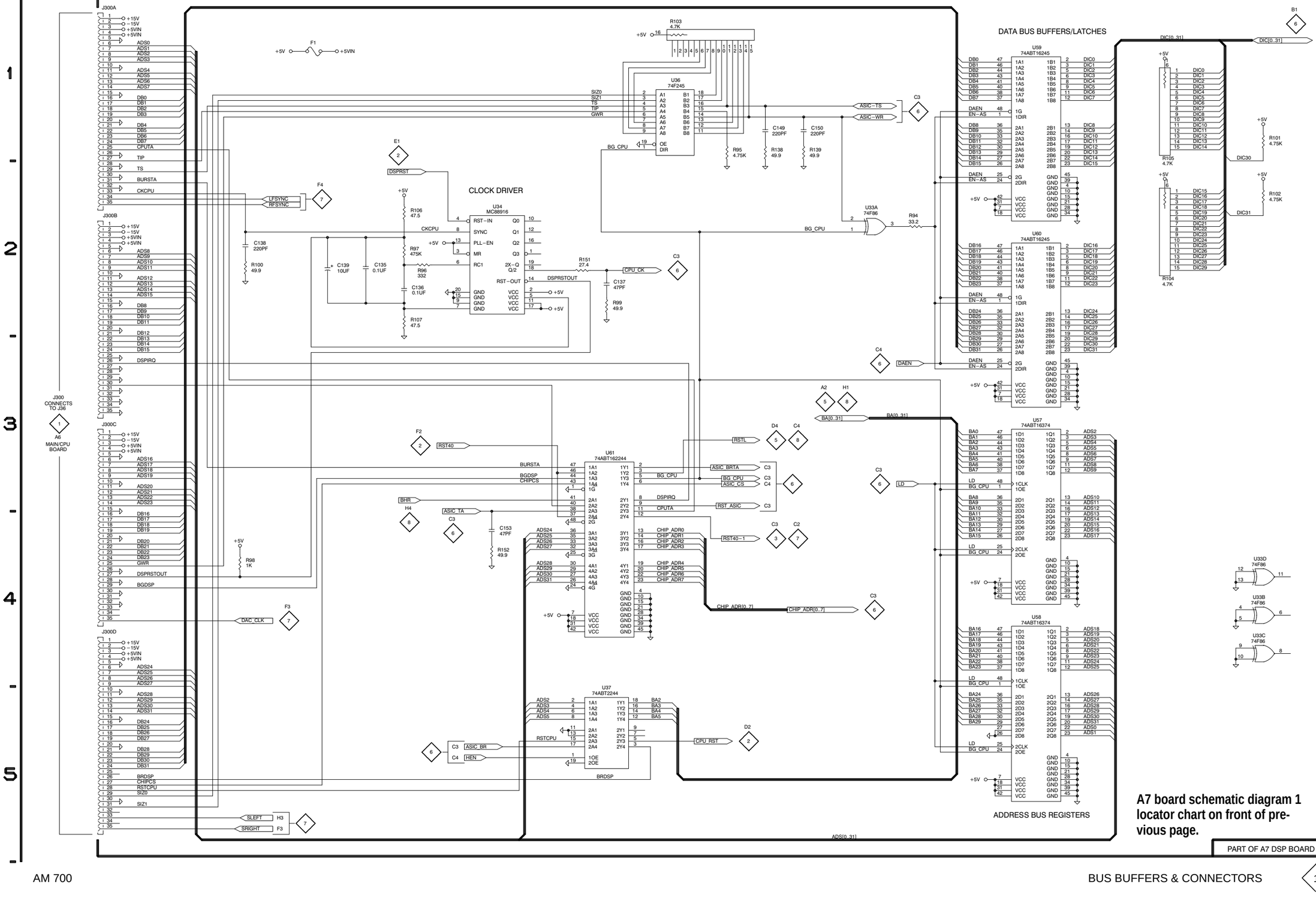
A7 DSP Board (back)

J300D
J300C
J300B
J300A

Static Sensitive Devices
See Maintenance Section

A7 DSP Board Locator Chart on front of this page.

A7 DSP Board (front)


DATA BUS BUFFERS/LATCHES
CLOCK DRIVER
ADDRESS BUS REGISTERS
J300 CONNECTS TO J36
A6 MAIN/CPU BOARD
A7 board schematic diagram 1 locator chart on front of previous page.
PART OF A7 DSP BOARD
AM 700
BUS BUFFERS & CONNECTORS
1

DSP Board

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7. Partial Assembly A7 also shown on schematic diagrams 1, 3, 4, 5, 6, 7, and 8.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C1	B4	K6	C45	F5	F1	C88	F5	G4
C2	B4	I5				C89	G5	K1
C3	B4	F5	C46	G5	K1	C90	G5	L5
C4	B4	C6	C47	G5	D1	C100	F2	K1
C5	C4	D3	C48	G5	L1			
			C49	B5	E3	C102	F3	I2
C6	C4	D3	C50	B5	G1	C103	C3	G3
C7	C4	C3				C104	D2	G3
C8	C4	C3	C51	B5	C1	C105	F3	D3
C9	D4	I3	C52	B5	F2	C106	F3	M2
C10	D4	I2	C53	C5	A2			
			C54	C5	E1	C108	F4	K3
C11	D4	I3	C55	C5	O5	C151	E5	E4
C12	D4	I3				C152	E5	E4
C13	D4	C5	C56	C5	C1			
C14	E4	C4	C57	D5	M3	R18	F2	K1
C15	E4	D4	C58	D5	B1	R20	F3	I1
			C59	D5	O3	R21	C3	G3
C16	E4	F3	C60	D5	M4	R22	F3	D3
C17	E4	E5				R23	F3	M1
C18	F4	D5	C61	D5	F3			
C19	F4	H5	C62	E5	N3	R25	F4	K3
C20	F4	G3	C63	E5	N2	R140	C3	F3
			C64	E5	M2	R141	C3	F3
C21	F4	J5	C65	E5	N4	R142	D3	E3
C22	G4	F4				R143	D3	F3
C23	G4	J4	C66	F5	M3			
C24	G4	F5	C67	F5	C3	R147	C2	F3
C25	B5	K4	C68	F5	C3	R148	C2	F3
			C69	F5	K5	R149	D2	F3
C26	B5	G2	C70	G5	K5	R150	D3	F3
C27	B5	L4						
C28	B5	N2	C71	G5	J6	S1	D2	A3
C29	C5	K3	C72	G5	J5			
C30	C5	H4	C73	B5	J6	TP2	C4	G5
			C74	B5	I5	TP3	C4	O5
C31	C5	L5	C75	C5	H5	TP4	C4	K1
C32	C5	I5				TP5	D4	B2
C33	D5	L3	C76	C5	H5	U16A	C3	G3
C34	D5	E3	C77	C5	F6			
C35	D5	L2	C78	C5	F5	U16B	F2	G3
			C79	D5	E6	U17	E2	A3
C36	D5	J5	C80	D5	E6	U18A	D2	G2
C37	D5	N3				U18B	E2	G2
C38	E5	K4	C81	D5	D5	U19	D3	F3
C39	E5	K1	C82	D5	D6			
C40	E5	L4	C83	D5	C6	Y1	B3	G4
			C84	E5	C6			
C41	E5	H1	C85	F5	I1			
C42	F5	L2						
C43	F5	F3	C86	F5	B4			
C44	F5	K1	C87	F5	G3			

SYSTEM RESET
C2
DSPRST
E5
G5
CPU_RST
RSTON
U18A
74F08
U18B
74F08
U16B
74F5074
C3
A5
RST40
RSTH
MASTER RESET
S1
C104
470 PF
U17
DS1233SOT223
VCC
RST
GND
GND
+5V
NOT INSTALLED
DSP CLOCK GENERATOR
U19
CY7B992PLCC
DF2
DF3
DF0
DF1
CK40–0
CK40–3
CK40–2
CK40–4
CK40–6
D3
F3
C3
C4
F4
C100
220PF
R18
49.9
C105
220PF
R22
49.9
C102
220PF
R20
49.9
C106
220PF
R23
49.9
C108
220PF
R25
49.9
CLOCK OSCILLATOR
Y1
66.666 MHZ
VCC
GND
NC
OUT
C103
220PF
R21
49.9
U16A
74F5074
TP2
TP3
TP4
TP5
DECOUPLING CAPACITORS
C1 0.01UF
C2 0.1UF
C3 0.01UF
C4 0.1UF
C5 0.01UF
C6 0.1UF
C7 0.01UF
C8 0.1UF
C9 0.01UF
C10 0.1UF
C11 0.01UF
C12 0.1UF
C13 0.01UF
C14 0.1UF
C15 0.01UF
C16 0.1UF
C17 0.01UF
C18 0.1UF
C19 0.01UF
C20 0.1UF
C21 0.01UF
C22 0.1UF
C23 0.01UF
C24 0.1UF
C25 0.01UF
C26 0.1UF
C27 0.01UF
C28 0.1UF
C29 0.01UF
C30 0.1UF
C31 0.01UF
C32 0.1UF
C33 0.01UF
C34 0.1UF
C35 0.01UF
C36 0.1UF
C37 0.01UF
C38 0.1UF
C39 0.01UF
C40 0.1UF
C41 0.01UF
C42 0.1UF
C43 0.01UF
C44 0.1UF
C45 0.01UF
C46 0.1UF
C47 0.01UF
C48 0.1UF
C49 0.01UF
C50 0.1UF
C51 0.01UF
C52 0.1UF
C53 0.01UF
C54 0.1UF
C55 0.01UF
C56 0.1UF
C57 0.01UF
C58 0.1UF
C59 0.01UF
C60 0.1UF
C61 0.01UF
C62 0.1UF
C63 0.01UF
C64 0.1UF
C65 0.01UF
C66 0.1UF
C67 0.01UF
C68 0.1UF
C69 0.01UF
C70 0.1UF
C71 0.01UF
C72 0.1UF
C73 0.01UF
C74 0.1UF
C75 0.01UF
C76 0.1UF
C77 0.01UF
C78 0.1UF
C79 0.01UF
C80 0.1UF
C81 0.01UF
C82 0.1UF
C83 0.01UF
C84 0.1UF
C151 0.01UF
C152 0.1UF
C85 220UF
C86 10UF
C87 10UF
C88 10UF
C89 10UF
C90 10UF
PART OF A7 DSP BOARD

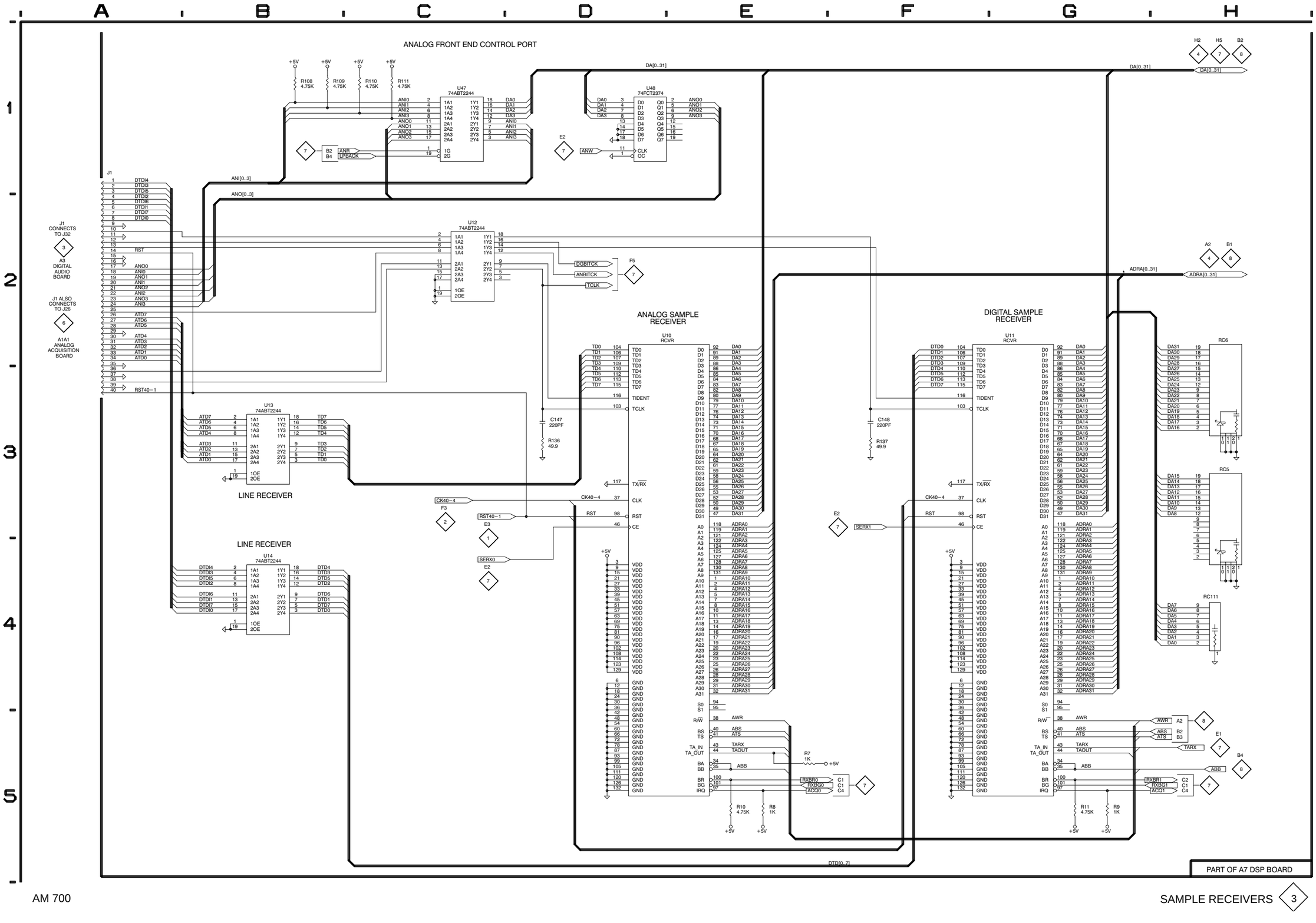
DSP Board

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7. Partial Assembly A7 also shown on schematic diagrams 1, 2, 4, 5, 6, 7, and 8.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C147	D3	N4	R108	B1	L2	U10	D2	M4
C148	F3	M3	R109	B1	L2	U11	F2	M2
			R110	C1	L2	U12	C2	O2
J1	A1	N3	R111	C1	L2	U13	B3	N5
			R136	D3	M5	U14	B4	N2
R7	E5	M5						
R8	E5	M5	R137	F3	M3	U47	C1	L2
R9	G5	L3	RC5	H3	N1	U48	D1	L1
R10	E5	M5	RC6	H2	N1			
R11	G5	M3	RC111	H4	N5			


ANALOG FRONT END CONTROL PORT
ANALOG SAMPLE RECEIVER
DIGITAL SAMPLE RECEIVER
LINE RECEIVER
LINE RECEIVER
U47 74ABT2244
U48 74FCT2374
U12 74ABT2244
U13 74ABT2244
U14 74ABT2244
U10 RCVR
U11 RCVR
J1
J1 CONNECTS TO J32
A3 DIGITAL AUDIO BOARD
J1 ALSO CONNECTS TO J26
A1A1 ANALOG ACQUISITION BOARD
DA[0..31]
ADRA[0..31]
ANI[0..3]
ANO[0..3]
DTDI[0..7]
R108 4.75K
R109 4.75K
R110 4.75K
R111 4.75K
C147 220PF
C148 220PF
R136 49.9
R137 49.9
R7 1K
R8 1K
R9 1K
R10 4.75K
R11 4.75K
RC6
RC5
RC111
PART OF A7 DSP BOARD

DSP Board

Schematic Diagram <4> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7. Partial Assembly A7 also shown on schematic diagrams 1, 2, 3, 5, 6, 7, and 8.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C91	C3	I6	R5	F4	K5	U4	B4	L2
C92	C3	J5	R6	G4	N2			
C93	F4	K4				U5	B3	J4
C94	G4	N1	RC7	E3	K4	U6	G2	K4
			RC8	E2	H4	U7	G2	K4
R1	C3	K6				U8	G3	H4
R2	C3	K6	U1	D2	K5	U9	G3	H4
R3	C3	I6	U2	B2	J4			
R4	C3	J6	U3	B3	I4			

PORT A MEMORY

BUS BUFFERS

U2
74ABT2244

ADRA0 2 1A1 1Y1 18 LADR0
ADRA1 4 1A2 1Y2 16 LADR1
ADRA2 6 1A3 1Y3 14 LADR2
ADRA3 8 1A4 1Y4 12 LADR3
ADRA4 11 2A1 2Y1 9 LADR4
ADRA5 13 2A2 2Y2 7 LADR5
ADRA6 15 2A3 2Y3 5 LADR6
ADRA7 17 2A4 2Y4 3 LADR7
1 1OE
19 2OE

U3
74ABT2244

ADRA8 2 1A1 1Y1 18 LADR8
ADRA9 4 1A2 1Y2 16 LADR9
ADRA10 6 1A3 1Y3 14 LADR10
ADRA11 8 1A4 1Y4 12 LADR11
ADRA12 11 2A1 2Y1 9 LADR12
ADRA13 13 2A2 2Y2 7 LADR13
ADRA14 15 2A3 2Y3 5 LADR14
ADRA15 17 2A4 2Y4 3 LADR15
1 1OE
19 2OE

U5
74ABT2244

ADRA16 2 1A1 1Y1 18 LADR16
ADRA17 4 1A2 1Y2 16 LADR17
6 1A3 1Y3 14
8 1A4 1Y4 12
11 2A1 2Y1 9
13 2A2 2Y2 7
15 2A3 2Y3 5
17 2A4 2Y4 3
1 1OE
19 2OE

U4
74ABT2244

ADRA24 2 1A1 1Y1 18 LADR24
ADRA25 4 1A2 1Y2 16 LADR25
ADRA26 6 1A3 1Y3 14 LADR26
ADRA27 8 1A4 1Y4 12 LADR27
ADRA28 11 2A1 2Y1 9 LADR28
ADRA29 13 2A2 2Y2 7 LADR29
ADRA30 15 2A3 2Y3 5 LADR30
ADRA31 17 2A4 2Y4 3 LADR31
1 1OE
19 2OE

DSP/SAMPLE RECEIVER
SHARED RAM

U1
64K/256KX32

LADR0 13 A0 IO0 4 LDA0
LADR1 15 A1 IO1 6 LDA1
LADR2 17 A2 IO2 8 LDA2
LADR3 47 A3 IO3 10 LDA3
LADR4 49 A4 IO4 20 LDA4
LADR5 51 A5 IO5 22 LDA5
LADR6 55 A6 IO6 24 LDA6
LADR7 14 A7 IO7 26 LDA7
LADR8 16 A8 IO8 5 LDA8
LADR9 18 A9 IO9 7 LDA9
LADR10 48 A10 IO10 9 LDA10
LADR11 50 A11 IO11 11 LDA11
LADR12 52 A12 IO12 19 LDA12
LADR13 54 A13 IO13 21 LDA13
LADR14 30 A14 IO14 23 LDA14
LADR15 29 A15 IO15 25 LDA15
IO16 40 LDA16
IO17 42 LDA17
IO18 44 LDA18
IO19 46 LDA19
IO20 56 LDA20
IO21 58 LDA21
IO22 60 LDA22
IO23 62 LDA23
IO24 39 LDA24
IO25 41 LDA25
IO26 43 LDA26
IO27 45 LDA27
IO28 57 LDA28
IO29 59 LDA29
IO30 61 LDA30
IO31 63 LDA31
32 CS1
31 CS2
34 CS3
33 CS4
37 OE
28 WE
2 PD0
3 PD1
LADR16 36 A16/NC
LADR17 35 A17/NC
12 VCC
53 VCC
+5V
27 GND
38 GND
64 GND
1 GND

D1
7
OE
WE
C91 220PF
C92 220PF
R3 49.9
R4 49.9
+5V
+5V
R1 4.75K
R2 4.75K
D4
7
APD0
APD1

RC8
19 LDA31
18 LDA30
17 LDA29
16 LDA28
15 LDA27
14 LDA26
13 LDA25
12 LDA24
9 LDA23
8 LDA22
7 LDA21
6 LDA20
5 LDA19
4 LDA18
3 LDA17
2 LDA16
1 2 1 1
0 1 0

RC7
19 LDA15
18 LDA14
17 LDA13
16 LDA12
15 LDA11
14 LDA10
13 LDA9
12 LDA8
9 LDA7
8 LDA6
7 LDA5
6 LDA4
5 LDA3
4 LDA2
3 LDA1
2 LDA0
1 2 1 1
0 1 0

NOT INSTALLED

BUS BUFFERS

B5
8
AWRBUF
D1
7
MEMEN

U6
74FCT2245

LDA0 2 A1 B1 18 DA0
LDA1 3 A2 B2 17 DA1
LDA2 4 A3 B3 16 DA2
LDA3 5 A4 B4 15 DA3
LDA4 6 A5 B5 14 DA4
LDA5 7 A6 B6 13 DA5
LDA6 8 A7 B7 12 DA6
LDA7 9 A8 B8 11 DA7
19 OE
1 DIR

U7
74FCT2245

LDA8 2 A1 B1 18 DA8
LDA9 3 A2 B2 17 DA9
LDA10 4 A3 B3 16 DA10
LDA11 5 A4 B4 15 DA11
LDA12 6 A5 B5 14 DA12
LDA13 7 A6 B6 13 DA13
LDA14 8 A7 B7 12 DA14
LDA15 9 A8 B8 11 DA15
19 OE
1 DIR

U8
74FCT2245

LDA16 2 A1 B1 18 DA16
LDA17 3 A2 B2 17 DA17
LDA18 4 A3 B3 16 DA18
LDA19 5 A4 B4 15 DA19
LDA20 6 A5 B5 14 DA20
LDA21 7 A6 B6 13 DA21
LDA22 8 A7 B7 12 DA22
LDA23 9 A8 B8 11 DA23
19 OE
1 DIR

U9
74FCT2245

LDA24 2 A1 B1 18 DA24
LDA25 3 A2 B2 17 DA25
LDA26 4 A3 B3 16 DA26
LDA27 5 A4 B4 15 DA27
LDA28 6 A5 B5 14 DA28
LDA29 7 A6 B6 13 DA29
LDA30 8 A7 B7 12 DA30
LDA31 9 A8 B8 11 DA31
19 OE
1 DIR

C93 220PF
C94 220PF
R5 49.9
R6 49.9

ADRA[0..31]
LADR[0..31]
LDA[0..31]
DA[0..31]

PART OF A7 DSP BOARD

DSP Board

Schematic Diagram <5> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7. Partial Assembly A7 also shown on schematic diagrams 1, 2, 3, 4, 6, 7, and 8.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C130	E4	E6	R93	G5	E5	U27	G4	B4
C131	E4	D6	RC9	F1	F4	U28	B3	D4
C132	G5	E5						
			RC10	F2	B5	U29	B3	D5
C133	E5	E3	RC11	A4	D4	U30	B4	G4
C134	E5	G3	RC12	A3	E2	U31	B4	F2
						U32	D3	E3
R89	E4	L3	U23	F3	G5			
R90	E4	L3	U24	G3	E4			
R91	E4	E5	U25	G3	E5			
R92	E4	D5	U26	G4	C5			

PORT B MEMORY

BUS BUFFERS

BA[0..31]

U28 74ABT2244

BA0	2	1A1	1Y1	18	LBA0
BA1	4	1A2	1Y2	16	LBA1
BA2	6	1A3	1Y3	14	LBA2
BA3	8	1A4	1Y4	12	LBA3
BA4	11	2A1	2Y1	9	LBA4
BA5	13	2A2	2Y2	7	LBA5
BA6	15	2A3	2Y3	5	LBA6
BA7	17	2A4	2Y4	3	LBA7
	1	1OE			
	19	2OE			

U29 74ABT2244

BA8	2	1A1	1Y1	18	LBA8
BA9	4	1A2	1Y2	16	LBA9
BA10	6	1A3	1Y3	14	LBA10
BA11	8	1A4	1Y4	12	LBA11
BA12	11	2A1	2Y1	9	LBA12
BA13	13	2A2	2Y2	7	LBA13
BA14	15	2A3	2Y3	5	LBA14
BA15	17	2A4	2Y4	3	LBA15
	1	1OE			
	19	2OE			

U30 74ABT2244

BA16	2	1A1	1Y1	18	LBA16
BA17	4	1A2	1Y2	16	LBA17
	6	1A3	1Y3	14	
	8	1A4	1Y4	12	
	11	2A1	2Y1	9	
	13	2A2	2Y2	7	
	15	2A3	2Y3	5	
	17	2A4	2Y4	3	
	1	1OE			
	19	2OE			

U31 74ABT2244

BA24	2	1A1	1Y1	18	LBA24
BA25	4	1A2	1Y2	16	LBA25
BA26	6	1A3	1Y3	14	LBA26
BA27	8	1A4	1Y4	12	LBA27
BA28	11	2A1	2Y1	9	LBA28
BA29	13	2A2	2Y2	7	LBA29
BA30	15	2A3	2Y3	5	LBA30
BA31	17	2A4	2Y4	3	LBA31
	1	1OE			
	19	2OE			

RC12

19	BA31
18	BA30
17	BA29
16	BA28
15	BA27
14	BA26
13	BA25
12	BA24
9	BA23
8	BA22
7	BA21
6	BA20
5	BA19
4	BA18
3	BA17
2	BA16

RC11

19	BA15
18	BA14
17	BA13
16	BA12
15	BA11
14	BA10
13	BA9
12	BA8
9	BA7
8	BA6
7	BA5
6	BA4
5	BA3
4	BA2
3	BA1
2	BA0

LBA[0..31] → LBA[0..31] (F2, 6)

PORT B MEMORY CONTROLLER

U32 22V10PLCC

LBA24	2	I0/CLK			
LBA25	3	I1	IO0	17	
LBA26	4	I2	IO1	18	CLR_BF
LBA27	5	I3	IO2	19	BPSM
LBA28	6	I4	IO3	20	
LBA29	7	I5	IO4	21	
LBA30	9	I6	IO5	23	PAL_TA
LBA31	10	I7	IO6	24	
	11	I8	IO7	25	
	12	I9	IO8	26	RSTL
	13	I10	IO9	27	
	16	I11			
	1	NC			
	8	NC			
	15	NC			
	22	NC			
			VCC	28	+5V
			GND	14	

F3 (2) CK40–2

H2 (8) BWR, BBS, BTS

B3 (7) CLR_BF, BPSM

H3 (8) PAL_TA

E3 (1) RSTL

C131 33PF, R92 49.9

C130 33PF, R91 49.9

C4 (6), D4 (7) BPD0, BPD1, D4 (7)

+5V → R89 4.75K, R90 4.75K

C133 0.01UF, C134 470 PF

HOST INTERFACE SHARED RAM

U23 64K/256KX32

LBA0	13	A0	IO0	4	LDB0
LBA1	15	A1	IO1	6	LDB1
LBA2	17	A2	IO2	8	LDB2
LBA3	47	A3	IO3	10	LDB3
LBA4	49	A4	IO4	20	LDB4
LBA5	51	A5	IO5	22	LDB5
LBA6	55	A6	IO6	24	LDB6
LBA7	14	A7	IO7	26	LDB7
LBA8	16	A8	IO8	5	LDB8
LBA9	18	A9	IO9	7	LDB9
LBA10	48	A10	IO10	9	LDB10
LBA11	50	A11	IO11	11	LDB11
LBA12	52	A12	IO12	19	LDB12
LBA13	54	A13	IO13	21	LDB13
LBA14	30	A14	IO14	23	LDB14
LBA15	29	A15	IO15	25	LDB15
			IO16	40	LDB16
			IO17	42	LDB17
			IO18	44	LDB18
			IO19	46	LDB19
			IO20	56	LDB20
			IO21	58	LDB21
			IO22	60	LDB22
			IO23	62	LDB23
			IO24	39	LDB24
			IO25	41	LDB25
			IO26	43	LDB26
			IO27	45	LDB27
			IO28	57	LDB28
			IO29	59	LDB29
			IO30	61	LDB30
			IO31	63	LDB31
	32	CS1			
	31	CS2			
	34	CS3			
	33	CS4			
	37	OE			
	28	WE			
	2	PD0			
	3	PD1			
LBA16	36	A16/NC			
LBA17	35	A17/NC			
			VCC	12	+5V
			VCC	53	
			GND	27	
			GND	38	
			GND	64	
			GND	1	

RC9

19	LDB15
18	LDB14
17	LDB13
16	LDB12
15	LDB11
14	LDB10
13	LDB9
12	LDB8
9	LDB7
8	LDB6
7	LDB5
6	LDB4
5	LDB3
4	LDB2
3	LDB1
2	LDB0

NOT INSTALLED

RC10

19	LDB31
18	LDB30
17	LDB29
16	LDB28
15	LDB27
14	LDB26
13	LDB25
12	LDB24
9	LDB23
8	LDB22
7	LDB21
6	LDB20
5	LDB19
4	LDB18
3	LDB17
2	LDB16

LDB[0..31]

C132 33PF, R93 49.9

BUS BUFFERS

BD[0..31] (H2, 6 / H2, 8)

U24 74FCT2245

LDB0	2	A1	B1	18	BD0
LDB1	3	A2	B2	17	BD1
LDB2	4	A3	B3	16	BD2
LDB3	5	A4	B4	15	BD3
LDB4	6	A5	B5	14	BD4
LDB5	7	A6	B6	13	BD5
LDB6	8	A7	B7	12	BD6
LDB7	9	A8	B8	11	BD7
	19	OE			
BWR	1	DIR			

U25 74FCT2245

LDB8	2	A1	B1	18	BD8
LDB9	3	A2	B2	17	BD9
LDB10	4	A3	B3	16	BD10
LDB11	5	A4	B4	15	BD11
LDB12	6	A5	B5	14	BD12
LDB13	7	A6	B6	13	BD13
LDB14	8	A7	B7	12	BD14
LDB15	9	A8	B8	11	BD15
	19	OE			
BWR	1	DIR			

U26 74FCT2245

LDB16	2	A1	B1	18	BD16
LDB17	3	A2	B2	17	BD17
LDB18	4	A3	B3	16	BD18
LDB19	5	A4	B4	15	BD19
LDB20	6	A5	B5	14	BD20
LDB21	7	A6	B6	13	BD21
LDB22	8	A7	B7	12	BD22
LDB23	9	A8	B8	11	BD23
	19	OE			
BWR	1	DIR			

U27 74FCT2245

LDB24	2	A1	B1	18	BD24
LDB25	3	A2	B2	17	BD25
LDB26	4	A3	B3	16	BD26
LDB27	5	A4	B4	15	BD27
LDB28	6	A5	B5	14	BD28
LDB29	7	A6	B6	13	BD29
LDB30	8	A7	B7	12	BD30
LDB31	9	A8	B8	11	BD31
	19	OE			
BWR	1	DIR			

PART OF A7 DSP BOARD

DSP Board

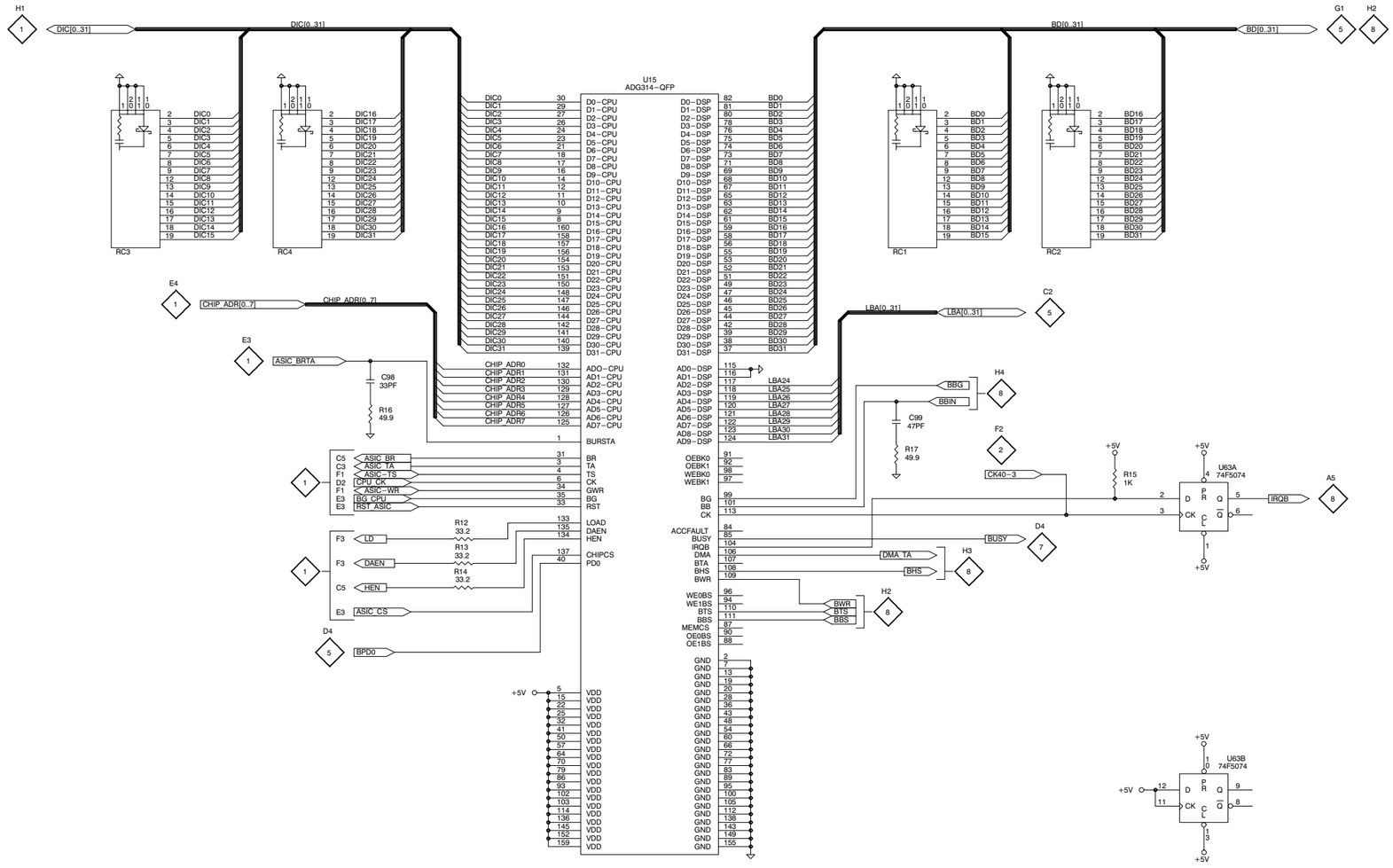
Schematic Diagram <6> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7. Partial Assembly A7 also shown on schematic diagrams 1, 2, 3, 4, 5, 7, and 8.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C98	C3	C3	R15	F3	D3	RC3	B2	B3
C99	E3	D3	R16	C3	C3	RC4	C2	C2
			R17	E3	D3			
R12	D3	C3				U15	D2	B2
R13	D4	C2	RC1	E2	C4	U63A	G3	E3
R14	D4	C2	RC2	F2	B3	U63B	G4	E3

DSP – CPU INTERFACE ASIC



PART OF A7 DSP BOARD

DSP Board

Schematic Diagram <7> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7. Partial Assembly A7 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, and 8.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C140	E2	J2	R120	E2	J1	R135	D1	M5
C141	E2	J1	R121	E2	J1	R144	F4	M2
C142	D2	M3	R122	D2	M3			
C143	D2	M5	R123	D2	M5	U49	G3	M1
						U50	E3	J1
C144	D4	L3	R124	F3	K1	U51A	E3	K1
C145	D3	K2	R125	D4	L3	U51B	G2	K1
C146	D1	M5	R126	D3	L2			
			R127	A2	K3	U52	D3	L4
R112	F4	L1				U53	D4	L3
R113	F4	M1	R128	A2	K3	U54	B3	K4
R114	F4	M1	R129	A2	K3	U55	C1	K2
R115	F3	M1	R130	C2	K3			
			R131	C2	K4	U56	C3	J4
R116	H3	M1				U62	B3	L4
R117	F3	M1	R132	D1	K3			
R118	F4	M2	R133	C1	K3			
R119	D3	K1	R134	C1	K3			

BUS ARBITRATION CONTROL PAL
U55 MACH210PLCC
VERSION NO PAL
U56 22V10PLCC
BUS TIMER
U50 74F269
U51A 74F5074
U51B 74F5074
PROGRAM REGISTERS
U62 74FCT2652
U54 74FCT2652
STATUS REGISTERS
U52 74ABT2244
U53 74ABT2244
AUDIO SERIALIZER
U49 MACH435PLCC-15
LADR[0..31]
SER
AFAULT_IN
IRQC
FLAGA
MEMEN
ANW
TARX
WE
OE
ANR
ATS
ABS
ABG
ABB
TAMEM
TAOTHER
SERX1
SERX0
RXBR1
RST40-1
CK40-6
CLR_BF
BFSM
RXBG0
RXBG1
RXBR0
LADR30
LADR27
LADR24
LADR31
LADR26
LADR28
LADR29
LADR25
AWRBUF
PCSW
SCS
PCS
ACQ0
ACQ1
APD0
APD1
BPD0
BPD1
BUSY
LPBACK
SRIGHT
SLEFT
TASER
DAC_CLK
RFSYNC
IRQA
LFSYNC
CK40-0
CK40-4
TCLK
DGBITCK
ANBITCK
CON0
CON1
DA31
DA[0..31]
+5V
GND
VCC
PART OF A7 DSP BOARD

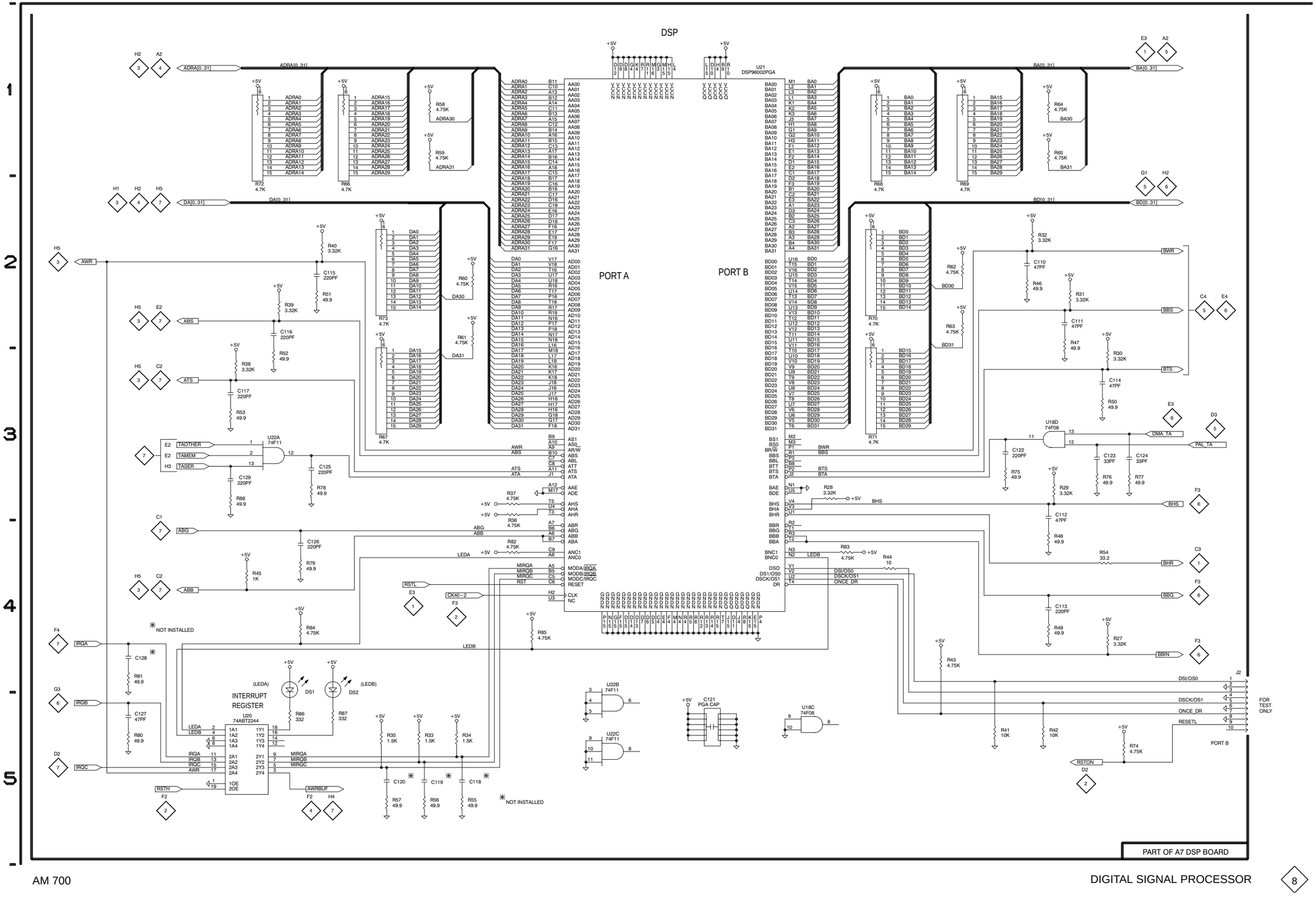
DSP Board

Schematic Diagram <8> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A7. Partial Assembly A7 also shown on schematic diagrams 1, 2, 3, 4, 5, 6, and 7.

Comp No	Diag Loc	Bd Loc
C110	G2	E4
C111	G2	E4
C112	G3	H2
C113	G4	H2
C114	G3	E4
C115	B2	K2
C116	B2	M3
C117	B3	M3
C118	C5	J2
C119	C5	J2
C120	C5	J2
C121	E5	I3
C122	G3	I2
C123	G3	G3
C124	G3	G2
C125	B3	I2
C126	B4	J3
C127	A5	K2
C128	A4	K2
C129	B3	K2
DS1	B4	L1
DS2	B4	K2
J2	H4	G2
R27	G4	I2
R28	E3	H2
R29	G3	H2
R30	G3	H1
R31	G2	H2
R32	G2	H2
R33	C5	K2
R34	C5	K2
R35	C5	I2
R36	D3	H2
R37	D3	H2
R38	B3	I3
R39	B2	J3
R40	B2	I3
R41	G5	H2
R42	G5	G2
R43	F4	G2
R44	F4	G2
R45	B4	M5
R46	G2	E4
R47	G2	E4
R48	G4	H2
R49	G4	H1
R50	G3	E4
R51	B2	K2
R52	B3	M3
R53	B3	M3
R54	G4	D1
R55	C5	J2
R56	C5	J2
R57	C5	J2
R58	C1	M4
R59	C1	M5
R60	C2	L5
R61	C2	L5
R62	F2	H2
R63	F2	H3
R64	G1	J2
R65	G1	J2
R66	B1	J3
R67	C3	I4
R68	F1	I1
R69	F1	J1
R70	F2	H3
R71	F3	G3
R72	B1	J3
R73	C2	I4
R74	G5	G2
R75	G3	I3
R76	G3	G3
R77	G3	G2
R78	B3	I2
R79	B4	J3
R80	A5	L2
R81	A4	K2
R82	D4	I3
R83	F4	H2
R84	B4	J3
R85	D4	I2
R86	B5	L2
R87	B5	L2
R88	B3	K2
U18C	E5	G2
U18D	G3	G2
U20	B5	K2
U21	D1	J2
U22A	B3	J1
U22B	D4	J1
U22C	D5	J1

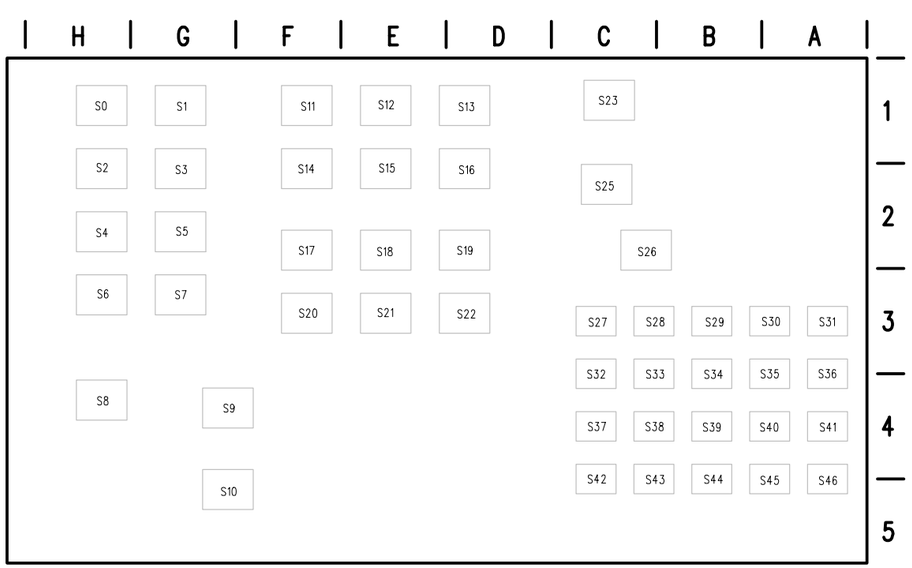

DSP
U21
DSP96002PGA
PORT A
PORT B
ADRA[0..31]
DA[0..31]
BA[0..31]
BD[0..31]
R72 4.7K
R66 4.7K
R58 4.75K
R59 4.75K
ADRA30
ADRA31
R68 4.7K
R69 4.7K
R64 4.75K
R65 4.75K
BA30
BA31
R73 4.7K
R67 4.7K
R60 4.75K
R61 4.75K
DA30
DA31
R70 4.7K
R71 4.7K
R62 4.75K
R63 4.75K
BD30
BD31
AWR
ABS
ATS
ATA
ABG
ABB
ABA
ABE
AHS
AHA
AHR
ABR
ANC1
ANC0
MODA/IRQA
MODB/IRQB
MODC/IRQC
RESET
CLK
NC
AAE
ADE
AS1
AS0
AR/W
BWR
BBS
BTS
BTA
BAE
BDE
BHS
BHA
BHR
BBR
BBG
BBA
BNC1
BNC0
DSO
DS1/OS0
DSCK/OS1
DR
LEDB
RSTL
CK40~2
IRQA
IRQB
IRQC
RSTH
AWRBUF
RSTON
ONCE_DR
RESETL
DSI/OS0
DSCK/OS1
DMA_TA
PAL_TA
BHS
BHR
BBS
BBG
BBIN
BWR
BTS
R40 3.32K
R39 3.32K
R38 3.32K
C115 220PF
C116 220PF
C117 220PF
R51 49.9
R52 49.9
R53 49.9
R32 3.32K
R31 3.32K
R30 3.32K
C110 47PF
C111 47PF
C114 47PF
R46 49.9
R47 49.9
R50 49.9
C122 220PF
C123 33PF
C124 33PF
R75 49.9
R76 49.9
R77 49.9
R29 3.32K
C112 47PF
R48 49.9
R54 33.2
C113 220PF
R49 49.9
R27 3.32K
R28 3.32K
R83 4.75K
R44 10
R43 4.75K
R41 10K
R42 10K
R74 4.75K
C125 220PF
C126 220PF
C129 220PF
R78 49.9
R79 49.9
R88 49.9
R45 1K
R37 4.75K
R36 4.75K
R82 4.75K
R84 4.75K
R85 4.75K
C128
R81 49.9
C127 47PF
R80 49.9
R86 332
R87 332
R35 1.5K
R33 1.5K
R34 1.5K
C120
C119
C118
R57 49.9
R56 49.9
R55 49.9
NOT INSTALLED
INTERRUPT REGISTER
U20 74ABT2244
U22A 74F11
U22B 74F11
U22C 74F11
U18C 74F08
U18D 74F08
C121 PGA CAP
DS1
DS2
(LEDA)
(LEDB)
TAOTHER
TAMEM
TASER
ABG
ABB
ABA
IRQA
IRQB
IRQC
RSTH
AWRBUF
RSTON
ONCE_DR
RESETL
DSI/OS0
DSCK/OS1
FOR TEST ONLY
PORT B
PART OF A7 DSP BOARD

AM700

A9 Front Panel Board Component Locator *(with cross-references to schematic diagrams 1, 2, 3, and 4)*

Comp No	Diag No	Diag Loc	Bd Loc
C2	1	A4	G4
C3	1	B4	G4
C4	1	D5	F3
C5	1	D5	E3
C6	1	D5	E3
C7	1	D5	E3
C8	1	C5	D3
C9	1	C5	C3
C10	1	C5	D1
C11	1	C5	G5
C12	4	E5	C2
C13	4	F5	C4
C14	4	F5	C4
C17	1	A4	E4
C18	1	B4	E5
C19	1	B4	E5
C21	1	A4	E5
C22	1	F4	F3
C23	1	D2	G2
C24	1	E2	G4
C26	1	E5	G3
C27	1	E5	G3
C28	1	F5	H3
C30	1	E2	H4
C31	1	E5	H3
C33	2	C3	B5
C34	2	C3	B5
C35	2	C3	C4
C36	2	G2	B2
C37	2	G2	B2
C38	2	G2	B2
C39	2	F5	B4
C40	2	E5	B3
C41	2	D5	A4
C42	2	D5	A3
C43	2	D5	B3
C44	2	D5	A3
C45	2	B3	C4
C46	2	C4	B5
C47	2	C4	B5
C56	2	F2	C2
C58	2	C5	A4
C59	2	F5	B4
C60	2	E5	C2
C61	2	E5	A5
C62	2	E5	B4
C67	1	A1	H2
C68	1	A1	H2
C69	1	A2	H2
C70	1	A2	H2
C71	2	E3	A4
C72	2	E4	A5
C73	2	D3	A4
C74	2	D4	A5
C75	2	E4	G4
C76	2	E3	A4
C77	2	E4	B4
C78	2	F4	B3
C79	2	F3	A3
C80	3	E5	F2
C81	3	E5	F2
C82	3	E5	D2
C83	3	E5	C2
C84	4	E5	F2
C85	4	E5	D1
C86	4	E5	D2
C87	3	F5	E4
C88	3	F5	E4
CR1	1	A1	I2
CR2	1	A1	H2
CR3	1	A2	H2
CR4	1	A2	H2
CR5	1	D4	C1
DS0	3	C1	H1
DS1	3	C1	G1
DS2	3	D1	H1
DS3	3	E1	G1
DS4	3	E1	H2
DS5	3	F1	G2
DS6	3	F1	H2
DS7	3	G1	G3
DS8	3	C2	H3
DS9	3	C2	G3
DS10	3	D2	G4
DS11	3	E2	F1
DS12	3	E2	E1
DS13	3	F2	D1
DS14	3	F2	F1
DS15	3	G2	E1
DS16	3	C3	D1
DS17	3	C3	F2
DS18	3	D3	E2
DS19	3	E3	D2
DS20	3	E3	F3
DS21	3	F3	E3
DS22	3	F3	D3
DS23	3	G3	C1
DS25	3	C4	C1
DS31	3	C4	C1
DS41	1	D3	G1
DS42	1	C3	G1
DS43	1	C3	F1
DS44	1	D3	E1
DS45	1	D3	D1
DS50	1	C4	C1
DS100	3	C1	G1
DS101	3	D1	G1
DS102	3	D1	H1
DS103	3	E1	G1
DS104	3	E1	G2
DS105	3	F1	G2
DS106	3	G1	G2
DS107	3	G1	G3
DS108	3	C2	G3
DS109	3	D2	F3
DS110	3	D2	F4
DS111	3	E2	E1
DS112	3	E2	E1
DS113	3	F2	D1
DS114	3	G2	F1
DS115	3	G2	E1
DS116	3	C3	D1
DS117	3	D3	E2
DS118	3	D3	E2
DS119	3	E3	D2
DS120	3	E3	E3
DS121	3	F3	E3
DS122	3	G3	D3
F1	1	A3	E5
F2	1	A4	E5
F3	1	A4	H5
FL1	2	G3	H4
FL2	2	G4	H5
FL3	2	G3	H4
J1	1	A4	F5
J4	1	A1	H2
J6	2	H3	I4
J7	1	F3	B1
LS1	1	D4	B1
LS2	2	H2	A2
Q1	1	B1	H2
Q2	1	B1	H1
Q3	1	B2	H2
Q4	1	B2	H2
Q5	1	C4	C1
R1	1	C4	C1
R5	1	D2	G2
R7	1	F4	F3
R8	1	D2	G2
R13	1	E2	H4
R14	2	C3	B5
R15	2	C3	B4
R16	2	C3	B5
R17	2	G2	C2
R18	2	G2	B2
R19	2	C4	B4
R20	2	C4	B5
R21	2	C4	B5
R24	2	G3	B3
R27	2	G4	B3
R36	2	D3	A4
R37	2	E3	A4
R39	2	E4	A5
R41	2	E2	C2
R42	2	E2	C2
R43	2	D4	A5
R44	1	E2	H4
R48	1	D3	G1
R49	1	C3	F1
R50	1	C3	F1
R51	1	D3	E1
R52	1	D3	D1
R55	1	C2	G2
R66	2	D4	H4
R67	2	D4	G4
R68	2	D4	H4
R69	2	E4	H4
R70	2	E4	B3
R71	2	E3	A3
R72	2	F3	A4
R73	2	F4	B4
R106	4	B1	G1
R107	4	B1	G1
R108	4	B1	G2
R109	4	B1	G2
R110	4	C1	F2
R111	4	C1	F2
R112	4	C1	F2
R113	4	C1	F2
R114	4	B3	D2
R115	4	B3	D2
R116	4	B3	D2
R117	4	B3	D2
R118	4	C3	C2
R119	4	C3	C2
R120	4	C3	C2
R121	4	C3	C2
R122	4	B4	D2
R123	4	B4	D2
R124	4	B4	D3
R125	4	B4	D3
R126	4	C4	C3
R127	4	C4	C3
R128	4	C4	C2
R129	4	C4	C2
R130	4	F1	C3
R131	4	F1	C3
R132	4	F1	C3
R133	4	F1	C3
R134	4	F1	B3
R135	4	G1	B3
R136	4	G1	B3
R138	4	F3	C3
R139	4	F3	C3
R140	4	F3	C4
R141	4	F3	C4
R142	4	F3	B4
R143	4	G3	B4
R144	4	G3	B3
R145	4	G3	B3
R146	4	F4	D4
R147	4	F4	D4
R148	4	F4	D4
R149	4	F4	D5
R150	4	F4	C4
R151	4	G4	C4
R152	4	G4	C4
R153	4	G4	C4
R154	3	B5	B3
R156	2	E3	A4
R157	2	E4	A4
R158	1	H5	G2
R159	1	B1	H1
R160	1	B1	H1
R161	1	B2	H2
R162	1	B2	H2
R163	1	B1	H1
R164	1	B2	H2
R165	3	C1	H1
R166	3	C1	G1
R167	3	C1	G1
R168	3	D1	G1
R169	3	E1	G1
R170	3	E1	G1
R171	3	F1	G2
R172	3	F1	G2
R173	3	G1	G3
R174	3	G1	G3
R175	3	C2	G4
R176	3	D2	F4
R177	3	E2	F1
R178	3	E2	F1
R179	3	F2	D1
R180	3	F2	D1
R181	3	G2	E1
R182	3	G2	E1
R183	3	D1	H1
R184	3	D1	G2
R185	3	E1	H2
R186	3	F1	G2
R187	3	F1	H3
R188	3	G1	H3
R189	3	C2	H4
R190	3	C2	H4
R191	3	D2	G4
R192	3	D2	F4
R193	3	E2	E1
R194	3	F2	E1
R195	3	F2	F1
R196	3	G2	E1
R197	3	C3	F2
R198	3	D3	F2
R199	3	E3	D2
R200	3	E3	D2
R201	3	F3	E2
R202	3	F3	E2
R203	3	C3	D1
R204	3	C3	D1
R205	3	D3	E2
R206	3	D3	E2
R207	3	E3	F2
R208	3	F3	F2
R209	3	F3	D2
R210	3	G3	D2
R211	3	G3	D1
R212	3	C4	C1
R213	3	C4	D1
R214	1	C4	C1
S0	4	A1	G1
S1	4	A1	G1
S2	4	A1	G1
S3	4	A1	G2
S4	4	A1	G2
S5	4	A2	G2
S6	4	A2	G3
S7	4	A2	G3
S8	4	A2	G4
S9	4	A3	F4
S10	4	A3	F5
S11	4	A3	E1
S12	4	A3	E1
S13	4	A3	E1
S14	4	A3	E2
S15	4	A3	E2
S16	4	A4	E2
S17	4	A4	E2
S18	4	A4	E2
S19	4	A4	E2
S20	4	A5	E3
S21	4	A5	E3
S22	4	A5	E3
S23	4	A5	C1
S25	4	E1	C2
S26	4	E1	B2
S27	4	E1	C3
S28	4	E1	C3
S29	4	E2	B3
S30	4	E2	A3
S31	4	E2	A3
S32	4	E2	C4
S33	4	E3	C4
S34	4	E3	B4
S35	4	E3	A4
S36	4	E3	A4
S37	4	E3	C4
S38	4	E3	B4
S39	4	E3	B4
S40	4	E4	A4
S41	4	E4	A4
S42	4	E4	C5
S43	4	E4	B5
S44	4	E5	B5
S45	4	E5	A5
S46	4	E5	A5
S51	1	F4	F4
S52	1	F4	D4
TP1	1	D4	A1
TP2	1	D4	F1
TP3	1	E4	C5
TP4	1	E4	G5
TP5	1	E4	G3
TP6	1	E4	B5
U10	1	C3	E1
U11A	1	A5	G5
U11B	1	A5	G5
U13A	1	F5	F3
U13B	1	F5	F3
U13C	1	F4	F3
U13D	1	F4	F3
U13E	1	E2	F3
U13F	1	C2	F3
U14	1	F2	H3
U15	1	F1	H3
U17	1	E1	G3
U19	2	B3	C4
U20	2	G2	C2
U21	2	B3	B4
U22	2	E3	A3
U23	2	E4	B4
U25A	2	C3	B5
U25B	2	C4	B5
U26A	2	F2	A4
U26B	2	D3	A4
U26C	2	D4	A4
U27A	2	F3	A3
U27B	2	F4	A3
U29	1	C1	H2
U30	1	G3	F3
U31	1	G4	E3
U32	1	G4	D3
U33	3	B5	E2
U34	3	B1	F3
U35	3	B2	E2
U36	3	B4	E2
U37	4	D1	F1
U38	4	D3	D1
U39	4	D4	C2
U40	4	H4	C5
U41	4	H3	C3
U42	4	H1	C3
U43	3	B1	G3
U44	3	B2	E3
U45	3	B4	D4
VR1	1	G5	H2

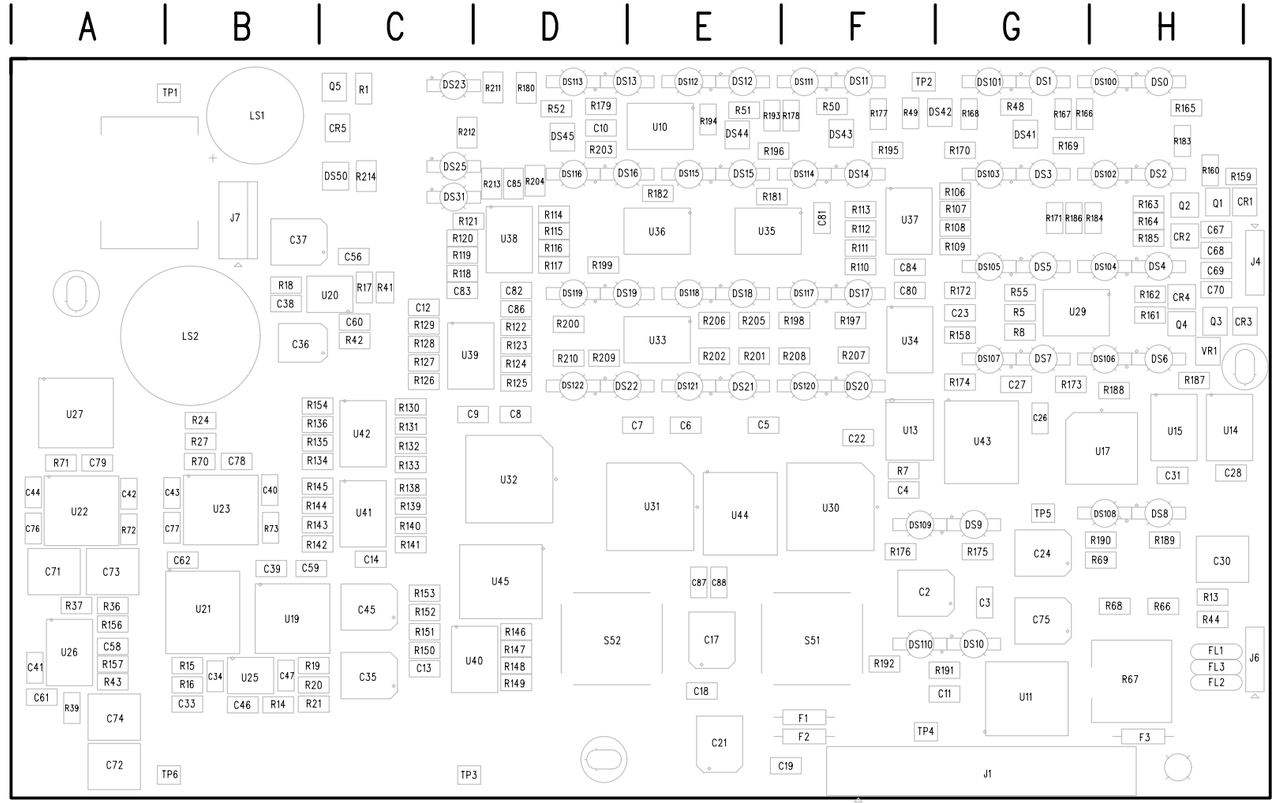
A9 Front Panel Board located on back of this page.



A9 Front Panel Board (back)

5

A9 Front Panel Board locator chart on front of this page.



A9 Front Panel Board (front)

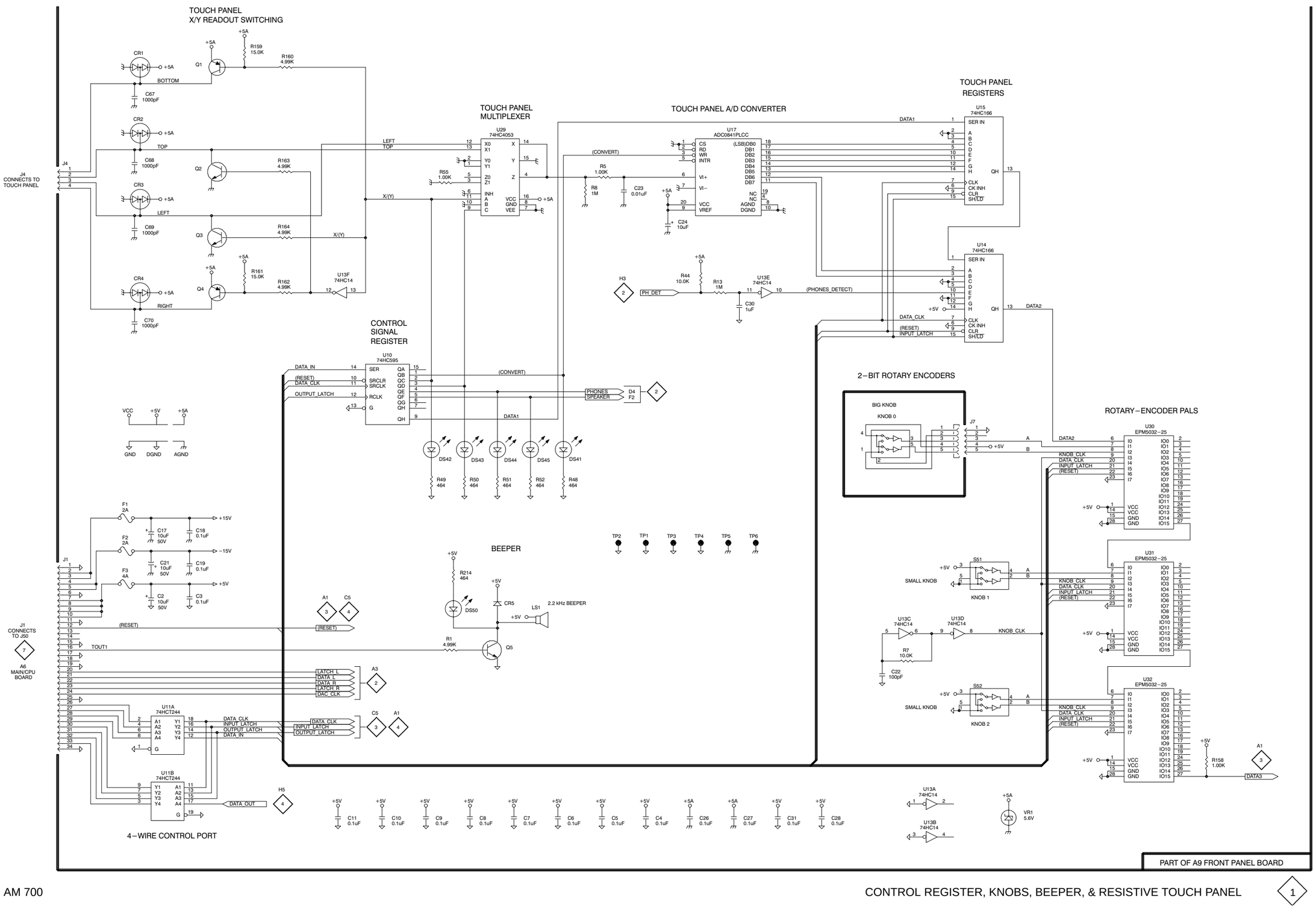
Static Sensitive Devices
See Maintenance Section

Audio Generator Board Schematic Diagram <1> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A9 Partial Assembly A9 also shown on schematic diagrams 1, 2, 3, and 4.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C2	A4	G4				DS44	D3	E1	R1	C4	C1						
C3	B4	G4	C27	E5	G3	DS45	D3	D1	R5	D2	G2	R164	B2	H2	U13D	F4	F3
C4	D5	F3	C28	F5	H3	DS50	C4	C1	R7	F4	F3	R214	C4	C1	U13E	E2	F3
C5	D5	E3	C30	E2	H4				R8	D2	G2				U13F	C2	F3
C6	D5	E3	C31	E5	H3	F1	A3	E5	R13	E2	H4	S51	F4	F4	U14	F2	H3
C7	D5	E3	C67	A1	H2	F2	A4	E5	R44	E2	H4	S52	F4	D4	U15	F1	H3
			C68	A1	H2	F3	A4	H5							U17	E1	G3
C8	C5	D3							R48	D3	G1	TP1	D4	A1			
C9	C5	C3	C69	A2	H2	J1	A4	F5	R49	C3	F1	TP2	D4	F1	U29	C1	H2
C10	C5	D1	C70	A2	H2	J4	A1	H2	R50	C3	F1	TP3	E4	C5	U30	G3	F3
C11	C5	G5				J7	F3	B1	R51	D3	E1	TP4	E4	G5	U31	G4	E3
C17	A4	E4	CR1	A1	I2				R52	D3	D1	TP5	E4	G3	U32	G4	D3
C18	B4	E5	CR2	A1	H2	LS1	D4	B1	R55	C2	G2	TP6	E4	B5			
			CR3	A2	H2										VR1	G5	H2
C19	B4	E5	CR4	A2	H2	Q1	B1	H2	R158	H5	G2	U10	C3	E1			
C21	A4	E5	CR5	D4	C1	Q2	B1	H1	R159	B1	H1	U11A	A5	G5			
C22	F4	F3				Q3	B2	H2	R160	B1	H1	U11B	A5	G5			
C23	D2	G2	DS41	D3	G1	Q4	B2	H2	R161	B2	H2	U13A	F5	F3			
C24	E2	G4	DS42	C3	G1	Q5	C4	C1	R162	B2	H2	U13B	F5	F3			
C26	E5	G3	DS43	C3	F1				R163	B1	H1	U13C	F4	F3			


TOUCH PANEL
X/Y READOUT SWITCHING
TOUCH PANEL
MULTIPLEXER
TOUCH PANEL A/D CONVERTER
TOUCH PANEL
REGISTERS
CONTROL
SIGNAL
REGISTER
2–BIT ROTARY ENCODERS
ROTARY–ENCODER PALS
BEEPER
4–WIRE CONTROL PORT
J4
CONNECTS TO
TOUCH PANEL
CR1
CR2
CR3
CR4
BOTTOM
TOP
LEFT
RIGHT
Q1
Q2
Q3
Q4
R159
15.0K
R160
4.99K
R163
4.99K
R164
4.99K
R161
15.0K
R162
4.99K
C67
1000pF
C68
1000pF
C69
1000pF
C70
1000pF
U13F
74HC14
U29
74HC4053
LEFT
TOP
X/Y
R55
1.00K
U17
ADC0841PLCC
(CONVERT)
R5
1.00K
R8
1M
C23
0.01uF
C24
10uF
U15
74HC166
U14
74HC166
DATA1
DATA2
DATA_CLK
(RESET)
INPUT_LATCH
H3
PH_DET
R44
10.0K
R13
1M
U13E
74HC14
C30
1uF
(PHONES_DETECT)
U10
74HC595
DATA_IN
(RESET)
DATA_CLK
OUTPUT_LATCH
PHONES
SPEAKER
D4
F2
DS42
DS43
DS44
DS45
DS41
R49
464
R50
464
R51
464
R52
464
R48
464
BIG KNOB
KNOB 0
J7
A
B
KNOB_CLK
DATA_CLK
INPUT_LATCH
(RESET)
U30
EPM5032–25
U31
EPM5032–25
U32
EPM5032–25
S51
S52
SMALL KNOB
KNOB 1
KNOB 2
U13C
74HC14
U13D
74HC14
R7
10.0K
C22
100pF
R158
1.00K
DATA3
F1
2A
F2
2A
F3
4A
C17
10uF
50V
C18
0.1uF
C21
10uF
50V
C19
0.1uF
C2
10uF
50V
C3
0.1uF
+15V
–15V
+5V
VCC
DGND
AGND
GND
J1
CONNECTS
TO J50
A6
MAIN/CPU
BOARD
TOUT1
LATCH_L
DATA_L
DATA_R
LATCH_R
DAC_CLK
U11A
74HCT244
U11B
74HCT244
DATA_OUT
R214
464
DS50
CR5
LS1
2.2 kHz BEEPER
R1
4.99K
Q5
TP1
TP2
TP3
TP4
TP5
TP6
C11
0.1uF
C10
0.1uF
C9
0.1uF
C8
0.1uF
C7
0.1uF
C6
0.1uF
C5
0.1uF
C4
0.1uF
C26
0.1uF
C27
0.1uF
C31
0.1uF
C28
0.1uF
U13A
74HC14
U13B
74HC14
VR1
5.6V
PART OF A9 FRONT PANEL BOARD

Front Panel Board

Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A9 Partial Assembly A9 also shown on schematic diagrams 1, 3, and 4.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C33	C3	B5	C77	E4	B4	R67	D4	G4
C34	C3	B5	C78	F4	B3	R68	D4	H4
C35	C3	C4	C79	F3	A3	R69	E4	H4
C36	G2	B2						
C37	G2	B2	FL1	G3	H4	R70	E4	B3
			FL2	G4	H5	R71	E3	A3
C38	G2	B2	FL3	G3	H4	R72	F3	A4
C39	F5	B4				R73	F4	B4
C40	E5	B3	J6	H3	I4	R156	E3	A4
C41	D5	A4				R157	E4	A4
C42	D5	A3	LS2	H2	A2			
						U19	B3	C4
C43	D5	B3	R14	C3	B5	U20	G2	C2
C44	D5	A3	R15	C3	B4	U21	B3	B4
C45	B3	C4	R16	C3	B5	U22	E3	A3
C46	C4	B5	R17	G2	C2	U23	E4	B4
C47	C4	B5	R18	G2	B2			
						U25A	C3	B5
C56	F2	C2	R19	C4	B4	U25B	C4	B5
C58	C5	A4	R20	C4	B5	U26A	F2	A4
C59	F5	B4	R21	C4	B5	U26B	D3	A4
C60	E5	C2	R24	G3	B3	U26C	D4	A4
C61	E5	A5	R27	G4	B3			
						U27A	F3	A3
C62	E5	B4	R36	D3	A4	U27B	F4	A3
C71	E3	A4	R37	E3	A4			
C72	E4	A5	R39	E4	A5			
C73	D3	A4	R41	E2	C2			
C74	D4	A5	R42	E2	C2			
C75	E4	G4	R43	D4	A5			
C76	E3	A4	R66	D4	H4			

SPEAKER IS NOT ENABLED IN CURRENT FIRMWARE.

LEFT CHANNEL AMPLIFIER

DUAL A/D CONVERTER

RIGHT CHANNEL AMPLIFIER

SPEAKER

PHONES

PART OF A9 FRONT PANEL BOARD

Front Panel Board

Schematic Diagram <3> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A9 Partial Assembly A9 also shown on schematic diagrams 1, 2, and 4.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C80	E5	F2	DS106	G1	G2	R185	E1	H2
C81	E5	F2	DS107	G1	G3	R186	F1	G2
C82	E5	D2	DS108	C2	G3	R187	F1	H3
C83	E5	C2	DS109	D2	F3			
C87	F5	E4				R188	G1	H3
C88	F5	E4	DS110	D2	F4	R189	C2	H4
			DS111	E2	E1	R190	C2	H4
DS0	C1	H1	DS112	E2	E1	R191	D2	G4
DS1	C1	G1	DS113	F2	D1	R192	D2	F4
DS2	D1	H1	DS114	G2	F1	R193	E2	E1
DS3	E1	G1	DS115	G2	E1			
DS4	E1	H2				R194	F2	E1
DS5	F1	G2	DS116	C3	D1	R195	F2	F1
			DS117	D3	E2	R196	G2	E1
DS6	F1	H2	DS118	D3	E2	R197	C3	F2
DS7	G1	G3	DS119	E3	D2	R198	D3	F2
DS8	C2	H3	DS120	E3	E3	R199	E3	D2
DS9	C2	G3	DS121	F3	E3			
DS10	D2	G4	DS122	G3	D3	R200	E3	D2
DS11	E2	F1				R201	F3	E2
			R154	B5	B3	R202	F3	E2
DS12	E2	E1	R165	C1	H1	R203	C3	D1
DS13	F2	D1	R166	C1	G1	R204	C3	D1
DS14	F2	F1	R167	C1	G1	R205	D3	E2
DS15	G2	E1	R168	D1	G1			
DS16	C3	D1	R169	E1	G1	R206	D3	E2
DS17	C3	F2				R207	E3	F2
			R170	E1	G1	R208	F3	F2
DS18	D3	E2	R171	F1	G2	R209	F3	D2
DS19	E3	D2	R172	F1	G2	R210	G3	D2
DS20	E3	F3	R173	G1	G3	R211	G3	D1
DS21	F3	E3	R174	G1	G3			
DS22	F3	D3	R175	C2	G4	R212	C4	C1
DS23	G3	C1				R213	C4	D1
			R176	D2	F4			
DS25	C4	C1	R177	E2	F1	U33	B5	E2
DS31	C4	C1	R178	E2	F1	U34	B1	F3
DS100	C1	G1	R179	F2	D1	U35	B2	E2
DS101	D1	G1	R180	F2	D1	U36	B4	E2
DS102	D1	H1	R181	G2	E1	U43	B1	G3
DS103	E1	G1				U44	B2	E3
			R182	G2	E1	U45	B4	D4
DS104	E1	G2	R183	D1	H1			
DS105	F1	G2	R184	D1	G2			

PART OF A9 FRONT PANEL BOARD

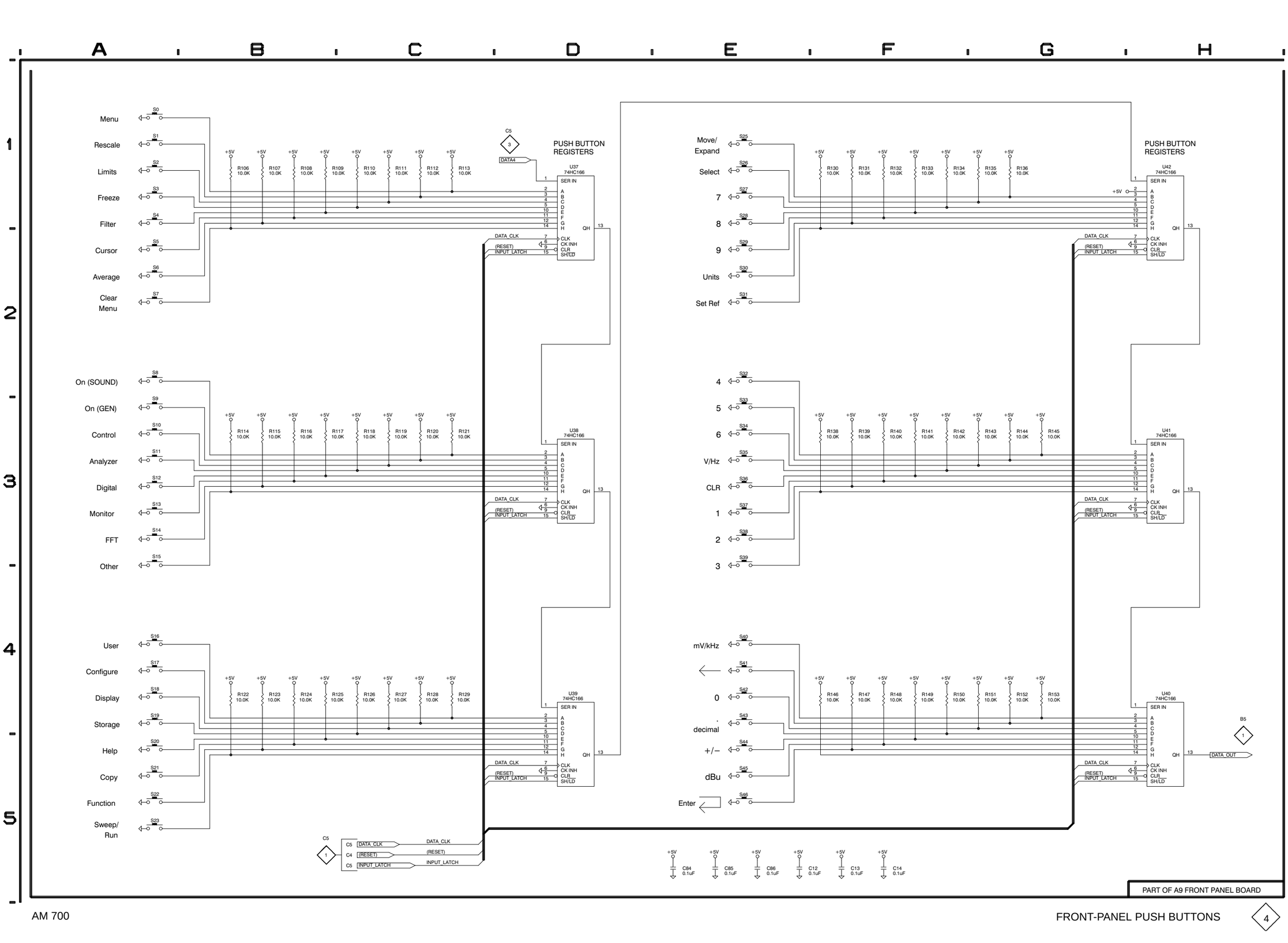
Front Panel Board

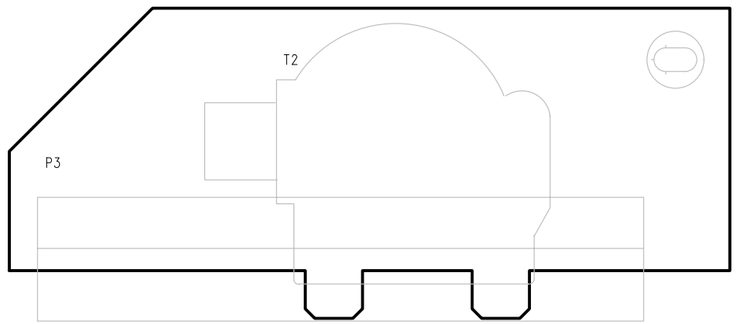
Schematic Diagram <4> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

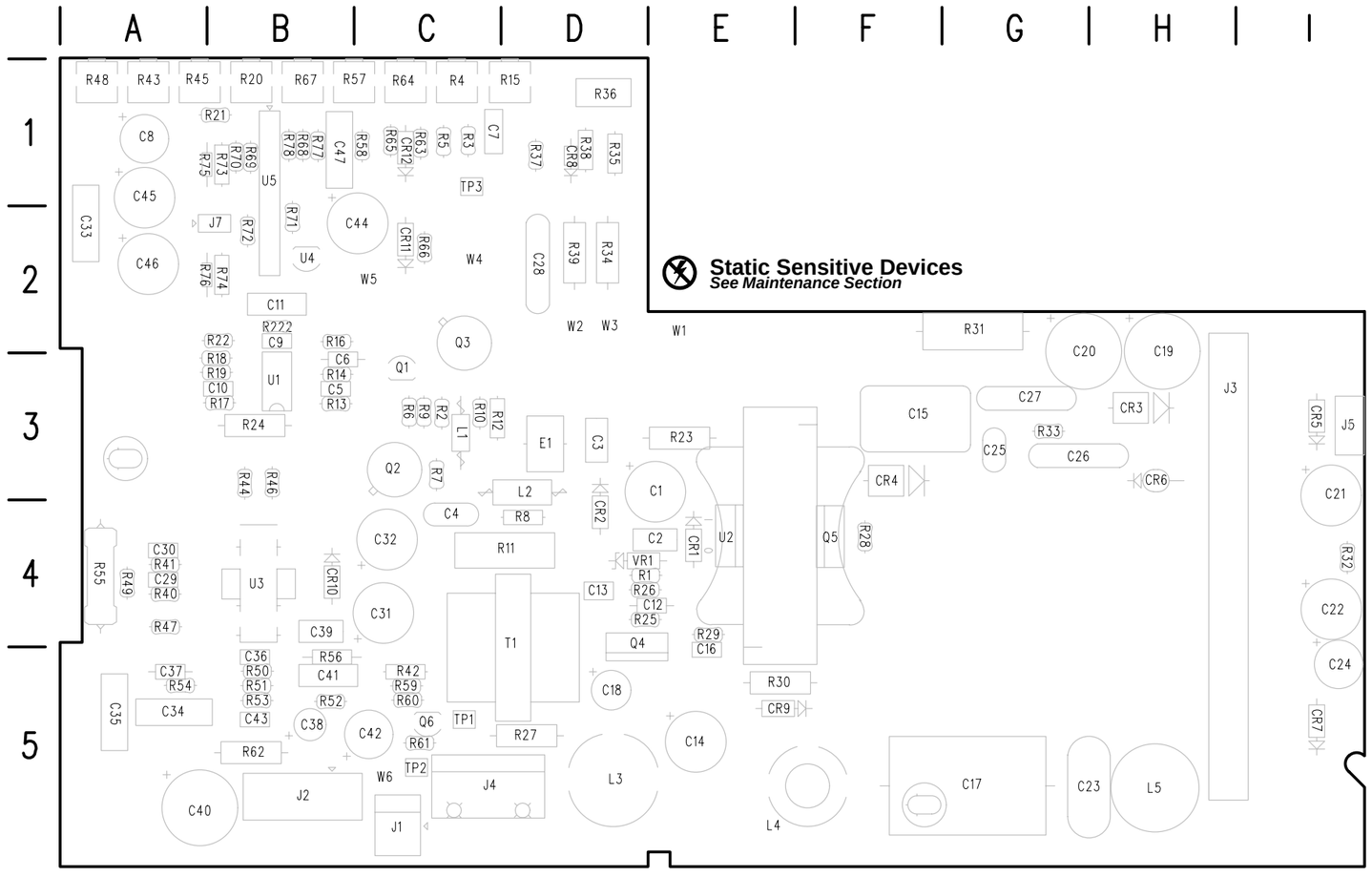
Assembly A9 Partial Assembly A9 also shown on schematic diagrams 1, 2, and 3.

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C12	E5	C2	R138	F3	C3	S21	A5	E3
C13	F5	C4	R139	F3	C3	S22	A5	E3
C14	F5	C4	R140	F3	C4	S23	A5	C1
C84	E5	F2	R141	F3	C4			
C85	E5	D1	R142	F3	B4	S25	E1	C2
C86	E5	D2				S26	E1	B2
			R143	G3	B4	S27	E1	C3
R106	B1	G1	R144	G3	B3	S28	E1	C3
R107	B1	G1	R145	G3	B3	S29	E2	B3
R108	B1	G2	R146	F4	D4	S30	E2	A3
R109	B1	G2	R147	F4	D4			
R110	C1	F2	R148	F4	D4	S31	E2	A3
R111	C1	F2				S32	E2	C4
			R149	F4	D5	S33	E3	C4
R112	C1	F2	R150	F4	C4	S34	E3	B4
R113	C1	F2	R151	G4	C4	S35	E3	A4
R114	B3	D2	R152	G4	C4	S36	E3	A4
R115	B3	D2	R153	G4	C4			
R116	B3	D2				S37	E3	C4
R117	B3	D2	S0	A1	G1	S38	E3	B4
			S1	A1	G1	S39	E3	B4
R118	C3	C2	S2	A1	G1	S40	E4	A4
R119	C3	C2	S3	A1	G2	S41	E4	A4
R120	C3	C2	S4	A1	G2	S42	E4	C5
R121	C3	C2	S5	A2	G2			
R122	B4	D2				S43	E4	B5
R123	B4	D2	S6	A2	G3	S44	E5	B5
			S7	A2	G3	S45	E5	A5
R124	B4	D3	S8	A2	G4			
R125	B4	D3	S9	A3	F4	S46	E5	A5
R126	C4	C3	S10	A3	F5	U37	D1	F1
R127	C4	C3	S11	A3	E1	U38	D3	D1
R128	C4	C2				U39	D4	C2
R129	C4	C2	S12	A3	E1	U40	H4	C5
			S13	A3	E1	U41	H3	C3
R130	F1	C3	S14	A3	E2	U42	H1	C3
R131	F1	C3	S15	A3	E2			
R132	F1	C3	S16	A4	E2			
R133	F1	C3	S17	A4	E2			
R134	F1	B3						
R135	G1	B3	S18	A4	E2			
			S19	A4	E2			
R136	G1	B3	S20	A5	E3			


PUSH BUTTON REGISTERS
Menu
Rescale
Limits
Freeze
Filter
Cursor
Average
Clear Menu
On (SOUND)
On (GEN)
Control
Analyzer
Digital
Monitor
FFT
Other
User
Configure
Display
Storage
Help
Copy
Function
Sweep/ Run
Move/ Expand
Select
7
8
9
Units
Set Ref
4
5
6
V/Hz
CLR
1
2
3
mV/kHz
0
. decimal
+/–
dBu
Enter
U37 74HC166
U38 74HC166
U39 74HC166
U42 74HC166
U41 74HC166
U40 74HC166
SER IN
QH
CLK
CK INH
CLR
SH/LD
DATA_CLK
(RESET)
INPUT_LATCH
DATA_OUT
DATA4
+5V
C84 0.1uF
C85 0.1uF
C86 0.1uF
C12 0.1uF
C13 0.1uF
C14 0.1uF
PART OF A9 FRONT PANEL BOARD



A10A2 Transformer Board



A10A1 Display Monitor Board

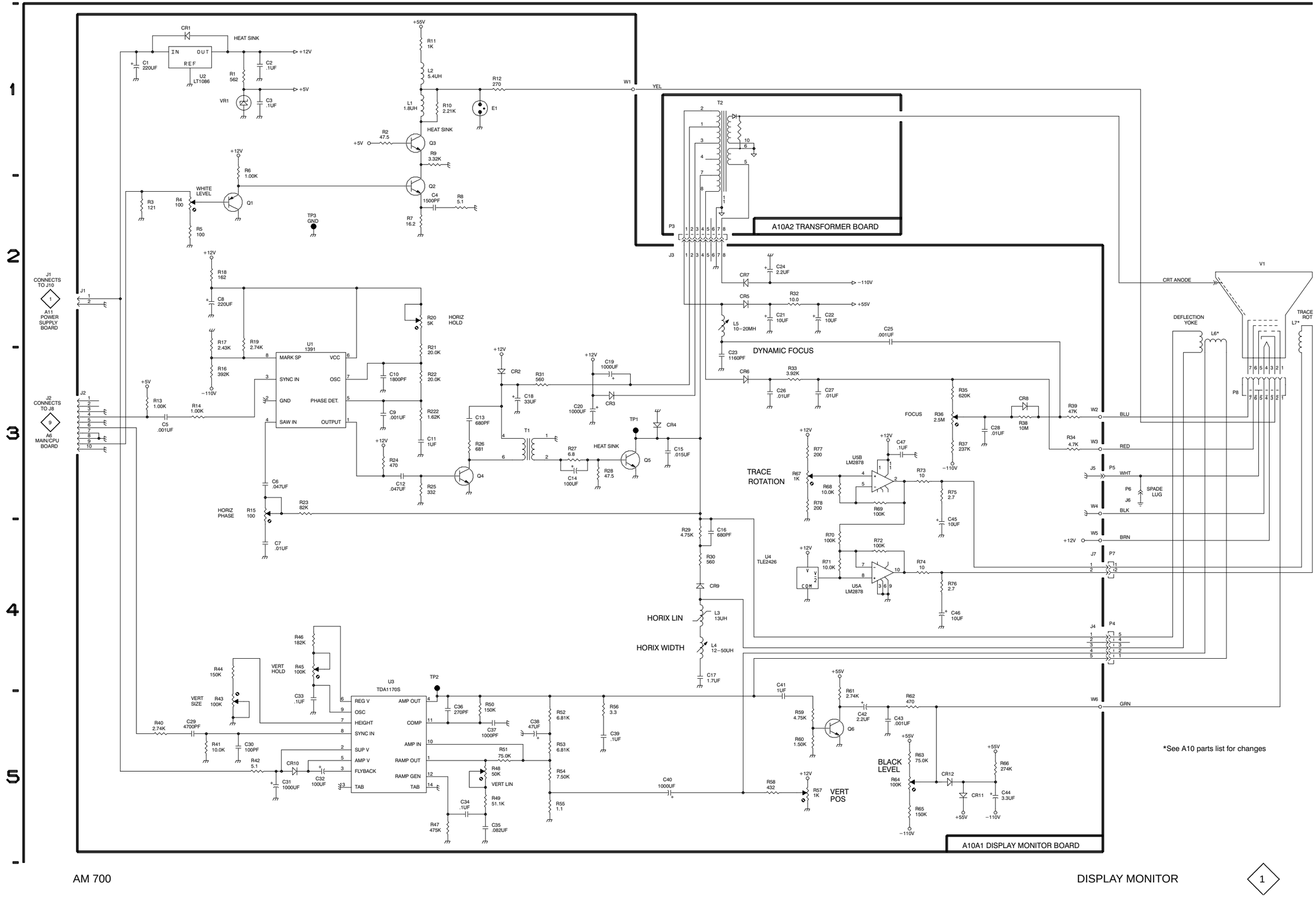
A10 Display Monitor Board Component Locator Chart and Schematic Diagram

<1> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A10A1

Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C1	A1	D3	C21	E2	I4	C41	E5	B5	E1	C1	D3	R2	C1	C3	R21	C2	A1				R60	E5	C5	R222	C3	B2
C2	B1	E4	C22	E2	I4	C42	F5	B5				R3	A2	C1	R22	C3	B2	R41	B5	A4						
C3	B1	D3	C23	E3	G5	C43	F5	B5	J1	A2	C5	R4	B2	C1	R23	B3	E3	R42	B5	C5	R61	F4	C5	T1	D3	C4
C4	C2	C4	C24	E2	I5	C44	G5	B1	J2	A3	B5	R5	B2	C1	R24	C3	B3	R43	B5	A1	R62	F5	B5			
C5	A3	B3	C25	F2	G3	C45	F4	A1	J3	E2	H2				R25	C3	D4	R44	B4	B3	R63	F5	C1	TP1	D3	C5
									J4	G4	D5	R6	B1	C3				R45	B4	A1	R64	F5	C1	TP2	C4	C5
C6	B3	B3	C26	E3	G3	C46	F4	A2	J5	G3	I3	R7	C2	C3	R26	C3	D4				R65	F5	C1	TP3	B2	C1
C5	B4	D1	C27	E3	G3	C47	F3	B1	J7	G4	A2	R8	C2	D4	R27	D3	D5	R46	B4	B3						
C8	B2	A1	C28	F3	D2							R9	C1	C3	R28	D3	F4	R47	C5	A4	R66	G5	C2	U1	B3	B3
C9	C3	B2	C29	B5	A4	CR1	B1	E4	L1	C1	C3	R10	C1	C3	R29	E4	E4	R48	C5	A1	R67	E3	B1	U2	A1	E4
C10	C3	B3	C30	B5	A4	CR2	C3	D4	L2	C1	D3				R30	E4	E5	R49	C5	A4	R68	F3	B1	U3	C5	B5
						CR3	D3	H3	L3	E4	D5	R11	C1	C4				R50	C5	B5	R69	F3	B1	U4	E4	B2
C11	C3	B2	C31	B5	C5	CR4	D3	F3	L4	E4	E5	R12	C1	C3	R31	D3	F2				R70	F4	B1	U5A	F4	B1
C12	C3	D4	C32	B5	B4	CR5	E2	I3	L5	E2	H5	R13	A3	B3	R32	E2	I4	R51	C5	B5				U5B	F3	B1
C13	C3	D4	C33	B5	A1							R14	B3	B3	R33	E3	G3	R52	D5	B5	R71	F4	B2			
C14	D3	E5	C34	C5	A5	CR6	E3	H3	Q1	B2	C3	R15	B3	D1	R34	G3	D2	R53	D5	B5	R72	F4	B2	VR1	B1	D4
C15	D3	F3	C35	C5	A5	CR7	E2	I5	Q2	C2	B3				R35	F3	D1	R54	D5	A5	R73	F3	B1			
						CR8	G3	D1	Q3	C1	C2	R16	B3	B2				R55	D5	A4	R74	F4	B2	W1	D1	E2
C16	E4	E5	C36	C5	B5	CR9	E4	E5	Q4	C3	E5	R17	B2	B3	R36	F3	D1				R75	F3	A1	W2	G3	D2
C17	E4	G5	C37	C5	A5	CR10	B5	B4	Q5	D3	F4	R18	B2	B3	R37	F3	D1	R56	D5	B5				W3	G3	D2
C18	D3	D5	C38	D5	B5				Q6	E5	C5	R19	B2	B3	R38	G3	D1	R57	E5	C1	R76	F4	A2	W4	G3	C2
C19	D3	H3	C39	D5	B4	CR11	F5	C2				R20	C2	B1	R39	G3	D2	R58	E5	C1	R77	E3	B1	W5	G4	C2
C20	D3	G2	C40	E5	A5	CR12	F5	C1	R1	B1	D4				R40	A5	A4	R59	E5	C5	R78	E3	B1	W6	G5	C5



*See A10 parts list for changes

AM700

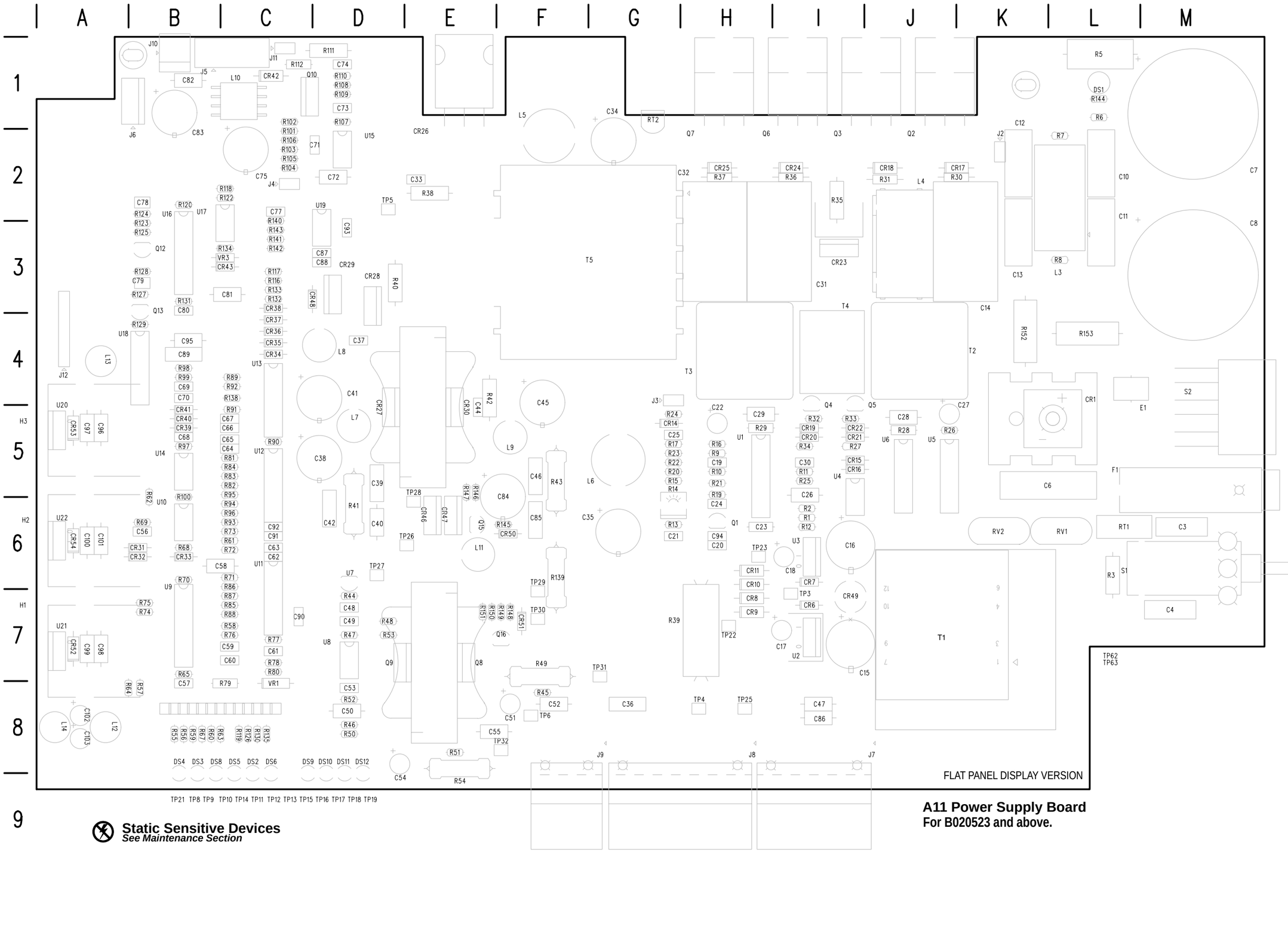
A11 Power Supply Board Component Locator *(with cross-references to schematic diagrams 1, 2, and 3*

Use the A11 board table below for locating parts on A11 board schematic 1.

Comp No	Diag No	Diag Loc	Bd Loc
C3	1	B1	M6
C4	1	B1	M7
C6	1	B1	K5
C7	1	C1	N2
C8	1	C1	N3
C10	1	C1	L2
C11	1	C1	L2
C12	1	D1	K1
C13	1	D1	K3
C14	1	D1	K3
C15	1	C2	I7
C16	1	C2	I6
C17	1	D2	I7
C18	1	D2	I6
C19	1	A3	H5
C20	1	A4	H6
C21	1	A4	G6
C22	1	A4	H5
C23	1	A4	H6
C24	1	A5	H6
C25	1	A5	G5
C26	1	A3	I6
C27	1	C3	K5
C28	1	C4	J5
C29	1	C4	H5
C30	1	D4	I5
C31	1	E1	I3
C32	1	E2	G2
C33	1	F1	E2
C34	1	G1	G1
C35	1	G1	F6
C36	1	H1	G8
C37	1	F1	D4
C38	1	G2	D5
C39	1	G2	D5
C40	1	H2	D6
C41	1	G2	D4
C42	1	G2	D6
C44	1	F2	E4
C45	1	G2	F5
C46	1	G2	F5
C47	1	H2	I8
C48	1	F4	D7
C49	1	F4	D7
C50	1	F3	D8
C51	1	G4	F8
C52	1	G4	F8
C53	1	F5	D8
C54	1	G4	D9
C55	1	G4	E8
C56	2	A5	B6
C57	2	B2	B8
C58	2	B2	B6
C59	2	B3	C7
C60	2	B2	C7
C61	2	C4	C7
C62	2	D4	C6
C63	2	D4	C6
C64	2	D3	C5
C65	2	D3	C5
C66	2	D3	C5
C67	2	D3	C5
C68	2	E1	B5
C69	2	E1	B4
C70	2	E2	B4
C71	2	F1	C2
C72	2	G1	D2
C73	2	G1	D1
C74	2	G2	D1
C75	2	H1	C2
C77	2	E3	C2
C78	2	F4	B2
C79	2	F4	B3
C80	2	G3	B3
C81	2	E5	C3
C82	1	H2	B1
C83	2	G1	B2
C84	1	G2	F6
C85	1	G2	F6
C86	1	H2	I8
C87	2	D5	D3
C88	2	D5	D3
C89	2	C3	B4
C90	2	C4	C7
C91	2	C2	C6
C92	2	C3	C6
C93	2	C5	D3
C94	1	A4	H6
C95	2	E5	B4
C96	3	C1	A5
C97	3	B1	A5
C98	3	D4	A7
C99	3	B4	A7
C100	3	B2	A6
C101	3	C2	A6
C102	3	A2	A8
C103	3	A1	A8
CR1	1	B1	L4
CR6	1	C2	I7
CR7	1	C2	I6
CR8	1	D2	H7
CR9	1	D2	H7
CR10	1	D2	H6
CR11	1	D2	H6
CR14	1	A5	G5
CR15	1	B4	I5
CR16	1	B4	I5
CR17	1	D3	J2
CR18	1	D3	J2
CR19	1	E3	I5
CR20	1	D3	I5
CR21	1	D3	I5
CR22	1	D3	I5
CR23	1	D1	I3
CR24	1	E1	I2
CR25	1	E2	H2
CR26	1	F1	E2
CR27	1	F1	D4
CR28	1	F2	D3
CR29	1	F2	D3
CR30	1	F2	E4
CR31	2	B5	B6
CR32	2	A5	B6
CR33	2	B2	B6
CR34	2	D4	C4
CR35	2	D3	C4
CR36	2	D4	C4
CR37	2	D3	C4
CR38	2	D2	C3
CR39	2	E1	B5
CR40	2	E1	B5
CR41	2	E1	B5
CR42	2	G1	C1
CR43	2	E5	B3
CR46	1	F3	E6
CR47	1	F2	E6
CR48	2	D5	C3
CR49	1	C2	I7
CR50	1	H2	F6
CR51	1	H3	F7
CR52	3	C3	A7
CR53	3	C1	A5
CR54	3	C3	A6
DS1	1	C1	L1
DS2	2	A4	C8
DS3	2	A2	B8
DS4	2	A2	B8
DS5	2	A3	C8
DS6	2	A3	C8
DS8	2	A3	B8
DS9	2	F3	C8
DS10	2	F4	D8
DS11	2	F4	D8
DS12	2	F5	D8
E1	1	B2	M5
F1	1	A1	L5
J2	1	D1	K2
J3	1	A5	G4
J4	2	F1	C2
J5	2	H2	B1
J6	2	H3	B2
J7	1	H3	J8
J8	1	H5	H8
J9	1	H4	G8
J10	1	I1	B1
J11	2	H1	C1
J12	3	E1	A4
L3	1	D1	L3
L4	1	D2	J2
L5	1	G1	F1
L6	1	G1	F5
L7	1	G1	D5
L8	1	G2	D4
L9	1	F2	F5
L10	2	G1	C1
L11	1	F3	E6
L12	3	A2	A8
L13	3	E1	A4
L14	3	A1	A8
Q1	1	A3	H6
Q2	1	D3	J2
Q3	1	E3	I2
Q4	1	E3	I5
Q5	1	D3	J5
Q6	1	E1	H2
Q7	1	E2	H2
Q8	1	G3	E7
Q9	1	G4	D7
Q10	2	G1	C1
Q12	2	F4	B3
Q13	2	F4	B4
Q15	1	G2	E6
Q16	1	G3	F7
R1	1	A5	I6
R2	1	A5	I6
R3	1	A1	L6
R5	1	C1	L1
R6	1	C1	L1
R7	1	D1	L2
R8	1	D1	L3
R9	1	A3	H5
R10	1	A3	H5
R11	1	A3	I5
R12	1	A4	I6
R13	1	A4	G6
R14	1	A4	G5
R15	1	A4	G5
R16	1	A4	H5
R17	1	A4	G5
R19	1	B5	H6
R20	1	C5	G5
R21	1	B5	H5
R22	1	B5	G5
R23	1	C5	G5
R24	1	A5	G5
R25	1	B4	I5
R26	1	B4	J5
R27	1	B3	I5
R28	1	C4	J5
R29	1	C4	H5
R30	1	D3	J2
R31	1	D3	J2
R32	1	D3	I5
R33	1	D3	I5
R34	1	D4	I5
R35	1	E1	I2
R36	1	E1	I2
R37	1	E2	H2
R38	1	F1	E2
R39	1	G1	G7
R40	1	F1	D3
R41	1	G1	D6
R42	1	F2	E4
R43	1	G2	F5
R44	1	F4	D7
R45	1	F3	F8
R46	1	F3	D8
R47	1	F4	D7
R48	1	G3	D7
R49	1	G4	F7
R50	1	F4	D8
R51	1	F5	E8
R52	1	F5	D8
R53	1	G4	D7
R54	1	G4	E9
R55	2	A4	B8
R56	2	A2	B8
R57	2	A2	B8
R58	2	A2	C7
R59	2	A1	B8
R60	2	A3	B8
R61	2	A2	C6
R62	2	A2	B5
R63	2	A4	B8
R64	2	A3	A8
R65	2	A3	B7
R67	2	A2	B8
R68	2	A5	B6
R69	2	A5	B6
R70	2	B2	B6
R71	2	B2	C6
R72	2	B2	C6
R73	2	C2	C6
R74	2	B2	B7
R75	2	B3	B7
R76	2	B3	C7
R77	2	C4	C7
R78	2	C4	C7
R79	2	C4	C8
R80	2	C4	C7
R81	2	C3	C5
R82	2	C3	C5
R83	2	C4	C5
R84	2	C3	C5
R85	2	C4	C7
R86	2	C5	C7
R87	2	C4	C7
R88	2	C4	C7
R89	2	C3	C4
R90	2	C3	C5
R91	2	C3	C5
R92	2	C3	C4
R93	2	C2	C6
R94	2	C2	C6
R95	2	C3	C6
R96	2	C2	C6
R97	2	D1	B5
R98	2	D1	B4
R99	2	D1	B4
R100	2	E1	B6
R101	2	E1	C2
R102	2	F1	C1
R103	2	F1	C2
R104	2	F1	C2
R105	2	F1	C2
R106	2	F1	C2
R107	2	G1	D1
R108	2	G1	D1
R109	2	G1	D1
R110	2	G1	D1
R111	2	G2	D1
R112	2	H1	C1
R116	2	E2	C3
R117	2	E3	C3
R118	2	E3	C2
R119	2	F3	C8
R120	2	G3	B2
R122	2	E3	C2
R123	2	E4	B3
R124	2	F4	B2
R125	2	F4	B3
R126	2	F4	C8
R127	2	F4	B3
R128	2	F4	B3
R129	2	F3	B4
R130	2	F4	C8
R131	2	G3	B3
R132	2	E5	C3
R133	2	E5	C3
R134	2	E5	B3
R135	2	F5	C8
R139	1	G3	F6
R140	2	C5	C3
R141	2	C5	C3
R142	2	C5	C3
R143	2	C5	C3
R144	1	C1	L1
R145	1	H2	F6
R146	1	G2	E5
R147	1	G2	E5
R148	1	H3	F7
R149	1	G3	F7
R150	1	G3	E7
R151	1	F3	E7
R152	1	B1	K4
R153	1	C1	L4
RT1	1	B1	L6
RT2	2	D1	G1
RV1	1	B1	L6
RV2	1	B1	K6
S1	1	A1	L6
S2	1	B2	M4
T1	1	B2	J7
T2	1	D3	K4
T3	1	D4	H4
T4	1	D3	I3
T5	1	E1	F3
TP3	1	C2	I7
TP4	1	H1	H8
TP5	1	G1	D2
TP6	1	G4	F8
TP8	2	A4	B9
TP9	2	A2	B9
TP10	2	A1	B9
TP11	2	A3	C9
TP12	2	A4	C9
TP13	2	A1	C9
TP14	2	A2	B9
TP15	2	F3	C9
TP16	2	F4	C9
TP17	2	F4	C9
TP18	2	F5	D9
TP19	2	A5	D9
TP21	2	F3	B9
TP22	1	D2	H7
TP23	1	D2	H6
TP25	1	H1	H8
TP26	1	H1	D6
TP27	1	H2	D6
TP28	1	H2	E5
TP29	1	H2	F6
TP30	1	H2	F7
TP31	1	G4	G7
TP32	1	G4	E8
TP62	1	A1	L7
TP63	1	A1	L7
U1	1	A3	H5
U2	1	C2	I7
U3	1	C2	I6
U4A	1	B4	I5
U4B	1	B5	I5
U5A	1	B4	J5
U6	1	C3	J5
U7	1	E4	D6
U8A	1	F3	D7
U8B	1	F4	D7
U9	2	B2	B7
U10A	2	E3	B6
U10B	2	C2	B6
U11A	2	D4	C6
U11B	2	D4	C6
U12A	2	D3	C5
U12B	2	D2	C5
U13A	2	D3	C4
U13B	2	E2	C4
U14A	2	E1	B5
U15	2	F1	D2
U16A	2	E4	B2
U16D	2	G3	B2
U17A	2	E5	B2
U17B	2	E3	B2
U18A	2	E4	A4
U18B	2	H3	A4
U19	2	D5	D2
U20	3	C1	A5
U21	3	C3	A7
U22	3	C2	A6
VR1	2	C4	C8
VR3	2	E5	B3

A11 Power Supply Board located on back of page.

For B020523 and above.

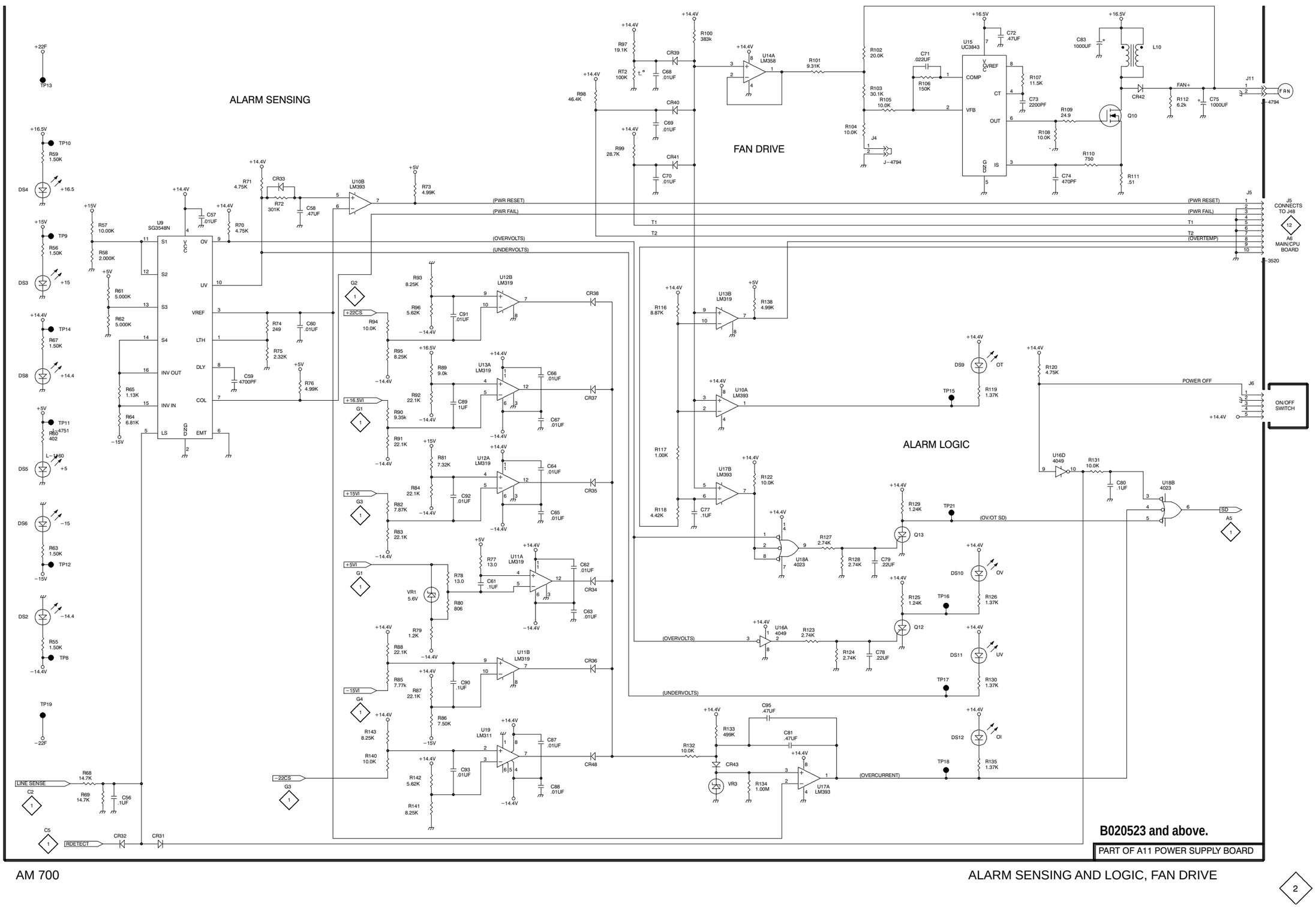


Static Sensitive Devices
See Maintenance Section

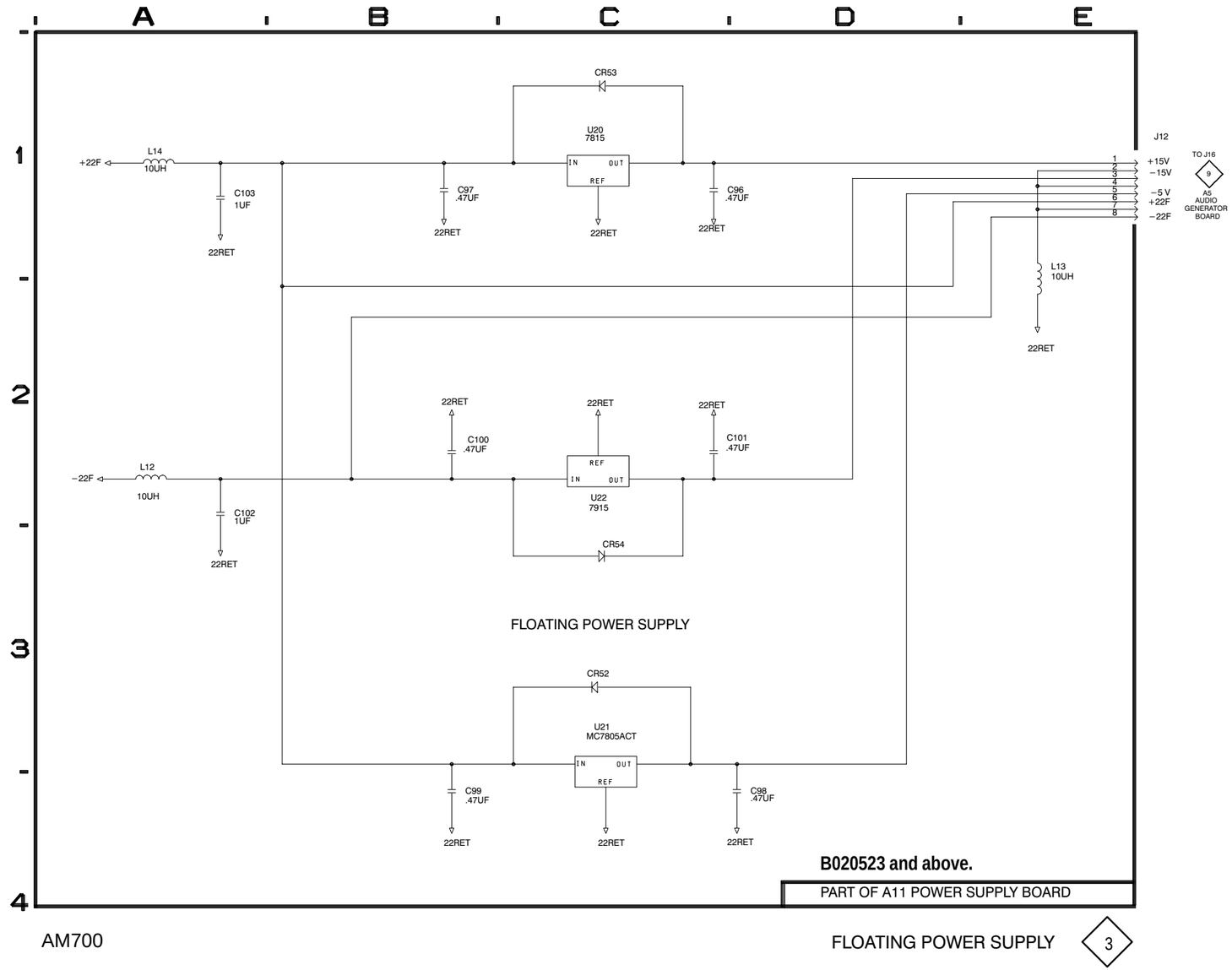
A11 Power Supply Board
For B020523 and above.

INPUT RECTIFIER
INVERTER
SWITCHING CIRCUIT
OUTPUT RECTIFIERS
HOUSEKEEPING SUPPLY
PULSE WIDTH MODULATOR
POWER SWITCH DRIVER
15V REGULATORS
=CHASSIS CONNECTION
THROUGH MOUNTING HOLE
LINE SENSE
RDETECT
5V SENS
SENS RET
J10 CONNECTS TO J1
A10A1 DISPLAY MONITOR BOARD
J7 CONNECTS TO J16 TO J30
A5 AUDIO GENERATOR BOARD
A3 DIGITAL AUDIO BOARD
NOTE: SEE DIAGRAM 3 FOR CONNTECTION WHEN USED WITH THE FLAT PANEL DISPLAY VERSION INSTRUMENTS
J9 CONNECTS TO J25 TO J33
A1A1 ANALOG AQUISITION BOARD
A6 MAIN/CPU BOARD
J8 CONNECTS TO J31
A6 MAIN/CPU BOARD
B020523 and above.
PART OF A11 POWER SUPPLY BOARD

AM700


ALARM SENSING
FAN DRIVE
ALARM LOGIC
U9 SG3548N
U10B LM393
U12B LM319
U13B LM319
U13A LM319
U12A LM319
U11A LM319
U11B LM319
U19 LM311
U14A LM358
U10A LM393
U17B LM393
U18A 4023
U16A 4049
U16D 4049
U18B 4023
U17A LM393
U15 UC3843
(PWR RESET)
(PWR FAIL)
T1
T2
(OVERVOLTS)
(UNDERVOLTS)
(OVERTEMP)
(OVERCURRENT)
(OV/OT SD)
POWER OFF
FAN+
J5 CONNECTS TO J48
A6 MAIN/CPU BOARD
ON/OFF SWITCH
B020523 and above.
PART OF A11 POWER SUPPLY BOARD

AM700


A
B
C
D
E
1
2
3
4
CR53
U20
7815
IN
OUT
REF
+22F
L14
10UH
C103
1UF
22RET
C97
.47UF
C96
.47UF
J12
1
2
3
4
5
6
7
8
+15V
−15V
−5 V
+22F
−22F
TO J16
9
A5
AUDIO
GENERATOR
BOARD
L13
10UH
−22F
L12
10UH
C102
1UF
C100
.47UF
C101
.47UF
U22
7915
CR54
FLOATING POWER SUPPLY
CR52
U21
MC7805ACT
C99
.47UF
C98
.47UF
B020523 and above.
PART OF A11 POWER SUPPLY BOARD

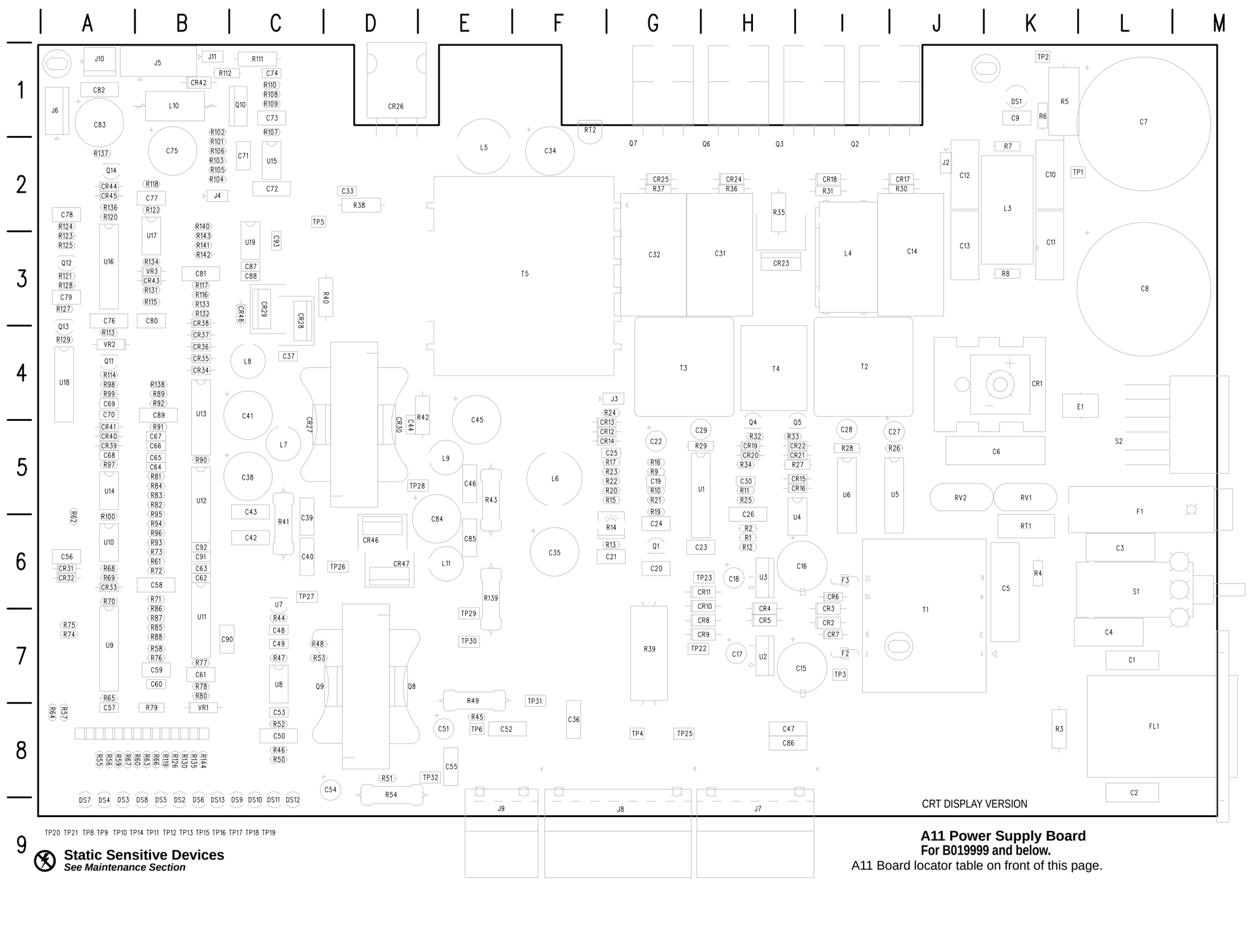
AM700

A11 Power Supply Board Component Locator *(with cross-references to schematic diagrams 1 and 2*

Use the A11 board table below for locating parts on A11 board schematic 1.

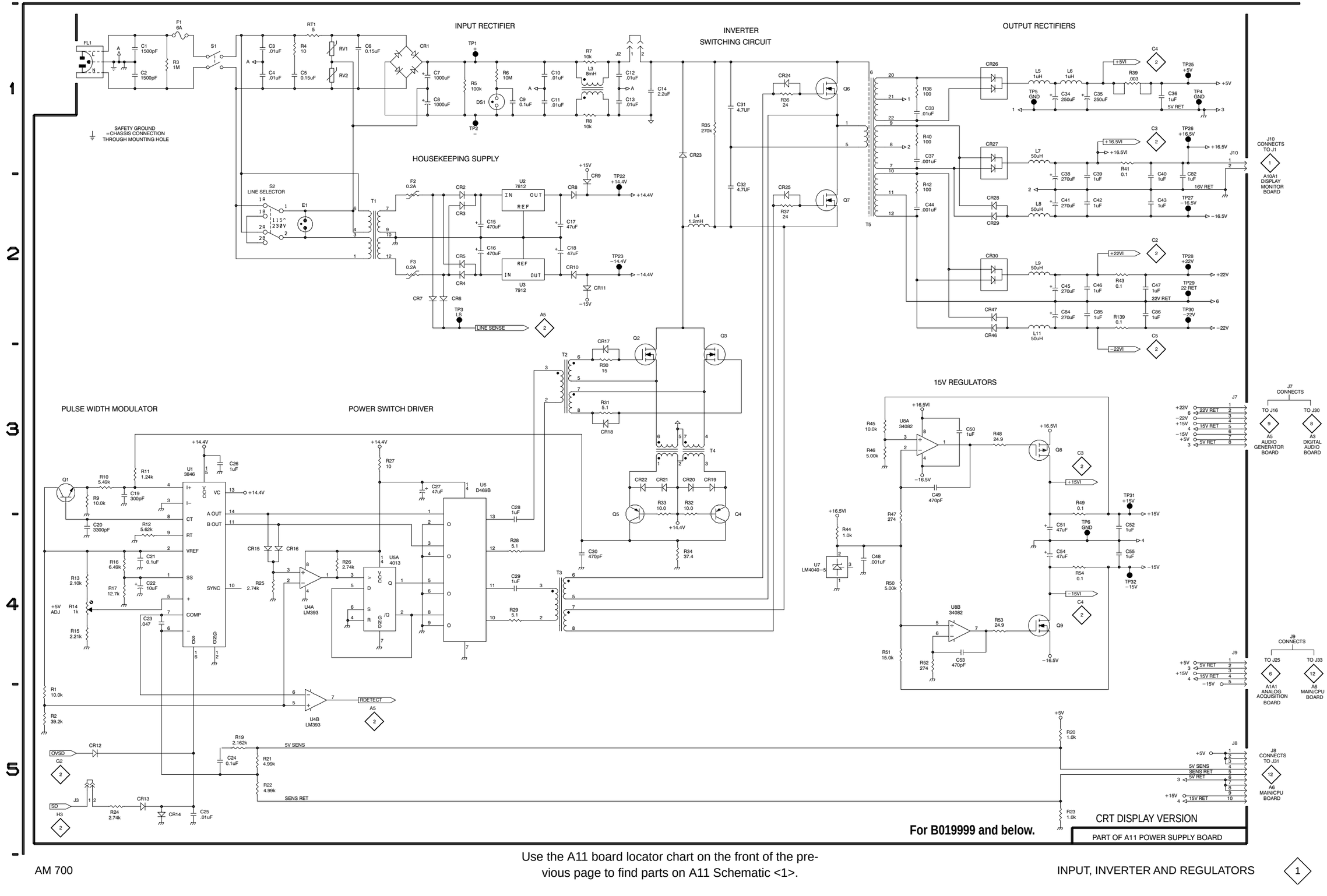
Comp No	Diag No	Diag Loc	Bd Loc
C1	1	A1	L7
C2	1	A1	L8
C3	1	B1	K6
C4	1	B1	K7
C5	1	B1	K6
C6	1	B1	K5
C7	1	C1	M2
C8	1	C1	M3
C9	1	C1	K1
C10	1	C1	K2
C11	1	C1	K2
C12	1	D1	J1
C13	1	D1	J3
C14	1	D1	J3
C15	1	C2	I7
C16	1	C2	I6
C17	1	D2	H7
C18	1	D2	H6
C19	1	A3	G5
C20	1	A4	G6
C21	1	A4	G6
C22	1	A4	G5
C23	1	A4	G6
C24	1	A5	G6
C25	1	A5	G5
C26	1	A3	H6
C27	1	C3	J5
C28	1	C4	I5
C29	1	C4	G5
C30	1	D4	H5
C31	1	E1	H3
C32	1	E2	G2
C33	1	F1	D2
C34	1	G1	F1
C35	1	G1	F6
C36	1	G1	F8
C37	1	F1	C4
C38	1	G2	B5
C39	1	G2	C6
C40	1	G2	C6
C41	1	G2	C4
C42	1	G2	C6
C43	1	G2	C5
C44	1	F2	D4
C45	1	G2	E5
C46	1	G2	E5
C47	1	G2	H8
C48	1	E4	C7
C49	1	F3	C7
C50	1	F3	C8
C51	1	G4	E8
C52	1	G4	E8
C53	1	F4	C8
C54	1	G4	D9
C55	1	G4	E8
C56	2	A5	A6
C57	2	B2	A8
C58	2	B2	B6
C59	2	B3	B7
C60	2	B2	B7
C61	2	C4	B7
C62	2	D4	B6
C63	2	D4	B6
C64	2	D3	B5
C65	2	D3	B5
C66	2	D3	B5
C67	2	D3	B5
C68	2	E1	A5
C69	2	E1	A4
C70	2	E2	A4
C71	2	F1	C2
C72	2	G1	C2
C73	2	G1	C1
C74	2	G2	C1
C75	2	H1	B2
C76	2	F2	A3
C77	2	E3	B2
C78	2	F4	A2
C79	2	F4	A3
C80	2	G3	B3
C81	2	E5	B3
C82	1	G2	A1
C83	2	G1	A2
C84	1	G2	E6
C85	1	G2	E6
C86	1	G2	H8
C87	2	D5	C3
C88	2	D5	C3
C89	2	C3	B4
C90	2	C4	B7
C91	2	C2	B6
C92	2	C3	B6
C93	2	C5	C3
CR1	1	C1	K4
CR2	1	C2	I7
CR3	1	C2	I7
CR4	1	C2	H7
CR5	1	C2	H7
CR6	1	C2	I6
CR7	1	C2	I7
CR8	1	D2	H7
CR9	1	D2	H7
CR10	1	D2	H6
CR11	1	D2	H6
CR12	1	A5	F5
CR13	1	A5	F5
CR14	1	A5	F5
CR15	1	B4	H5
CR16	1	B4	H5
CR17	1	D3	J2
CR18	1	D3	I2
CR19	1	E3	H5
CR20	1	D3	H5
CR21	1	D3	H5
CR22	1	D3	H5
CR23	1	D1	H3
CR24	1	E1	H2
CR25	1	E2	G2
CR26	1	F1	D2
CR27	1	F1	C4
CR28	1	F2	C3
CR29	1	F2	C3
CR30	1	F2	D4
CR31	2	B5	A6
CR32	2	A5	A6
CR33	2	B2	A6
CR34	2	D4	B4
CR35	2	D3	B4
CR36	2	D4	B4
CR37	2	D3	B4
CR38	2	D2	B3
CR39	2	E1	A5
CR40	2	E1	A5
CR41	2	E1	A5
CR42	2	G1	B1
CR43	2	E5	B3
CR44	2	G5	A2
CR45	2	G5	A2
CR46	1	F2	D6
CR47	1	F2	D6
CR48	2	D5	C3
DS1	1	C1	K1
DS2	2	A4	B8
DS3	2	A2	A8
DS4	2	A2	A8
DS5	2	A3	B8
DS6	2	A3	B8
DS7	2	A1	A8
DS8	2	A3	B8
DS9	2	F3	C8
DS10	2	F4	C8
DS11	2	F4	C8
DS12	2	F5	C8
DS13	2	A5	B8
E1	1	B2	L5
F1	1	A1	K5
F2	1	C2	I7
F3	1	C2	I6
FL1	1	A1	K8
J2	1	D1	J2
J3	1	A5	F4
J4	2	F1	B2
J5	2	H2	A1
J6	2	H3	A2
J7	1	H3	I8
J8	1	H5	G8
J9	1	H4	F8
J10	1	H1	A1
J11	2	H1	B1
L3	1	D1	K3
L4	1	D2	I2
L5	1	G1	E1
L6	1	G1	F5
L7	1	G1	C5
L8	1	G2	C4
L9	1	G2	E5
L10	2	G1	B1
L11	1	G2	E6
Q1	1	A3	G6
Q2	1	D3	I2
Q3	1	E3	H2
Q4	1	E3	H5
Q5	1	D3	I5
Q6	1	E1	H2
Q7	1	E2	G2
Q8	1	G3	D7
Q9	1	G4	C7
Q10	2	G1	C1
Q11	2	F2	A4
Q12	2	F4	A3
Q13	2	F4	A4
Q14	2	H5	A2
R1	1	A5	H6
R2	1	A5	H6
R3	1	A1	K8
R4	1	B1	K6
R5	1	C1	K1
R6	1	C1	K1
R7	1	D1	K2
R8	1	D1	K3
R9	1	A3	G5
R10	1	A3	G5
R11	1	A3	H5
R12	1	A4	H6
R13	1	A4	G6
R14	1	A4	G5
R15	1	A4	G5
R16	1	A4	G5
R17	1	A4	G5
R19	1	B5	G5
R20	1	G5	G5
R21	1	B5	G5
R22	1	B5	G5
R23	1	G5	G5
R24	1	A5	G4
R25	1	B4	H5
R26	1	B4	J5
R27	1	B3	I5
R28	1	C4	I5
R29	1	C4	G5
R30	1	D3	J2
R31	1	D3	I2
R32	1	D3	H5
R33	1	D3	H5
R34	1	D4	H5
R35	1	E1	H2
R36	1	E1	H2
R37	1	E2	G2
R38	1	F1	D2
R39	1	G1	G7
R40	1	F1	D3
R41	1	G1	C6
R42	1	F2	E4
R43	1	G2	E5
R44	1	E4	C7
R45	1	F3	E8
R46	1	F3	C8
R47	1	F3	C7
R48	1	F3	C7
R49	1	G3	E7
R50	1	F4	C8
R51	1	F4	D8
R52	1	F4	C8
R53	1	F4	C7
R54	1	G4	D9
R55	2	A4	A8
R56	2	A2	A8
R57	2	A2	A8
R58	2	A2	B7
R59	2	A1	A8
R60	2	A3	B8
R61	2	A2	B6
R62	2	A2	A5
R63	2	A4	B8
R64	2	A3	A8
R65	2	A3	A7
R66	2	A1	B8
R67	2	A2	A8
R68	2	A5	A6
R69	2	A5	A6
R70	2	B2	A6
R71	2	B2	B6
R72	2	B2	B6
R73	2	C2	B6
R74	2	B2	A7
R75	2	B3	A7
R76	2	B3	B7
R77	2	C4	B7
R78	2	C4	B7
R79	2	C4	B8
R80	2	C4	B7
R81	2	C3	B5
R82	2	C3	B5
R83	2	C4	B5
R84	2	C3	B5
R85	2	C4	B7
R86	2	C5	B7
R87	2	C4	B7
R88	2	C4	B7
R89	2	C3	B4
R90	2	C3	B5
R91	2	C3	B5
R92	2	C3	B4
R93	2	C2	B6
R94	2	C2	B6
R95	2	C3	B6
R96	2	C2	B6
R97	2	D1	A5
R98	2	D1	A4
R99	2	D1	A4
R100	2	E1	A6
R101	2	E1	B2
R102	2	F1	B1
R103	2	F1	B2
R104	2	F1	B2
R105	2	F1	B2
R106	2	F1	B2
R107	2	G1	C1
R108	2	G1	C1
R109	2	G1	C1
R110	2	G1	C1
R111	2	G2	C1
R112	2	H1	B1
R113	2	F2	A4
R114	2	F2	A4
R115	2	G2	B3
R116	2	E2	B3
R117	2	E3	B3
R118	2	E3	B2
R119	2	F3	B8
R120	2	G3	A2
R121	2	G3	A3
R122	2	E3	B2
R123	2	E4	A3
R124	2	F4	A2
R125	2	F4	A3
R126	2	F4	B8
R127	2	F4	A3
R128	2	F4	A3
R129	2	F3	A4
R130	2	F4	B8
R131	2	G3	B3
R132	2	E5	B3
R133	2	E5	B3
R134	2	E5	B3
R135	2	F5	B8
R136	2	G5	A2
R137	2	H5	A2
R138	2	E2	B4
R139	1	G2	E6
R140	2	C5	B2
R141	2	C5	B3
R142	2	C5	B3
R143	2	C5	B3
R144	2	A5	B8
RT1	1	B1	K6
RT2	2	D1	F1
RV1	1	B1	K5
RV2	1	B1	J5
S1	1	A1	K6
S2	1	B2	L5
T1	1	B2	K7
T2	1	D3	J4
T3	1	D4	G4
T4	1	D3	H3
T5	1	E1	F3
TP1	1	C1	K2
TP2	1	C1	K1
TP3	1	C2	I7
TP4	1	H1	G8
TP5	1	G1	C2
TP6	1	G4	E8
TP8	2	A4	A9
TP9	2	A2	A9
TP10	2	A1	A9
TP11	2	A3	B9
TP12	2	A4	B9
TP13	2	A1	B9
TP14	2	A2	A9
TP15	2	F3	B9
TP16	2	F4	B9
TP17	2	F4	C9
TP18	2	F5	C9
TP19	2	A5	C9
TP20	2	F2	A9
TP21	2	F3	A9
TP22	1	D2	G7
TP23	1	D2	G6
TP25	1	H1	G8
TP26	1	H1	D6
TP27	1	H2	C6
TP28	1	H2	D5
TP29	1	H2	E6
TP30	1	H2	E7
TP31	1	G3	F7
TP32	1	G4	E8
U1	1	A3	G5
U2	1	C2	H7
U3	1	C2	H6
U4A	1	B4	H5
U4B	1	B5	H5
U5A	1	B4	I5
U6	1	C3	I5
U7	1	E4	C6
U8A	1	F3	C7
U8B	1	F4	C7
U9	2	B2	A7
U10A	2	E3	A6
U10B	2	C2	A6
U11A	2	D4	B6
U11B	2	D4	B6
U12A	2	D3	B5
U12B	2	D2	B5
U13A	2	D3	B4
U13B	2	E2	B4
U14A	2	E1	A5
U15	2	F1	C2
U16A	2	E4	A2
U16B	2	G2	A2
U16C	2	G3	A2
U16D	2	G3	A2
U17A	2	E5	A2
U17B	2	E3	A2
U18A	2	E4	A4
U18B	2	H3	A4
U18C	2	G5	A4
U19	2	D5	C2
VR1	2	C4	B8
VR2	2	F2	A4
VR3	2	E5	B3

A11 Power Supply Board located on back of page.



Static Sensitive Devices
See Maintenance Section

A11 Power Supply Board
For B019999 and below.
A11 Board locator table on front of this page.



Use the A11 board locator chart on the front of the previous page to find parts on A11 Schematic <1>.

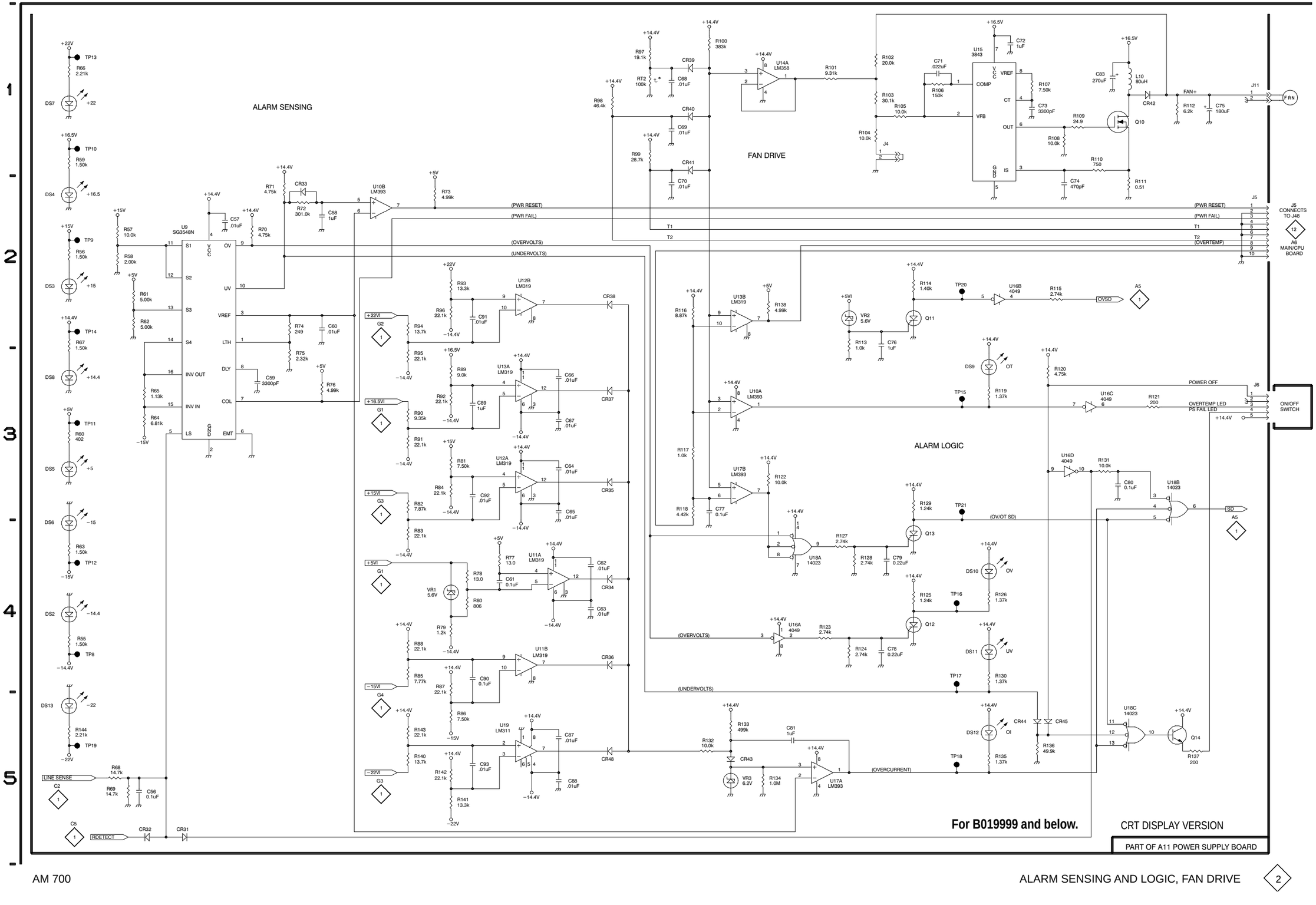
Power Supply Board

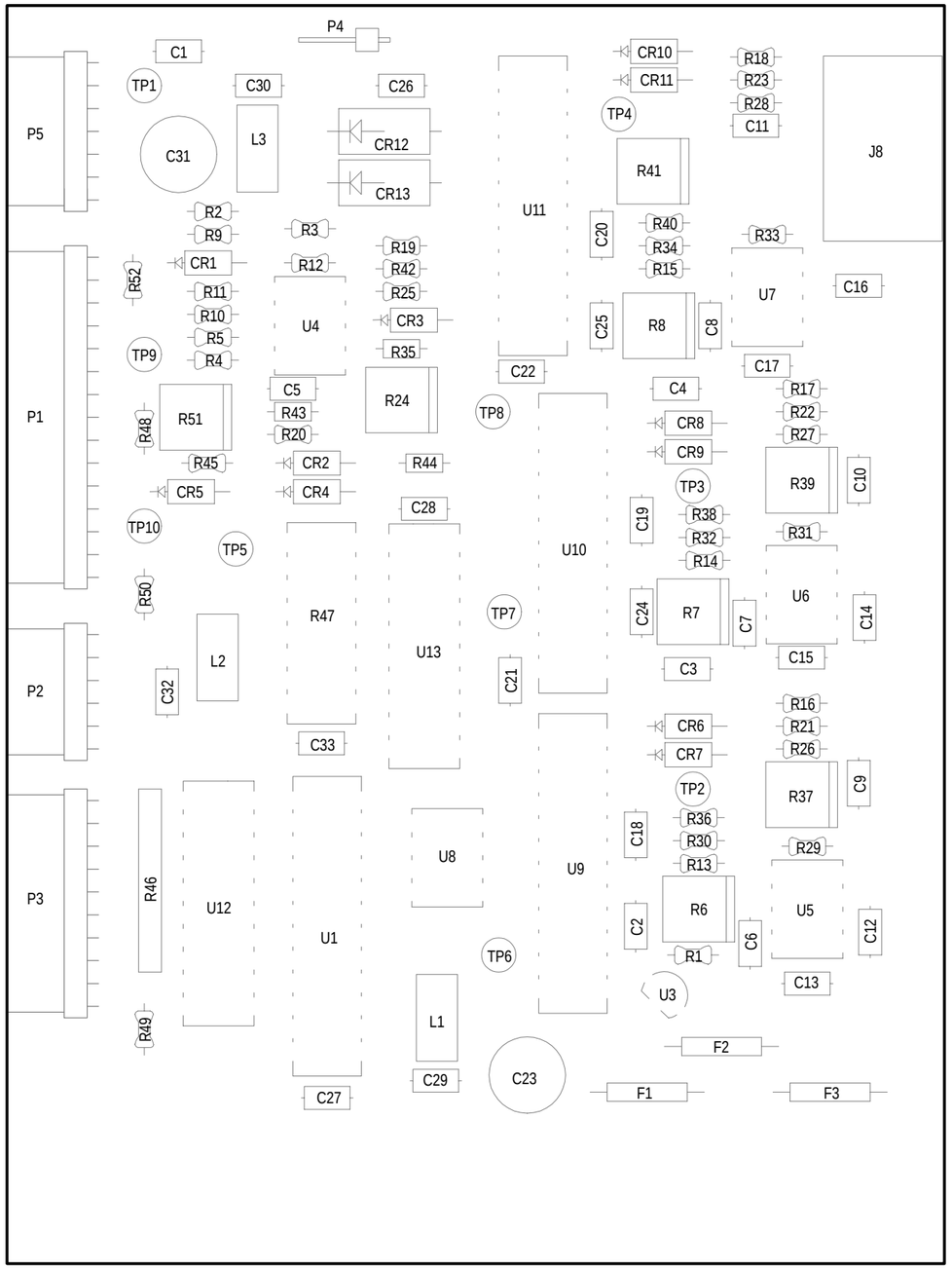
Schematic Diagram <2> Component Locator Chart

The schematic diagram has an alphanumeric grid to assist in locating parts within that diagram.

Assembly A11. Partial Assembly A11 also shown on schematic diagram 1.

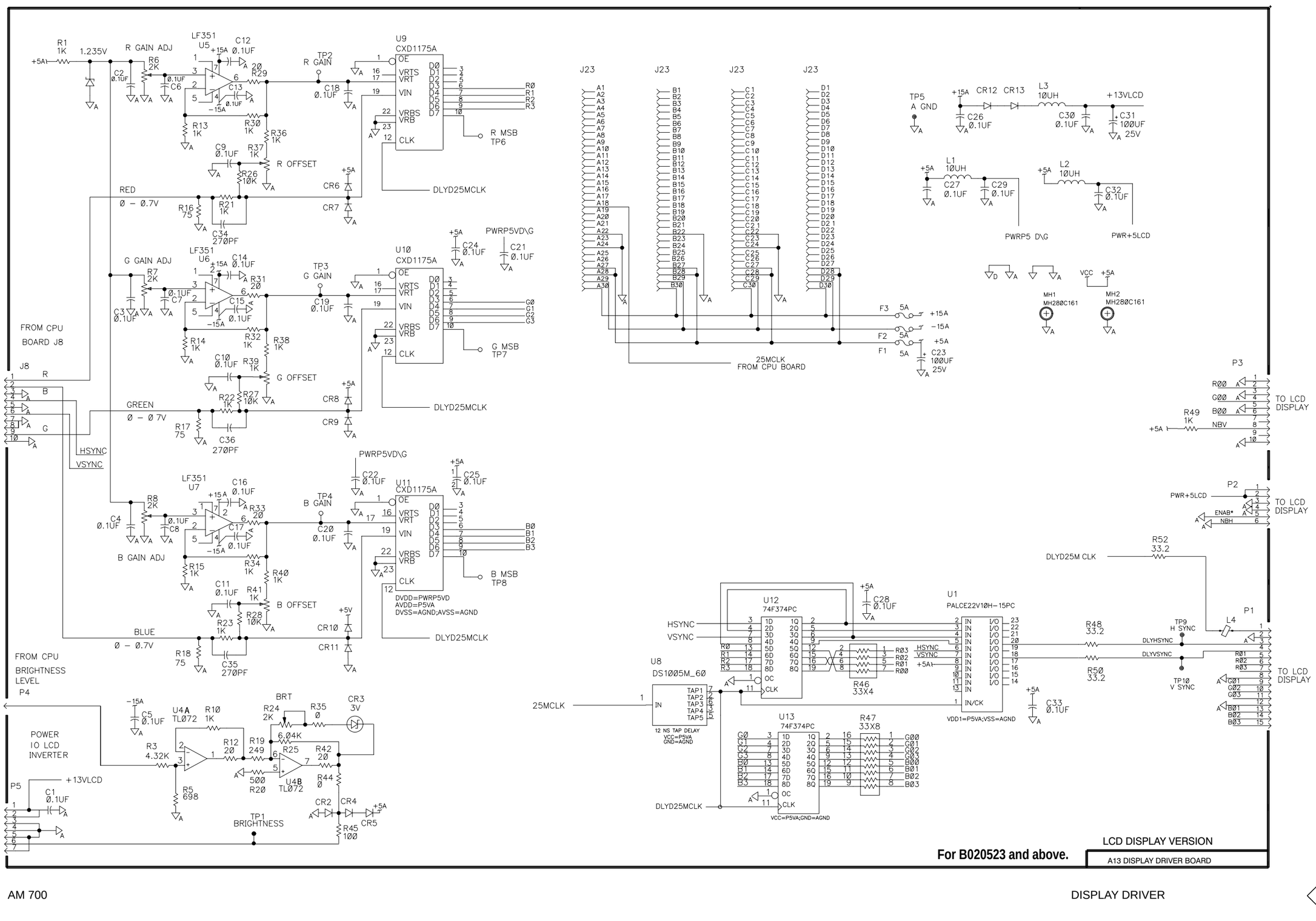
Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc	Comp No	Diag Loc	Bd Loc
C56	A5	A6	DS3	A2	A8	R84	C3	B5	R136	G5	A2
C57	B2	A8	DS4	A2	A8	R85	C4	B7	R137	H5	A2
C58	B2	B6	DS5	A3	B8	R86	C5	B7			
C59	B3	B7	DS6	A3	B8	R87	C4	B7	R138	E2	B4
C60	B2	B7	DS7	A1	A8	R88	C4	B7	R140	C5	B2
C61	C4	B7				R89	C3	B4	R141	C5	B3
			DS8	A3	B8				R142	C5	B3
C62	D4	B6	DS9	F3	C8	R90	C3	B5	R143	C5	B3
C63	D4	B6	DS10	F4	C8	R91	C3	B5	R144	A5	B8
C64	D3	B5	DS11	F4	C8	R92	C3	B4			
C65	D3	B5	DS12	F5	C8	R93	C2	B6	RT2	D1	F1
C66	D3	B5	DS13	A5	B8	R94	C2	B6			
C67	D3	B5				R95	C3	B6	TP8	A4	A9
			J4	F1	B2				TP9	A2	A9
C68	E1	A5	J5	H2	A1	R96	C2	B6	TP10	A1	A9
C69	E1	A4	J6	H3	A2	R97	D1	A5	TP11	A3	B9
C70	E2	A4	J11	H1	B1	R98	D1	A4	TP12	A4	B9
C71	F1	C2				R99	D1	A4	TP13	A1	B9
C72	G1	C2	L10	G1	B1	R100	E1	A6			
C73	G1	C1				R101	E1	B2	TP14	A2	A9
			Q10	G1	C1				TP15	F3	B9
C74	G2	C1	Q11	F2	A4	R102	F1	B1	TP16	F4	B9
C75	H1	B2	Q12	F4	A3	R103	F1	B2	TP17	F4	C9
C76	F2	A3	Q13	F4	A4	R104	F1	B2	TP18	F5	C9
C77	E3	B2	Q14	H5	A2	R105	F1	B2	TP19	A5	C9
C78	F4	A2				R106	F1	B2			
C79	F4	A3	R55	A4	A8	R107	G1	C1	TP20	F2	A9
			R56	A2	A8				TP21	F3	A9
C80	G3	B3	R57	A2	A8	R108	G1	C1			
C81	E5	B3	R58	A2	B7	R109	G1	C1	U9	B2	A7
C83	G1	A2	R59	A1	A8	R110	G1	C1	U10A	E3	A6
C87	D5	C3				R111	G2	C1	U10B	C2	A6
C88	D5	C3	R60	A3	B8	R112	H1	B1	U11A	D4	B6
C89	C3	B4	R61	A2	B6	R113	F2	A4	U11B	D4	B6
			R62	A2	A5				U12A	D3	B5
C90	C4	B7	R63	A4	B8	R114	F2	A4			
C91	C2	B6	R64	A3	A8	R115	G2	B3	U12B	D2	B5
C92	C3	B6	R65	A3	A7	R116	E2	B3	U13A	D3	B4
C93	C5	C3				R117	E3	B3	U13B	E2	B4
			R66	A1	B8	R118	E3	B2	U14A	E1	A5
CR31	B5	A6	R67	A2	A8	R119	F3	B8	U15	F1	C2
CR32	A5	A6	R68	A5	A6				U16A	E4	A2
CR33	B2	A6	R69	A5	A6	R120	G3	A2			
CR34	D4	B4	R70	B2	A6	R121	G3	A3	U16B	G2	A2
CR35	D3	B4	R71	B2	B6	R122	E3	B2	U16C	G3	A2
CR36	D4	B4				R123	E4	A3	U16D	G3	A2
			R72	B2	B6	R124	F4	A2	U17A	E5	A2
CR37	D3	B4	R73	C2	B6	R125	F4	A3	U17B	E3	A2
CR38	D2	B3	R74	B2	A7						
CR39	E1	A5	R75	B3	A7	R126	F4	B8	U18A	E4	A4
CR40	E1	A5	R76	B3	B7	R127	F4	A3	U18B	H3	A4
CR41	E1	A5	R77	C4	B7	R128	F4	A3	U18C	G5	A4
CR42	G1	B1				R129	F3	A4	U19	D5	C2
			R78	C4	B7	R130	F4	B8			
CR43	E5	B3	R79	C4	B8	R131	G3	B3	VR1	C4	B8
CR44	G5	A2	R80	C4	B7				VR2	F2	A4
CR45	G5	A2	R81	C3	B5	R132	E5	B3	VR3	E5	B3
CR48	D5	C3	R82	C3	B5	R133	E5	B3			
			R83	C4	B5	R134	E5	B3			
DS2	A4	B8				R135	F5	B8			


ALARM SENSING
FAN DRIVE
ALARM LOGIC
U9 SG3548N
U10B LM393
U12B LM319
U13A LM319
U12A LM319
U11A LM319
U11B LM319
U19 LM311
U13B LM319
U10A LM393
U17B LM393
U14A LM358
U15 3843
U16A 4049
U16B 4049
U16C 4049
U16D 4049
U18A 14023
U18B 14023
U18C 14023
U17A LM393
(PWR RESET)
(PWR FAIL)
T1
T2
(OVERVOLTS)
(UNDERVOLTS)
(OVERTEMP)
(OVERCURRENT)
(OV/OT SD)
OVSD
FAN+
POWER OFF
OVERTEMP LED
PS FAIL LED
J5 CONNECTS TO J48
A6 MAIN/CPU BOARD
ON/OFF SWITCH
LINE SENSE
RDETECT
For B019999 and below.
CRT DISPLAY VERSION
PART OF A11 POWER SUPPLY BOARD



Static Sensitive Devices
See Maintenance Section

A13 Display Driver Board
For B020523 and above.


R1 1K
1.235V
R GAIN ADJ
R6 2K
C2 Ø.1UF
C6 Ø.1UF
LF351 U5
C12 Ø.1UF
R29 2Ø
C13 Ø.1UF
TP2 R GAIN
C18 Ø.1UF
U9 CXD1175A
OE
VRTS
VRT
VIN
VRBS
VRB
CLK
DØ D1 D2 D3 D4 D5 D6 D7
RØ R1 R2 R3
R MSB TP6
R13 1K
R30 1K
R36 1K
C9 Ø.1UF
R37 1K
R OFFSET
R26 10K
CR6
CR7
DLYD25MCLK
RED
Ø – Ø.7V
R16 75
R21 1K
C34 270PF
PWRP5VD\G
C24 Ø.1UF
C21 Ø.1UF
G GAIN ADJ
R7 2K
C3 Ø.1UF
C7 Ø.1UF
LF351 U6
C14 Ø.1UF
R31 2Ø
C15 Ø.1UF
TP3 G GAIN
C19 Ø.1UF
U1Ø CXD1175A
GØ G1 G2 G3
G MSB TP7
R14 1K
R32 1K
R38 1K
C1Ø Ø.1UF
R39 1K
G OFFSET
R22 1K
R27 1K
CR8
CR9
GREEN
Ø – Ø.7V
R17 75
C36 27ØPF
FROM CPU BOARD J8
J8
R
B
G
HSYNC
VSYNC
LF351 U7
C16 Ø.1UF
R33 2Ø
C17 Ø.1UF
TP4 B GAIN
C2Ø Ø.1UF
U11 CXD1175A
BØ B1 B2 B3
B MSB TP8
R8 2K
C4 Ø.1UF
C8 Ø.1UF
B GAIN ADJ
R15 1K
R34 1K
R4Ø 1K
C11 Ø.1UF
R41 1K
B OFFSET
R23 1K
R28 1K
CR1Ø
CR11
DLYD25MCLK
DVDD=PWRP5VD
AVDD=P5VA
DVSS=AGND;AVSS=AGND
BLUE
Ø – Ø.7V
R18 75
C35 27ØPF
FROM CPU BRIGHTNESS LEVEL
P4
POWER IO LCD INVERTER
P5
+13VLCD
C1 Ø.1UF
C5 Ø.1UF
U4A TL072
R1Ø 1K
BRT
R24 2K
R35 Ø
CR3 3V
6.Ø4K
R3 4.32K
R12 2Ø
R19 249
R25
R42 2Ø
5ØØ R2Ø
U4B TL072
R44 Ø
R5 698
CR2
CR4
CR5
R45 1ØØ
TP1 BRIGHTNESS
J23
A1 A2 A3 A4 A5 A6 A7 A8 A9 A1Ø A11 A12 A13 A14 A15 A16 A17 A18 A19 A2Ø A21 A22 A23 A24 A25 A26 A27 A28 A29 A3Ø
B1 B2 B3 B4 B5 B6 B7 B8 B9 B1Ø B11 B12 B13 B14 B15 B16 B17 B18 B19 B2Ø B21 B22 B23 B24 B25 B26 B27 B28 B29 B3Ø
C1 C2 C3 C4 C5 C6 C7 C8 C9 C1Ø C11 C12 C13 C14 C15 C16 C17 C18 C19 C2Ø C21 C22 C23 C24 C25 C26 C27 C28 C29 C3Ø
D1 D2 D3 D4 D5 D6 D7 D8 D9 D1Ø D11 D12 D13 D14 D15 D16 D17 D18 D19 D2Ø D21 D22 D23 D24 D25 D26 D27 D28 D29 D3Ø
25MCLK FROM CPU BOARD
F3 5A +15A
F2 5A –15A
F1 5A +5A
C23 1ØØUF 25V
TP5 A GND
CR12 CR13
L3 1ØUH
C26 Ø.1UF
C3Ø Ø.1UF
C31 1ØØUF 25V
+13VLCD
L1 1ØUH
C27 Ø.1UF
C29 Ø.1UF
L2 1ØUH
C32 Ø.1UF
PWRP5 D\G
PWR+5LCD
VCC +5A
MH1 MH28ØC161
MH2 MH28ØC161
P3
RØØ GØØ BØØ NBV
R49 1K
TO LCD DISPLAY
P2
PWR+5LCD ENAB* NBH
TO LCD DISPLAY
R52 33.2
DLYD25M CLK
U12 74F374PC
HSYNC
VSYNC
RØ R1 R2 R3
RØ3 RØ2 RØ1 RØØ
R46 33X4
U8 DS1ØØ5M_6Ø
TAP1 TAP2 TAP3 TAP4 TAP5
12 NS TAP DELAY
VCC=P5VA
GND=AGND
25MCLK
U13 74F374PC
GØ G1 G2 G3 BØ B1 B2 B3
GØØ GØ1 GØ2 GØ3 BØØ BØ1 BØ2 BØ3
R47 33X8
DLYD25MCLK
VCC=P5VA;GND=AGND
U1 PALCE22V1ØH–15PC
VDD1=P5VA;VSS=AGND
C28 Ø.1UF
C33 Ø.1UF
R48 33.2
R5Ø 33.2
TP9 H SYNC
TP1Ø V SYNC
DLYHSYNC
DLYVSYNC
L4
P1
R1Ø1 R1Ø2 R1Ø3
G1Ø1 G1Ø2 G1Ø3
B1Ø1 B1Ø2 B1Ø3
TO LCD DISPLAY
For B020523 and above.
LCD DISPLAY VERSION
A13 DISPLAY DRIVER BOARD

AM700

Replaceable Mechanical Parts

This section contains the list of the replaceable mechanical parts for the AM700 Audio Measurement Set. Use this part list and the drawings to identify and order replacement mechanical parts. The replaceable modules are included in this list as a convenience. See the Replaceable Electrical Parts list for the complete electrical component parts list.

Parts Ordering Information

Replacement parts are available through your local Tektronix field office or representative.

Changes to Tektronix products are sometimes made to accommodate improved components as they become available and to give you the benefit of the latest improvements. Therefore, when ordering parts, it is important to include the following information in your order.

- Part number
- Instrument type or model number
- Instrument serial number
- Instrument modification number, if applicable

If you order a part that has been replaced with a different or improved part, your local Tektronix field office or representative will contact you concerning any change in part number.

Change information, if any, is located at the rear of this manual.

Module Servicing

Modules can be serviced by selecting one of the following three options. Contact your local Tektronix service center or representative for repair assistance.

Module Exchange. In some cases you may exchange your module for a reman-ufactured module. These modules cost significantly less than new modules and meet the same factory specifications. Not all modules for the AM700 are on the board exchange program. For more information about the module exchange program, call 1-800-TEK-WIDE, extension 6630.

Module Repair and Return. You may ship your module to us for repair, after which we will return it to you.

New Modules. You may purchase replacement modules in the same way as other replacement parts.

Using the Replaceable Parts List

The tabular information in the Replaceable Mechanical Parts List is arranged for quick retrieval. Understanding the structure and features of the list will help you find all of the information you need for ordering replacement parts. The following table describes the content of each column in the parts list.

Parts List Column Descriptions

Column	Column Name	Description
1	Figure & Index Number	Items in this section are referenced by figure and index numbers to the exploded view illustrations that follow.
2	Tektronix Part Number	Use this part number when ordering replacement parts from Tektronix.
3 and 4	Serial Number	Column three indicates the serial number at which the part was first effective. Column four indicates the serial number at which the part was discontinued. No entries indicates the part is good for all serial numbers.
5	Qty	This indicates the quantity of parts used.
6	Name & Description	An item name is separated from the description by a colon (:). Because of space limitations, an item name may sometimes appear as incomplete. Use the U.S. Federal Catalog handbook H6-1 for further item name identification.
7	Mfr. Code	This indicates the code of the actual manufacturer of the part.
8	Mfr. Part Number	This indicates the actual manufacturer's or vendor's part number.

Abbreviations

Abbreviations conform to American National Standard ANSI Y1.1–1972.

Mfr. Code to Manufacturer Cross Index

The table titled Manufacturers Cross Index shows codes, names, and addresses of manufacturers or vendors of components listed in the parts list.

Manufacturers cross index

Mfr. code	Manufacturer	Address	City, state, zip code
00779	AMP INC.	CUSTOMER SERVICE DEPT PO BOX 3608	HARRISBURG, PA 17105–3608
02660	AMPHENOL CORP	720 SHERMAN AVE	HAMDEN, CT 06514–6514
06383	PANDUIT CORP	17303 RIDGELAND AVE	TINLEY PARK, IL 60477–3048
0B445	ELECTRI–CORD MFG CO INC	312 EAST MAIN STREET	WESTFIELD, PA 16950
0FMA6	NEUTRIK USA INC	195–3 LEHIGH AVE	LAKEWOOD, NJ 08701–4527
0GV52	SCHAFFNER EMC INC	9–B FADEM ROAD	SPRINGFIELD, NJ 07081
0JR04	TOSHIBA AMERICA INC.	ELECTRONICS COMPONENTS DIV 9775 TOLEDO WAY	IRVINE, CA 92718
0KB01	STAUFFER SUPPLY CO	810 SE SHERMAN	PORTLAND, OR 97214–4657
18565	CHOMERICS INC	77 DRAGON COURT	WOBURN, MA 01880
1DM20	PARLEX CORP	7 INDUSTRIAL WAY	SALEM, NH 03079
23633	RICHEY ELECTRONICS INC	7441 LINCOLN WAY	GARDEN GROVE, CA 92641
24931	BERG ELECTRONICS INC	BERG ELECTRONICS RF/COAXIAL DIV 2100 EARLYWOOD DR PO BOX 547	FRANKLIN, IN 46131
28520	HEYCO MOLDED PRODUCTS	750 BOULEVARD PO BOX 160	KENILWORTH, NJ 07033–1721
2K262	BOYD CORPORATION	6136 NE 87TH AVENUE	PORTLAND, OR 97220
2W733	BELDEN WIRE & CABLE COMPANY	2200 US HWY 27 SOUTH PO BOX 1980	RICHMOND, IN 47374
30817	INSTRUMENT SPECIALTIES CO INC	EXIT 53, RT 80 BOX A	DELAWARE WATER GAP, PA 18327
34649	INTEL CORPORATION	3065 BOWERS PO BOX 58130	SANTA CLARA, CA 95051–8130
34785	DEK INC.	3480 SWENSEN AVE.	ST. CHARLES, IL 60174–3450
39951	AROW COMPONENTS & FASTENERS INC	AROW COMPONENTS & FASTENERS, INC. 31012 HUNTWOOD AVE.	HAYWARD, CA 94544
50356	TEAC AMERICA INC	7733 TELEGRAPH RD PO BOX 750	MONTEBELLO, CA 90640–6537
50434	HEWLETT PACKARD	370 W TRIMBLE ROAD	SAN JOSE, CA 95131–1008
52814	TECH–ETCH INC	45 ALDRIN ROAD	PLYMOUTH, MA 023604886
53279	XENTEK INC	1770 LA COSTA MEADOW DR	SAN MARCOS, CA 92069
54972	CLINTON ELECTRONICS	6701 CLINTON ROAD	ROCKFORD, IL 61111
57924	BOURNS INC	INTEGRATED TECHNOLOGY DIV. 1400 NORTH 1000 WEST	LOGAN, UT 84321
5F520	PANEL COMPONENTS CORP	PO BOX 115	OSKALOOSA, IA 52577–0115
6Y440	MICRON SEMICONDUCTOR PRODUCTS INC	8000 S FEDERAL WAY PO BOX 6	BOISE, ID 83707–0006
80009	TEKTRONIX INC	14150 SW KARL BRAUN DR PO BOX 500	BEAVERTON, OR 97077–0001
80126	PACIFIC ELECTRICORD CO	747 WEST REDONDO BEACH PO BOX 10	GARDENA, CA 90247–4203
82389	SWITCHCRAFT	DIV OF RAYTHEON 5555 N. ELSTON AVENUE	CHICAGO, IL 60630–1314
93907	CAMCAR DIV OF TEXTRON INC	ATTN: ALICIA SANFORD 516 18TH AVE	ROCKFORD, IL 611045181

Manufacturers cross index (cont.)

Mfr. code	Manufacturer	Address	City, state, zip code
S3109	FELLER U.S. CORPORATION	72 VERONICA AVE UNIT #4	SOMERSET, NJ 08873
S4091	SANYO DENKI	C/O TJBO LIAISON M/S 78–210	BEAVERTON, OR 97077–7077
TK0435	LEWIS SCREW CO.	4300 SOUTH RACINE AVENUE	CHICAGO, IL 60609
TK0AY	JAPAN SOLDERLESS TERMINALS CORP (JST CORP)	TJBO LIAISON M/S 78–210	BEAVERTON, OR 97077
TK1416	SHARP CORP	22–22 NAGAIKE–CHO ABENO–KU	OSAKA, JAPAN,
TK1547	MOORE ELECTRONICS INC	19500 SW 90TH CT PO BOX 1030	TUALATIN, OR 97062
TK1900	TIME ELECTRONICS	8214 154TH AVE. NE	REDMOND, WA 98052
TK2541	AMERICOR ELECTRONICS LTD	UNIT–H 2682 W COYLE AVE	ELK GROVE VILLAGE, IL 60007
TK2569	SHARP CORPORATION	C/O TJBO LIAISON M/S 78–210	BEAVERTON, OR 97077

Replaceable Parts List

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
					Serial number B019999 and below only		
1–1	200–4152–01			1	BEZEL,FRONT:POLYCARBONATE,TV GRAY,LEXAN920A	80009	200–4152–01
–2	657–0100–00			1	TOUCH PNL ASSY:TOUCH PANEL ASSEMBLY	80009	657–0100–00
–3	311–2509–00			2	ENCODER,OPTICAL:120CPR,SMOOTH,5V,TTL OUT,0.82 X 0.68,0.25 DIA SHAFT,0.8 SHAFT LENGHT,FRONT BRACK	50434	HRPG–ASCA#19F
–4	311–2508–00			1	RES,VAR,PNL:10K,20%,0.5W,LINEAR,0.5 SQ,1/8 D SHAFT,1 IN SHAFT LENGTH	57924	51CAA–E32–GA0–253
–5	174–3155–00			1	CA ASSY,SP:CPU TO FRONT PANEL	80009	174–3155–00
–6	211–0408–00			4	SCR,ASSEM WSHR:4–40 X 0.250,PNH,STL,ZINC,T–10 TORX	80009	211–0408–00
–7	174–3166–00			1	CA ASSY,SP:POWER SWITCH WITH CABLE	80009	174–3166–00
–8	174–3161–00			1	CA ASSY,SP:PHONE JACK WITH CABLE	80009	174–3161–00
–9	311–2503–01			1	ENCODER,OPTICAL:128 PPM,2 CHANNEL,QUADRATURE	57924	ENA1J–442–M00128
–10	211–0722–00			6	SCREW,MACHINE:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–11	333–4110–01			1	PANEL,FRONT:FRONT PANEL	80009	333–4110–01
–12	614–2798–01			1	FNT PANEL ASSY:FRONT PANEL ASSY	80009	614–2798–01
–13	200–4153–01			1	BEZEL,INPUT:POLYCARBONATE,LEXAN 920A,TV GRAY	80009	200–4153–01
–14	366–2159–01			1	KNOB:TV GRAY,SCROLL 1.243 ID X 1.4 OD X 0.42 H	80009	366–2159–01
–15	211–0119–00			2	SCREW,MACHINE:4–40 X 0.25,FLH,STL BK OXD POZ	93907	ORDER BY DESCR
–16	366–0721–00			2	KNOB:ABS,TV GRAY WITH INSERT	7X318	1124
–17	366–1829–00			1	KNOB:ABS,TV GRAY,WITH INSERT	80009	366–1829–00

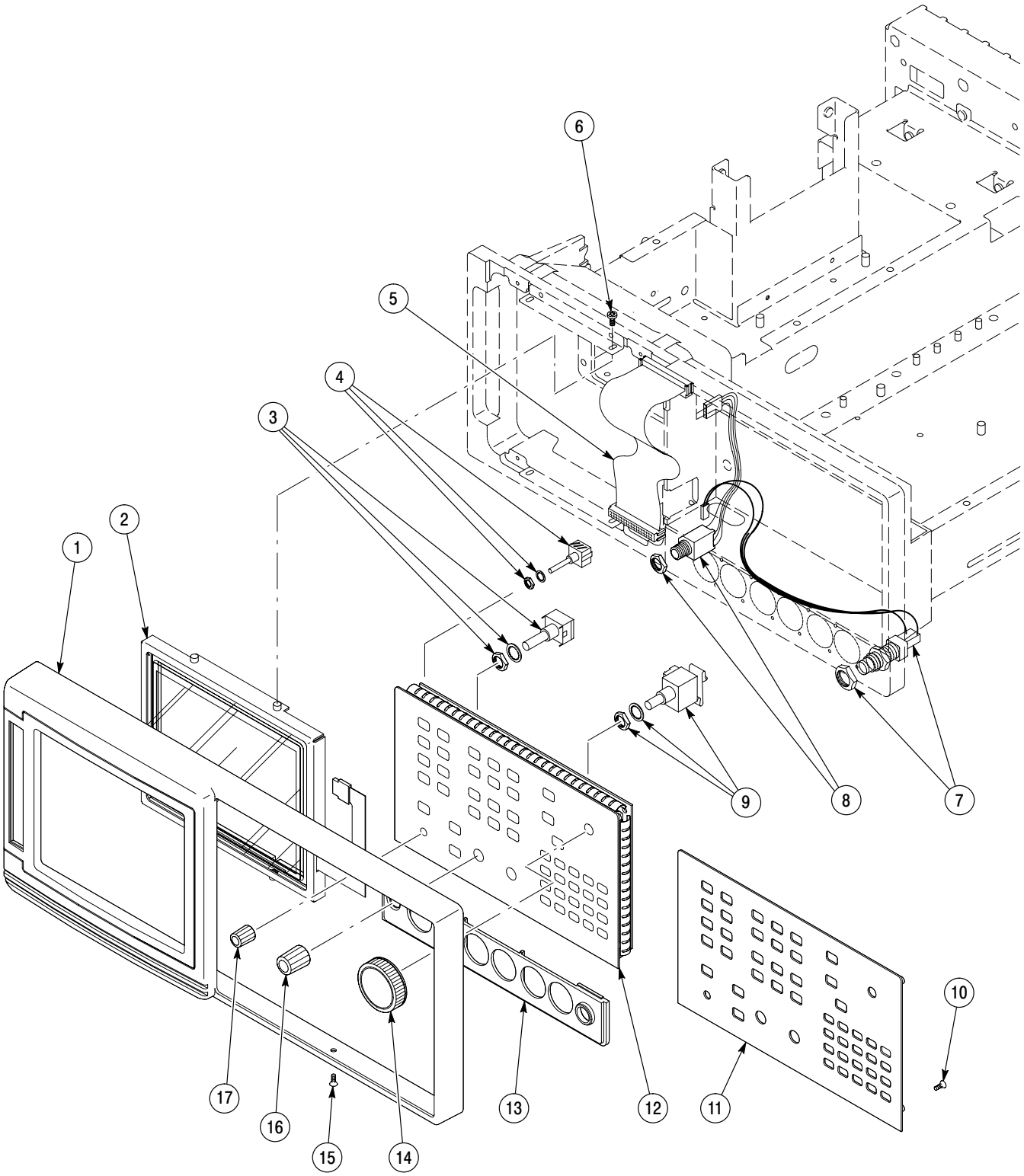


Figure 10–1: Front view – SN B019999 and below only

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
					Serial number B020100 and above only		
2–1	174–3609–00			1	CABLE ASSY,SP:DISCRETE,LDI,16,26 AWG,1X8,0.1CTR, LATCH, PWR SUPPLY TO AUD GEN BD	80009	174–3609–00
–2	174–3166–00			1	CA ASSY,SP:POWER SWITCH WITH CABLE	80009	174–3166–00
–3	174–3161–01			1	CA ASSY,SP:PHONE JACK WITH CABLE	80009	174–3161–01
–4	311–2503–01			1	ENCODER,OPTICAL:128 PPM,2 CHANNEL,QUADRATURE	57924	ENA1J-442-M00128
–5	614–2798–01			1	FNT PANEL ASSY:FRONT PANEL ASSY	80009	614–2798–01
–6	333–4110–01			1	PANEL,FRONT:FRONT PANEL	80009	333–4110–01
–7	211–0722–00			6	SCREW,MACHINE:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–8	200–4153–02			1	BEZEL,INPUT:POLYCARBONATE,LEXAN 920A,TV GRAY	80009	200–4153–02
–9	211–0119–00			2	SCREW,MACHINE:4–40 X 0.25,FLH,STL BK OXD POZ	93907	ORDER BY DESCR
–10	366–2159–01			1	KNOB:TV GRAY,SCROLL 1.243 ID X 1.4 OD X 0.42 H	80009	366–2159–01
–11	366–0721–00			2	KNOB:ABS,TV GRAY WITH INSERT	7X318	1124
–12	366–1829–00			1	KNOB:ABS,TV GRAY,WITH INSERT	80009	366–1829–00
–13	200–4152–01			1	BEZEL,FRONT:POLYCARBONATE,TV GRAY,LEXAN920A	80009	200–4152–01
–14	311–2509–00			2	ENCODER,OPTICAL:120CPR,SMOOTH,5V,TTL OUT,0.82 X 0.68,0.25 DIA SHAFT,0.8 SHAFT LENGHT,FRONT BRACK	50434	HRPG–ASCA#19F
–15	311–2508–00			1	RES,VAR,PNL:10K,20%,0.5W,LINEAR,0.5 SQ,1/8 D SHAFT,1 IN SHAFT LENGTH	57924	51CAA–E32–GA0–253
–16	174–3155–00			1	CA ASSY,SP:CPU TO FRONT PANEL	80009	174–3155–00

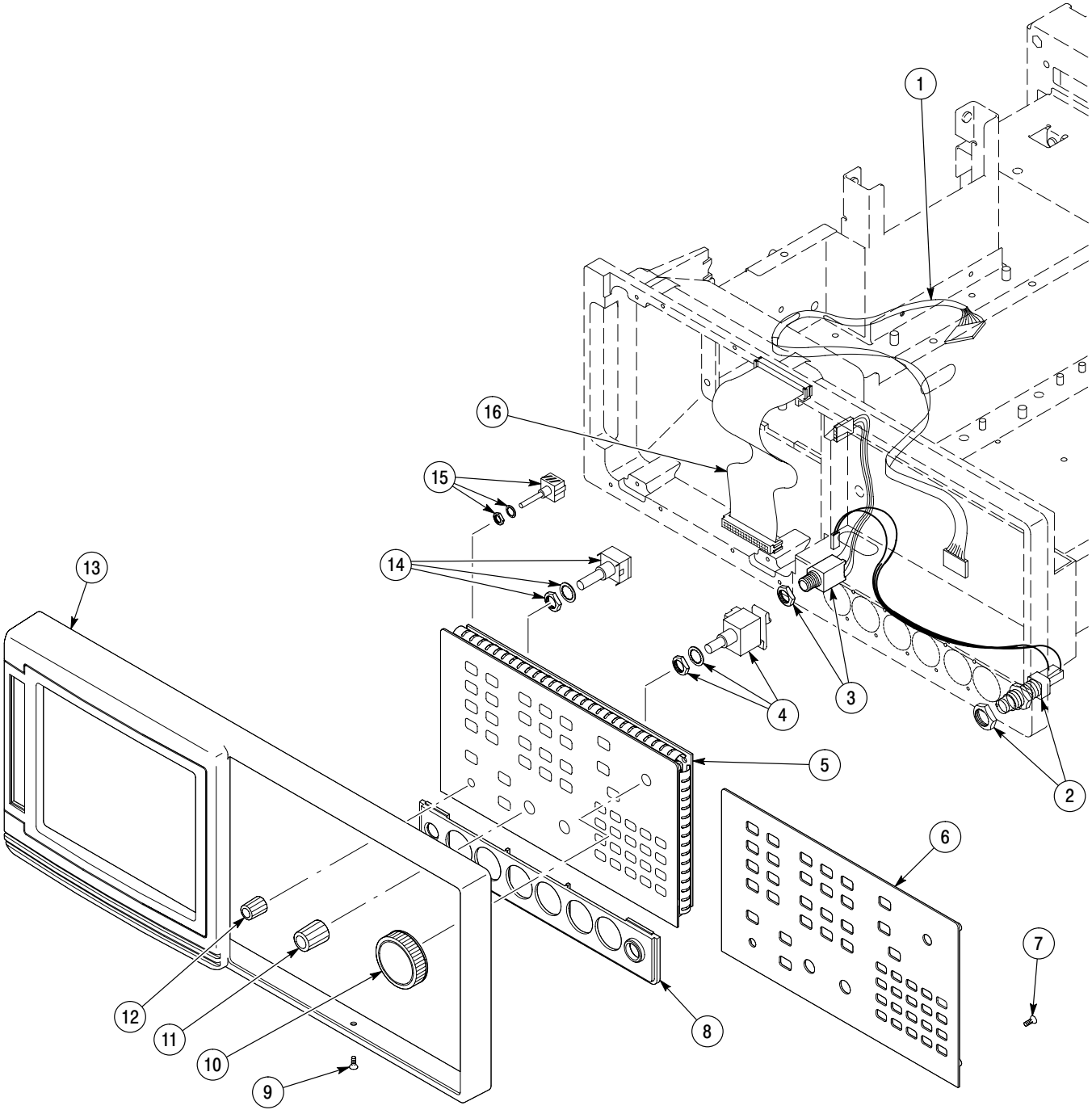


Figure 10–2: Front view – SN B020100 and above only

Fig. & index number	Tektronix part number	Serial no. effective	Serial No. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
					Serial number B019999 and below only		
3–1	671–2666–00	B010100	B010324	1	CIRCUIT BD ASSY:CPU, (A6)	80009	671–2666–00
	671–2666–01	B010325	B010348	1	CIRCUIT BD ASSY:CPU, (A6)	80009	671–2666–01
	671–2666–02	B010349		1	CIRCUIT BD ASSY:CPU, (A6)	80009	671–2666–02
–2	146–0116–00			1	BATTERY, DRY:3.0V,850MAH,LITHIUM,0.57X1,CR4250SE (A6BT1)	S4091	CR4250SE–SP1–1 (MPE/251–311–1)
–3	156–4445–00			1	IC,MEMORY:CMOS,FLASH,2MEG X 32, 200NS, BUILT WITH 28F008SA,SIMM80, (A6U25)	80009	156–4445–00
–4	156–4446–00			1	IC,MEMORY:CMOS,SRAM,128K X 32 MODULE,100NS,TEK MADE,SIMM 80, (A6U34)	80009	156–4446–00
–5	156–4383–00			1	IC,MEMORY:CMOS,DRAM,2MEG X 32,70NS,SIMM72, (A6U7)	0JR04	THM322020AS–70
–6	131–3925–00			1	CONN,DSUB:PCB,FEMALE,RTANG,9 POS	00779	747844–4
–7	131–5357–00			1	CONN,RIBBON:PCB/PNL,GPIB,FEMALE,RTANG 24 POS	00779	554923–2
–8	131–5450–00			1	CONN,DSUB:PCB,HIGH DENSITY,FEMALE,RTANG,15 POS	00779	748390–5
–9	131–5269–00			1	CONN,CIRC:PCB,MINI DIN,FEMALE,RTANG,6 POS	TK0AY	MD-S6350-N14S-14
–10	129–0887–02			2	SPACER,POST:0.531 L,M3.5 X 0.6 INT/6–32 EXT,STL,0.312 HEX W/WASHERS	02660	57–1912–01 EA BAG CONTAINS 20
–11	214–3903–01			8	SCREW,JACK:4–40 X 0.312 EXT THD,4–40 INT THD,0.188	0KB01	214–3903–01
–12	211–0852–00			1	SCREW,MACHINE:3–56X0.312,FLH100,STL,ZINC,POZI DR	0KB01	3F31MPFK2/1
–13	131–3926–00			2	CONN,DSUB:PCB,MALE,RTANG,9 POS	00779	747840–4
–14	386–6576–00			1	SUBPANEL,CPU:	80009	386–6576–00
–15	211–0722–00			30	SCREW,MACHINE:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–16	671–2915–00			1	CIRCUIT BD ASSY:DIGITAL AUDIO, (A3)	80009	671–2915–00
–17	407–4278–00			7	BRACKET,CKT BD:TALL	3L462	407–4278–00
–18	211–0198–00			2	SCREW,MACHINE:4–40 X 0.438,PNH,STL CD PL,POZ	TK0435	ORDER BY DESCR
–19	337–3796–01			1	SHIELD,ELEC:0.032 BRASS,C26000,0.5 HARD	80009	337–3796–01
–20	174–3154–00			1	CA ASSY,SP:CPU,DIG AUD,AQ,GEN	80009	174–3154–00
–21	174–3164–00			1	CA ASSY,SP:PS TO GEN AND DIG AUD	80009	174–3164–00
–22	174–3162–00			1	CA ASSY,SP:PS TO CPU	80009	174–3162–00
–23	174–3163–00			1	CA ASSY,SP:PS TO CPU AND AQ	80009	174–3163–00
–24	174–3153–00			1	CA ASSY,DP:DSP,DIG AUD,AQ	80009	174–3153–00
–25	129–1447–00			2	SPACER,POST:WITH LOCKING PELLET	80009	129–1447–00
–26	671–2841–00			1	CIRCUIT BD ASSY:CONTROLLED AM POWER SUPPLY, (A11)	80009	671–2841–00
	671–2841–01			1	CIRCUIT BD ASSY:CONTROLLED AM POWER SUPPLY, (A11)	80009	671–2841–01
–27	348–0149–00			1	GROMMET,PLASTIC:BLACK,U–SHAPE,0.88 ID	0KBZ5	N/A
–28	174–3158–00			1	CA ASSY,SP:DIG AUD TO FRONT PANEL	TK2469	174–3158–00
–29	386–6578–00			1	COVER,PS:	80009	386–6578–00
–30	174–3165–00			1	CA ASSY,SP:CPU CONTROL LINES TO PS	80009	174–3165–00
–31	671–2900–00			1	CIRCUIT BD ASSY:DSP, (A7)	80009	671–2900–00
–32	156–4443–00			2	IC,MEMORY:CMOS,SRAM,128K X 32 MODULE,25NS, 4A12832M–25,SIMM64, (A7U1,A7U23)	6Y440	MT4S12832M–25

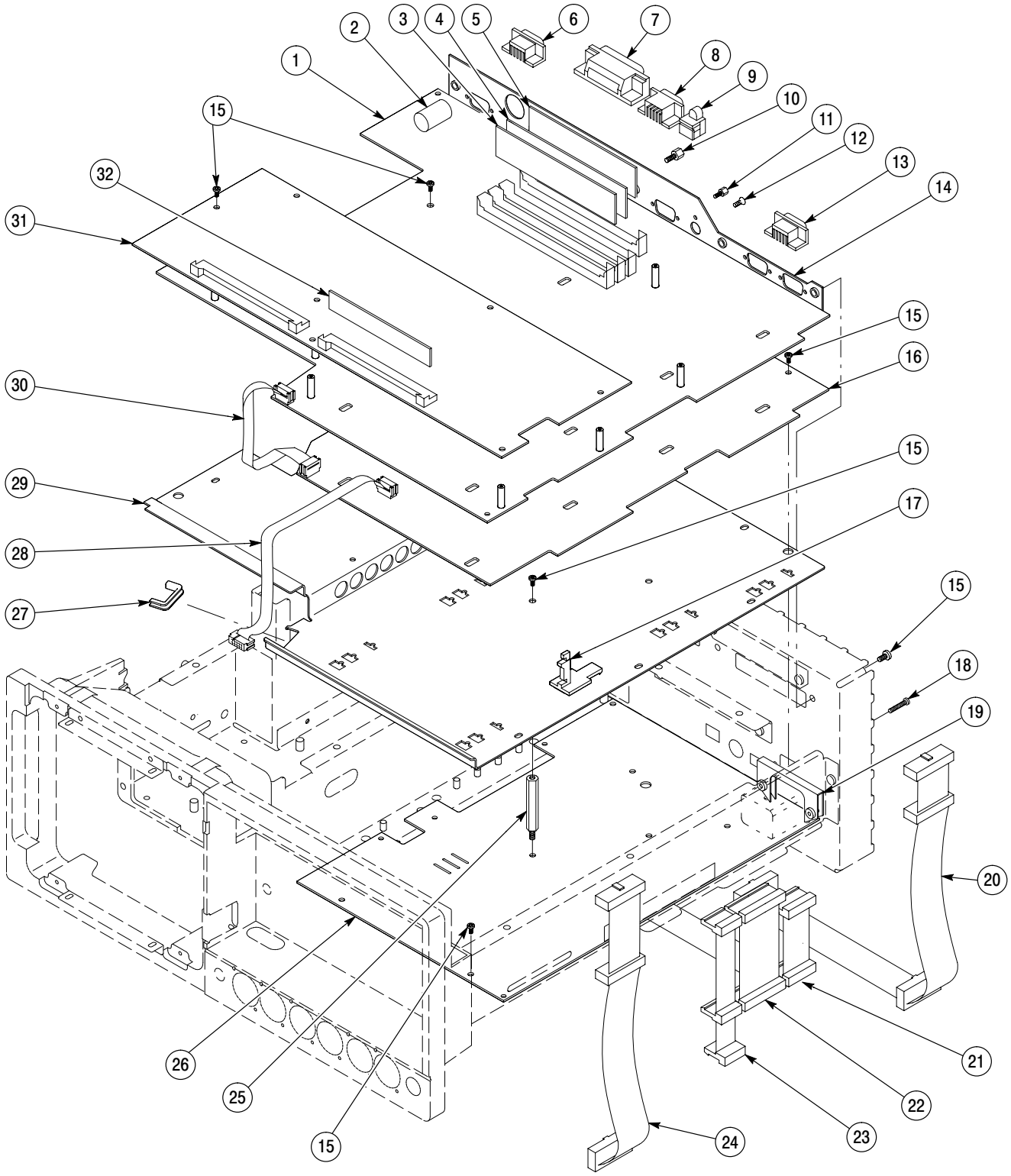


Figure 10–3: Top view – SN B019999 and below only

Fig. & Index Number	Tektronix Part Number	Serial No. Effective	Serial No. Discont'd	Qty	Name & Description	Mfr. Code	Mfr. Part Number
					Serial number B020100 and above only		
4–1	671–2666–03			1	CIRCUIT BD ASSY:CPU, (A6)	80009	671–2666–03
–2	146–0116–00			1	BATTERY, DRY:3.0V,850MAH,LITHIUM,0.57X1,CR4250SE, (A6BT1)	S4091	CR4250SE–SP1–1 (MPE/251–311–1)
–3	156–4445–00			1	IC,MEMORY:CMOS,FLASH,2MEG X 32,200NS,SIMM80, (A6U25)	34649	TO BE DETERMINE
–4	156–4446–00			1	IC,MEMORY:CMOS,SRAM,128K X 32,100NS,SIMM 80, (A6U34)	80009	156–4446–00
–5	156–4383–00			1	IC,MEMORY:CMOS,DRAM,2MEG X 32,70NS,SIMM72, (A6U7)	0JR04	THM322020AS–70
–6	131–3925–00			1	CONN,DSUB:PCB,FEMALE,RTANG,9 POS	00779	747844–4
–7	131–5357–00			1	CONN,RIBBON:PCB/PNL,GPIB,FEMALE,RTANG 24 POS	00779	554923–2
–8	131–5450–00			1	CONN,DSUB:PCB,HIGH DENSITY,FEMALE,RTANG,15 POS	00779	748390–5
–9	131–5269–00			1	CONN,CIRC:PCB,MINI DIN,FEMALE,RTANG,6 POS	TK0AY	MD-S6350-N14S-14
–10	129–0887–02			2	SPACER,POST:0.531 L,M3.5 X 0.6 INT/6–32 EXT,STL,0.312 HEX W/WASHERS	02660	57–1912–01 EA BAG CONTAINS 20
–11	214–3903–01			8	SCREW,JACK:4–40 X 0.312 EXT THD,4–40 INT THD,0.188	0KB01	214–3903–01
–12	211–0852–00			1	SCREW,MACHINE:3–56X0.312,FLH100,STL,ZINC,POZI DR	0KB01	3F31MPFK2/1
–13	131–3926–00			2	CONN,DSUB:PCB,MALE,RTANG,9 POS	00779	747840–4
–14	386–6576–00			1	SUBPANEL,CPU:	80009	386–6576–00
–15	671–3872–00			1	CIRCUIT BD ASSY,DISPLAY DRIVER;LCD, (A13)	80009	671–3872–00
–16	211–0722–00			30	SCREW,MACHINE:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–17	671–2915–00			1	CIRCUIT BD ASSY:DIGITAL AUDIO, (A3)	80009	671–2915–00
–18	407–4278–00			7	BRACKET,CKT BD:TALL	3L462	407–4278–00
–19	211–0198–00			2	SCREW,MACHINE:4–40 X 0.438,PNH,STL CD PL,POZ	TK0435	ORDER BY DESCR
–20	337–3796–01			1	SHIELD,ELEC:0.032 BRASS,C26000,0.5 HARD	80009	337–3796–01
–21	198–5808–00			1	WIRE SET,ELEC:DISCRETE,CUT/KIT,3,18 AWG,4.0 L	80009	198–5808–00
–22	119–2064–00			1	FILTER,RFI:6A,115–230V,48–440HZ,	0GV52	FN322R–6/05

Fig. & Index Number	Tektronix Part Number	Serial No. Effective	Serial No. Discont'd	Qty	Name & Description	Mfr. Code	Mfr. Part Number
					Serial number B020100 and above only		
4–23	174–3154–01			1	CA ASSY,SP:CPU,DIG AUD,AQ,GEN	80009	174–3154–00
–24	174–3164–01			1	CA ASSY,SP:PS TO GEN AND DIG AUD	80009	174–3164–00
–25	174–3162–00			1	CA ASSY,SP:PS TO CPU	80009	174–3162–00
–26	174–3163–00			1	CA ASSY,SP:PS TO CPU AND AQ	80009	174–3163–00
–27	174–3153–00			1	CA ASSY,DP:DSP,DIG AUD,AQ	80009	174–3153–00
–28	129–1447–00			2	SPACER,POST:WITH LOCKING PELLET	80009	129–1447–00
–29	671–3891–00	B020100		1	CIRCUIT BD ASSY:POWER SUPPLY BOARD (A11)	80009	671–3891–00
	671–3891–01				CIRCUIT BD ASSY:POWER SUPPLY BOARD (A11)	80009	671–3891–01
–30	348–0149–00			1	GROMMET,PLASTIC:BLACK,U–SHAPE,0.88 ID	0KBZ5	N/A
–31	386–6578–00			1	COVER,PS:	80009	386–6578–00
–32	174–3158–00			1	CA ASSY,SP:DIG AUD TO FRONT PANEL	80009	174–3158–00
–33	174–3165–00			1	CA ASSY,SP:CPU CONTROL LINES TO PS	80009	174–3165–00
–34	671–2900–00			1	CIRCUIT BD ASSY:DSP, (A7)	80009	671–2900–00
–35	156–4443–00			2	IC,MEMORY:CMOS,SRAM,128K X 32,25NS,SIMM64, (A7U1,U23)	6Y440	MT4S12832M–25

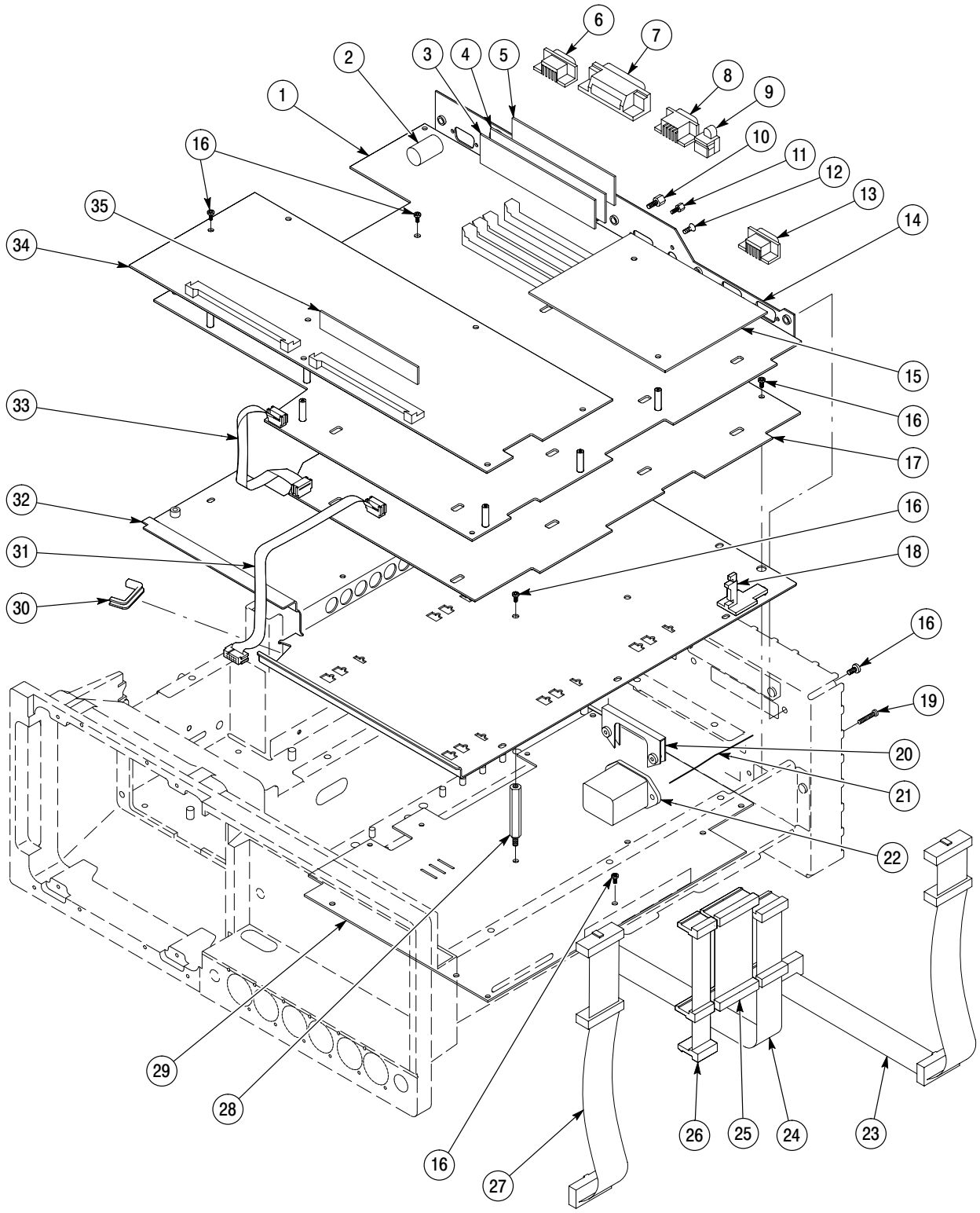


Figure 10–4: Top view – SN B020100 and above only

Fig. & index number	Tektronix part number	Serial no. effective	Serial No. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
					Serial number B019999 and below only		
5–1	671–2916–00			1	CIRCUIT BD ASSY:REAR PANEL (A4)	80009	671–2916–00
–2	131–4046–00			1	CONN,DSUB:PCB/PNL,FEMALE,RTANG,15 POS,0.318 MLG X 0.125 TAIL,4–40 THD INSERTS,BD RETENTIO	00779	747845–4
–3	131–0955–00			2	CONN,RF JACK:BNC,50 OHM,FEMALE,STR,SLDR CUP/FRONT PNL,GOLD,0.520 MLG X 0.490 TAIL,0.092 L SL	00779	87–3334–017
–4	333–4109–00			1	PANEL,REAR:AES	TK1935	333–4109–00
–5	196–3411–00			2	LEAD,ELECTRICAL:FLAT FLEX,FLX,27 AWG,3.0 L,PCB TERM BOTH ENDS,STR,(STRAIN RELIEF TERMS),	TK1900	196–3411–00
–6	214–3903–01			2	SCREW,JACK:	0KB01	214–3903–01
–7	211–0722–00			17	SCREW,MACHINE:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–8	131–5230–00			1	CONN,CIRC AUDIO:PCB/PNL,XLR,FEMALE,RTANG,3 POS,0.984 H X 0.16 TAIL,0.492 MATING CL,LATCHING,	0FMA6	NC3FDH
–9	131–3987–00			1	CONN,CIRC AUDIO:PCB/PNL,XLR,MALE,RTANG,3 POS,1.22 H X 1.024 W,CTR PLZ,LATCHING,	82389	E3MRA
–10	211–0101–00			4	SCREW,MACHINE:PL,POZ	93907	ORDER BY DESCR
–11	213–0912–00			2	SCREW,TPG,TF:4–20 X 0.25 L,PAN HEAD STL CD PL,POZ	39951	ORDER BY DESCR
–12	131–5678–00			1	CONN:TORX176	80009	131–5678–00
–13	131–5679–00			1	CONN,MODULE FBR:FIBER OPTIC,TRANSMITTER,DC 6.0 MB/S TO 10 METER,5.0V,W/F05 SNAP–IN TYPE CONN.	0JR04	TOTX176
–14	174–3157–00			1	CA ASSY,SP:REAR PANEL TO	80009	174–3157–00
–15	174–3156–00			1	CA ASSY,SP:CPU TO MONITOR DRIVER	80009	174–3156–00
–16	174–3169–00			1	CA ASSY,SP:PS TO MONITOR DRIVER	80009	174–3169–00
–17	154–0959–00			0	ELECTRON TUBE:CRT MONOCHROME/YOKE ASSY	54972	CE678W7P4GHLX
–18	407–4277–00			1	BRACKET:AM700,FLOPPY DISK	80009	407–4277–00
–19	119–4547–01			1	DISK DRIVE:FLOPPY,3.5 INCH,2MB,DSDD,BLK BEZEL (A12)	50356	FD–05HF–BLACK
–20	211–0840–00			4	SCREW,MACHINE:PHILIPS,PNH	0KB01	.26C4MXPHY
–21	174–2964–00			1	CA ASSY SP:FLAT FLEX,FLX,26 COND,300 V,1.5A,7.0 L	1DM20	1.00MM–26–7–B
–22	211–0744–00			4	SCREW,MACHINE:6–32 X 2.000,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–23	119–4706–00			1	FAN,DC:TUBEAXIAL,24V,2.64 W,68.9CFM,1,200 PPM,30DBS	80009	119–4706–00

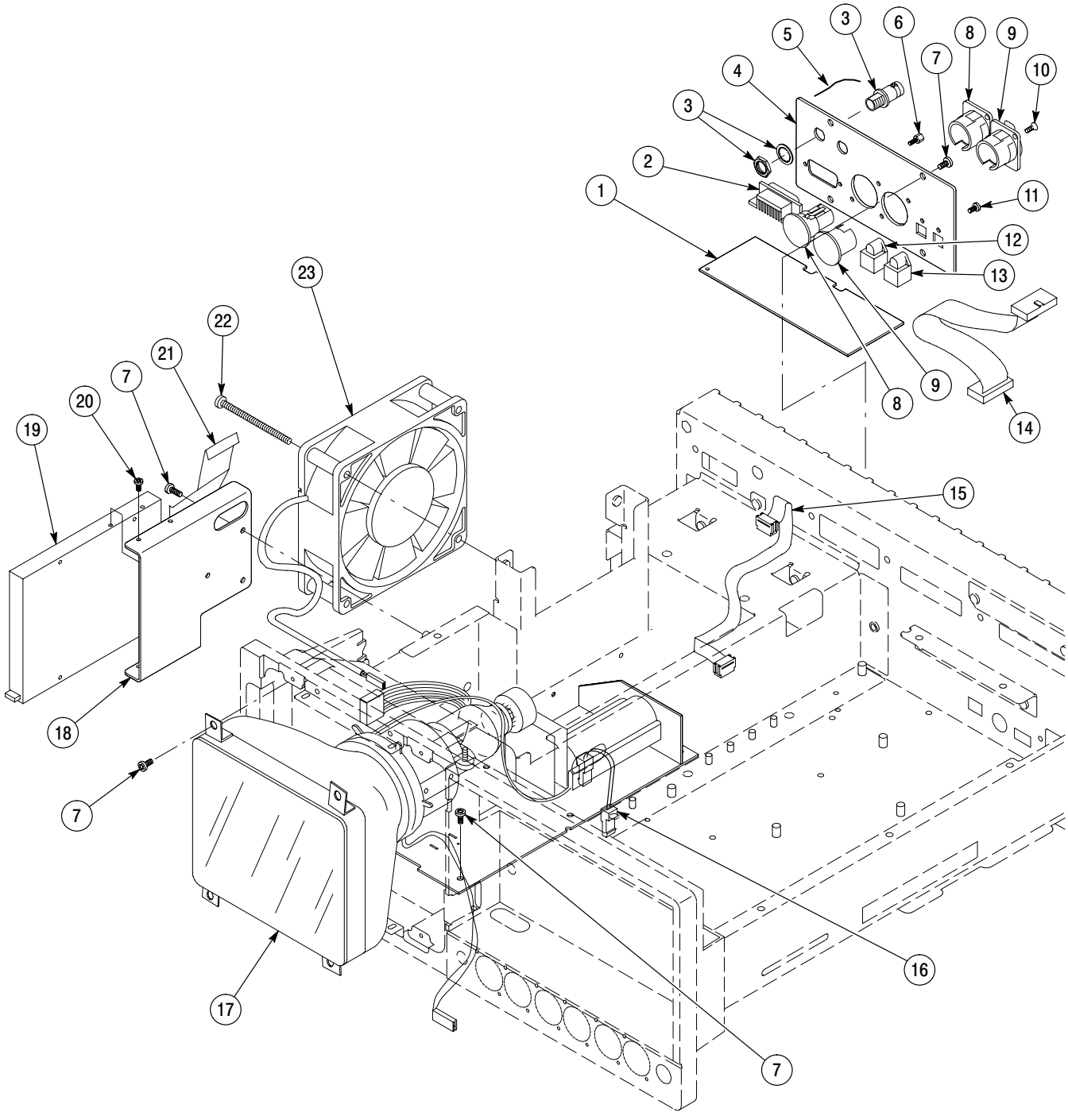


Figure 10–5: Left side view CRT Display version – SN B019999 and below only

Fig. & Index Number	Tektronix Part Number	Serial No. Effective	Serial No. Discont'd	Qty	Name & Description	Mfr. Code	Mfr. Part Number
					Serial number B020100 and above only		
6–1	671–2916–00			1	CIRCUIT BD ASSY:REAR PANEL (A4)	80009	671–2916–00
–2	131–4046–00			1	CONN,DSUB:PCB/PNL,FEMALE,RTANG,15 POS,0.318 MLG X 0.125 TAIL,4–40 THD INSERTS,BD RETENTIO	00779	747845–4
–3	131–0955–00			2	CONN,RF JACK:BNC,50 OHM,FEMALE,STR,SLDR CUP/FRONT PNL,GOLD,0.520 MLG X 0.490 TAIL,0.092 L SL	00779	87–3334–017
–4	333–4109–00			1	PANEL,REAR:AES	80009	333–4109–00
–5	196–3411–00			2	LEAD,ELECTRICAL:FLAT FLEX,FLX,27 AWG,3.0 L,PCB TERM BOTH ENDS,STR,(STRAIN RELIEF TERMS),	80009	196–3411–00
–6	214–3903–01			2	SCREW,JACK:	80009	214–3903–01
–7	211–0722–00			12	SCREW,MACHINE:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–8	131–5230–00			1	CONN,CIRC AUDIO:PCB/PNL,XLR,FEMALE,RTANG,3 POS,0.984 H X 0.16 TAIL,0.492 MATING CL,LATCHING,	0FMA6	NC3FDH
–9	131–3987–00			1	CONN,CIRC AUDIO:PCB/PNL,XLR,MALE,RTANG,3 POS,1.22 H X 1.024 W,CTR PLZ,LATCHING,	82389	E3MRA
–10	211–0101–00			4	SCREW,MACHINE:PL,POZ	93907	ORDER BY DESCR
–11	213–0912–00			2	SCREW,TPG,TF:4–20 X 0.25 L,PAN HEAD STL CD PL,POZ	39951	ORDER BY DESCR
–12	174–3157–00			1	CA ASSY,SP:REAR PANEL TO	80009	174–3157–00
–13	131–5678–00			1	CONN:TORX176	80009	131–5678–00
–14	131–5679–00			1	CONN,MODULE FBR:FIBER OPTIC,TRANSMITTER,DC 6.0 MB/S TO 10 METER,5.0V,W/F05 SNAP–IN TYPE CONNECTO	0JR04	TOTX176
–15	337–4108–00			1	SHIELD:LCD CABLE SHIELD	80009	337–4108–00
–16	348–0835–00			1	SCRN,MESH WIRE:18.0 X 16.0,0.011 DIA,AL	80009	348–0835–00
–17	386–6363–00			1	SUPPORT, PANEL:BOTTOM TOUCH PANEL SUPPORT	80009	386–6363–00
–18	211–0008–00			4	SCREW,MACHINE:4–40 X 0.25,PNH,STL CD PL,POZ	93907	ORDER BY DESCR
–19	440–4145–00	B020100	B020692	1	DISPLAY ASSY:DISPLAY ASSEMBLY	80009	440–4145–00
	440–4145–01	B020693		1	DISPLAY ASSY:DISPLAY ASSEMBLY	80009	440–4145–01
–20	386–6337–00			1	PANEL, SUPPORT:TOP TOUCH PANEL SUPPORT	80009	386–6337–00
–21	211–0866–00			1	92451–25010:92451–25010,SCREW PHIL M2.5X10 PHIL PNH BRZN	80009	211–0866–00
–22	105–1081–01			1	BRACKET,ADAPTER:FLOPPY DISK DRIVE BRACKET ADAPTER	80009	105–1081–01
–23	119–5413–01		B020608	1	DISK DRIVE:FLOPPY,3.5 INCH, 2M, 0.5 INCH DSDD,BLACK BEZEL, FD–05HF–4630	50356	FD–05HF–4630/BLACK 119–5413–01
	119–4547–01	B020609		1	DISK DRIVE:FLOPPY,3.5 INCH,2MB,0.5 INCH,DSDD,BLACK BEZEL,FD–05 HF	50356	FD–05HF–BLACK
–24	407–4277–01			1	BRACKET:FLOPPY DISK BRACKET,0.063 ALUM	80009	407–4277–01
–25	211–0840–00			4	SCREW,MACHINE:PHILIPS,PNH	0KB01	.26C4MXPHY
–26	174–2964–00			1	CA ASSY SP:FLAT FLEX,FLX,26 COND,300 V,1.5A,7.0 L	1DM20	1.00MM–26–7–B
–27	119–4706–00			1	FAN,DC:TUBEAXIAL,24V,2.64 W,68.9CFM,1,200 PPM,30DBS	80009	119–4706–00
–28	211–0744–00			4	SCREW,MACHINE:6–32 X 2.000,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR

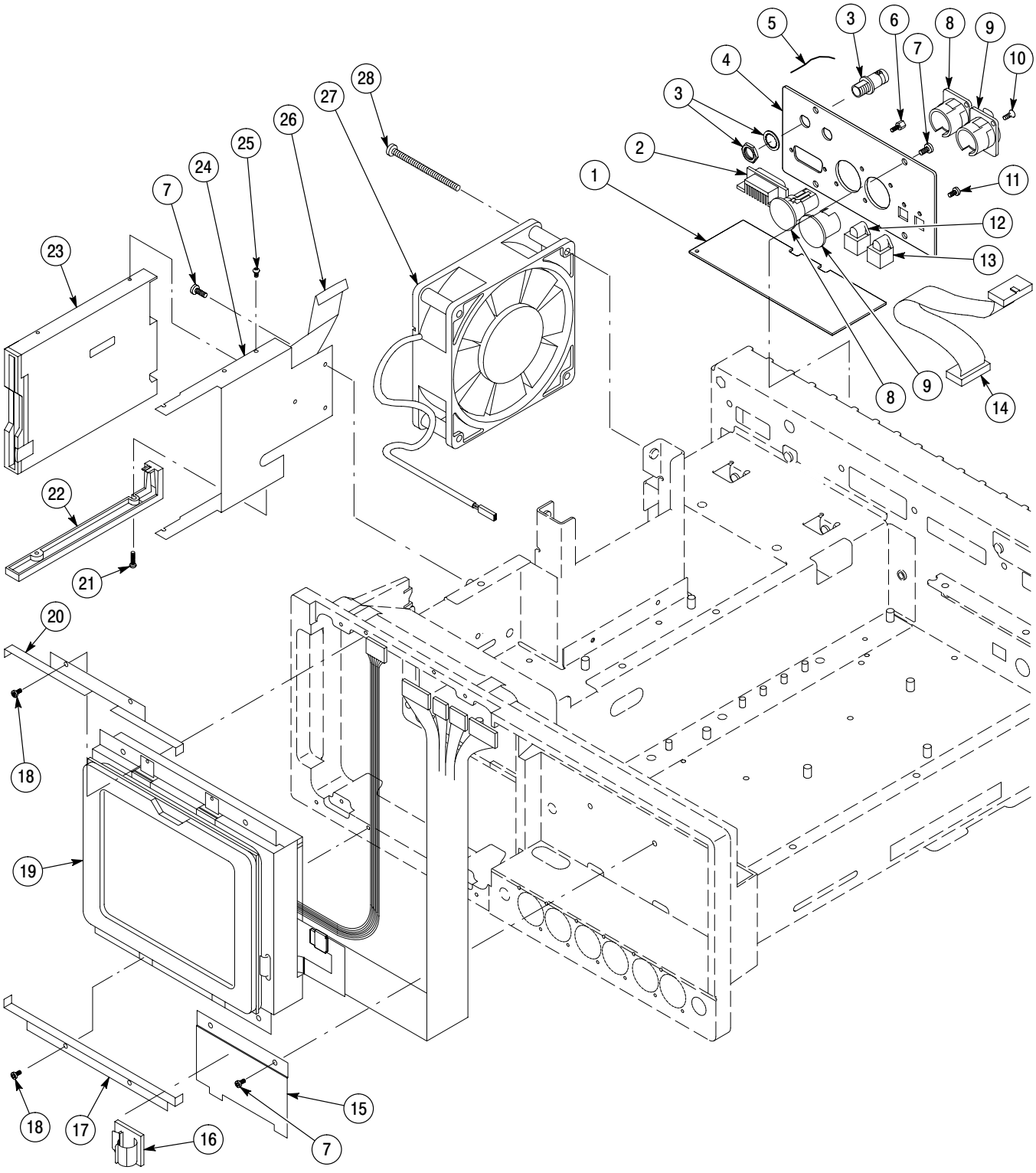


Figure 10–6: Left side view LCD Display version – SN B020100 and above only

Fig. & index number	Tektronix part number	Serial no. effective	Serial no. discont'd	Qty	Name & description	Mfr. code	Mfr. part number
					Serial number B020100 and above only		
7–1	657–0102–01			1	TOUCH PNL ASSY:TOUCH PANEL ASSEMBLY	80009	657–0102–01
–2	348–1466–00			1	SHIELD,GKT,ELEC:CLIP–ON,2.8 L,BECU,EMI	30817	0493–0087–00
–3	348–1533–00			1	GASKET,LCD:LCD GASKET,3.9 X 5.25 INSIDE 5.0 X 6.25 OUTSIDE,0.063 THK,PRESSURE SENSITIVE AD	80009	348–1533–00
–4	119–5633–00			1	DISPLAY MODULE:LCD,COLOR,6.4 IN DIAG,640 X 480,ACTIVE MATRIX,LQ64D341	TK2569	LQ64D341
–5	150–0245–00			2	LAMP, CARTRIDGE:BACKLIGHT UNIT, CCFT REPLACEMENT	TK2569	LQ0B197
–6	N/A			2	SCREW,MACHINE (PART OF LCD BACKLIGHT ASSEMBLY)	TK0435	ORDER BY DESCR
–7	211–0008–00			4	SCREW,MACHINE:4–40 X 0.25,PNH,STL CD PL,POZ	93907	ORDER BY DESCR
–8	119–5634–00			2	POWER SUPPLY:2.7W,DC–AC INVERTER,12 VDC 33% INPUT,OPEN 1500V RMS OUTPUT,FOR CCFL BACKLIGHT,LS	53279	LS380
–9	407–4451–01			1	BRACKET, LCD:LCD BRACKET,0.030 ALUMINIZED STEEL	80009	407–4451–01
–10	174–3601–01			1	CA ASSY,SP,ELEC:INVERTER TO DRIVER BD	80009	174–3601–01
–11	671–3893–01	B020548		1	CKT BD SUBASSY:CONNECTOR BOARD	80009	671–3893–01
–12	211–0022–00			4	SCREW,MACHINE:2–56 X 0.188,PNH,STL CD PL,POZ	TK0435	ORDER BY DESCR
–13	657–0102–00		B020632	1	TOUCH PNL ASSY:TOUCH PANEL ASSEMBLY	80009	657–0102–01
	657–0102–01	B020633		1	TOUCH PNL ASSY:TOUCH PANEL ASSEMBLY	80009	657–0102–01
–14	348–1466–00			1	SHIELD,GKT,ELEC:CLIP–ON,2.8 L,BECU,EMI	30817	0493–0087–00
–15	348–1533–00			1	GASKET,LCD:LCD GASKET,3.9 X 5.25 INSIDE 5.0 X 6.25 OUTSIDE,0.063 THK,PRESSURE SENSITIVE AD	80009	348–1533–00
–16	119–5428–00			1	DISPLAY MODULE:LCD,COLOR,640 X 480,6.4 DIAG,TFT	TK1416	LQ64D142
–17	150–1306–00			2	LAMP, CARTRIDGE:BACKLIGHT UNIT, CCFT REPLACEMENT	TK2569	LQ0B132
–18	N/A			2	SCREW,MACHINE (PART OF LCD BACKLIGHT ASSEMBLY)	TK0435	ORDER BY DESCR
–19	211–0008–00			2	SCREW,MACHINE:4–40 X 0.25,PNH,STL CD PL,POZ	93907	ORDER BY DESCR
–20	119–5483–00			1	CIRCUIT BD ASSY:INVERTER BOARD	80009	119–5483–00
–21	407–4451–00			1	BRACKET, LCD:LCD BRACKET,0.030 ALUMINIZED STEEL	80009	407–4451–00
–22	174–3601–00			1	CA ASSY,SP,ELEC:INVERTER TO DRIVER BD	80009	174–3601–00
–23	671–3893–00			1	CKT BD SUBASSY:CONNECTOR BOARD	80009	671–3893–00
–24	211–0022–00			4	SCREW,MACHINE:2–56 X 0.188,PNH,STL CD PL,POZ	TK0435	ORDER BY DESCR

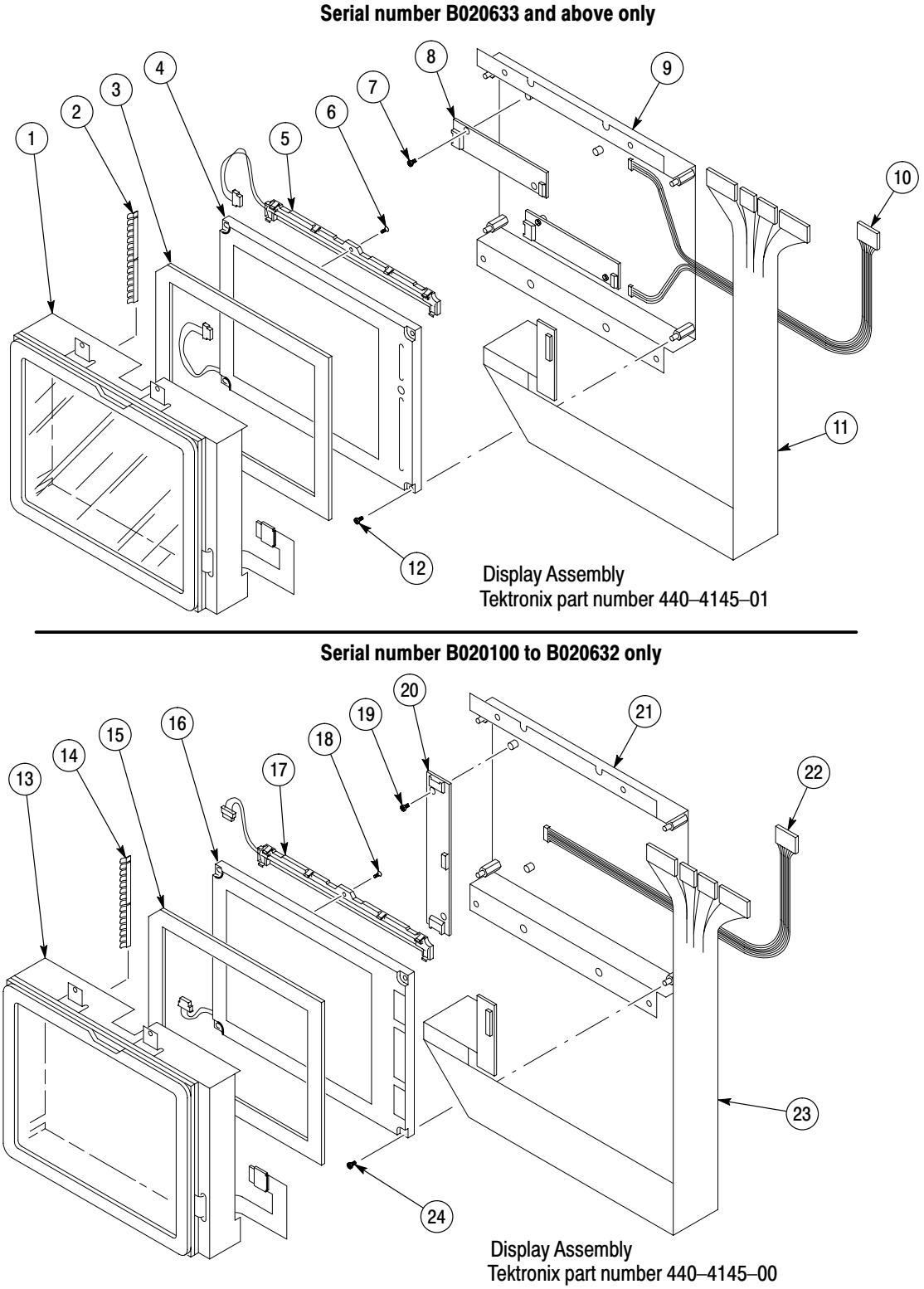


Figure 10–7: LCD display assembly subparts – SN B020100 and above

Fig. & Index Number	Tektronix Part Number	Serial No. Effective	Serial No. Discont'd	Qty	Name & Description	Mfr. Code	Mfr. Part Number
					Serial number B010522 and below only		
8–1	348–0763–00			2	GROMMET,PLASTIC:NATURAL,OVAL,1.235 ID	0JR05	ORDER BY DESCR
–2	134–0245–00			1	PLUG,BUTTON:0.156 THK X 0.375 DIA,BLACK NYLON	28520	3059
–3	386–6579–00			1	SUBPANEL BLANK:CPU (REMOTE)	80009	386–6579–00
–4	131–1315–01			1	CONN,RF JACK:BNC/PNL,50 OHM,FEM,STR,PELTOLA/REAR	24931	28JR306–1
–5	671–2897–00			1	CIRCUIT BD ASSY:ACQUISITION	80009	671–2897–00
–6	211–0722–00			16	SCREW,MACHINE:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–7	671–2989–00			4	CKT BD ASSY:INPUT ATTN (A1A2,A1A3,A1A4 AND A1A5)	80009	671–2989–00
–8	174–3170–00		B010224	1	CA ASSY,RF:COAXIAL,RFD,50 OHM,12.7 L	80009	174–3170–00
	174–3170–01	B010225		1	CA ASSY,RF:COAXIAL,RFD,50 OHM,11.0 L	80009	174–3170–01
–9	671–2801–00			1	CKT BD ASSY:OVER/UNDER RANGE (A1A7)	80009	671–2801–00
–10	671–2990–00			1	CIRCUIT BD ASSY:TEST POWER SUPPLY BOARD (A1A6)	80009	671–2990–00
–11	671–2917–01			1	CIRCUIT BD ASSY:XLR (A2)	80009	671–2917–01
–12	343–0549–00			5	STRAP,TIEDOWN,E:0.098 W X 4.0 L,ZYTEL	06383	PLT1M
–13	174–3275–00			3	CA ASSY,SP:SHLD CMPST,CPD,2,22 AWG	80009	174–3275–00
–14	174–3159–00			1	CA ASSY,SP:XLR FRONT PANEL TO AQ	80009	174–3159–00
–15	174–3160–00			1	CA ASSY,SP:	80009	174–3160–00
–16	131–5230–00			3	CONN,CIRC AUDIO:PCB/PNL,XLR,FEMALE,RTANG,3 POS,0.984 H X 0.16 TAIL,0.492 MATING CL,LATCHING,	0FMA6	NC3FDH
–17	131–3987–00			3	CONN,CIRC AUDIO:PCB/PNL,XLR,MALE,RTANG,3 POS,1.22 H X 1.024 W,CTR PLZ,LATCHING,	82389	E3MRA
–18	211–0101–00			12	SCREW,MACH:4–40 X 0.25,FLH,100 DEG,STL CD PL,POZ	93907	ORDER BY DESCR
–19	671–2797–00		B010329	1	CIRCUIT BD ASSY:AUDIO GENERATOR (A5)	80009	671–2797–00
	671–2797–01	B010330		1	CIRCUIT BD ASSY:AUDIO GENERATOR (A5)	80009	671–2797–01
–20	343–0835–00			1	CLAMP,LOOP:0.375 ID,NYLON W/ADH BACK	34785	021–0375
–21	348–1418–00			1	GASKET:ELEC SHIELD	80009	348–1418–00
–22	441–2053–01			1	CHASSIS ASSY:CHASSIS ASSY	80009	441–2053–01

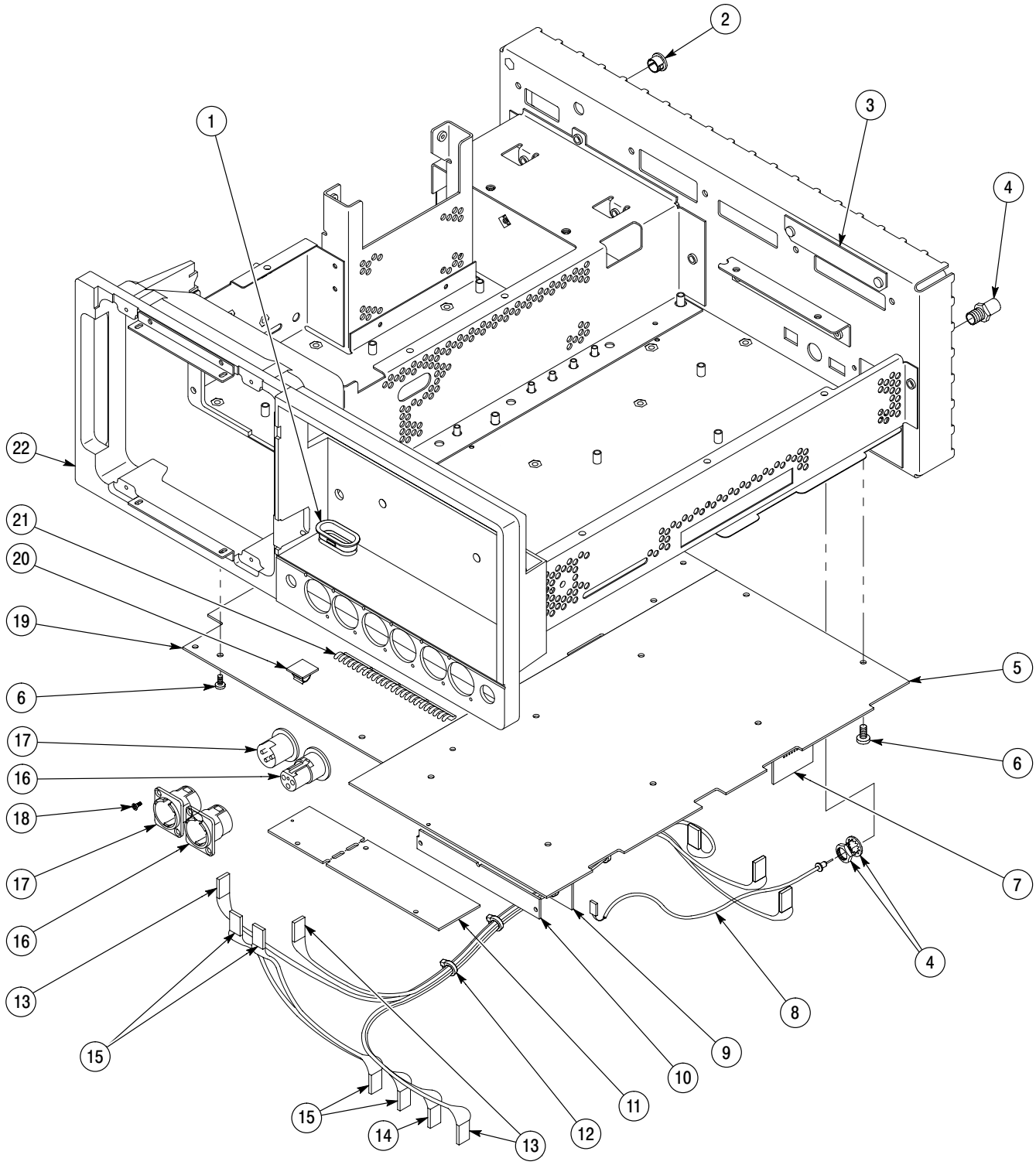


Figure 10–8: Chassis and bottom view – SN B019999 and below only

Fig. & Index Number	Tektronix Part Number	Serial No. Effective	Serial No. Discont'd	Qty	Name & Description	Mfr. Code	Mfr. Part Number
					Serial number B020100 and above only		
9–	441–2053–02			1	CHASSIS ASSY:CHASSIS ASSEMBLY WHOLE	80009	441–2053–02
–1	333–4108–02			1	PANEL,REAR:CHASSIS REAR PANEL,ALUM	80009	333–4108–02
–2	134–0245–00			1	PLUG,BUTTON:0.156 THK X 0.375 DIA,BLACK NYLON	28520	3059
–3	386–6579–00			1	SUBPANEL BLANK:CPU (REMOTE)	80009	386–6579–00
–4	131–1315–01			1	CONN,RF JACK:BNC/PNL,50 OHM,FEM,STR,PELTOLA/REAR	24931	28JR306–1
–5	211–0722–00			20	SCREW,MACHINE:6–32 X 0.250,PNH,STL,CDPL,T–15 TORX	0KB01	ORDER BY DESCR
–6	129–0565–00			10	SPACER,POST:1.281 L,6–32,1.047 H, HEX	80009	129–0565–00
–7	671–2897–01			1	CIRCUIT BD ASSY:ACQUISITION, (A1A1)	80009	671–2897–01
–8	671–2989–00			4	CKT BD ASSY:INPUT ATTN, (A1A2,A1A3,A1A4 AND A1A5)	80009	671–2989–00
–9	337–4105–00			1	SHIELD:ACQUISITION SHIELD,0.040 ALUM	80009	337–4105–00
–10	174–3170–01			1	CA ASSY,RF:COAXIAL,RFD,50 OHM	80009	174–3170–01
–11	337–4107–00			1	SHIELD, CABLE:CABLE SHIELD,0.030 ALUM	80009	337–4107–00
–12	343–0549–00			5	STRAP,TIEDOWN,E:0.098 W X 4.0 L,ZYTEL	06383	PLT1M
–13	671–2801–00			1	CKT BD ASSY:OVER/UNDER RANGE, (A1A7)	80009	671–2801–00
–14	174–3275–00			2	CA ASSY,SP:SHLD CMPST,CPD,2,22 AWG	80009	174–3275–00
–15	671–2990–00			1	CIRCUIT BD ASSY:TEST POWER SUPPLY BOARD, (A1A6)	80009	671–2990–00
–16	348–1418–00			1	GASKET:ELEC SHIELD	80009	348–1418–00
–17	174–3602–00			2	CA ASSY,SP,ELEC:CMPST,RELAY,CPD,26 AWG	80009	174–3602–00
–18	671–2917–01			1	CIRCUIT BD ASSY:XLR, (A2)	80009	671–2917–01
–19	131–5230–00			3	CONN,CIRC AUDIO:PCB/PNL,XLR,FEMALE,RTANG,3 POS,0.984 H X 0.16 TAIL,0.492 MATING CL,LATCHING,	0FMA6	NC3FDH
–20	131–3987–00			3	CONN,CIRC AUDIO:PCB/PNL,XLR,MALE,RTANG,3 POS,1.22 H X 1.024 W,CTR PLZ,LATCHING,	82389	E3MRA
–21	211–0101–00			12	SCREW,MACH:4–40 X 0.25,FLH,100 DEG,STL CD PL,POZ	93907	ORDER BY DESCR
–22	174–3160–00			2	CA ASSY,SP:	80009	174–3160–00
–23	671–3873–00			2	CKT BD SUBASSY:RELAY BOARD	80009	671–3873–00
–24	671–2797–02			1	CIRCUIT BD ASSY:AUDIO GENERATOR, (A5)	80009	671–2797–02
–25	386–6575–01			1	SUBPANEL, FRONT:CHASSIS FRONT SUBPANEL,ALUM	80009	386–6575–01
–26	348–1527–00			1	GASKET, WIRE:WIRE MESH,EMI,0.125 H X 0.188 X 0.002 D	18565	6593
–27	348–0763–00			2	GROMMET,PLASTIC:NATURAL,OVAL,1.235 ID	0JR05	ORDER BY DESCR

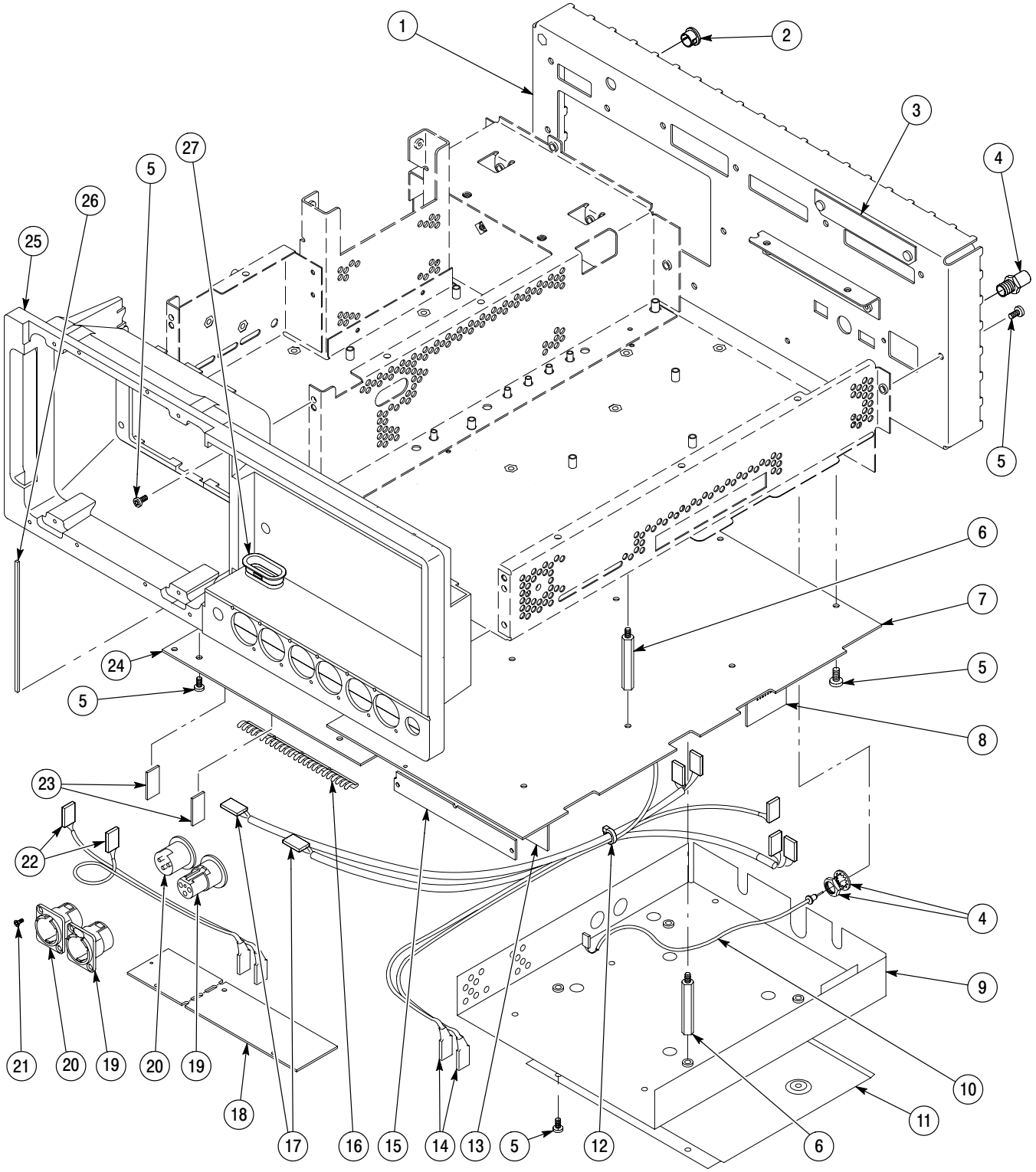


Figure 10–9: Chassis and bottom view – SN B020100 and above only

Fig. & Index Number	Tektronix Part Number	Serial No. Effective	Serial No. Discont'd	Qty	Name & Description	Mfr. Code	Mfr. Part Number
9–1	200–4211–00			1	COVER:PROTECTIVE,0.125 ABS,BLACK	80009	200–4211–00
–2	390–1132–00			1	CAB,WRAPAROUND:	80009	390–1132–00
–3	348–1154–01			4	FOOT,CABINET:POLYCARBONATE	80009	348–1154–01
–4	211–0511–00			4	SCREW,MACHINE:6–32 X 0.5,PNH,STL CD PL, POZ	TK0435	ORDER BY DESCR

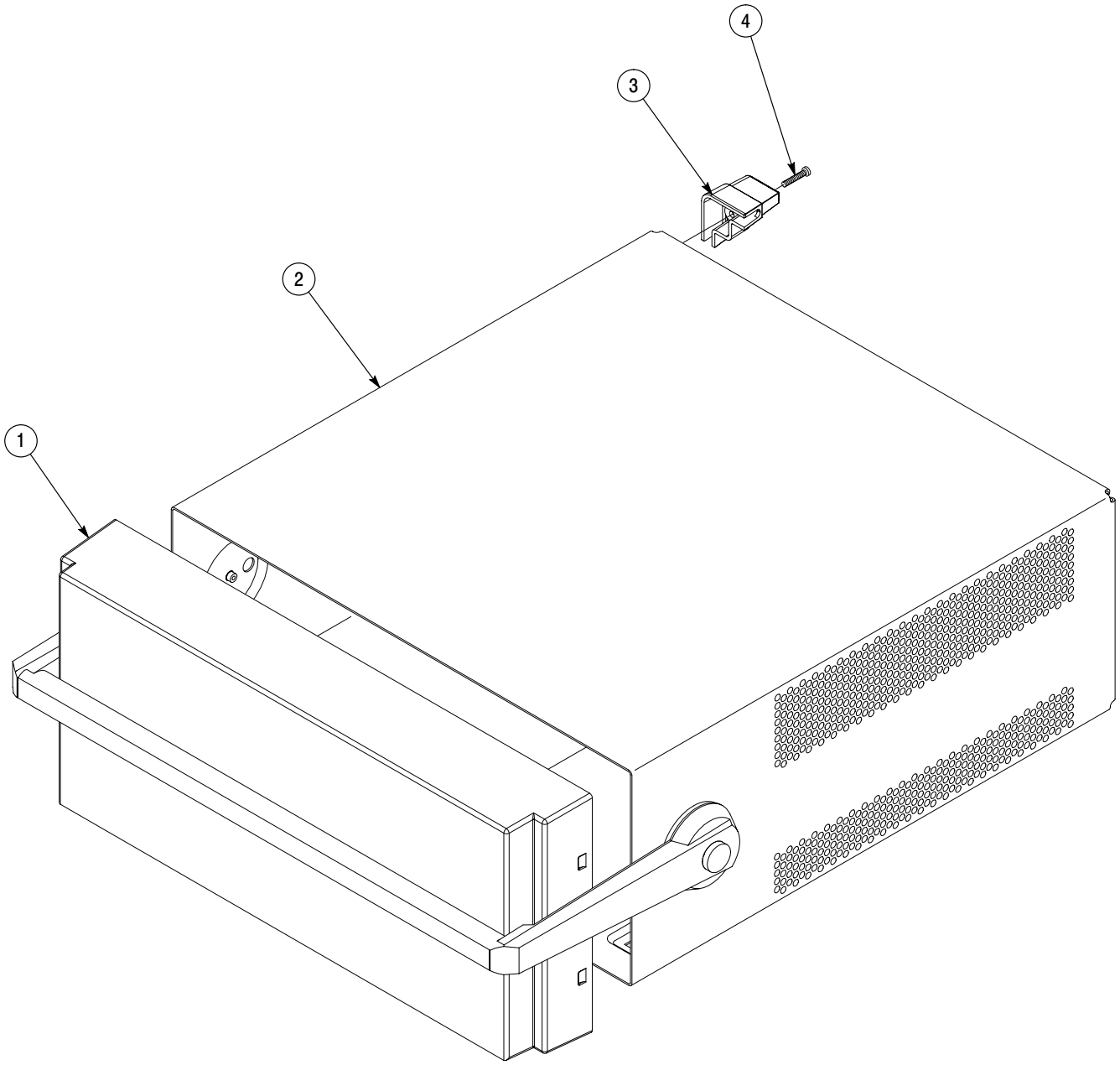


Figure 10–10: Cabinet

Fig. & Index Number	Tektronix Part Number	Serial No. Effective	Serial No. Discont'd	Qty	Name & Description	Mfr. Code	Mfr. Part Number
10					**STANDARD ACCESSORIES**		
	070–9000–01			1	MANUAL,TECH:AUDIO MEASUREMENT SET, AM700,DP	80009	070–9000–01
	070–9001–00			1	MANUAL,TECH:AUDIO MEASUREMENT,AM700,DP	80009	070–9001–00
	070–9034–00			1	MANUAL,TECH:AM700 PROGRAMMER'S QUICK REFERENCE	80009	070–9034–00
–1	161–0066–00			1	CA ASSY,PWR:3,18 AWG,250V/10A,98 INCH (STANDARD ONLY)	0B445	ECM–161–0066–00
					OPTIONAL ACCESSORIES		
–2	161–0066–09			1	CA ASSY,PWR:3,0.75MM SQ,250V/10A,99 INCH (EUROPEAN OPTION A1 ONLY)	2W733	ORDER BY DESCR
–3	161–0066–10			1	CA ASSY,PWR:3,1.0 MM SQ,250V/10A,2.5 METER (UNITED KINGDOM OPTION A2 ONLY)	TK2541	ORDER BY DESCR
–4	161–0066–11			1	CA ASSY,PWR:3,1.0MM SQ,250V/10A,2.5 METER (AUSTRALIAN OPTION A3 ONLY)	80126	ORDER BY DESCR
–5	161–0154–00			1	CA ASSY,PWR:3,1.0MM SQ,250V/10A,2.5 METER (SWISS OPTION A5 ONLY)	5F520	86515030
	070–9055–00			1	MANUAL,TECH:SERVICE, AM700,DP	80009	070–9055–00
	012–0991–00			1	CABLE,INTCON:SHLD CMPST,GPIB,2 METER	00779	553577–3
	012–0991–01			1	CABLE,GPIB:LOW EMI,1 METER	00779	553577–2
	012–0991–02			1	CABLE,GPIB:LOW EMI,4 METERS	00779	553577–5
	————			1	ADAPTER,RACK:AM7FR1		

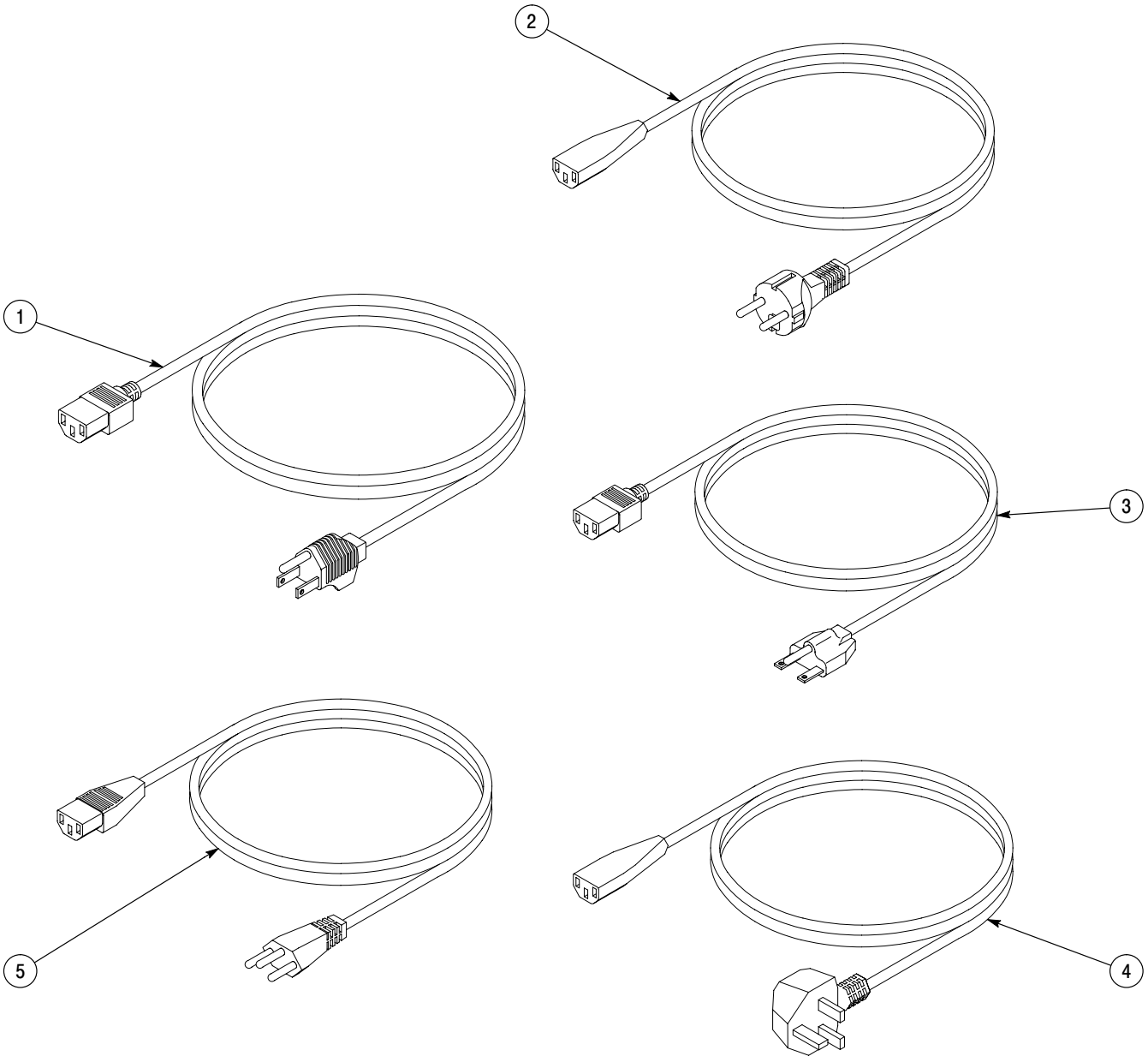


Figure 10–11: Standard and optional accessories

Appendix

Appendix A: Memory and Register Mapping

These tables can be used for troubleshooting of the digital components if you have access to a logic analyzer and are experienced in its use for troubleshooting. Normally, attempting to troubleshoot to this level requires a good deal of experience with the circuitry of the AM700 and would not be done by a customer.

Table A-1: Interrupt level encoding

Requested interrupt level	Control line status			Interrupt mask level required for recognition
	IPL2	IPL1	IPL0	
0	High	High	High	N/A
1	High	High	Low	0
2	High	Low	High	0-1
3	High	Low	Low	0-2
4	Low	High	High	0-3
5	Low	High	Low	0-4
6	Low	Low	High	0-5
7	Low	Low	Low	0-7

System Memory Map

The system memory mapping of the CPU board is shown in Table A-2.

Table A-2: System memory map summary (host CPU side)

Address (hex)	Type	Description
a. 0000 0000 – 000F FFFF b. 0000 0000 – 0007 FFFF c. 0000 0000 – 0003 FFFF	R	PROM 1 MB (C4096) 512 KB (C2048) 256KB (C1024)R
0400 0000 – 040f ffff	R/W	NVRAM 1MB
0C00 0000 – 0CXX XXXX		VRAM
0D00 0000 – 0DXX XXXX		I/O Processor Shared Memory/Registers
0E00 0000 – 0EXX XXXX		I/O Processor Shared Memory/Registers
0F00 0000 – 0FXX XXXX		LANCE
1000 0000 – 1000 00XX	R/W	RS232 Interface
1100 0000 – 1100 00XX	R/W	At Keyboard Interface
1200 0000	R	Board Status Register

Table A-2: System memory map summary (host CPU side) (cont.)

Address (hex)	Type	Description
1300 0000	R/W	Board Program Register
1400 0000	R	Dip Switch
1500 0000 – 15xx xxxx	W	GPIB Write Register
1600 0000 – 16xx xxxx	R	GPIB Read Register
1700 0000 – 17xx xxxx	R/W	Real Time Clock Registers
1800 0000 – 18xx xxxx	W	LED Register
1900 0000 – 19xx xxxx	R/W	DSP-CPU Interface ASIC Select
1A00 0000	R	32-bit Counter
1B00 00xx	R/W	Generator Board Host Interface
1B80 00xx	R/W	Digital Audio Board Host Interface
2000 0000 – 20xx xxxx	R/W	FEPROM
3000 0000 – 30xx xxxx	R/W	DRAM 4MB, 8 MB, 16 MB
40B2 0980	W	4/8 MB SIMM DRAM Register
42B2 0980	W	16 MB SIMM DRAM Register
5100 0000	R/W	ONCE Data Read/Write Register
5200 0000	R	ONCE Status Register
5300 0000	R/W	ONCE Control Register
6000 0000 – 6000 0xxx	R/W	Host Interface Registers
7000 0000 – 70xx xxxx	R/W	Flash EPROM Board
CC00 0000 – CC0F FFFF	R/W	DSP DMS DRAM Access

CPU/DSP Interface Address Map

Table A-3 provides the CPU/DSP Interface Address Map.

Table A-3: CPU/DSP interface address map

Address	R/W	Host function
6000 0020[1]	R	ICS Register Read
6000 0020	W	ICS Register Write
6000 0024	R	SEM Register Read
6000 0024	W	SEM Register Write
6000 0028	R	RX Register Read
6000 0028	W	TX Register Write
6000 0030	R	IVR Register Read

Table A-3: CPU/DSP interface address map (cont.)

Address	R/W	Host function
6000 0030	W	IVR Register Write
6000 0034	R	CVR Register Write
6000 0034	W	CVR Register Write
6000 0000	W	TX Register Write and Y Memory Write Interrupt
6000 0004	W	TX Register Write and Y Memory Read Interrupt
6000 0008	W	TX Register Write and X Memory Write Interrupt
6000 000C	W	TX Register Write and X Memory Read Interrupt
6000 0010	W	TX Register Write and P Memory Write Interrupt
6000 0014	W	TX Register Write and P Memory Read Interrupt

[1] **Host Port Address $6000 XXXX is the default base address.**

Table A-4: EPROM address space

Address	Memory size	BSR11	BSR10
0000 0000 – 0003 FFFF	256KB	0	0
0000 0000 – 0007 FFFF	512KB	0	1
0000 0000 – 000F FFFF	1MB	1	0

Table A-5: NVRAM address space

Address (hex)	Memory bank	Size
0400 0000 – 0407 FFFF	0	512 KB
0408 0000 – 040F FFFF	1	512 KB

Table A-6: Mapping access by the MC68040

TEK 2 MB SIMM			
Address(hex)	**Memory bank**	**2 MB SIMM**	**Size**
2000 0000 – 200F FFFF	0	SIMM0	1 MB
2010 0000 – 201F FFFF	1	SIMM0	1 MB
2020 0000 – 202F FFFF	2	SIMM1	1 MB
2030 0000 – 203F FFFF	3	SIMM1	1 MB
TEK 8 MB SIMM			
2000 0000 – 203F FFFF	0	SIMM0	4 MB
2040 0000 – 207F FFFF	1	SIMM0	4 MB
2080 0000 – 20BF FFFF	2	SIMM1	4 MB
20C0 0000 – 20FF FFFF	3	SIMM1	4 MB

Table A-7: Flash SIMM module capacity identification

FPD3 FPD7	FPD2 FPD6	FPD1 FPD5	FPD0 FPD0	Number of parts	Part density	Module capacity
1	0	1	0	8	2 Mbit	2 Mbyte (Tek)
0	1	0	1	4	8 Mbit	4 Mbyte (Tek)
0	1	0	0	8	8 Mbit	8 Mbyte (Tek)

DRAM Address Map

Table A-8 lists the address mapping accessed by the MC68040. Table A-9 list the DMA mapping accessed by the DSP.

Table A-8: DRAM address map (68040 access)

Address(hex)	Size	BSR6	BSR5[1]	BSR4
3000 0000 – 303F FFFF	1 Meg × 36	0	0	0
3000 0000 – 307F FFFF	2 Meg × 32	1	1	1
3000 0000 – 307F FFFF	2 Meg × 36	0	1	1
3000 0000 – 30FF FFFF	4 Meg × 36	0	1	0

Table A-9: DRAM address map (96002 DMA access)

Address(hex)	Size	BSR6	BSR5	BSR4
CC00 0000 – CC0F FFFF	4 MB	0	0	0
CC00 0000 – CC1F FFFF	8 MB	0	1	1
CC00 0000 – CCFF FFFF	16 MB	0	1	0

[1] **BSR6 = Board Status Register bit 6**
BSR5 = Board Status Register bit 5
BSR4 = Board Status Register bit 4
If BSR6=BSR5=BSR4=1, it means no DRAM installed.
BSR address = 1200 0000

Diagnostic LED Displays

The diagnostic displays are used to troubleshoot CPU kernel problems when the AM700 fails to boot. The segments of the diagnostic LED are turned on to indicate the failed area as indicated in Table A-10.

Table A-10: Diagnostic LED definitions

LED	Description
0	reserved
1	reserved
2	on : Flash EPROM (bank 0) not found
3	on : Flash EPROM (bank 1) not found
4	on : Flash EPROM (bank 2) not found
5	on : DRAM not found
6	on : battery supply failure
7	on : hardware reset active

***NOTE**. LED Display Register (LDR) (1400 0010), byte write transfer is required.*

S3 Diagnostic Switch Settings

The settings of the segments of dip switch S3 define the operational mode of the operating system. Certain settings are used for troubleshooting only and are not normally changed to any other settings than those listed in Table A-11 for Normal System Operation.

Table A-11: Dip switch S3 functional specification

DIP SWITCH S3	Switch position	Descriptions
1	UP DOWN	Normal System Operation Disable 30 μS Timer
2	UP DOWN	Normal System Operation Cache disabled
3	UP DOWN	Normal System Operation Reset CPU only
4	UP DOWN	Normal System Operation Reset ALL hardware except CPU

Table A-12: CPU MC68040 interrupts priority table

Interrupt level	Interrupt source	BPR interrupt mask bit
7	NVRAM Battery Failure	B20
6	a. Serial Ports A & B	B18
	b. Serial Ports C & D Ports (KeyBoard Interface)	B19
5	a. GPIB	B16
	b. Front Panel	B17
4	DSP Board, Digital Audio Board, Generator Board	B15, B24
3	a. Video Retrace	B13
	b. 68681 counter/timer	B14
2	LANCE	B12
1	Real Time Clock	B11

Table A-13: Board status register address: 12000000 *Operation: read only*

Bit	Name	Description
0	ERR0	0 = byte 0 parity error detected
1	ERR1	0 = byte 1 parity error detected
2	ERR2	0 = byte 2 parity error detected
3	ERR3	0 = byte 3 parity error detected
4	DPD0	DRAM Present bit 0
5	DPD1	DRAM Present bit 1

Table A-13: Board status register address: 12000000 *Operation: read only* (cont.)

Bit	Name	Description
6	PD2	DRAM Present bit 2
7	TOEN	1 = 30 µS timer enabled 0 = 30 µS timer disabled
8		Reserved
9		Reserved
10		Reserved
11		Reserved
12	NVBF	0 = NVRAM battery low 1 = NVRAM battery normal
13	PGOK	1 = +12 V ready
14	TIMEOUT	Bus Time Out Status
15	FPDO	FEPROM present bit 0
16	FPD1	FEPROM present bit 1
17	FPD2	FEPROM present bit 2
18	FPD3	FEPROM present bit 3
19	FPD4	FEPROM present bit 4
20	FPD5	FEPROM present bit 5
21	FPD6	FEPROM present bit 6
22	FPD7	FEPROM present bit 7
23	S_ID_BIT	Silicon ID Serial Bit
24...31		Board Version Number

Table A-14: Board program register address: 13000000

Bit	Name	Description
0	NVEN	1 = NVRAM write protected 0 = NVRAM write enabled
1	FEPEN	1 = FEPROM write protected 0 = FEPROM write enabled
2	ODEV	1 = even parity 0 = odd parity
3	CLRPAR	1 = mask and clear error detection status bits 1 goes to 0 = unmask error detection status bits

Table A-14: Board program register address: 13000000 (cont.)

Bit	Name	Description
4	NMICLR	1 = mask external NMI input 0 = unmasked external NMI input
5	RSTDSP	1 = DSP96002 in reset state 8 = DSP96002 in active state
6	RSTOA	1 = generator reset is active low 0 = generator reset is active high
7	RSTOB	1 = digital audio board reset is active low 0 = digital audio board reset is active high
8	MNDIS	1 = disable MMU
9	GPIBC	1 = non-system controller 0 = system controller
10	DMARST	DSP board DMS ASIC reset control 0 = DSP ASIC in reset state 1 = DSP ASIC release from reset state
11	MIRQ1	level 1 (Real Time Clock) interrupt mask bit 0 = unmasked 1 = masked
12	MIRQ2	level 2 (LANCE) interrupt mask bit 0 = unmasked 1 = masked
13	MIRQ3A	level 3 (Video Retrace) interrupt mask bit 0 = unmasked 1 = masked
14	MIRQ3B	level 3 (68681 Counter) interrupt mask bit 0 = unmasked 1 = masked
15	MIRQ4	level 4 (DSP96002) interrupt mask bit 0 = unmasked 1 = masked
16	MIRQ5A	level 5 (GPIB) interrupt mask bit 0 = unmasked 1 = masked
17	MIRQ5B	level 5 (Front Panel) interrupt mask bit 0 = unmasked 1 = masked

Table A-14: Board program register address: 13000000 (cont.)

Bit	Name	Description
18	MIRQ6A	level 6 (Serial A & B) interrupt mask bit 0 = unmasked 1 = masked
19	MIRQ6B	level 6 Key Board interrupt mask bit 0 = unmasked 1 = masked
20	MIRQ7	level 7 interrupt mask bit 0 = unmasked 1 = masked
21	FLASHEN	Enable +12 V to Flash EPROM board 0 = enabled 1 = disabled
22	BKEN	Relay Control 0 = short circuited 1 = open circuited
23	STX	Serial Number generator transmit control 0 = pull data to logic “0” 1 = pull data to logic “1”
24	MIRQ4B	Digital Audio Board/Generator Board Interrupt 0 = unmasked 1 = masked
25		reserved
26		reserved
27		reserved
28		reserved
29		reserved
30		reserved
31		reserved

Table A-15: Timer registers and addresses

Timer register	Address	Timer register	Address	Timer register	Address
0	17000000	18	17000060	31	170000C0
1	17000004	19	17000064	32	170000C4
2	17000008	1A	17000068	33	170000C8
3	1700000C	1B	1700006C	34	170000CC
4	17000010	1C	17000070	35	170000D0
5	17000014	1D	17000074	36	170000D4
6	17000018	1E	17000078	37	170000D8
7	1700001C	1F	1700007C	38	170000DC
8	17000020	20	17000080	39	170000E0
9	17000024	21	17000084	3A	170000E4
A	17000028	22	17000088	3B	170000E8
B	1700002C	23	1700008C	3C	170000EC
C	17000030	24	17000090	3D	170000F0
D	17000034	25	17000094	3E	170000F4
E	17000038	26	17000098	3F	170000F8
F	1700003C	27	1700009C		
10	17000040	28	170000A0		
11	17000044	29	170000A4		
12	17000048	2A	170000A8		
13	1700004C	2B	170000AC		
14	17000050	2C	170000B0		
15	17000054	2D	170000B4		
16	17000058	2F	170000B8		
17	1700005C	30	170000BC		

Table A-16: Interrupt inputs and sources

Interrupt input	Type of interrupt	Interrupt source
IRQA	edge	Speaker Signal Interrupt (speaker not used in current version)
IRQB	edge	DMA Trigger
IRQC	level	Port A Bus Error Interrupt
	level	Port B Bus Error Interrupt

Table A-16: Interrupt inputs and sources (cont.)

Interrupt input	Type of interrupt	Interrupt source
	level	Sample Receiver 0 Interrupt
	level	Sample Receiver 1 Interrupt

The following additional tables are for use in mapping the DUARTs and other port interfaces.

The DUARTA and DUARTB register addresses are given in Tables A-17 and A-18.

Table A-17: DUARTA register addresses

Register address	Read	Write
$10000000	Mode Register A (MR1A, MR2A)	Mode Register A (MR1A, MR2A)
$10000004	Status Register A (SRA)	Clock Select Register A (CSRA)
$10000008	Do Not Access	Command Register A (CRA)
$1000000C	Receiver Buffer A (RBA)	Transmitter Buffer A (TBA)
$10000010	Input Port Change Register (IPCR)	Auxiliary Control Register (ACR)
$10000014	Interrupt Status Register (ISR)	Interrupt Mask Register (IMR)
$10000018	Counter Mode:Current MSB of Counter (CUR)	Counter/Timer Upper Register (CTUR)
$1000001C	Counter Mode:Current LSB of Counter (CLR)	Counter/Timer Lower Register(CTLR)
$10000020	Mode Register B (MR1B, MR2B)	Mode Register B (MR1B, MR2B)
$10000024	Status Register B (SRB)	Clock Select Register B (CSRB)
$10000028	Do Not Access	Command Register B (CRB)
$1000002C	Receiver Buffer B (RBB)	Transmitter Buffer B (TBB)
$10000030	Interrupt Vector Register (IVR)	Interrupt Vector Register (IVB)
$10000034	Input Port (Unlatched)	Output Port Configuration Reg (OPCR)
$10000038	Start Counter Command	Output Port Reg (OPR) Bit Set Command
$1000003C	Stop Counter Command	Output Port Reg (OPR) Bit Reset Command

Table A-18: DUARTB register addresses

Register address	Read	Write
$11000000	Mode Register A (MR1A, MR2A)	Mode Register A (MR1A, MR2A)
$11000004	Status Register A (SRA)	Clock Select Register A (CSRA)
$11000008	Do Not Access	Command Register A (CRA)
$1100000C	Receiver Buffer A (RBA)	Transmitter Buffer A (TBA)
$11000010	Input Port Change Register (IPCR)	Auxiliary Control Register (ACR)
$11000014	Interrupt Status Register (ISR)	Interrupt Mask Register (IMR)
$11000018	Counter Mode:Current MSB of Counter (CUR)	Counter/Timer Upper Register (CTUR)
$1100001C	Counter Mode:Current LSB of Counter (CLR)	Counter/Timer Lower Register (CTLR)
$11000020	Mode Register B (MR1B, MR2B)	Mode Register B (MR1B, MR2B)
$11000024	Status Register B (SRB)	Clock Select Register B (CSRB)
$11000028	Do Not Access	Command Register B (CRB)
$1100002C	Receiver Buffer B (RBB)	Transmitter Buffer B (TBB)
$11000030	Interrupt Vector Register (IVR)	Interrupt Vector Register (IVB)
$11000034	Input Port (Unlatched)	Output Port Configuration Reg (OPCR)
$11000038	Start Counter Command	Output Port Reg (OPR) Bit Set Command
$1100003C	Stop Counter Command	Output Port Reg (OPR) Bit Reset Command

Table A-19: UART port B output port register

Bit name	Description
OP1	Keyboard Clock Inhibit Logic “1” : Clock Inhibited (lowering the “clock” line to a logic “0”) Logic “0” : Clock Enabled (clock line is logic “1”)
OP4	Receiver Clock Enable/data receive inhibit Logic “1” : Receive Clock inhibited Logic “0” : Receive Clock enabled
OP6	Data Transmit Ready Logic “1” : Data transmit inhibit (or Data transmit not ready) Logic “0” : Data is ready to transmit

Table A-20: GPIB controller read registers

Address (hex)	Register name
1600 0000	Int Status 0
1600 0004	Int Status 1
1600 0008	Address Status
1600 000C	Bus Status
1600 0010	*
1600 0014	*
1600 0018	Cmd Pass Thru
1600 001C	Data In

*** The TMS9914A host interface data lines will remain in the high impedance state when these register locations are addressed.**

Table A-21: GPIB controller write registers

Address (hex)	Register name
1500 0000	Int Mask 0
1500 0004	Int Mask 1
1500 0008	*
1500 000C	Auxiliary Cmd
1500 0010	Address
1500 0014	Serial Poll
1500 0018	Parallel Poll
1500 001C	Data Out

Table A-22: Port A memory map summary (DSP side)

Address (hex)	Type	Description
a. 1fff 0000 – 2000 FFFF b. 1ffd 0000 – 2001 FFFF	R/W	SRAM 128kx32 (default) 256kx32
4000 0000	R	DSP Board Status Register (DSR)
4100 0000	R/W	DSP Board Program Register (DPR)
4200 0000	R/W	Sample Receiver 0 Select
4300 0000	R/W	Sample Receiver 1 Select
4400 0000	R/W	Serializer Select
4500 0000	R/W	Analog Interface Register (AIR)

Table A-23: Port B memory map summary (DSP side)

Address (hex)	Type	Description
a. CC00 0000 – CC0F FFFF b. CC00 0000 – CC1F FFFF	R/W	DMA access DRAM 4MB 8 MB
a. 1fff 0000 – 2000 FFFF b. 1ffd 0000 – 2000 FFFF	R/W	SRAM 128k × 32 256k × 32
$5000 0000	W	DMA Process Reset Register (PRR)

Table A-24: AHR address (CPU side): $1900 0000

AHR bit assignment	Type	Default value (in hex)	Description
31 .. 28	R	0	ASIC version number
27 .. 20	R/W	10	reserved
19 .. 16	R/W	5	DMA Process reset register (PRR)
15 .. 8	R/W	60	Host Port interface base address
7 .. 0	R/W	CC	DMA transfer base address

Table A-25: Status register (SR), U52 and U53, address: $4000 0000

Bit	Name	Description
0	APD0	Port A SCRAM Present Bit 0 SRAM SIZE (128K × 32) : 1 (256K × 32) : 0
1	APD1	Port A SRAM Present Bit 1 SRAM SIZE (128K × 32) : 1 (256K × 32) : 1
2	BPD0	Port B SRAM Present Bit 1 SRAM SIZE (128K × 32) : 1 (256K × 32) : 1
3	BPD1	Port B SRAM Present Bit 1 SRAM SIZE (128K × 32) : 1 (256K × 32) : 1
4	ACQ0	Sample receiver 0 interrupt 1 = no interrupt 0 = interrupt is active
5	ACQ1	Sample receiver 1 interrupt 1 = no interrupt 0 = interrupt is active

Table A-25: Status register (SR), U52 and U53, address: $4000 0000 (cont.)

Bit	Name	Description
6	SIRQ	Serializer interrupt 1 = no interrupt 0 = interrupt is active
7	DMA_Busy	DMA transfer status 1 = no transfer/burst transfer completed 0 = burst transfer in process
8	A_Fault	Port A access fault 1 = no access fault 0 = access fault detected
9	B_Fault	Port B access fault 1 = no access fault 0 = access fault detected
10		reserved
11		reserved
12 to 15		DSP Hardware Version Number: 1 (hex)

Table A-26: Program register, U54 and U62, address: $4100 0000

Bit	Name	Description
0	MA_Fault	1 = mask Port A access fault interrupt
1	MB_Fault	1 = mask Port B access fault interrupt
2	MIRQ_100	1 = mask 100 Hz periodic interrupt
3	MIRQ_1K	1 = mask 1 kHz periodic interrupt
4	MSIRQ	1 = mask serializer interrupt
5	SMOD1	serializer mode bit 1
6	SMOD0	Serializer mode bit 0
7	LBACK	Analog Port local loopback select
8	Fault_A_Clr	0 = reset port A access fault flag
9	Fault_B_Clr	0 = reset port B access fault flag

Table A-27: SMOD1 and SMOD0 bit settings

SMOD2	SMOD1	SMOD0	Description
0	0	0	Select AFE bit clock at 192 kHz
0	0	1	Select AFE bit clock at 48 kHz
1	0	1	Select DAB bit clock at 48 kHz

Table A-27: SMOD1 and SMOD0 bit settings (Cont.)

SMOD2	SMOD1	SMOD0	Description
0	1	0	Generate 8 kHz clock
X[1]	1	1	hold

1 **X = don't care.**

Table A-28: Host interface bootstrap operating mode

Mode	MC	MB	MA	DSP initial chip operating mode
7	1	1	1	Bootstrap through the Host Interface (Port B)

NOTE*. Refer to DSP Manufacture's User Manual for detailed description of the Bootstrap Operating Mode.*

DMA Read Procedure

Assumed transfer of eight words (32–bit) from share memory address AS0 to DSP local memory address AD0.

Count # = # of word transfer
DSP instruction access address = AS0
DMA Source address = AS0+1
DMA Destination address = AD0

* # of word(s) transfer must be equal to factor of four words.

1. DSP Read Access: Address:Source Start Address (SSA0)
   a. DMA Interface (DI) stored the SSA0 and generated bus request (DMABR)
   b. Wait for Bus Grant (DMABG)
   c. If DMABG asserted, store 4 long words into DMA READ buffer
   d. generated DMA Trigger (IRQB)
2. DMA Read Access: SSA1 → SSW0
   DMA Write Access: DSA0 ← SSW0
   a. generated DMA Trigger (IRQB)

3. DMA Read Access: SSA2 → SSW1
   DMA Write Access: DSA1 ← SSW1
   a. generated DMA Trigger (IRQB)
4. DMA Read Access: SSA3 → SSW2
   DMA Write Access: DSA2 ← SSW2
   a. generated DMA Trigger (IRQB)
5. DMA Read Access: SSA4 → SSW3
   DMA Write Access: DSA3 ← SSW3
   a. DMA Interface (DI) stored the SSA4 and generated bus request (DMABR)
   b. Wait for Bus Grant (DMABG)
   c. If DMABG asserted, store 4 long words into DMA READ buffer
   d. generated DMA Trigger (IRQB)
6. DMA Read Access: SSA5 → SSW4
   DMA Write Access: DSA4 ← SSW4
   a. generated DMA Trigger (IRQB)
7. DMA Read Access: SSA6 → SSW5
   DMA Write Access: DSA5 ← SSW5
   a. generated DMA Trigger (IRQB)
8. DMA Read Access: SSA7 → SSW6
   DMA Write Access: DSA6 ← SSW6
   a. generated DMA Trigger (IRQB)
9. DMA Read Access: SSA8 → SSW7
   DMA Write Access: DSA7 ← SSW7
   a. DMA Interface (DI) stored the SSA8 and generated bus request (DMABR)
   b. Wait for Bus Grant (DMABG)
   c. If DMABG asserted, store 4 long words into DMA READ buffer
   d. generated DMA Trigger (IRQB)
10. DSP Write to DMA Reset Register (DRR) to stop the process.

DMA WRITE Procedure

This explanation assumes a transfer of eight words from DSP local memory address AS0 to shared memory address AD0

Count # = # of word transfer – 1
DSP instruction access address = AD0
DMA Source address =
AS0+1 DMA Destination address = AD0+1

* # of word(s) transfer must be equal to factor of four words.

1. DSP Write Access: Address:Destination Start Address(DSA0)
DSA0 → DSW0

a. DMA Interface(DI) stored the DSA0 in address buffer

b. DI stored DSW0 DMA WRITE BUFFER

c. generated DMA Trigger (IRQB)

2. DMA Write Access: DSA1 → DSW1

a. DI stored DSW1 DMA WRITE BUFFER

b. generated DMA Trigger (IRQB)

3. DMA Write Access: DSA2 → DSW2

a. DI stored DSW2 DMA WRITE BUFFER

b. generated DMA Trigger (IRQB)

4. DMA Write Access: DSA3 → DSW3

a. DI stored DSW3 DMA WRITE BUFFER

b. generated DMABR

c. If DMABG asserted, write 4 long words to DRAM

d. generated DMA Trigger (IRQB)

5. DMA Write Access:Address:Destination Start Address(DSA4)
DSA4 → DSW4

a. DMA Interface(DI) stored the DSA4 in address buffer

b. DI stored DSW5 DMA WRITE BUFFER

c. generated DMA Trigger (IRQB)

6. DMA Write Access: DSA5 → DSW5
   a. DI stored DSW5 DMA WRITE BUFFER
   b. generated DMA Trigger (IRQB)
7. DMA Write Access: DSA6 → DSW6
   a. DI stored DSW6 DMA WRITE BUFFER
   b. generated DMA Trigger (IRQB)
8. DMA Write Access: DSA7 → DSW7
   a. DI stored DSW7 DMA WRITE BUFFER
   b. generated DMABR
   c. If DMABG asserted, write 4 long words to DRAM
   d. generated DMA Trigger (IRQB)
9. DSP Write to DMA Reset Register (DRR) to stop the process.

NOTE. *To abort any DMA transfer at any time, the DSP is required to write to DRR at address $05000000. In addition, DSP SW reset, 68040 soft reset, ONCE Interface reset, and Global SW reset have the same effect.*

Table A-29: DMA interface address translation

DSP	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
Host	x[a]	x	31	30	29	28	27	26	25	24	23	22	21	20	19	18
DSP	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Host	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
DSP	*[b]	*														
Host	1	0														

a **X = don't care**
b *** = ground**

Translation Examples

Table A-30: Host/DMA address translation examples

DSP Address	Host Address
CC00 0000	3000 0000
CC00 0001	3000 0004
CC00 0002	3DSP Address000 0008
CC00 0003	3000 000C
CC00 0004	3000 0010
CC00 0005	3000 0014
CC0F FFFF	303F FFFC

Translate DSP DMA address to Host DMA address

Host Address = ((DSP address) << 2) & 0xfffffffc

Translate Host DMA address (long word addressing) to DSP DMA address

DSP Address = ((Host address) >> 2) | 0xc0000000