

2710 SPECTRUM ANALYZER

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Serial Number _____

PREFACE

This manual contains service information for the TEKTRONIX 2710 SPECTRUM ANALYZER.

Other instruction manuals for this product are:

2710 Operators Manual

2710 Option 03 Programmers Manual ¹

For manual ordering information, refer to the Replaceable Mechanical Parts List at the rear of this manual or contact your local Tektronix Field Office.

Who Should Use This Manual?

This manual is intended for electronic technicians with experience in servicing digital, analog, and rf circuitry. Circuit analysis is mostly functional and should help isolate most malfunctions to a board or block of circuitry. The technician should then be able, with the aid of test equipment, to isolate the malfunction to a specific component or components.

Documentation Standards

Most terminology and graphics follow ANSI standards. A glossary of terms is provided as an appendix. Refer to the following standards:

ANSI Y1.1 Abbreviations

ANSI Y32.2 Graphic Symbols

IEEE 91 Logic Symbols

Change/History Information

Manual corrections or additional information is included when manual pages are revised. A revised page is identified by a revision date located in the lower inside corner of the page. This helps ensure that the manual contains the latest and most accurate information available through the evolution of the instrument.

History information, with the updated data, is integrated into the text or diagrams. When a text page is updated, the revised pages are identified by a revision date in the lower inside corner of the page. When a diagram is updated, the revision date is placed at the lower center of the diagram. History information is shown with a gray tint. When a component value is changed, the designator on the drawing is boxed with a grey outline. When a circuit is deleted or changed, the original configuration is shown in grey, drawn either at its original location or to the side of the drawing.

If you have a manual other than the one that came with your instrument it may contain revisions that do not apply to your instrument; however all history information that pertains to the earlier instruments is retained. When a major modification has been made to an assembly or circuit board, the data for the replaced assembly will follow the new information and will be identified with appropriate titles or headings such as instrument serial number range or the assembly or board part numbers.

Also, if your instrument has an assembly replaced with a newer version, documentation for the newer assembly may be supplied. Contact any Tektronix Service Center for information.

¹ When Option 03 becomes available.

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SERVICING SAFETY SUMMARY

FOR QUALIFIED SERVICE PERSONNEL ONLY

Do Not Service Alone

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

Do Not Wear Jewelry

Remove jewelry prior to servicing. Rings, necklaces, and other metallic objects could come into contact with dangerous voltages and currents.

Use Care When Servicing With Power On

Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on.

Disconnect power before removing protective panels, soldering, or replacing components.

Power Source

This product is intended to operate from a power source that will not apply more than 250 volts rms between the supply conductor and ground. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

X-Radiation

X-ray emission generated within this instrument has been sufficiently shielded. Do not modify or otherwise alter the high voltage circuitry or the crt enclosure.

TERMS

In This Manual

CAUTION statements identify conditions or practices that could result in damage to the equipment or other property.

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

As Marked on Equipment

CAUTION indicates a personal injury hazard not immediately accessible as one reads the marking, or a hazard to property including the equipment itself.

DANGER indicates a personal injury hazard immediately accessible as one reads the marking.

SYMBOLS

In This Manual



This symbol indicates where applicable cautionary or other information is to be found.

As Marked on Equipment



DANGER High Voltage.



Protective ground (earth) terminal.



ATTENTION Refer to manual.



Refer to manual.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Danger Arising From Loss of Ground

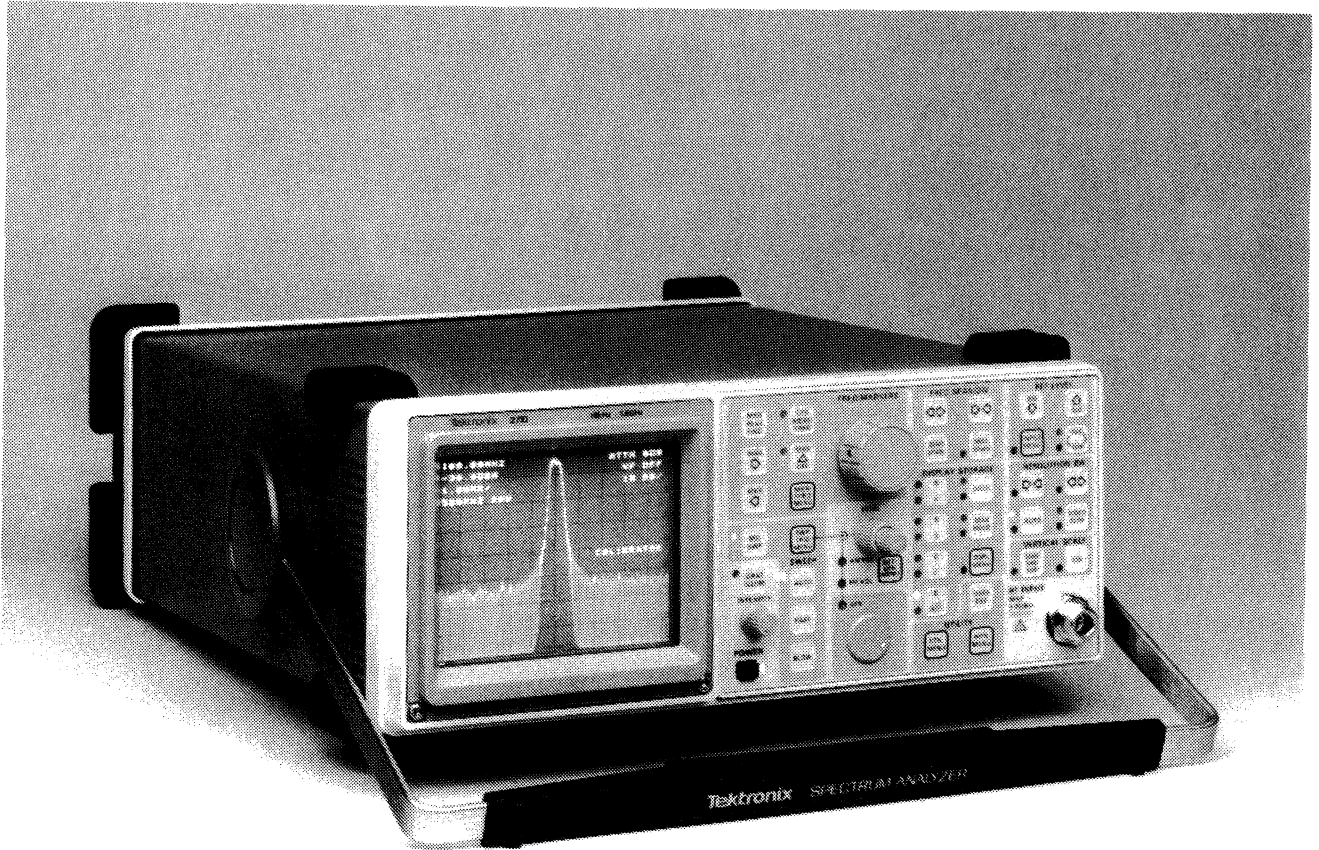
Upon loss of the protective ground connection, all accessible conductive parts (including knobs and controls that may appear to be insulating) can render an electric shock.

Use the Proper Power Cord

Use only the power cord and connector specified for your product.

Use only a power cord that is in good condition.

Refer to Section 1 for information on power cords and connectors.



2710 SPECTRUM ANALYZER

GENERAL INFORMATION

This Section of the Manual includes a general description of the instrument, a list of Options, Unpacking and Repackaging instructions, Storage and Service information, and a list of Standard and Optional accessories.

INSTRUMENT DESCRIPTION

The 2710 Spectrum Analyzer is a portable instrument for the 10 kHz to 1.8 GHz frequency range. Center Frequency accuracy is 1×10^{-5} . A minimum Resolution Bandwidth of 3 kHz, with a Span/Div down to 10 kHz provides measurement resolution commensurate with the frequency accuracy. Options are available for performance enhancement.

The Spectrum Analyzer's main features are:

- **Precision Measurements** – Menu selectable routines provide directions for normalizing the internal reference (calibrator signal) to external frequency and amplitude references. After the internal reference is normalized, other menu selections provide for normalizing all, or selected, instrument measurement parameters. It is recommended practice to invoke the normalization routines prior to a critical measurement.
- **Menu Operation** – Menu-selected routines provide Diagnostics, Normalization, Adjustments, and set-up of basic parameters such as center frequency, frequency span, reference level, vertical scale factor, resolution bandwidth, etc. Each menu is described in Section 4 in the Operators manual.
- **Single and Δ Markers** – A single marker can be enabled to show the frequency and amplitude of a specific point on the display. Delta (Δ) markers show the difference frequency and amplitude, between any two points on the display.
- **Tracking** – Signal tracking holds a drifting signal to center screen.
- **Center Measure** – When this function is activated, the instrument completes the sweep and centers the signal nearest center-screen or with markers activated, the signal nearest the marker. A readout of center frequency and amplitude is displayed.
- **Display** – In the Spectral mode, the numerical values of signals and setup parameters are displayed. In the Menu mode, menus with their selections and prompts are displayed. Error, warning, or information messages are displayed in both modes.

Conformance to Industry Standards

This Spectrum Analyzer conforms with the following Industry Safety Standards and Regulatory Requirements:

CSA – Electrical Bulletin 556B

ANSI C39.5 (11th Draft) – Safety Requirement for Electrical and Electronic Measuring and Controlling Instrumentation.

IEC 348 (2nd Edition) – Safety Requirement for Electronic Measuring Apparatus.

UL 1244 (2nd Edition) – Measuring Testing Equipment.

Product Service

To assure adequate product service and maintenance for our instruments, Tektronix has established Field Offices and Service Centers at strategic points throughout the United States and in countries where our products are sold. Several types of maintenance or repair agreements are available.

For example, for a fixed fee, a maintenance agreement program provides maintenance and recalibration on a regular basis. Tektronix will remind you when a product is due for recalibration and perform the service within a specified time.

Tektronix emergency repair service provides immediate service when the instrument is urgently needed.

Contact your local Tektronix Service Center, representative, or sales engineer for details regarding product service.

Instrument Construction

Modular construction provides ready access to the major circuits. Circuit boards containing sensitive circuits are mounted in castings, with feedthrough connectors through the compartment wall. Most boards and assemblies plug onto a common interconnect board. Most adjustments and test points are accessible while the instrument is operational and with the modules or assemblies secured in their normal position.

General Information – 2710 Service

Extenders are available in an optional Service Kit (see Maintenance section under Service Fixtures and Tools for Maintenance). Any module or board can be removed without disturbing the structural or functional integrity of the other modules. The extenders allow most circuit board assemblies to function in an extended position for service or adjustment. All other circuit boards (which should require minimal service) are accessible by removing the instrument's cabinet.

NOTE

Disassembly of some modules may require special tools and procedures. These procedures are located in the Maintenance section.

Most of circuits are isolated in shielded compartments to obtain and maintain the frequency stability, sensitivity, and EMI characteristics. While shielding helps ensure spurious-free response, the closeness of the circuits minimizes losses and interactions with other functions. Interconnections between compartments are made by feedthrough terminals rather than cables. If the compartments are opened, be sure that the shields are properly reinstalled before operating.

Installation and Preparation for Use

The Installation section of the manual provides unpacking information and the procedures to prepare the instrument for use. It also includes repackaging information.

Changing Power Input Range

The procedure for changing the input voltage range is described in the Installation section. Details on how to change the line fuse are also given.

The power cord that is supplied with the instrument and the instrument power voltage requirements depend on the available power source (see Specification section). Power cord options are described in the Options section.

Replacing Fuses

Refer to the Installation section for line fuse replacement.

Some components are selected to meet Tektronix specifications. These components are shown in the parts list and may carry a Tektronix Part Number under the Mfr. Part Number column.

Selected value components are identified on the circuit diagram and in the parts list as a "SEL" value. The component description lists either the nominal value or a range of values. Selection criteria is included in the Maintenance section. Selection procedures are included in the Adjustment Procedure or Maintenance sections of the manual as needed.

Assembly and Circuit Numbering

Each assembly and subassembly are assigned assembly numbers. Generally, each component is assigned a circuit number according to its geographic location within an assembly. The Replaceable Electrical Parts list prefixes these circuit numbers with the corresponding assembly and subassembly numbers.

EXAMPLE: R260 on assembly A14 becomes A14R260.

EXAMPLE: U140 on subassembly A1 of assembly A19 is found in the electrical parts list as A19A1U140.

Accessories

The Replaceable Mechanical Parts list contains the part numbers, descriptions, and ordering information for all standard and optional accessories offered for this Spectrum Analyzer.

The following list includes all standard accessories currently shipped with each instrument. Refer to the Options section of this manual for alternate information.

Standard Accessories

- Operator's Manual
- Power Cord¹
- Front Cover
- Adapter 50Ω, N Male to BNC Female

The Options section of this Manual contains information on all of the options currently available for the Spectrum Analyzer.

¹The power cord is replaced with the correct cord for Power Cord Options A1, A2, A3, A4, and A5.

SPECIFICATION

This section lists the electrical, physical, and environmental characteristics of the Spectrum Analyzer, specifies performance requirements, and provides supplementary information. Any changes to a characteristic's performance, due to the addition of an option, are integrated with the specific characteristic.

ELECTRICAL CHARACTERISTICS

The following tables of electrical characteristics and features apply to the 2710 Spectrum Analyzer after a 15

minute warm-up period (within the environmental limits) and a Normalization function has been performed.

Information in the Performance Requirement column is guaranteed and verifiable, either through diagnostic routines or written performance check procedures.

Supplemental information is intended to further explain a characteristic, its performance requirement, or it may describe the performance of a characteristic that is impractical to verify. Supplemental information is not guaranteed and usually not supported by a performance check procedure.

**Table 2-1
FREQUENCY RELATED CHARACTERISTICS**

Characteristic	Performance Requirement	Supplemental Information
Frequency		
Range		10 kHz to 1.8 GHz Tuned by the FREQ/MARKERS control or set via the MKR/FREQ MENU.
Accuracy		Assume zero drift since last normalization procedure.
2710	1×10^{-5} of center frequency ± 5 kHz	The Option 02 requirement applies to spans ≤ 10 MHz/Div.
2710 Option 02 (Counter)	1×10^{-5} of center frequency ± 10 Hz	
Drift		
Long Term (One Year)		3×10^{-6} of Center Frequency
Short Term	≤ 20 kHz	Between frequency corrections
Readout Resolution		
2710		1% of Span/Div to 1 kHz
2710 Option 02		1 kHz or 1Hz (counter readout)
Residual FM		
With SPAN/DIV ≤ 50 kHz	< 2 kHz peak to peak total excursion in 20 ms.	Short term, after 1 hr warm-up.
With SPAN/DIV > 50 kHz	≤ 5 kHz total excursion in 20 ms.	

Table 2-1 (continued)

Characteristics	Performance Requirements	Supplemental Information
Resolution Bandwidth (6 dB down)		Resolution bandwidth selections are: 5 MHz, 500 kHz, 30 kHz, 3 kHz
Shape Factor (60 dB/6 dB)	6:1 or less	
Noise Sidebands	≥ 70 dBc at 30 X Resolution Bandwidth	
Video Filter		Reduces video bandwidth to approximately 1/100th of the selected resolution bandwidth; or one of eleven video filters (3 Hz, 10 Hz, 30 Hz, 100 Hz, 300 Hz, 1 kHz, 3 kHz, 10 kHz, 30 kHz, 100 kHz, 300 kHz, or OFF) can be selected via the Utility Menu.
Frequency Span/Div Range		1.8 GHz in MAX SPAN and 0 Hz for ZERO SPAN, plus selections in a 1-2-5 sequence from 100 MHz to 10 kHz, with the FREQ SPAN/DIV pushbutton selectors, or to two significant digits via the Utility Menu.
Accuracy/Linearity	Within 3%.	Measured over the center 8 divisions.
Flatness (About the midpoint between two extremes)	± 1.5 dB	Measured with 10 dB of RF Attenuation Flatness is affected by: <ul style="list-style-type: none"> • Input VSWR (voltage standing-wave ratio) • gain variation • mixer conversion

Table 2-2
FREQUENCY/AMPLITUDE RELATED CHARACTERISTICS

Characteristics	Performance Requirement	Supplemental Information
Marker		The Frequency and amplitude values of the marker position are preceded by the character "M" and are displayed. MKR "arrows" position the marker to the next right or left signal peak.
Accuracy		
Frequency		Same as Span/Div
Amplitude		A function of the Reference level and Vertical scale factor. (see Display Dynamic Range)
Delta Marker	When activated, a second marker is displayed at the same frequency as the first marker. This is the "Reference Marker".	The FREQ/MARKERS control may be used to position the first marker. The frequency and amplitude differences between markers are readouts preceded by a "D".
Accuracy		
Frequency		Same as Span/Div.
Frequency With Counter	$1 \times 10^{-5} \pm 10 \text{ Hz}$	Option 02 must be installed.
Amplitude		Same as Marker .

Table 2-2 (continued)

Characteristic	Performance Requirement	Supplemental Information
Center Measure		When activated, the signal nearest center screen (or with marker on, nearest the marker) and above a preset threshold level, is moved to center screen.
Option 02		The frequency and amplitude values, preceded by "C", are displayed.
Readout resolution		
2710	10% of Span/Div to 1kHz	
2710 Option 02	10% of Span/Div to 1kHz or 1Hz	Readout resolution is selectable.
Tracking		<p>When activated after a Center Measure function, the centered signal is held at center screen.</p> <p>Tracking requires a signal strength greater than the threshold level.</p> <p>If the strength of a signal being tracked decreases below the threshold level, the instrument moves to an idle mode.</p>
Vertical Display Mode		10 dB/Div, 5 dB/Div, 1 dB/Div, and Linear.

**Table 2-3
AMPLITUDE RELATED CHARACTERISTICS**

Characteristic	Performance Requirement	Supplemental Information
Reference Level (Top of graticule)		
Range		
Log Mode		-70 dBm to +20 dBm, -20 dBmV to +70 dBmV
Linear Mode		8.8 μ V/Div to 280 mV/Div (0.1W or 2.2 V _{peak} , maximum safe input)
Steps		
Log Mode		1 dB or 10 dB
Linear Mode		1-2-5 sequence: 10 μ V/Div to 280 mv/Div
1dB Activated		≥ 0.2 Division per Increment
Accuracy		Dependent on the following: <ul style="list-style-type: none"> • Calibrator accuracy • Frequency response
Display Dynamic Range	80 dB maximum (Log mode) 8 divisions (Linear mode)	
Accuracy		
10 dB/Div Mode	± 1.0 dB/10 dB to a maximum cumulative error of ± 2.0 dB over the 80 dB range.	
5 dB/Div Mode	± 1.0 dB/5 dB to a maximum cumulative error of ± 2.0 dB over the 40 dB range.	
1 dB/Div Mode	± 1 dB maximum error over the 8 dB range.	
Linear Mode	$\pm 5\%$ of full scale	

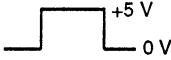
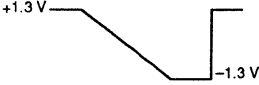
Table 2-3 (continued)

Characteristic	Performance Requirement		Supplemental Information
RF Attenuator			
Range	0 to 50 dB in 2 dB steps		
Sensitivity (without preamp)			Equivalent maximum input noise for each resolution bandwidth. Sensitivity decreases linearly approximately 8 dB from low to high end of the frequency range. NOTE: Preamp not specified above 500MHz.
Resolution Bandwidth	100 MHz	1.8 GHz	
5 MHz	-85 dBm	-77 dBm	
500 kHz	-95 dBm	-87 dBm	
30 kHz	-107 dBm	-99 dBm	
3 kHz	-117 dBm	-109 dBm	
Sensitivity (With preamp)			
5 MHz	-97 dBm		
500 kHz	-107 dBm		
30 kHz	-119 dBm		
3 kHz	-129 dBm		
Spurious Responses			-100 dBm or less
Residual (no input signal)			
Intermodulation Products			
3rd Order	≥70 dBc		From any two on-screen signals within any frequency span.
Zero Frequency (0 Hz) Spur	-10 dBm or less		Referenced to input with 0 dB RF attenuation
2nd Harmonic Distortion	≥ 66 dBc		Measured across entire band
LO (Local Oscillator) Emission	-70 dBm		With 0 dB RF Attenuation.

Table 2-4
INPUT/OUTPUT SIGNAL CHARACTERISTICS

Characteristic	Performance Requirement	Supplemental Information
RF INPUT		Type N female connector
VSWR with RF Attenuation ≥ 10 dB		1.5:1 maximum
VSWR with 0 dB RF Attenuation		3.0:1 maximum
Maximum Safe Input (With 0 dB RF Attenuation)		20 dBm (0.1W) continuous peak. 100 V DC blocking capacitor. <div style="border: 2px solid black; padding: 5px; text-align: center;">DO NOT APPLY >100 V DC TO THE RF INPUT</div>
1 dB Compression Point (Minimum)	-15 dBm	With no RF Attenuation and 1st mixer at -30 dBm.
EXT TRIG (J102)		BNC connector, 10 k Ω impedance, DC coupled input for external trigger signals.
Voltage Range		
Minimum		At least 100 mV peak, 15 Hz to 1MHz
Maximum		≤ 35 V (DC + peak AC)
Pulse Width		0.1 μ s minimum
ACCESSORY CONNECTOR (J103)		9-pin connector (Not RS-232-compatible).
Pin 1: External Video Input		DC coupled, 0 - 100 kHz, 0 - 1.6 V (200 mV/Div) signal input for vertical deflection of the crt beam. The signal is processed through the digital storage circuits and the 1 dB, 5 dB, and 10 dB scale factor circuits. Display storage may be bypassed.

Table 2-4 (continued)

Characteristic	Performance Requirement	Supplemental Information
(J103) Pin 6: Sweep Gate		TTL level signal that goes to +5 V while the crt beam is sweeping
Pin 2: Chassis and Signal Ground		
Pin 7: Sweep Output		Provides a nominal +1.3 V to -1.3 V negative going ramp, proportional to the horizontal sweep.
Pin 3: Video Output		Provides 0 V to +1.6 V of video signal, proportional to the vertical display amplitude. 0 V is the top of the screen. Impedance is 1 kΩ.
Pins 4, 5, 8, and 9		Reserved for Future Programming Options

**Table 2-5
POWER REQUIREMENTS**

Characteristic	Performance Requirement	Supplemental Information
Line Voltage Range	90 V AC to 250 V AC	
Line Frequency Range	48 to 440 Hz	
Line Fuse	1.5 A Slow-Blow (recommended)	2 A Fast-Blow (maximum)
Input Power	100 W maximum (1.3A)	At 115V and 60 Hz
Leakage Current		3.5 mA rms maximum or 5 mA peak maximum

Table 2-6
GENERAL CHARACTERISTICS

Characteristic	Performance Requirement	Supplemental Information
Sweep		Normal, Single Sweep, Manual Scan, and Video Monitor (optional).
Sweep Rate	1 μ s/Div to 2 sec/Div in a 1-2-5 sequence	
Accuracy	$\pm 10\%$ over the center 8 divisions	
Triggering		Free Run, Internal, External, Line, TV Line, and TV Field
Trigger Level		
Internal	1 division or more of signal	
External	1.0 V peak, minimum	DC-coupled (15 Hz to 1 MHz). Maximum external trigger input amplitude is ≤ 35 V (DC + peak AC).
Non-Volatile Memory (Battery-Backed Up)		Instrument settings, waveforms, and some Normalization routines are stored in non-volatile RAM.
Battery Life		
At +55° C Ambient Temperature		1 to 2 years (Lithium or Silver)
At + 25° C Ambient Temperature Lithium (Standard)		At least 5 years
Temperature Range for Retaining Data		
Operating		-15° C to + 55° C
Non-Operating		-30° C to + 85° C
Internal Calibrator	-30 dBm ± 0.3 dB at 100 MHz ± 5 kHz	Provides 100 MHz marker for amplitude calibration and comb of 100 MHz markers for frequency and span calibration.
Drift	± 10 PPM/Year	Over the operating temperature range

**Table 2-7
ENVIRONMENTAL CHARACTERISTICS**

The Description column describes how most characteristics were derived and a description of the characteristic. This instrument meets MIL T-28800C, type III class 5, style C specifications.

Characteristic	Description
Temperature	
Operating and Humidity	0° C to +50° C MIL T-28800C 5 cycles (120 hours).
Non-operating ^a	- 55° C to + 75° C
Altitude	
Operating	15,000 ft
Non-operating	50,000 ft
Humidity (Non-operating)	Five cycles (120 hours) in accordance with MIL-Std-28800C, class 5
Vibration	
Operating (Instrument secured to a vibration platform during test)	MIL-Std-28800C, Method 514 Procedure X (modified). 15 minutes along each of 3 major axes at a total displacement of 0.015 inch peak-to-peak (2.4 g at 55 Hz), with frequency varied from 10 Hz to 55 Hz in 1-minute sweeps. Hold for 10 minutes at 55 Hz. All major resonances must be above 55 Hz.
Shock (Operating and Non-operating)	Three guillotine-type shocks of 30g, one-half sine, 11 ms duration each direction along each major axis; total of 18 shocks.
Transit Drop (free fall)	8 inch, one per each of six faces and eight corners (instrument is tested and meets drop height of 12 inches).
Electromagnetic Interference (EMI)	
Radiated and Conducted Emission	
FCC	FCC Part 15, sub-part J, Class A.
VDE	VDE 0871, Class B.
Susceptibility	Part 7 Mil Std 461B

^a After storage at temperatures below -15° C, the instrument may not reset when power is first turned on. If this happens, allow the instrument to warm up for at least 15 minutes, then turn POWER OFF for 5 seconds and back ON.

Table 2-8
PHYSICAL CHARACTERISTICS

Characteristic	Description
Weight	< 25 lbs (11.25 kg) maximum, includes Standard accessories. <20 lbs (9.08 Kg) nominal for basic configuration.
Dimensions	
Height with feet and handle	5.4 in (137 mm)
Width	
With Handle	14.2 in (361 mm)
Without Handle	12.9 in (328 mm)
Depth	
With Front Panel Cover	17.5 in (445 mm)
Without Front Panel Cover	16.85 in (428 mm)
With Handle Extended	20.1 (511 mm)

PERFORMANCE CHECK

Introduction

The procedures in this section verify that the instrument is performing according to the characteristics specified under the Performance Requirement column in Section 2, Specification.

If a failure is found, it is recommended that only those circuits that do not meet performance criteria be adjusted. If adjustment fails to return the circuit to its specified performance, refer to the Maintenance section for repair procedures.

Procedures that are unique to instrument options, are described as a sub-part of the step within this section.

Incoming Inspection Test

The Operators manual contains an operational check (power-up check) of the Spectrum Analyzer. This check is recommended for incoming inspections because it requires no external equipment or special experience and is a reliable indication that the instrument is performing properly.

Verification of Tolerance Values

Tests shall be performed only after the normalizations have occurred. If a test should fail, normalize the instrument by pressing UTIL MENU/#3 (NORMALIZATIONS)/#0 (ALL PARAMETERS). The normalization will correct for any changes in the operating environment due to time or temperature.

Measurement tolerance of test equipment should be negligible in comparison to the specification being tested. If not, the error of the measuring apparatus must be added to the specification tolerance.

History Information

The instrument and manual are periodically evaluated and updated. If modifications require changes in the procedures, information applicable to earlier instruments will be included within a step or as a sub-part to a step.

Equipment Required

Table 3-1 lists the test equipment recommended for the Performance Check. The characteristics specified are the minimum. If equipment is substituted, it must meet or exceed these specifications.

**Table 3-1
EQUIPMENT REQUIRED**

Test Equipment	Characteristics	Recommendation
Frequency Standard	100 MHz	WWV Receiver
Test Oscilloscope	Vertical sensitivity, 50 mV/Div to 5 V/Div; Bandwidth, DC to 100 MHz	Any TEKTRONIX 7000-Series oscilloscope with plug-in units for real-time display such as 7A11/7B50A, and P6108 10X Probe
Spectrum Analyzer	Frequency range at least 2 GHz up to 4 GHz	TEKTRONIX 492A
Sweep	Output: 0 dBm to +13 dBm Spectral Purity: 25 dB or more below the fundamental	Hewlett-Packard 8620C with HP 86222A Plug-in
Signal Generator	Frequency range of 500 kHz to at least 100 MHz	Hewlett-Packard 8640B
Signal Generator	To at least 225 MHz; 0 to 5 V	TEKTRONIX SG 503 with TM 500-Series Power module
Sine-Wave Generator	1 Hz to 1 MHz; 0 to 20 V _{PP}	TEKTRONIX FG 503 Function Generator
10 dB and 1 dB Step Attenuators	Range : 132 dB in combination 10 dB and 1 dB steps Accuracy: ±0.1 dB. Frequency Range: 0 to at 1.8 GHz	Hewlett Packard 355C and 355D, calibrated using precision standard attenuators such as Weinchel Model AS-6
Power Meter with Power Sensor	-30 dBm to +20 dBm full scale; 100 kHz to 4.2 GHz	Hewlett Packard Model 436A with 8482A
Return Loss Bridge	10 MHz to 1 GHz	Wiltron VSWR Bridge 62BF50
Time Mark Generator	1 μs markers; accuracy 0.001%	TEKTRONIX TG 501 with TM 500-Series Power module
Bandpass Filter	Centered near 100 MHz with 2nd harmonic rejection better than 90 dB	Tektronix 119-1025-00 (110 MHz)
2 each 20 dB/50 Ω Attenuators		Tektronix Part No. 011-0059-01
BNC T Adapter		Tektronix Part No. 103-0030-00
BNC Female-to-Female Adapter		Tektronix Part No. 103-0028-00
Two 50 Ω Coaxial Cables		Tektronix Part No. 012-0057-01
FM Antenna		Any commercially available FM antenna

PERFORMANCE CHECK PROCEDURE

Power Up Procedure

- a. Connect the spectrum analyzer power cord to an appropriate power source.
- b. Push the front panel power switch ON.
- c. The instrument will initialize itself according to the configuration stored in the USR DEF (User Defined) Power Up settings. If this register is empty it will initialize to the configuration stored in the Factory Default Power Up settings.
- d. Allow a 30 minute warm up period before continuing this procedure.
- e. The instrument must be Normalized before any measurements can be made. Press UTIL MENU/#3 (NORMALIZATIONS)/#0 (ALL PARAMETERS). The instrument will begin Normalizations and print progress messages on the CRT.
- f. After the instrument has completed normalization, press UTIL MENU/ #5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/ #5 (SERVICE NORMALIZATIONS)/#8 (NORMALIZE PASS/ FAIL RESULTS)/#0 (FREQUENCY RESULTS). Verify that all frequency related tests have passed.
- g. Press UTIL MENU/#1 (AMPLITUDE RESULTS). Verify that all amplitude related tests have passed.
- h. Press UTIL MENU 5 times to exit.

Front Panel Operation

Refer to Sections 3 and 4 of the Operators Manual for an explanation of Front Panel functions.

1. Check Frequency Accuracy

(1 X 10⁻⁵ of center frequency ±5 kHz)

(1 X 10⁻⁵ of center frequency ±10 Hz with Option 2)

Equipment Required

100 MHz Frequency Standard

- a. Select the following settings on the Spectrum Analyzer:

SPAN/DIV	1 MHz
RESOLUTION BW	AUTO

- b. Press MKR/FREQ MENU/#9 (SETUP TABLE)/#2 (COUNTER RESOLN)/#1 (1 HZ)

- c. If Option 02 has not been installed, span down to the narrowest resolution bandwidth.
- d. Connect a known frequency standard (100 MHz), such as WWV, to the RF INPUT and tune it to the center of the screen.
- e. Press CTR MEAS/TRKG.
- f. Check that the frequency readout displays the frequency of the signal with an accuracy of ±6 kHz for the standard instrument or ±1.010 kHz for Option 02.

2. Check Resolution Bandwidth Shape Factor (6:1 or less)

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	2 MHz
RESOLUTION BW	5 MHz
VIDEO FILTER	ON
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

- b. Press DSPL MENU/#4 (ACQUISITION MODE MAX/MIN).

- c. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

- d. Press APPL MENU/#9 (SETUP TABLE)/#0 (DB DOWN FOR BANDWIDTH MODE) and enter -6 dBc. Press APPL MENU/#0 (DB DOWN FOR BANDWIDTH MODE) to activate bandwidth mode and exit.

- e. The marker readout displays the bandwidth of the filter 6dB down from peak amplitude. Make a note of this value.

- f. Extrapolate the skirts of the 5 MHz filter to make the measurement at the 60 dB level.

- g. Check that the ratio of the 60 dB bandwidth to the 6 dB bandwidth is 6:1 or less.

- h. Using Table 3-2, verify that the -60 dBc readings for the other resolution bandwidth filters do not exceed six times the -6 dBc reading.

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**Table 3-2
SHAPE FACTOR CHECK SETTINGS**

Span	Resolution
2 MHz	5 MHz
200 kHz	500 kHz
10 kHz	30 kHz
10 kHz	3 kHz

3. Check Short Term Drift

(≤ 20 kHz between frequency corrections)

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	10 kHz
RESOLUTION BW	3 kHz
VIDEO FILTER	OFF
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

b. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

c. Enable frequency corrections by pressing UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 (FREQUENCY CORRECTIONS - ON).

d. Press CTR MEAS/TRKG to center the signal.

e. Check that the signal does not move more than ± 2 divisions from center-screen.

4. Check Noise Sidebands

(≥ 70 dBc at 30 X Resolution Bandwidth)

Equipment Required

Signal Generator
Step Attenuator

a. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

b. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	50 kHz
RESOLUTION BW	3 kHz
VIDEO FILTER	ON
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

c. Enable peak detection by pressing DSPL MENU/#4 (ACQUISITION MODE - PEAK).

d. Check that the noise sidebands are at least 70 dB down from peak amplitude 90 kHz away from center frequency (30 times the selected bandwidth).

d. Reset RESOLUTION BW to 30 kHz and SPAN/DIV to 500 kHz.

e. Check that the noise sidebands are at least 70 dB down from peak amplitude 900 kHz away from center frequency.

f. For filters greater than 100 kHz, use the following procedure:

(i) Disable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DB - OFF).

(ii) Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
RESOLUTION BW	Filter Value
SPAN/DIV	$\approx 10X$ Filter Value
VIDEO FILTER	ON
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

(iii) Connect a 100 MHz signal to the RF INPUT through 30 dB of attenuation.

(iv) Set the generator controls for full deflection (0dBm).

(v) Remove the 30 dB of attenuation from the input signal path.

(vi) Check that the noise sidebands are at least 70 dB down from peak amplitude at 30 times the selected bandwidth away from center frequency.

5. Check Frequency Span/Div Accuracy

(Within 3% over the center 8 divisions)

Equipment Required

Time Mark Generator

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	500 MHz
SPAN/DIV	100 MHz
RESOLUTION BW	500 kHz
VIDEO FILTER	OFF
REFERENCE LEVEL	Visible Marks

- b. Connect a time mark generator to the input of the Spectrum Analyzer and select 10ns marks.
- c. Press MKR DELTA OFF to enable the marker system and place the marker on the mark at the 2nd graticule line from the left.
- d. Press MKR DELTA OFF again to enable the Delta Marker and place the second marker on the mark at the 10th graticule line.
- e. The Delta Frequency readout should read between 776 MHz and 824 MHz.
- f. Use the following Table 3-3 to check the rest of the Spectrum Analyzer spans.
- g. Press MKR DELTA OFF to exit marker mode.

6. Check Flatness
(±1.5 dB with 10 dB of RF ATTENUATION)

Equipment Required

Sweep Oscillator

- a. Select the following settings on the Spectrum Analyzer:

VERTICAL SCALE	1 dB/
FREQ SPAN/DIV	MAX
RESOLUTION BW	AUTO
RF ATTENUATION	10 dB

- b. Press DSPL MENU/#4 (ACQUISITION MODE) to select PEAK mode for the digital storage.

- c. Connect the output of the sweep oscillator to the RF INPUT. Set the sweep oscillator output frequency to 100 MHz and output amplitude for a 5-division excursion. The sweep oscillator's sweep rate should be on its slowest setting.
- d. Press A to enable the Display A register. Start the sweep on the sweep oscillator, and press MAX HOLD on the Spectrum Analyzer.
- e. Check that swept frequency flatness is within ±1.5 dB of a midpoint between the highest and lowest points of the displayed sweep.

7. Check Marker Operation

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	400 MHz
REFERENCE LEVEL	-10 dBm
FREQ SPAN/DIV	100 MHz
RESOLUTION BW	500 kHz
VIDEO FILTER	ON
VERTICAL SCALE	10 dB/



- b. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

- c. The instrument is now displaying a combine of 100 MHz marks of varying amplitudes. Press MKR PEAK FIND. The marker should go to the highest signal, and the readout should display that signal's frequency and amplitude. Frequency and amplitude readouts are preceded by the letter "M".


Table 3-3
SPAN ACCURACY SETTINGS

Time Markers	Center Frequency	Span/Div	Resolution Bandwidth	Spec Range
10 ns	500 MHz	100 MHz	500 KHz	776 - 824 MHz
20 ns	250 MHz	50 MHz	500 KHz	388 - 412 MHz
50 ns	100 MHz	20 MHz	500 KHz	155.2 - 164.8 MHz
1 μs	50 MHz	10 MHz	30 kHz	77.6 - 82.4 MHz
2 μs	25 MHz	5 MHz	30 kHz	38.8 - 41.2 MHz
5 μs	10 MHz	2 MHz	30 kHz	15.52 - 16.48 MHz
1 μs	5 MHz	1 MHz	30 kHz	7.76 - 8.24 MHz
2 μs	2.5 MHz	500 kHz	30 kHz	3.88 - 4.12 MHz
5 μs	1 MHz	200 kHz	3 kHz	1.552 - 1.648 MHz
10 μs	500 kHz	100 kHz	3 kHz	776 - 824 kHz
20 μs	250 kHz	50 kHz	3 kHz	388 - 412 kHz
50 μs	125 kHz	20 kHz	3 kHz	155.2 - 164.8 kHz
1 ms	62.5 kHz	10 kHz	3 kHz	77.6 - 82.4 kHz

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d. Press MKR  and note that the marker moves to the next signal to the right. Continue pressing MKR  and observe the marker position and readouts.

e. The marker will only recognize those signals whose amplitude is above a preset threshold level. The threshold level is set via MKR/FREQ MENU/#9 (SETUP TABLE)/#1 (THRESHOLD).

f. Repeat part d using the MKR  button.

g. Press MKR DELTA OFF once. The readouts should now be preceded by the letter "D" and read 0.

h. Tune the FREQ/MARKERS control and note that a second marker appears. The marker readout should now display frequency and amplitude differences between the two markers.

i. Pressing MKR DELTA OFF again will disable the second marker and return readouts back to normal.

8. Check Center Measure/Counter

(10% of Span/Div to 1 kHz)

(Selectable :1 Hz or 10% of Span/Div to 1 kHz)

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	1 MHz
RESOLUTION BW	AUTO
VIDEO FILTER	OFF
VERTICAL SCALE	5 dB/

b. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

c. Tune the signal approximately three divisions to one side of the center of the screen.

c. If Option 02 is installed, select a readout resolution of 1 Hz by pressing MKR/FREQ MENU/#9 (SETUP TABLE)/#2 (COUNTER RESOLUTION)/#1 (1 HZ). If Option 02 is not installed, proceed to part d.

d. Press CTR MEAS/TRKG.

e. Check that the signal moves to the center of the screen, and the readout displays center frequency (to at least three decimal places) and amplitude of the signal.

f. Check that the signal frequency and amplitude readouts are preceded by the letter C, and the frequency readout is displayed to six decimal places, if Option 02 is installed.

g. If option 02 is installed, select a readout resolution of 1 kHz, and check that the signal frequency readout is displayed in MHz to three decimal places.

9. Check Display Dynamic Range

(80 dB maximum for Log mode)

(8 Divisions maximum for Linear mode)

Equipment Required

Signal Generator

a. Select the following settings on the Spectrum Analyzer by pressing UTIL MENU/#2 (KEYPAD ENTERED SETTINGS):

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	10 kHz
RESOLUTION BW	30 kHz
VIDEO FILTER	ON
VERTICAL SCALE	10 dB/

b. Select peak acquisition mode by pressing DSPL MENU/#4 (ACQUISITION MODE PEAK).

c. Connect a 100 MHz signal to the input of the Spectrum Analyzer through a set of 1 dB and 10 dB step attenuators. Set the amplitude of the signal for full screen deflection with the attenuators set for 0 dB attenuation.

d. Add attenuation in the input signal path in 10 dB steps to a total attenuation of 80 dB while observing a 10 dB changes in amplitude as each 10 dB of attenuation is added.

e. Check that the signal drops 10 dB \pm 1 dB each time 10 dB of attenuation is added. The maximum cumulative error should not exceed \pm 2 dB over the 80 dB range.

f. Set VERTICAL SCALE to 5 dB/, and set the attenuators for 0 dB attenuation.

g. Add attenuation in the input signal path in 5 dB steps to a total attenuation of 40 dB while observing 5 dB changes in amplitude as each 5 dB of attenuation is added.

h. Check that the signal drops 10 dB \pm 1 dB each time a total of 10 dB (two 5 dB decrements) of attenuation is added. The maximum cumulative error should not exceed \pm 2 dB over the 40 dB range.

i. Set VERTICAL SCALE to 1 dB/, and set the attenuators for 0 dB attenuation.

j. Add attenuation in the input signal path in 1 dB steps to a total attenuation of 8 dB while observing amplitude changes as each 1 dB of attenuation is added.

k. Check that the maximum cumulative error does not exceed ± 1 dB over the 8 dB range.

l. Set VERTICAL SCALE to LIN, and reset the attenuators for 0 dB attenuation.

m. Add 6 dB of attenuation in the input signal path.

n. Check that the signal amplitude drops down 4 divisions ± 2 minor divisions.

o. Add another 6 dB of attenuation in the input signal path (12 dB total attenuation).

p. Check that the signal amplitude drops down another 2 divisions (6 divisions total ± 2 minor divisions).

10. Check Sensitivity

(See Table 3-4)

**Table 3-4
SENSITIVITY @ 100 MHz**

RES BW	Sensitivity	
	Preamp OFF	Preamp ON
5 MHz	-85 dBm	-97 dBm
500 kHz	-95 dBm	-107 dBm
30 kHz	-107 dBm	-119 dBm
3 kHz	-117 dBm	-129 dBm

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY 110 MHz
 REFERENCE LEVEL -50 dBm
 FREQ SPAN/DIV 5 MHz
 RESOLUTION BW 5 MHz
 VIDEO FILTER 10 Hz
 VERTICAL SCALE 10 dB/

b. Press DSPL/#4 (ACQUISITION MODE) to enable peak detection mode.

c. Connect a 110 MHz/-85 dBm signal to the RF INPUT.

d. After one sweep, press MKR DELTA OFF to enable the marker. Tune the marker away from the signal and onto the noise. Press MKR DELTA OFF to enable a second marker (the delta marker) and position the delta marker on the signal peak. It may be necessary to keep retuning the delta marker if the signal is drifting.

e. Check that the delta marker amplitude readout shows the difference amplitude to be ≥ 2.1 dB.

f. Enable the preamplifier by pressing INPUT MENU/#1 (PREAMP), and rest the input signal amplitude to -97 dBm.

g. Check that the readout shows the difference amplitude to be ≥ 2.1 dB.

h. Using Table 3-5, check the rest of the filters with and without the PREAMP enabled.

i. Press MKR DELTA OFF to turn off the markers.

**Table 3-5
SENSITIVITY SETTINGS @ 100 MHz**

RES BW	Reference Level	RF INPUT Level	
		Preamp OFF	Preamp ON
5 MHz	-50 dBm	-85 dBm	-97 dBm
500 kHz	-50 dBm	-95 dBm	-107 dBm
30 kHz	-70 dBm	-107 dBm	-119 dBm
3 kHz	-70 dBm	-117 dBm	-129 dBm

11. Check Sensitivity @ 1.8GHz with PREAMP OFF

(See Table 3-6)

**Table 3-6
SENSITIVITY @ 1.8 GHz**

RES BW	Reference Level	Sensitivity
5 MHz	-30 dBm	-77 dBm
500 kHz	-30 dBm	-87 dBm
30 kHz	-50 dBm	-99 dBm
3 kHz	-60 dBm	-109 dBm

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY 1800 MHz
 REFERENCE LEVEL -30 dBm
 FREQ SPAN/DIV ZERO SPAN
 RESOLUTION BW 5 MHz
 VIDEO FILTER 10 Hz
 VERTICAL SCALE 10 dB/

b. Disable the preamplifier by pressing UTIL/MENU/#1 (PREAMP - OFF).

c. Check that the noise floor is ≤ -77 dBm.

d. Use Table 3-6 to check sensitivity for the rest of the bandpass filters.

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12. Check Spurious Responses
(≤ -100 dBm)

a. Select the following settings on the Spectrum Analyzer:

PREAMP	OFF
FREQUENCY	25 MHz
REFERENCE LEVEL	-40 dBm
FREQ SPAN/DIV	5 MHz
RESOLUTION BW	30 kHz

b. Press UTIL MENU/#2 (KEYPAD ENTERED SETTINGS)/#5 (VIDEO FILTER)/#1 (FIXED) and enter 3 KHZ to select the 3 kHz video filter. Press UTIL MENU twice to exit.

c. This check will allow the entire 1800 MHz band to be checked for spurs in 50 MHz windows. The following frequencies can be entered through the keypad or tuned manually with the frequency knob. Spurs may not exceed -100 dBm. Use Table 3-7 to set 50 MHz windows.

d. Repeat part b to set the Video Filter back to AUTO.

13. Check Intermodulation Products (IM)
(3rd Order IM ≥ 70 dBc)

Equipment Required

- 2 Generators
- 2 20 dB Pads
- BNC T Adapter
- BNC Female to Female Adapter

a. Connect the test equipment as shown in Figure 3-1.

b. Select the following setting on the Spectrum Analyzer:

FREQUENCY	200 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	10 MHz
RESOLUTION BW	30 kHz
VIDEO FILTER	OFF
VERTICAL SCALE	10 dB/

c. Set generator #1 for a 200 MHz/full-screen signal, and set generator #2 for a 225 MHz/full-screen signal.

d. Check that the 3rd Order IM products are 70 dB or more down from the reference level.

e. Reset the Spectrum Analyzer FREQ SPAN/DIV to 500 kHz, and reset the second generator output frequency for a 201 MHz/full-screen signal.

f. Check that the 3rd Order IM products are 70 dB or more down from the reference level.

14. Check Harmonic Distortion
(66 dB down or more from carrier)

Equipment Required

- Signal Generator
- Bandpass Filter

a. Connect the test equipment as shown in Figure 3-2.

b. Select the following settings on the Spectrum Analyzer:

Table 3-7
50 MHz WINDOW CENTER FREQUENCIES

Center Frequency	50 MHz Window
25 MHz	0-50 MHz
75 MHz	50-100 MHz
125 MHz	100-150 MHz
175 MHz	150-200 MHz
225 MHz	200-250 MHz
275 MHz	250-300 MHz
325 MHz	300-350 MHz
375 MHz	350-400 MHz
425 MHz	400-450 MHz
475 MHz	450-500 MHz
525 MHz	500-550 MHz
575 MHz	550-600 MHz
625 MHz	600-650 MHz
675 MHz	650-700 MHz
725 MHz	700-750 MHz
775 MHz	750-800 MHz
825 MHz	800-850 MHz
875 MHz	850-900 MHz
925 MHz	900-950 MHz
975 MHz	950-1000 MHz
1025 MHz	1000-1050 MHz
1075 MHz	1050-1100 MHz
1125 MHz	1100-1150 MHz
1175 MHz	1150-1200 MHz
1225 MHz	1200-1250 MHz
1275 MHz	1250-1300 MHz
1325 MHz	1300-1350 MHz
1375 MHz	1350-1400 MHz
1425 MHz	1400-1450 MHz
1475 MHz	1450-1500 MHz
1525 MHz	1500-1550 MHz
1575 MHz	1550-1600 MHz
1625 MHz	1600-1650 MHz
1675 MHz	1650-1700 MHz
1725 MHz	1700-1750 MHz
1775 MHz	1750-1800 MHz

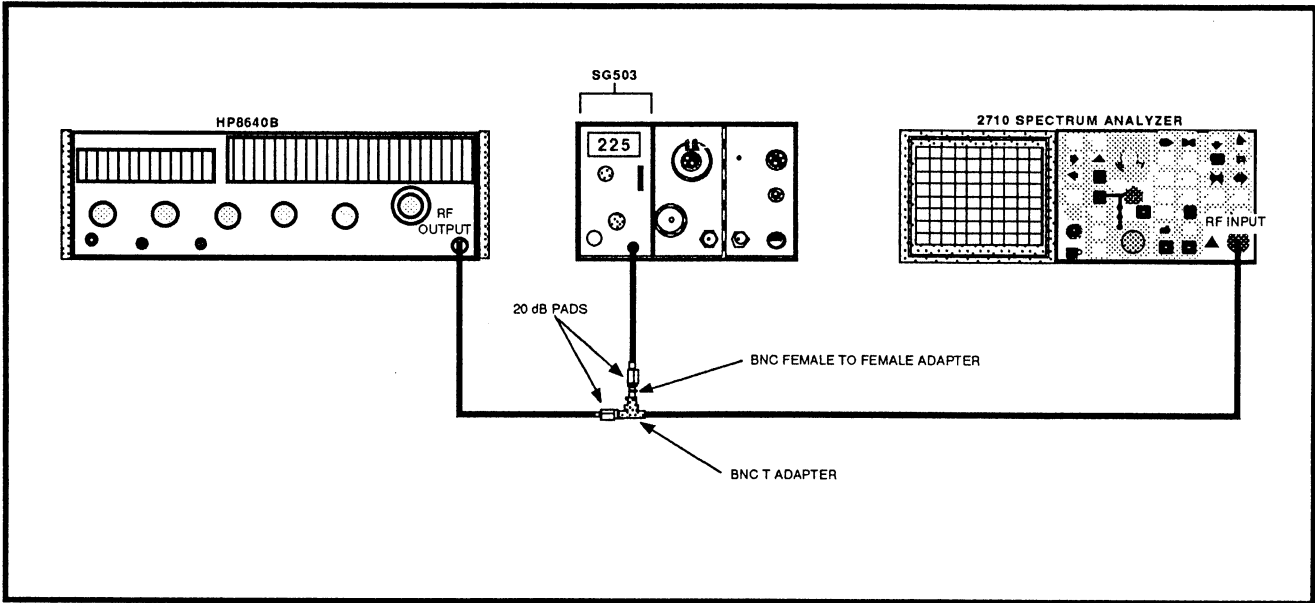


Figure 3-1. 3rd Order IM (25 MHz Separation)

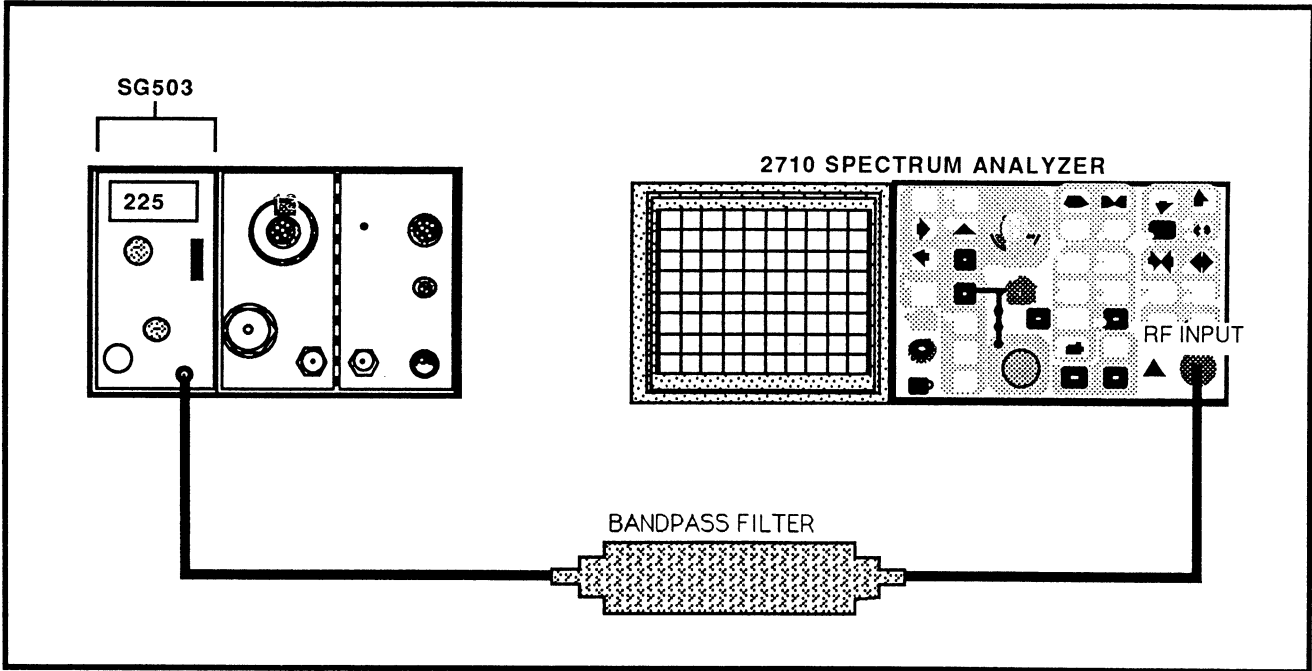


Figure 3-2. Harmonic distortion test equipment setup.

Performance Check – 2710 Service

REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	100 kHz
RESOLUTION BW	30 kHz
VIDEO FILTER	ON (AUTO)
VERTICAL SCALE	10 dB/

- c. Set the output frequency of the signal generator and the center frequency of the Spectrum Analyzer to the frequency of the bandpass filter.
- d. Set the signal generator output amplitude for a full screen signal.
- e. Reset the center frequency of the Spectrum Analyzer to 2X the input frequency.
- f. Check that the 2nd harmonic is 66 dB down or more from the carrier.

15. Check Start Spur Amplitude (-10 dBm or less)

Equipment Required

Signal Generator

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
FREQ SPAN/DIV	2 MHz
RESOLUTION BW	5 MHz
VIDEO FILTER	OFF
REFERENCE LEVEL	-10 dBm

- b. Connect a 100 MHz/-10 dBm signal to the RF INPUT.
- c. Press SAVE and A to store the reference signal.
- d. Reset the FREQUENCY to 0 Hz.
- e. Check that the 0 Hz spur amplitude is less than the stored signal.

16. Check LO (Local Oscillator) Emission (-70 dBm or less)

Equipment Required

Spectrum Analyzer

- a. Select the following settings on the Spectrum Analyzer:

REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	MAX

- b. Press SWP/TRIG MENU/#7 (MANUAL SCAN) to enable manual scan.

- c. Monitor the RF INPUT with a high frequency spectrum analyzer. Set the test spectrum analyzer controls to monitor the 2 GHz - 4 GHz frequency range.

- d. Tune the Manual Scan and check that any signal that appears on the test analyzer is ≤ -70 dBm.

17. Check 1 dB Compression Point (-15 dBm)

Equipment Required

2 Generators

Return Loss Bridge

- a. Connect the test equipment as shown in Figure 3-3.
- b. Select the following settings on the Spectrum Analyzer:

FREQUENCY	200 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	10 kHz
RESOLUTION BW	30 kHz
VIDEO FILTER	ON
VERTICAL SCALE	1 dB/

- c. Press DSPL MENU/#4 (ACQUISITION MODE) to enable peak mode.
- d. Set one generator controls for a full-screen, 200 MHz signal.
- e. Set the second generator controls for a full-screen, 205.5 MHz signal.
- f. Increase the output amplitude of the second generator until the 200 MHz signal drops 1 dB.
- g. Check that the second generator output is ≥ -15 dBm.

18. Check J103 Accessory Connector (Pin 3: Video Out) (Pin 6: Sweep Gate) (Pin 7: Sweep Output)

Equipment Required

Test Oscilloscope

- a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
FREQ SPAN/DIV	1 MHz
RESOLUTION BW	AUTO
VIDEO FILTER	OFF
VERTICAL SCALE	10 dB/

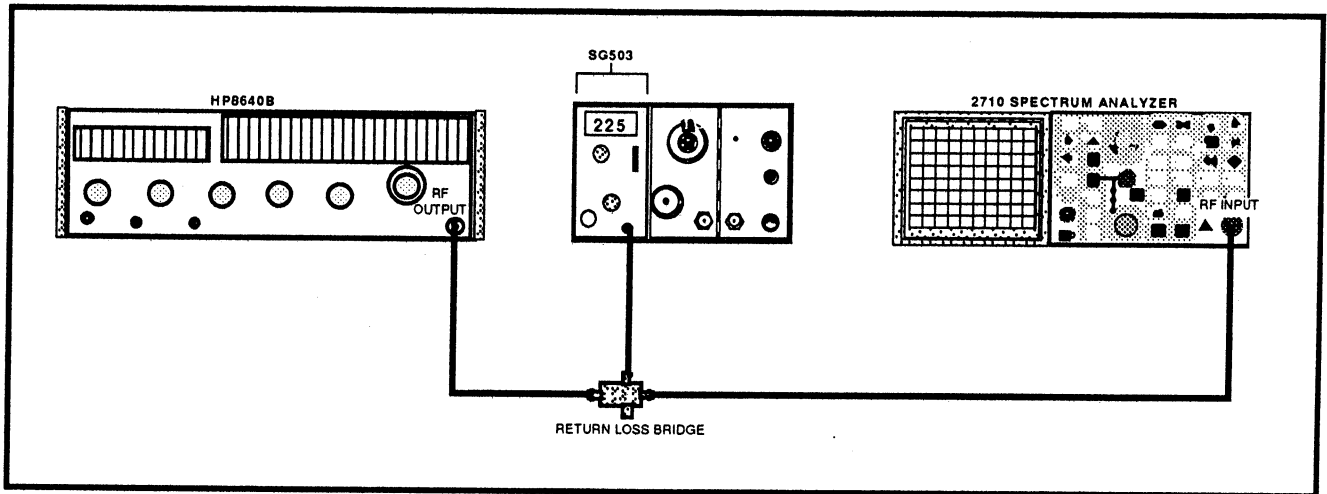


Figure 3-3. 1dB Compression Point Test

b. Enable the calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM).

c. Press UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 (FREQUENCY CORRECTIONS) to disable frequency corrections.

d. Monitor Pin 3 of J103 with the test oscilloscope. Set the test oscilloscope sweep rate to 10 ms/Div.

e. Check for a 0 V to 1.6 V inverted display of the Spectrum Analyzer display.

f. Monitor Pin 6 of J103 with the test oscilloscope. Set the test oscilloscope sweep rate to 1 ms/Div.

g. Press ZERO SPAN, then press FAST until the readout reads 1MS/.

h. Check for a 5 V square wave (Sweep Gate).

i. Monitor Pin 7 of J103 with the test oscilloscope.

j. Check for a negative-going ramp approximately +1.3 V to -1.3 V.

19. Check Sweep Rate and Sweep Accuracy
(10% over the center 8 divisions)

Equipment Required:

- (1) Time Mark Generator

a. Connect a time mark generator to pin 1 of J103 on the back panel of the Spectrum Analyzer.

b. Press DSPL MENU/#7 (DISPLAY SOURCE)/#3 (EXTERNAL INPUT) to enable the External Video Input.

c. Set the time mark generator controls for 10 ms time marks, and turn off the Spectrum Analyzer Video Filter.

d. Press SWP/TRIG MENU/#1 (INTERNAL) to select the internal trigger and set the Trigger Level control for a stable display.

e. It may be necessary to set the Horizontal position pot on the rear panel to align the marks with the graticule.

f. Check the accuracy of the 2 s to 1 μ s sweep timing range by applying appropriate markers for each sweep setting. The error should not exceed ± 4 minor divisions measured over the center 8 divisions.

g. It will be necessary to turn off the Digital Storage for the 500 μ s and faster sweep settings. Also, the sweep rates of 5 μ s, 2 μ s, and 1 μ s may require an external trigger if the time mark generator has low output amplitude.

20. Check Triggering

(Internal: 1 division or more of signal)
(External: 1.0 V peak minimum)

Equipment Required:

- (1) Function Generator

a. Select the following settings on the Spectrum Analyzer:

FREQ SPAN/DIV	ZERO SPAN
VERTICAL SCALE	10 dB/
DISPLAY STORAGE	Off

b. Press FAST until the readout reads 1US/.

c. Connect a 1 MHz square wave signal to Pin 1 of J103 on the rear panel of the Spectrum Analyzer.

Performance Check – 2710 Service

d. Set the output of the generator for 1 division of signal at the top of the screen.

e. Press SWP/TRIG MENU/#1 (INTERNAL).

f. Check that the TRIGGER LEVEL control can be set for a triggered display.

g. Using another cable, connect the same square wave source to the EXT TRIG input (J102) at the rear of the Spectrum Analyzer.

h. Set the generator controls for a 15 Hz, 2 V_{p-p} signal.

i. Press SWP/TRIG MENU/#2 (EXTERNAL).

J. Press SLOW until the readout reads 10MS/.

k. Check that the TRIGGER LEVEL control can be set for a triggered display.

l. Remove the cable from the EXT TRIG input.

m. Press SWP/TRIG MENU/#3 (LINE).

n. Check that the TRIGGER LEVEL control can be set for a visible display. The display will not be stable.

21. Check Internal Calibrator

(-30 dBm ±0.3 dB at 100 MHz ±5 kHz)

Equipment Required:

- (1) Leveled Signal Generator
- (2) Frequency Counter
- (3) Power Meter

a. Apply a 100 MHz signal to the frequency counter through a 3 dB attenuator and a 50 Ω cable. Set the generator output frequency at 100 MHz.

b. Disconnect the frequency counter from the signal generator, and connect the signal established in part a to the power meter, through the same 50 Ω cable and 3 dB attenuator. Set the generator output level for a reading of -30 dBm on the power meter.

c. Disconnect the power meter from the signal generator, and connect the reference signal established in parts a and b to the RF INPUT, through the same 50 Ω cable and 3 dB attenuator.

d. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100MHZ
REFERENCE LEVEL	-28DBM
SPAN/DIV	10KHZ
RESOLUTION BW	30KHZ
VIDEO FILTER	ON
VERTICAL SCALE	1DB/DIV

d. Press DSPL/#4 (ACQUISITION MODE - PEAK) to enable peak detection mode.

e. Press SAVE and A to store the reference signal signal.

f. Remove the reference signal from the RF INPUT and enable the Calibrator signal by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM - ON).

g. Compare the active Calibrator signal to the stored reference signal.

h. Check that the signals are within ±0.5 divisions of each other in frequency and ±1.5 minor divisions in amplitude.

22. Check FM Detector

Equipment Required:

- (1) FM Antenna

a. Connect an antenna to the RF INPUT.

b. Tune the Spectrum Analyzer to an FM station near 100 MHz. Select the FM detector by pressing DET/GEN MENU/#2 (FM DETECTOR). Push ZERO SPAN, then verify that the detector is working properly and the LEVEL CONTROL does in fact control the audio level.

23. Check Residual FM

(<2 kHz_{p-p} total excursion in 20 ms with Span/Div ≤50 kHz)

(≤5 kHz_{p-p} total excursion in 20 ms with Span/Div >50 kHz)

This check requires a 1 hour warm up period.

a. Select the following settings on the Spectrum Analyzer:

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	10 kHz
RESOLUTION BW	30 kHz
VIDEO FILTER	OFF
VERTICAL SCALE	10DB/DIV
SWEEP	AUTO

b. Enable the Calibrator by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM ON).

c. Tune the signal so that the filter slope can be measured on the most linear portion of the filter response. See Figure 3-4. Make a note of the frequency delta over 2 vertical divisions. The ratio of the frequency delta to 2 divisions then is the vertical scale factor for this measurement, $\Delta f/2$ kHz/Div.

d. Activate ZERO SPAN, and reset Time/Div to 2 ms by pressing FAST until the readout indicates 2MS/.

e. Tune the center frequency control to position the trace 2 divisions down from the top of the screen.

f. Check that the signal does not move more than ± 2 kHz according to the vertical scale factor established in part c.

g. Reset SPAN/DIV to 200 kHz, RESOLUTION BW to 500 kHz, and SWEEP to AUTO. Select the 300 Hz VIDEO FILTER to reduce the noise on the filter skirts.

h. Again, determine the vertical scale factor as in part c.

i. Activate ZERO SPAN, and reset Time/Div to 2 ms by pressing FAST until the readout indicates 2MS/.

j. Tune the center frequency control to position the trace 2 divisions down from the top of the screen.

k. Check that the signal does not move more than ± 5 kHz according to the vertical scale factor established in part c.

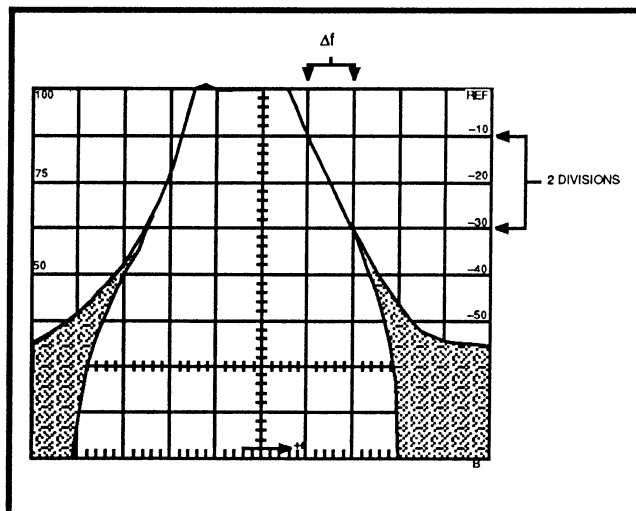


Figure 3-4. Determining vertical scale factor for the FMtest.

ADJUSTMENT

Introduction

If the instrument performance is not within specified requirements for a particular characteristic, determine the cause, repair if necessary, then use the appropriate adjustment procedure to return the instrument operation to performance specification. After any adjustment, verify performance by repeating the applicable part of the Performance Check.

Allow the instrument to warm up for at least 15 minutes, in an ambient temperature of 20° C to 30° C before making any adjustments. Waveform illustrations in the adjustment procedure are typical and may differ from one instrument to another. These waveforms should not be construed as being representative of specification tolerances.

CAUTION

STATIC DISCHARGE CAN DAMAGE MANY SEMICONDUCTOR COMPONENTS USED IN THIS INSTRUMENT.

Many semiconductor components, especially MOS types, can be damaged by static discharge. Damage may not be catastrophic and, therefore, not immediately apparent. It usually appears as a degradation of the semiconductor characteristics. Devices that are particularly susceptible are: MOS, CMOS, JFETs, and high impedance operational amplifiers (FET input stages.) The damaged parts may operate within accepted limits over a short period, but their reliability will have been severely impaired. Damage can be significantly reduced by observing the following precautions.

1. Handle static-sensitive components or circuit assemblies at or on a static-free surface. Work station areas should contain a static-free bench cover or work plane such as conductive polyethylene sheeting and a grounding wrist strap. The work plane should be connected to earth ground.

2. All test equipment, accessories, and soldering tools should be connected to earth ground.

3. Minimize handling by keeping the components in their original containers until ready for use. Minimize the removal and installation of semiconductors from their circuit boards.

4. Hold the IC devices by their body rather than the terminals.

5. Use containers made of conductive material or filled with conductive material for storage and transportation. Avoid using ordinary plastic containers. Any static sensitive part or assembly (circuit board) that is to be returned to Tektronix, Inc., should be packaged in its original container or one with anti-static packaging material.

Recommended Test Equipment

Table 4-1 lists test equipment and test fixtures recommended for the adjustment procedure. The characteristics specified are the minimum required for the checks. Substitute equipment must meet or exceed these characteristics.

**Table 4-1
EQUIPMENT REQUIRED**

Test Equipment	Characteristics	Recommendation
Autotransformer	Capable of varying line voltage from 90 V _{ac} to 130 V _{ac}	General Radio Variac Type W10MT3
Isolation Transformer	2:1 turns ratio and at least 500 VA	Stancor GIS21000
Spectrum Analyzer	Frequency range up to at least 2.2 GHz	TEKTRONIX 7L14 Option 39
Test Oscilloscope	Vertical sensitivity, 50 mV/Div to 5 V/Div; Bandwidth, DC to 100 MHz	Any TEKTRONIX 7000-Series oscilloscope with plug-in units for real-time display such as 7A11/7B50A, and P6108 10X Probe
Multimeter	100 mV to 350 V _{dc}	TEKTRONIX DM 501A or DM 502A with TM 500-Series Power module
Sweep/Signal Generator	Output: 0 dBm to +13 dBm Spectral Purity: 25 dB or more below the fundamental	Hewlett Packard 8620C with 86222A Plug-in
Signal Generator	Frequency range of 500 kHz to at least 100 MHz (cw), and capable of 80 kHz peak deviation FM at 100 MHz	Hewlett Packard 8640B
10 dB and 1 dB Step Attenuators	Range : 110 dB in combination 10 dB and 1 dB steps Accuracy: ±0.1 dB. Frequency Range: 0 to 1.8 GHz	Hewlett Packard 8494B and 8496B with 11716A interconnect kit, calibrated using precision standard attenuators such as Weinchel Model AS-6
Function or Sine-Wave Generator	1 Hz to 1 MHz; 0 to 20 V _{pp}	TEKTRONIX FG 503 Function Generator
Power Meter with Power Sensor	-30 dBm to +20 dBm full scale; 100 kHz to 4.2 GHz	Hewlett Packard Model 435A or 436A with 8482A
Time Mark Generator	1 μs markers; accuracy 0.001%	TEKTRONIX TG 501 with TM 500-Series Power module
Tracking Generator	Frequency range, 100 kHz to 1.8 GHz	TEKTRONIX TR502
N male to N male coaxial cable		Tektronix Part No. 012-0114-00
N male to SMA male adapter		Tektronix Part No. 015-0369-00
50 Ω Semi-rigid cable		Tektronix Part No. 175-4542-00
50 Ω bnc male to square pin female cable		Tektronix Part No. 175-2140-00
SMA female to female adapter		Tektronix Part No. 015-1012-00

ADJUSTMENT PROCEDURE

PREPARATION

Remove the cabinet as follows:

1. Turn the power off and remove the power cord.
2. Remove two screws from the rear panel (feet) of the cabinet.
3. Remove four screws from the bottom of the cabinet.
4. Remove two screws from the top rear of the cabinet.
5. Remove three screws from the bottom rear of the cabinet.
6. Slide the instrument out its cabinet.
7. Place the instrument on the bench and reconnect the power cord.
8. Disable frequency corrections with UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 [FREQUENCY CORRECTIONS (OFF)].
? #5
9. Press UTIL MENU two times to exit. *Nutzen Gebrauchs menu.*
10. Select the default normalization values by selecting UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#3 (DEFAULT NORMALIZATION VALUES).

1. Adjust Power Supply and Deflection

(R280, R386, R430, R501, R504, R526, R900, and R901 on the Power Supply board)
(R6, R7, and R121 on the rear panel)

Test Equipment Required:

- (1) Voltage-Variable Isolation Transformer
- (2) Multimeter

WARNING

AC line potential is present on the Power Supply board. Exercise extreme caution when working in this area. It is highly recommended that an isolation transformer be used.

The transformer must have a three-wire input and output connector with ground through the input and output. Stancor GIS21000 is an example of a suitable transformer.

If the shield on the bottom of the mother board is removed during servicing, hazardous line potential exists on the mother board at all times the instrument power cord is connected. If it is necessary to remove the shield, use extreme caution when handling the instrument.

Refer to Figure 4-1 for the location of all adjustments and test points.

- a. Connect a voltage-variable transformer in line with the Spectrum Analyzer power input and monitor the transformer secondary with a voltmeter. Set the transformer for 117 V_{ac}.
- b. Monitor the collector of Q453 with a test oscilloscope.
- c. Set the test oscilloscope timing such that one period of the waveform at the collector of Q453 is exactly 6 divisions.
- d. Move the test oscilloscope probe from the collector of Q453 to the gate of Q15.
- e. Adjust R280 (ØL) on the Power Supply board such that the period of the waveform at the gate of Q15 is exactly 2 divisions.
- f. Turn the Spectrum Analyzer graticule lights on.
- g. Adjust R386 (+5 V) on the Power Supply board for +10.45 V_{dc} at the +10 V test point.
- h. Check the other supply voltages at the test points indicated in Figure 4-1 against tolerances listed in Table 4-2.
- i. Monitor the voltage-variable transformer secondary with the voltmeter.

Table 4-2
POWER SUPPLY TOLERANCES

Supply	Tolerance	Test Point	Ripple
-11.2 V	±1 V	-11 V	49-87 mV
+5 V	±0.2 V	+5 V	25-73 mV
+10.45 V	±0.05 V	+10 V	25-53 mV
+22 V	±2 V	+20 V	25 mV
+43 V	±2 V	+43 V	35-55 mV
+115 V	±5 V	+115 V	13-35 mV

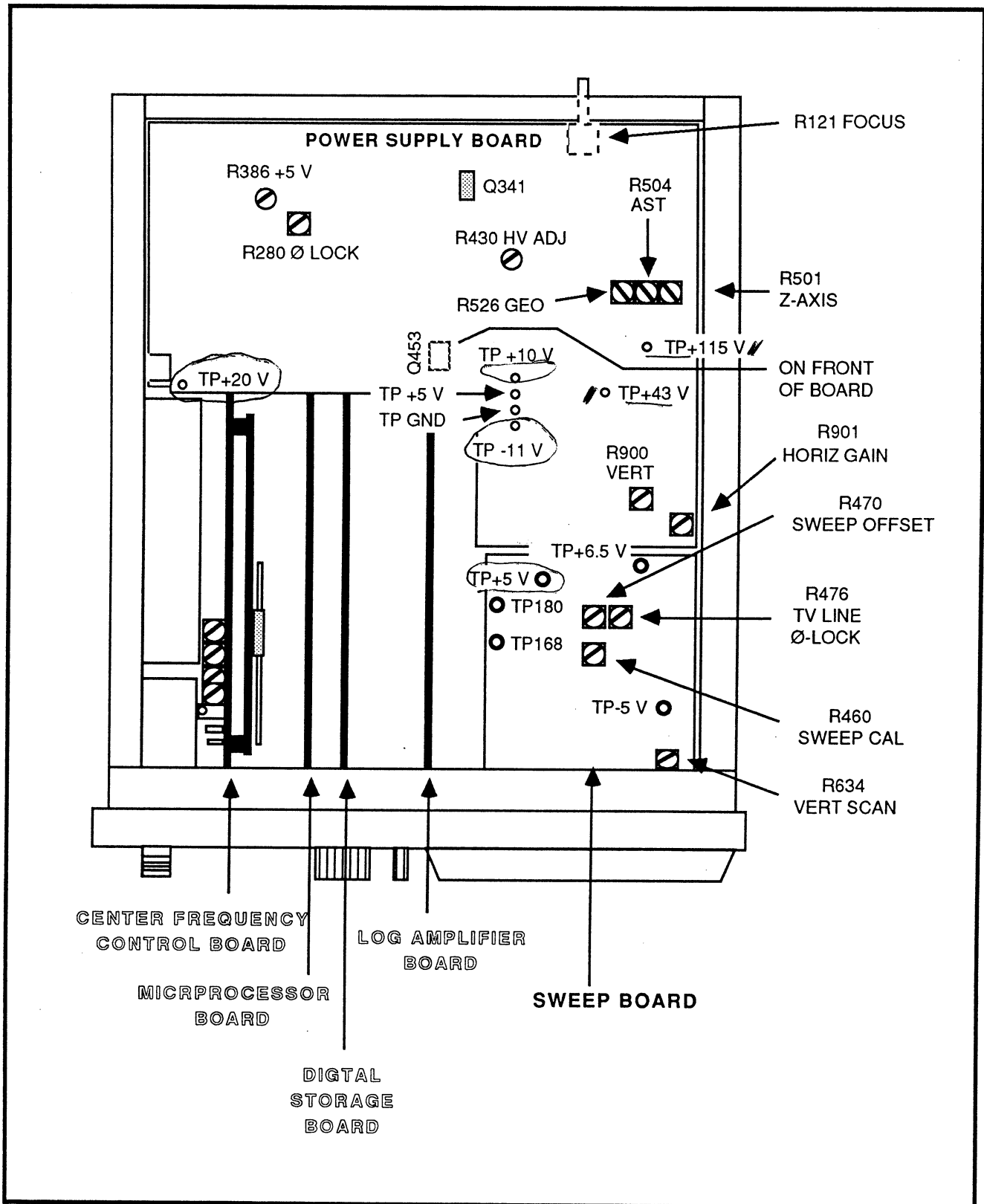


Figure 4-1. Adjustment and test point locations on the Power Supply and Sweep boards.

- j. Reset the voltage-variable transformer for 90 V_{ac} mains. Set the INTENSITY control fully clockwise, and enable the graticule lights.
- k. Adjust R430 (Hv) on the Power Supply board for 20 V_{dc} ±5 V at the collector of Q341.
- l. Reset the voltage-variable transformer for 250 V_{ac} mains. Turn the graticule lights off, and set the INTENSITY control fully counter-clockwise.
- m. Check that the level at the collector of Q341 is no more than 110 V_{dc}. If the level is over 110 V_{dc}, repeat parts j through m, readjusting R430 for slightly less than 20 V at the collector of Q341.
- n. Select 100 MHz SPAN, and set R121 on the Power Supply board (FOCUS) fully counter-clockwise. R121 is accessible from the rear of the Spectrum Analyzer.
- o. Adjust R504 (Ast) on the Power Supply board for a round dot at center screen.
- p. Adjust R121 for a sharp, clear display.
- q. Set the front-panel INTENSITY control fully counter-clockwise.
- r. Adjust R501 (Z-Axis) on the Power Supply board so the display (traces or readout) is just extinguished. Set the INTENSITY control fully clockwise (full bright) and check for extraneous dots. If dots are present, readjust R501.
- s. Turn Digital Storage off.
- t. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#1 (DEFLECTION AMP CAL). Press UTIL MENU three times to exit.
- u. Adjust VERT POS (R6) on the rear panel to position the top trace one half minor division above the top graticule line.
- v. Press SWP TRIG MENU/#6 (SWEEP RATE) and enter 100 μs/div.
- w. Press UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 [FREQUENCY CORRECTIONS (OFF)] to disable frequency corrections. Press UTIL MENU twice to exit.
- x. Adjust TRACE ROT (R7) on the rear panel to set traces parallel to the the horizontal graticule lines.
- y. Adjust R526 (Geometry) on the Power Supply board for the straightest possible parallel lines.
- z. Adjust R900 (Vert Gain) on the Power Supply board to position bottom trace on bottom graticule line.

2. Adjust Sweep and Horizontal Deflection Amplifier

(R470 and R460 on the Sweep board)
(HORIZ POS (R5) on the rear panel)
(R901 on the Power Supply board)

Test Equipment Required:

- (1) Voltmeter

- a. Select UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#1 [DEFLECTION AMP CAL (OFF)]/#3 [SWEEP CAL (CENTR)]. Press UTIL MENU three times to exit. Make sure that the DISPLAY STORAGE is turned off.
- b. Monitor TP168 with the voltmeter. See Figure 4-1.
- c. Adjust R470 (Offset) on the Sweep board for 0.0 V ±2 mV at TP168.
- d. Adjust HORIZ POS (R5) on the rear panel to position the crt beam at center screen.
- f. Press AUTO twice to enable the sweep, then press DSPL MENU/#6 [READOUT (OFF)].
- g. Adjust R901 on the Power Supply board such that the sweep starts more than one minor division before the left graticule line.
- h. Check that the sweep extends past the right side of the screen.
- i. Select UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#3 (SWEEP CAL (CENTR)). Press UTIL MENU three times to exit, then press SWEEP SLOW three times.
- j. Adjust R460 (Sweep Cal) to position the crt beam at the fifth graticule line to the right of center screen.
- k. Press SWEEP FAST three times and check that the beam falls on the second graticule line to the right of center-screen, first graticule to the right of center-screen, and center-screen respectively.

3. Preset Display Storage

(R190, R188, R192, R998, C286, R992, and R986 on the Display Storage board)

- a. Select UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#2 (DISPLAY STORAGE CAL).
- b. Adjust R190 [Hoo (Horizontal Output Offset)] on the Display Storage board to position the center of the checkerboard pattern at center screen. See Figure 4-2.

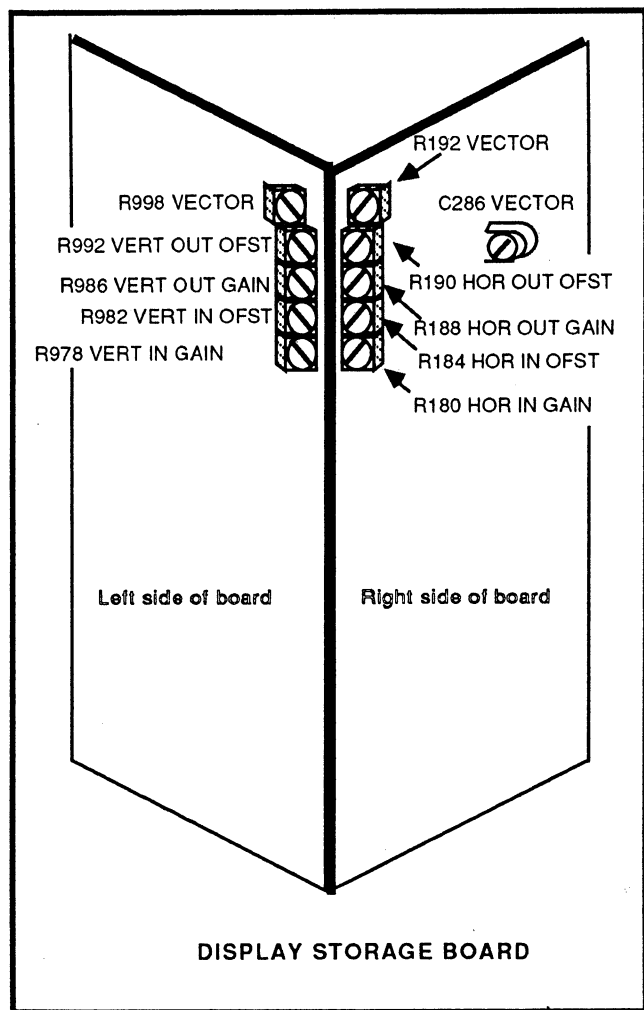


Figure 4-2. Display Storage board adjustment locations.

- c. Adjust R188 [Hog (Horizontal Output Gain)] on the Display Storage board for optimum one checkerboard square per division.
- d. Adjust R192 (vector adjustment) on the Display Storage board for optimum transient response on the checkerboard pattern display for instruments from B010152 and up.
- e. For instruments from B010001 to B010151, adjust R192, R998, and C286 (vector adjustments) on the Display Storage board for optimum transient response on the checkerboard pattern display.
- f. Adjust R992 [Voo (Vertical output offset)] and R986 [Vog (Vertical Output Gain)] on the Display Storage board for proper spacing of the pattern at the top and bottom of the screen respectively.

f. Press UTIL MENU six times to exit. Enable the readout by pressing DSPL MENU/#6 (READOUT (ON)), and set sweep speed to 100 μ s by pressing SWP/TRIG MENU/#6 [SWEEP RATE (100 μ s/DIV)].

4. Adjust Log Amplifier

(R154, R160, R103, R600, R451, R131, and R510 on the Log board)

Test Equipment Required:

- (1) 10 dB and 1 dB Step Attenuators
- (2) Signal Generator
- (3) RF Cable, bnc-to-square SMB

- a. Set R154 (Slope) and R160 (Slope Offset) fully clockwise so they will have no effect on baseline noise in MAX SPAN. See Figure 4-3 for the locations of adjustments.
- b. Select ZERO SPAN and LIN mode.
- c. Disconnect P190 (P7A in some early instruments) and jumper P684 from the Log board.
- d. Adjust R103 (Detector Offset) on the Log board for 0.0 V \pm 5 mV at pin 2 of J513.
- e. Replace P684 on the Log board. Apply a 10 MHz/-10 dBm signal to J190 (J7A in some early instruments).
- f. Turn the DISPLAY STORAGE off, and enable AUTO VIDEO FILTER.
- g. Adjust R600 (Log Gain) on the Log board for constant signal amplitude as the VERTICAL SCALE is change from 10 dB/div to 5 dB/div to 1 dB/div.
- h. Adjust VERT POS (R6) on rear of the Spectrum Analyzer to position the signal at the top graticule line.
- i. Set VERTICAL SCALE to 10 dB/div. Insert 60 dB of attenuation in the test signal path.
- j. Adjust R451 (Vert Scale Factor) on the Log board to position the signal two divisions from the bottom graticule line.
- k. Check logging at 10 dB/div, 5 dB/div, and 1 dB/div. Refer to performance check step KKK in Section 3, Performance Check.
- l. Remove the test signal from J190 (J7A).
- m. Select LIN mode.
- n. Adjust R131 (Lin Offset) on the Log board to position the trace at the bottom of the screen.

- o. Reconnect the 10 MHz/-10 dBm signal to J190.
- p. Adjust R510 (Lin Gain) on the Log board to position the signal at the top of the screen.
- q. Remove test signal from J190 (J7A), and reconnect P190 (P7A).

5. Adjust Calibrator Amplitude and IF Gain
 (R804 on the Center Frequency Control board)
 (R200 on the RF Mother board)

Test Equipment Required:

- (1) Signal Generator
- (2) BNC Cable
- (3) Power Meter with Power Sensor

a. Use the power meter to set the amplitude of a 100 MHz signal from the generator and cable combination at -30 dBm, then connect the cable to the RF INPUT.

b. Set the following instrument parameters either manually or via UTIL MENU/#2 (KEYBOARD ENTERED SETTINGS):

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	1 MHz
RESOLUTION BW	5 MHz
VIDEO FILTER	ON
VERTICAL SCALE	1 dB/DIV

c. Turn Digital Storage on, press SWEEP AUTO, and save the signal in one of the displays.

d. Enable the calibrator signal by pressing INPUT MENU/#9 [CAL SIG @ 100MHZ -30DBM (ON)].

e. Adjust R804 (Cal Level) on the Center Frequency Control board to match the calibrator level to the level of the saved -30 dBm signal. See Figure 4-4.

f. Turn DISPLAY STORAGE off.

g. Adjust R200 (Level) on the RF Mother board to set the calibrator signal at full screen. See Figure 4-4.

6. Adjust Display Storage

(R190, R188, R992, R986, R184, R180, R982, and R978 on the Display Storage board)

a. Press UTIL/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#2 (DISPLAY STORAGE CAL).

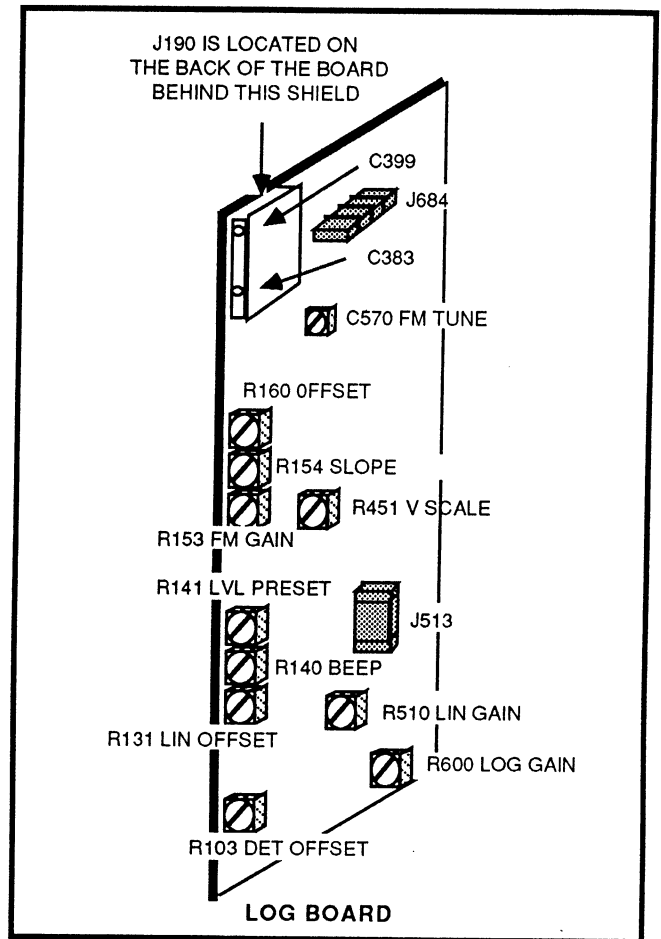


Figure 4-3. Log board adjustment and jumper locations.

b. Adjust (readjust) R190 [Hoo (Horizontal Output Offset)] on the Display Storage board to position the center of the checkerboard pattern at center screen. See Figure 4-2.

c. Adjust R188 [Hog (Horizontal Output Gain)] on the Display Storage board for optimum one checkerboard square per division.

d. Adjust R992 [Voo (Vertical Output Offset)] on the Display Storage board to the top of the checkerboard pattern at the top of the screen.

e. Adjust R986 [Vog (Vertical Output Gain)] on the Display Storage board for a properly spaced pattern at the bottom of the screen.

g. Press UTIL MENU six times to exit, then set FREQ SPAN/DIV to 100 MHz and set FREQUENCY to 100 MHz. Enable the calibrator signal by pressing INPUT MENU/#9 [CAL SIG @ 100MHZ -30DBM (ON)], and turn DISPLAY STORAGE on.

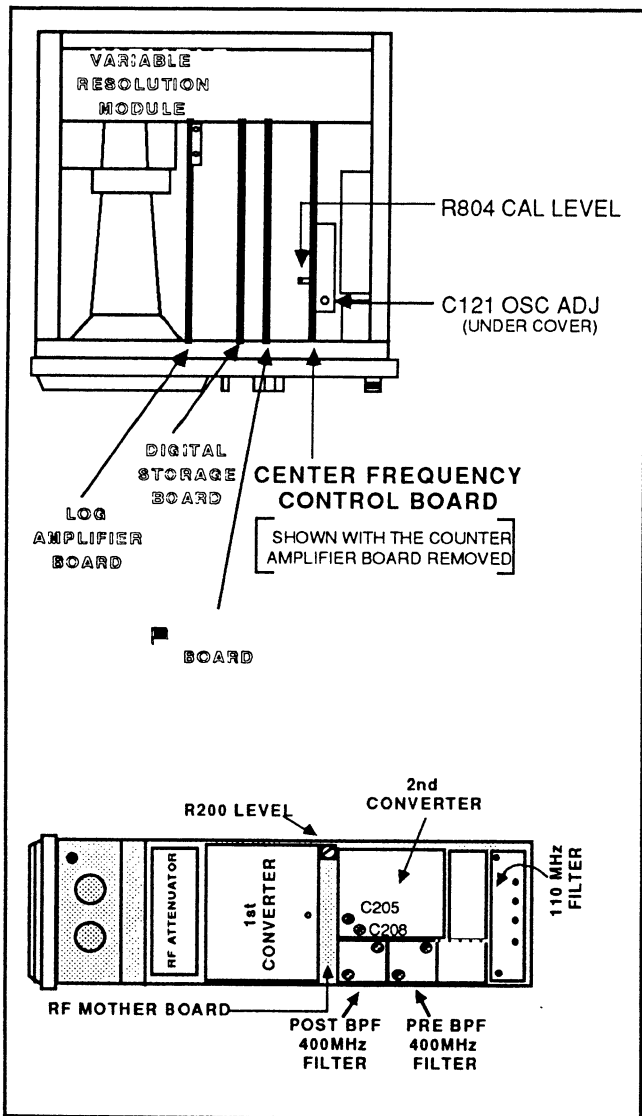


Figure 4-4. Calibrator and IF Gain adjustment locations.

- h. Adjust R184 [Hio (Horizontal Input Offset)] on the Display Storage board to align the stored display to the non-stored display at center screen while switching between a stored and a non-stored display.
- i. Adjust R180 [Hig (Horizontal Input Gain)] on the Display Storage board to align the stored display to the non-stored display one division from the left and right edges at center screen vertically.
- j. Set REF LEVEL units to 1dB, VIDEO FILTER on, FREQUENCY to 100 MHz, FREQ SPAN/DIV to 1 MHz, and RESOLUTION BW to 5 MHz.

k. Adjust R982 [Vio (Vertical Input Offset)] on the Display Storage board to match the amplitudes of the stored display to the non-stored display at the top of the screen while switching between a stored and a non-stored display.

l. Reset the REFERENCE LEVEL to bring the signal one division above bottom-screen.

m. Adjust R978 [Vig (Vertical Input Gain)] on the Display Storage board to match the stored display to the non-stored display at the bottom of the screen while switching between a stored and a non-stored display.

7. Adjust Span Attenuator and Center Frequency Accuracy

(R622, R620, R621, and R422 on the Center Frequency Control board)

Test Equipment Required:

- (1) Time Mark Generator or WWV Receiver (1 MHz)

a. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#3 (DEFAULT NORMALIZATION VALUES).

b. Press UTIL MENU/#4 (SYSTEM CONFIGURATION)/#4 (FREQUENCY CORRECTIONS OFF), then press UTIL MENU two times to exit.

c. Enable the calibrator signal by pressing INPUT MENU/#9 (CAL SIG @ 100MHz -30DBM ON), and turn the DISPLAY STORAGE on.

d. Set the following instrument parameters either manually or via UTIL MENU/#2 (KEYBOARD ENTERED SETTINGS):

FREQUENCY	400 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	100 MHz
VERTICAL SCALE	10dB/Div

e. Press SWEEP AUTO, and observe the comb of 100 MHz markers across the screen.

f. Adjust R622 (Main Span) on the Center Frequency Control board for one mark per division. See Figure 4-5 for adjustment locations.

g. Change the center frequency to 900 MHz by pressing MKR/FREQ MENU/#0 (FREQUENCY ENTRY) and entering 900MHZ, and change the span/div setting to 1 MHz by pressing MKR/FREQ MENU/#1 (SPAN/DIV ENTRY) and entering 1MHZ.

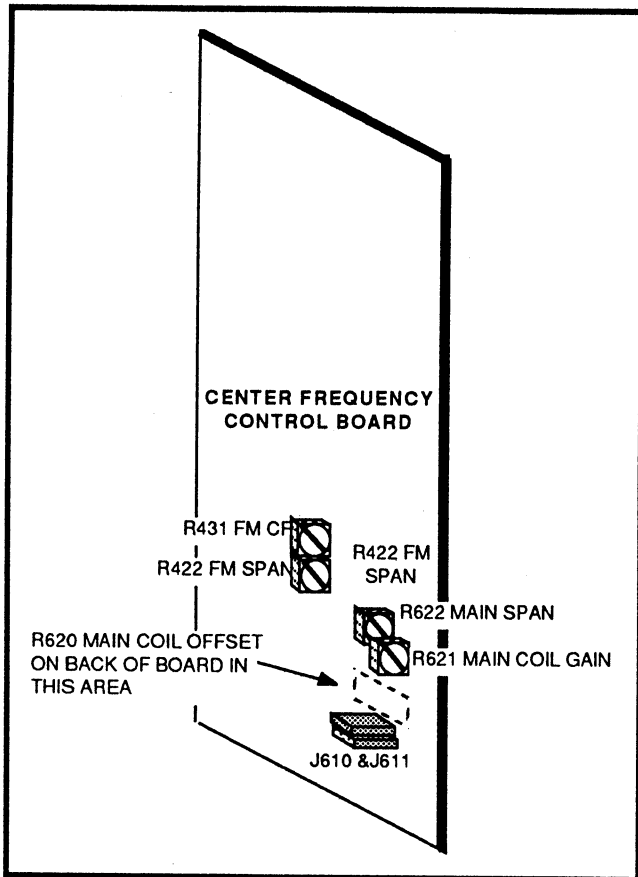


Figure 4-5. Center Frequency Control board adjustment locations.

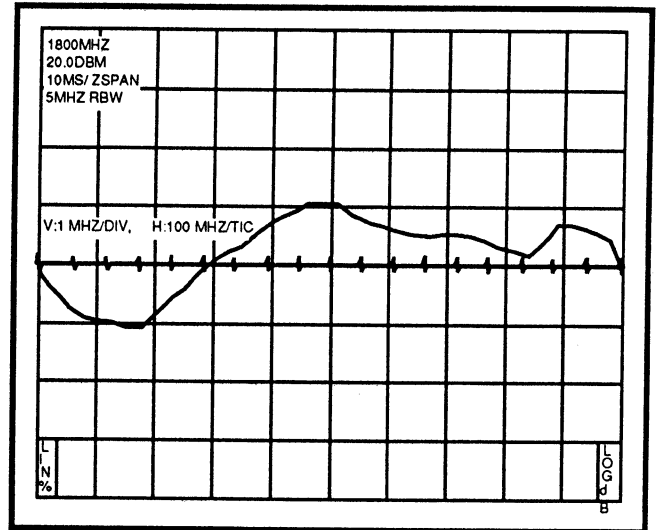


Figure 4-6. 1st LO balance curve.

- h. Adjust R620 (Main Coil Offset) on the Center Frequency Control board to center the 900 MHz comb on the screen.
- i. Change the center frequency to 100 MHz.
- j. Adjust R621 (Main Coil Gain) on the Center Frequency Control board to place the 100 MHz mark at center screen.
- k. Change the center frequency to 1700 MHz, and check for a marker within 2 divisions of the center graticule line. If necessary, readjust R621. The resolution bandwidth may need to be reduced to locate the 1700 MHz harmonic.
- l. Repeat parts g through k to ensure optimum adjustment.
- m. Disable the calibrator signal by pressing INPUT MENU/#9 (CAL SIG @ 100MHZ -30DBM OFF).
- n. Insert 1 MHz markers in the instrument. Set the span/div to 1 MHz and resolution bandwidth to 30 kHz. Select a center frequency that will put markers at or near the graticule lines, such as 6 MHz.

o. Adjust R422 (FM Span) on the Center Frequency Control board for one marker per division.

p. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#2 (MANUAL ADJUSTMENTS)/#6 (YIG (1st LO) ACCURACY TEST) to check for proper 1st LO balance. The Spectrum Analyzer should draw a reference line at center screen and a curve of the oscillator balance. See Figure 4-6 for a typical plot. The curve should be centered about the reference line and be within 4 major divisions of the reference line. If not, repeat all of step 7.

q. Turn off the A and B displays, and SAVE A and SAVE B when finished with the plot.

8. Adjust 1st Converter Amplitude

(R341 and Tuning Tabs in the 1st Converter assembly)

a. Set the following instrument parameters either manually or via UTIL MENU/#2 (KEYBOARD ENTERED SETTINGS):

FREQUENCY	0 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	10 MHz
RESOLUTION BW	5 MHz
VIDEO FILTER	AUTO
VERTICAL SCALE	10dB/Div

b. Press SWEEP AUTO.

c. If the UTIL MENU sequence was used to set parameters, press UTIL MENU twice to exit. Tune the start spur to center-screen.

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c. Adjust R341 (Bias) and Tuning Tabs (Figure 4-7) in the 1st Converter assembly for a start spur less than -10 dBm. Typically, the start spur peak is on-screen at this reference level setting.

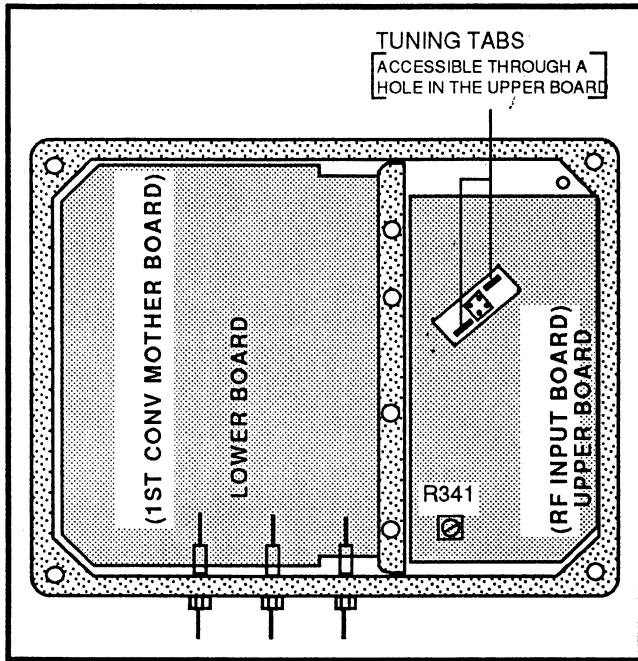


Figure 4-7. 1st Converter adjustment locations.

NOTE

If the instrument exhibits spurs, make these adjustments while observing the 2 GHz signal coming out of the 2110 MHz input to the 2nd Converter.

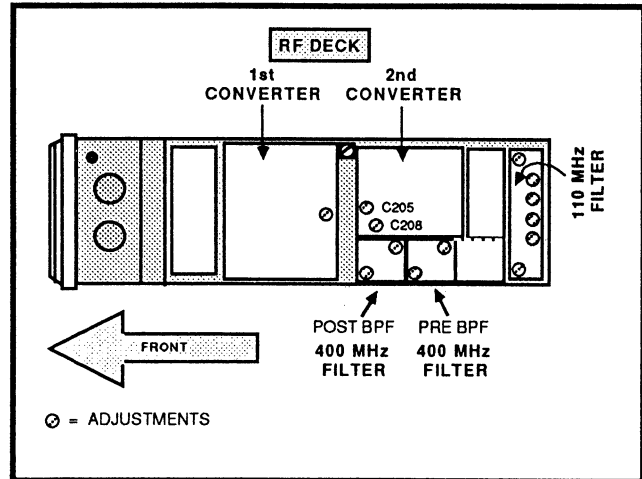


Figure 4-8. RF Mother board adjustment locations.

9. Adjust RF Mother Board Amplitudes

(400 MHz Filters on the RF Mother board)
(C204 and C208 on the 2nd Converter board)

a. Select UTIL MENU/#0 (INITIALIZE INSTR SETTINGS), enable the calibrator signal by pressing INPUT MENU/#9 [CAL SIG @ 100MHZ -30DBM (ON)], and set the following instrument parameters either manually or via UTIL MENU/#2 (KEY PAD ENTERED SETTINGS):

FREQUENCY	100 MHz
REFERENCE LEVEL	-30 dBm
SPAN/DIV	1 MHz
RESOLUTION BW	5 MHz

b. Adjust PRE BPF capacitors for maximum signal amplitude. See Figure 4-8 for the location of adjustments.

c. Adjust POST BPF capacitors for maximum signal amplitude.

d. Adjust C205 and C208 on the 2nd Converter for maximum signal amplitude.

10. Adjust Variable Resolution Filters

a. Adjust 5 MHz Resolution Bandwidth

(Six capacitors on 110 MHz filter)

(1) Press APPL MENU/#9 (SETUP TABLE)/#0 (DB DOWN FOR BW MODE) and enter -6 dB. Set FREQ SPAN/DIV to 2 MHz.

(2) Press APPL MENU/#0 (BANDWIDTH MODE).

(3) Adjust six capacitors on the 110 MHz Filter for highest amplitude, best filter shape, and centering at center screen of the 5 MHz (4 to 6 MHz) pass band. Check for <1 dB of ripple. See Figure 4-8 for the locations of the capacitors.

b. Adjust 500 kHz Resolution Bandwidth Filter

(C611, C612, C620, and C621 on the VR Filter Select board)

(1) Press RESOLUTION BW↔ for 500 kHz resolution bandwidth, and set FREQ SPAN/DIV to 500 kHz.

(2) Adjust C610, C611, C620, and C621 on the VR Filter Select board (Figure 4-9) for highest amplitude, best filter shape, and centering at center screen.

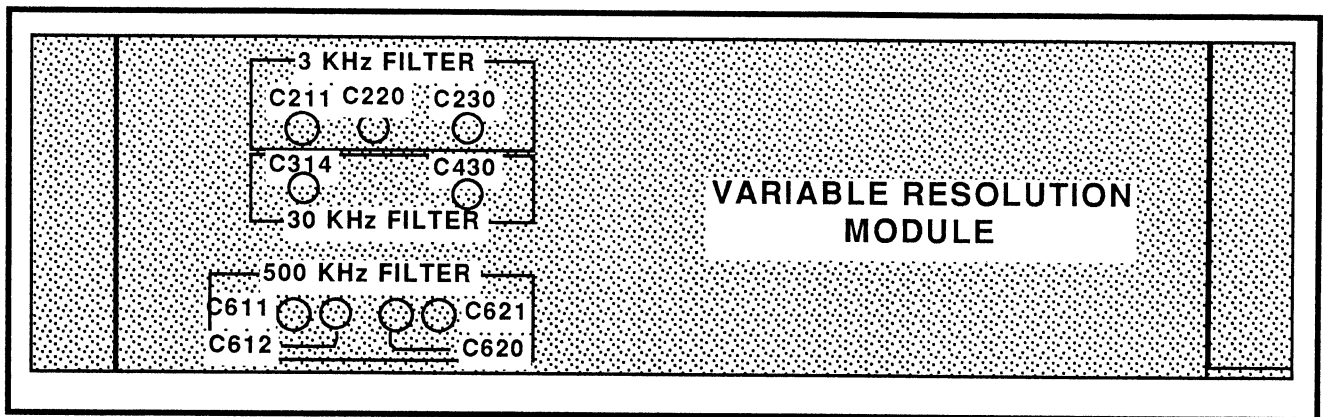


Figure 4-9. Variable Resolution module adjustment locations.

c. Adjust 30 kHz resolution Bandwidth Filter
(C314 and C430 on the VR Filter Select board)

(1) Press RESOLUTION BW \square \square for 30 kHz resolution bandwidth, and set FREQ SPAN/DIV to 20 kHz.

(2) Adjust C314 and C430 on the VR Filter Select board for highest amplitude, best filter shape, and centering at center screen.

d. Adjust 3 kHz resolution Bandwidth Filter
(C211, C220, and C230 on the VR Filter Select board)

(1) Press SWEEP AUTO, and make sure that the VIDEO FILTER is turned off.

(2) Press RESOLUTION BW \square \square for 3 kHz resolution bandwidth, and set FREQ SPAN/DIV to 10 kHz.

(3) Adjust C211, C220, and C230 on the VR Filter Select board for highest amplitude, best filter shape, and centering at center screen.

11. Adjust Log Board Peripherals

(R140, R141, C570, and R153 on the Log board)

Required Test Equipment:

(1) Signal Generator (10 MHz and 100 MHz)

a. Press UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#1 (EXTENDED DIAGNOSTICS)/#2 (AUDIO BEEP).

b. Adjust R140 (Beep Level) on the Log board for desired nominal beep loudness. See Figure 4-3.

c. Press UTIL MENU three times to exit.

d. Adjust R141 (Preset Level) on the Log board for midrange.

e. Set up the Generator for FM modulation with 80 kHz peak deviation on a 100 MHz carrier.

f. Disable the calibrator by pressing INPUT MENU/#9, then set the following instrument parameters:

FREQUENCY	Carrier Frequency
REFERENCE LEVEL	Carrier at top-screen
SPAN/DIV	1 MHz
RESOLUTION BW	AUTO
VERTICAL SCALE	10 dB/Div

g. Press CTR MEAS/TRKG, ZERO SPAN, DSPL MENU/#7 (DISPLAY SOURCE)/#2 (FM DETECTOR, and SWP/TRIG MENU/#1 (INTERNAL). Turn DISPLAY STORAGE off.

h. Set the sweep rate to 1 ms by pressing FAST until the readout indicates 1 ms, then set the trigger LEVEL control for a triggered display.

i. Adjust C570 (Figure 4-3) on the Log board for maximum negative signal.

j. Adjust R153 (FM Gain) on the Log board for 8 divisions of deflection.

k. Change the generator deviation to 40 kHz and check for 4 divisions of deflection.

l. Set VERTICAL SCALE to 5 dB/Div and check for full-screen deflection.

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12. Adjust Video Monitor (Option 10)
(R476 and R634 on Sweep board)

Required Test Equipment:

- (1) Live Video Source


- a. Press UTIL MENU/#0 (INITIALIZE INSTR SETTINGS). Set FREQ SPAN/DIV to 2 MHz and RESOLUTION BW to 5 MHz.
- b. Connect a live video source to the RF INPUT such as from an antenna.
- c. Tune the Spectrum Analyzer to a carrier. See Table 4-3.

Table 4-3
TELEVISION CHANNELS

Channel	Visual Carrier
2	55.25 MHz
3	61.25 MHz
4	67.25 MHz
5	77.25 MHz
6	83.25 MHz
7	175.25 MHz
8	181.25 MHz
9	187.25 MHz
19	193.25 MHz
11	199.25 MHz
12	205.25 MHz
13	211.25 MHz

NOTE

The aural carrier is 4.5 MHz away from the visual carrier. Carrier frequencies for Channels A through W and 14 through 83 are omitted from this table.

- d. Press REF LEVEL  to set the peak carrier level at top-screen.
- e. Press SWP/TRIG MENU/#8 (BROADCAST <AM> VIDEO), and set the LEVEL control such that there is no flicker in the displayed picture.
- f. Adjust R476 (TV Line Ø-Lock) on the Sweepboard to center of lock range as per the visual image. When out of lock range, the picture disappears.

- g. Adjust R634 (Vert Scan) on the Sweep board to move the bottom of the scan to bottom-screen.

13. Adjust Flatness
(R154 and R160 on the Log board)

Required Test Equipment:

- (1) Sweep Generator
- (2) N male to N male coaxial cable
- (3) N male to SMA male adapter
- (4) 50 Ω Semi-rigid cable
- (5) SMA female to female adapter
- (6) Tracking Generator

- a. Connect the test equipment as shown in Figure 4-10. The semi-rigid cable and SMA female-to-female adapter are used to access J300 (1st LO) on the 1st LO Buffer Amplifier, but are not needed if Option 15 is installed. The 50 Ω terminator at J300 will have to be removed for this adjustment.

- b. Set the Sweep Generator controls for a cw output at approximately 2100 MHz, then set the vernier control on the Sweep Generator for maximum Tracking Generator amplitude.

- c. Press UTIL MENU/#0 (INITIALIZE INSTR SETTINGS) to reset the instrument, then press DSPL MENU/#4 [ACQUISITION MODE (PEAK)].

- d. Set the VERTICAL SCALE to 1dB/DIV, and set the reference level for a vertically centered display.

- e. Adjust R154 (Slope) and R160 (Slope Offset) on the Log board for flatness within 1.5 dB of the midpoint between any two extremes.

- f. Check flatness by sweeping the Spectrum Analyzer with the Sweep Generator, with the Spectrum Analyzer set up for MAX HOLD display storage.

14. Adjust Log Match
(R600 on the Log board)
(VERT POS (R6) on the rear panel)

Test Equipment Required:

- (1) Signal Generator

- a. Apply a 10 MHz/-10 dBm signal to J190. Turn the DISPLAY STORAGE off.
- b. Adjust R600 (Log Gain) on the Log board for constant signal amplitude as the VERTICAL SCALE is changed from 10 dB/div to 5 dB/div and 1 dB/div.

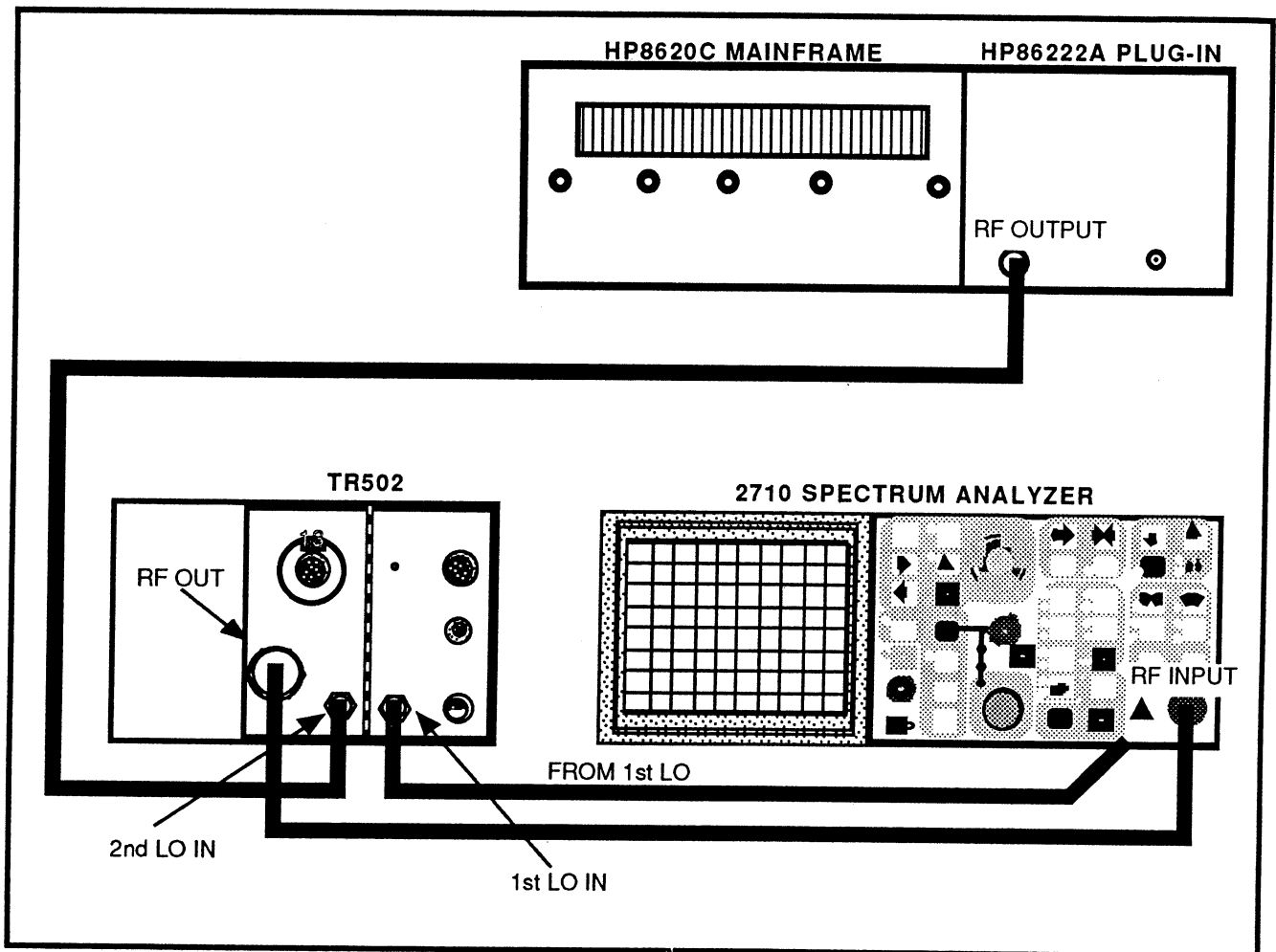


Figure 4-10. Band leveling test equipment setup.

c. Adjust VERT POS (R6) on the rear panel of the Spectrum Analyzer to position the signal at the top graticule line.

FREQUENCY	100 MHz
REFERENCE LEVEL	As needed
SPAN/DIV	50 kHz
RESOLUTION BW	30 kHz

15. Adjust Reference Frequency (Option 02)
(R467, R465, R463, R461, R374, and R373 on the Center Frequency Control board)

Equipment Required

100 MHz Frequency Standard

a. Connect a known frequency standard, such as WWV, to the RF INPUT.

b. Set the following instrument parameters:

c. Enable default reference values by pressing UTIL MENU/#5 (INSTR DIAGNOSTICS/ADJUSTMENTS)/#5 (SERVICE NORMALIZATIONS)/#4 (DEFAULT REFERENCE VALUES).

d. Set counter resolution to 1 Hz by pressing MKR/FREQ MENU/#9 (SETUP TABLE)/#2 (COUNTER RESOLUTION)/#1 (1 Hz).

e. Press CTR MEAS/TRKG.

f. Check that the Spectrum Analyzer counter reads 100 MHz \pm 100 Hz. If necessary, readjust the digital frequency number on the Center Frequency board using the 1 k Ω resistors in

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Table 4-4. Removing a combination of these resistors raises the reference frequency by the equivalent amount (sum) according to Table 4-4. See figure 4-12 for the location of the 1 k Ω resistors.

Table 4-4
FREQUENCY ADJUSTING RESISTORS

Resistor	ΔF
R467	100 Hz
R465	200 Hz
R463	400 Hz
R461	800 Hz
R374	1600 Hz
R373	3200 Hz

Invoke the normalization routines after the instrument has warmed up for one hour by pressing UTIL MENU/#3 (NORMALIZATIONS)/#0 (ALL PARAMETERS).

16. Adjust Counter Amplifier

(R2261 and R563 on the Counter Amp board)

Equipment Required:

(1) Test Oscilloscope

- a. Press UTIL MENU/#0 (INITIALIZE INSTR SETTINGS).
- b. Press UTIL MENU/#5 (DIAGNOSTICS/ADJUSTMENTS)/#1 (EXTENDED DIAGNOSTICS)/#4 (FREQUENCY COUNTER TESTS)/#2 (RF, 100MHZ STROBE). This enables the 100 MHz strobe.
- c. Monitor the positive plate of C325 (Figure 4-11) with the test oscilloscope.
- d. Adjust R562 (Figure 4-12) for 0.7 V_{pp} of the 100 MHz strobe signal.
- e. Press #2 (RF, 100MHZ STROBE)/#3 (RF, 50MHZ STROBE). This disables the 100 MHz strobe and enables the 50 MHz strobe.
- f. Adjust R261 on the Counter Amp board for 0.7 V_{pp} of the 50 MHz strobe signal.
- g. Press #3 (RF, 50MHZ STROBE)/#5 (RF, 33MHZ STROBE). This disables the 50 MHz strobe and enables the 33 MHz strobe.
- h. Check that the 33 MHz strobe amplitude is 0.5 V_{pp} or more. If the strobe amplitude is less than 0.5 V_{pp}, readjust the 50 MHz strobe amplitude (parts e and f), and recheck the 33 MHz strobe amplitude.

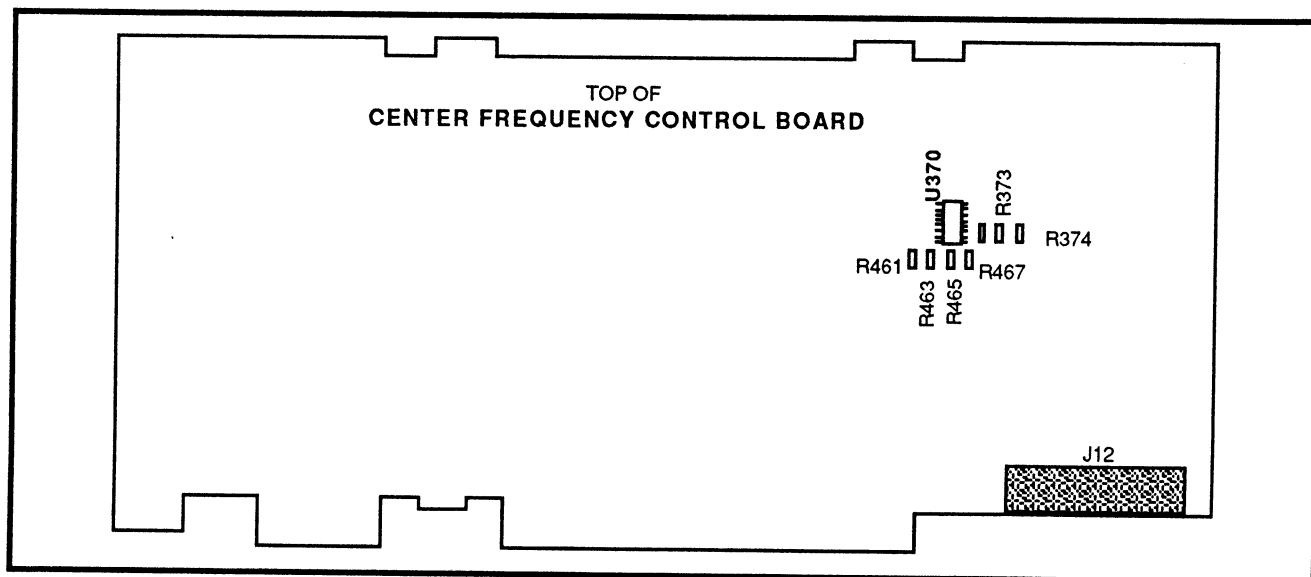


Figure 4-11. Reference frequency adjusting resistors.

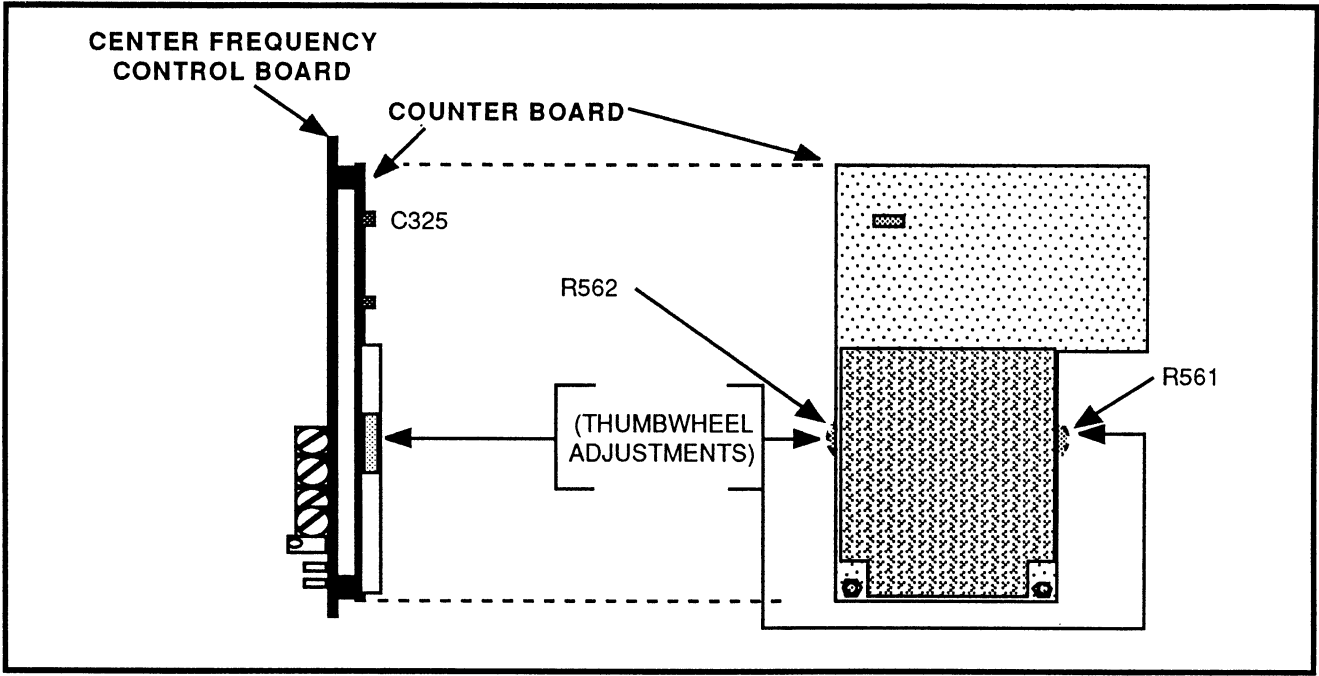


Figure 4-12. Counter Amplifier board adjustments.

MAINTENANCE

INTRODUCTION

This section describes procedures for reducing and preventing instrument malfunction, troubleshooting methods, corrective maintenance, and procedures for recalibrating those assemblies that normally do not require routine calibration.

Removing the Instrument from its Cabinet

To prepare the standard instrument for maintenance or adjustment, perform the following steps.

1. Set the instrument on its face with the front cover installed.
2. Remove the instrument from its cabinet. Refer to Removing and Replacing assemblies in this section.
3. Place the instrument on the work bench and reconnect the power cord.

Static-Sensitive Components

CAUTION

Static discharge can damage any semiconductor component in this instrument.

This instrument contains electrical components that can be damaged by static discharge. See Table 5-1 for the relative susceptibility of various classes of semiconductors. Static voltages of 1 kV to 30 kV can occur in unprotected environments.

Observe the following precautions to avoid damage:

1. Minimize handling of static-sensitive components.
2. Transport and store static-sensitive components or assemblies in their original containers, on metalized or conductive foam. Label packages that contain static-sensitive assemblies or components.
3. Discharge body static voltage by wearing a grounded wrist strap while handling these components. Static-sensitive assemblies or components should be handled and serviced only at static free work stations by qualified service personnel.
4. Nothing capable of generating or holding a static charge should be allowed on the work station surface.

5. Keep the component leads shorted together whenever possible.
6. Pick up components by the body, never by the leads.
7. Do not slide the components over any surface.
8. Avoid handling components in areas that have a floor or work-surface covering capable of generating a static charge.
9. Use a soldering iron that is connected to earth ground.
10. Use only special anti-static suction type or wick type desoldering tools.

**Table 5-1
RELATIVE SUSCEPTIBILITY TO
STATIC DISCHARGE DAMAGE**

Semiconductor Classes	Relative Susceptibility Levels ¹
MOS or CMOS microcircuits or discretes, or linear microcircuits with MOS inputs. (Most Sensitive)	1
ECL	2
Schottky signal diodes	3
Schottky TTL	4
High-frequency bipolar transistors	5
JFET devices	6
Linear microcircuits	7
Low-power Schottky TTL	8
TTL (Least Sensitive)	9

Voltage Equivalent for Levels:

1 = 100 to 500 V	4 = 500 V	7 = 400 to 1000 V (est)
2 = 200 to 500 V	5 = 400 to 600 V	8 = 900 V
3 = 250 V	6 = 600 to 800 V	9 = 1200 V

¹ Voltage discharged from a 100 pF capacitor through a resistance of 100 Ω .

PREVENTIVE MAINTENANCE

Preventive maintenance consists of cleaning, visual inspection, performance check, and if needed a recalibration. The preventive maintenance schedule that is established for the instrument should be based on the environment in which the instrument is operated and the amount of use. A preventive maintenance check should be performed every 2,000 hours of instrument operation.

Cleaning

Clean the instrument often enough to prevent dust or dirt from accumulating in or on it. Accumulation of dirt and grease acts as a thermal insulating blanket and prevents efficient heat dissipation. It also provides 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 or brushing the surface with a soft cloth or small brush. The brush will remove dust from around the front-panel selector buttons. Hardened dirt may be removed with a cloth dampened in water that contains a mild detergent. Abrasive cleaners should not be used.

Interior: Clean the interior by loosening accumulated dust with a dry soft brush, then remove the loosened dirt with low pressure air to blow the dust clear. (High velocity air can damage some components.) Hardened dirt or grease may be removed with a cotton tipped applicator dampened with a solution of mild detergent in water. Do not leave detergent on critical memory components. Abrasive cleaners should not be used. If the circuit board assemblies need cleaning, remove the circuit board by referring to the instructions under Corrective Maintenance in this section.

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 components such as the hybrid assemblies, RF Attenuator assembly, potentiometers, etc. Instructions for removing these assemblies are provided in the Corrective Maintenance part of this section. 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.

Fixtures and Tools for Maintenance

Table 5-2 lists kits and fixtures that are available to aid in servicing the spectrum analyzer. Topping the list is the Extender Kit consisting of the following:

- Main Extender with circuit board ejectors
- Secondary Extender
- An assortment of six coaxial cables

The Main Extender is to be used with all circuit boards that use the 50-conductor microprocessor bus cable. The Secondary Extender card is added to the Main Extender for use with the Log and Center Frequency Control boards. See Figure 5-1.

On the Main Extender, signal lines and power supply lines from the bottom edge connector to the pins at the top edge of the Extender are completed by a set of two-pin jumpers (excluding two ground lines and the 50-conductor microprocessor bus cable). Thus, except for the two ground lines, all signal and power supply lines are interruptible via these two-pin jumpers.

Signal lines are brought to square pins where they can be steered to one of two bnc connectors on the Main Extender. See Figure 5-2. There are 20 rows of 3-pin sets numbered 1 through 12 and 17 through 24. The numbers correspond to pin numbers of the interconnect system on the Power Supply board. Placing a jumper at position A in Figure 5-2 steers the selected signal to bnc connector A, and a jumper at position B steers the signal to connector B. Consequently, a maximum of two signals may be steered to the bnc connectors at any one time.

Conversely, and external signal may be injected on any one of these signal lines by removing the proper jumper on the signal line, selecting a bnc connector, and applying the external signal to the selected connector.

The double shielded coaxial cables with SMB connectors and the coaxial cable with square pin connectors are for interboard connections when needed.

Visual Inspection

After cleaning, carefully check the instrument for such defects as defective connections and damaged parts. The remedy for most visible defects is obvious. If heat-damaged parts are discovered, try to determine the cause of overheating before the damaged part is replaced; otherwise, the damage may be repeated.

Transistor and Integrated Circuit Checks

All transistors and integrated circuits are soldered on the boards to prevent pin contact problems. Periodic checks of the transistors and integrated circuits is not recommended. The best measure of performance is the actual operation of the component in the circuit. In most cases any degradation in performance will be detected by the microprocessor during power-up. Performance of these components is also checked during NORMALIZATION; any sub-standard transistors or integrated circuits will usually be detected at that time.

Performance Checks and Recalibration

The instrument performance should be checked after each 2000 hours of operation or every 12 months if the instrument is used intermittently to ensure maximum performance and assist in locating defects that may not be apparent during regular operation. Instructions for conducting a performance check are provided by the Performance Check section of the service instructions.

Stored Data in Non-Volatile Memory

Data stored in non-volatile memory will be lost if backup-battery power to the memory is interrupted, such as when changing the battery.

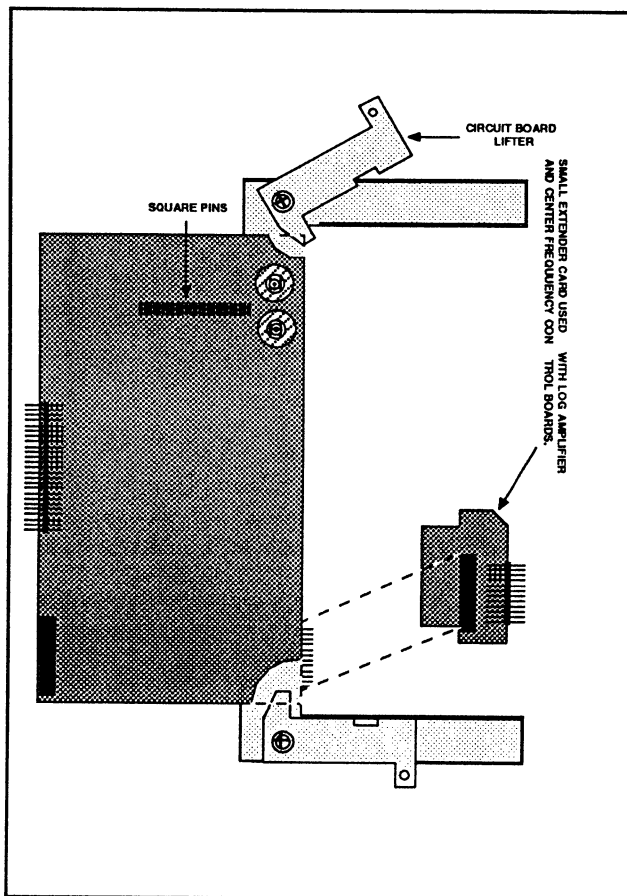


Figure 5-1. Main Extender and Secondary Extender.

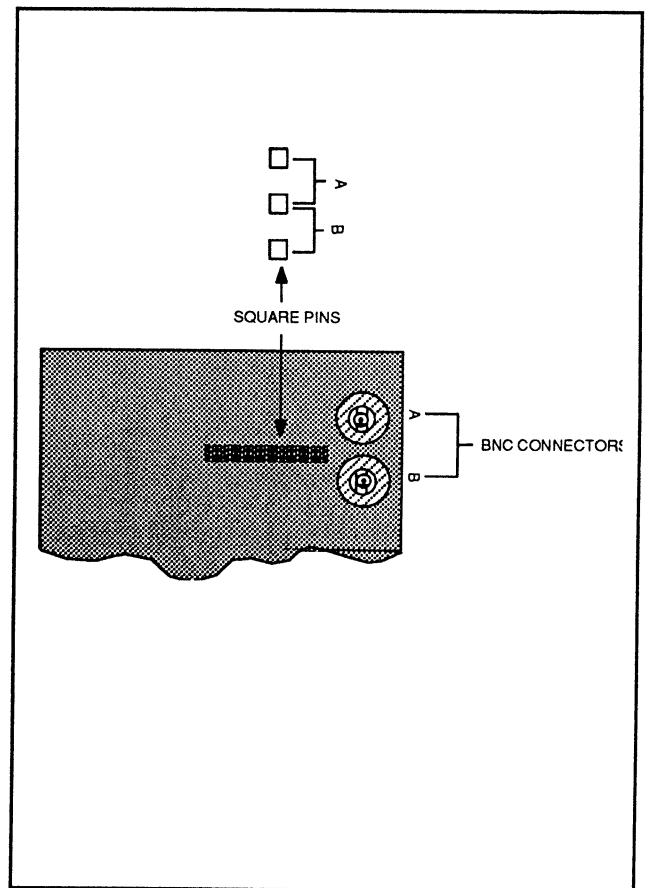


Figure 5-2. Signal steering square pins.

Table 5-2
SERVICE KITS AND TOOLS

Nomenclature	Tektronix Part No.
Extender Kit consisting of:	606-0110-00
Main extender board	671-0149-00
Secondary extender board	671-0371-00
50 Ω cables (3)	174-0820-00
50 Ω cable	174-1038-00
50 Ω cable	175-2140-00
50 Ω cable	175-9254-00
50 Ω cable, Sealelectro male-to-Sealelectro female (3)	175-2902-00
Screwdriver, flat, with 1/4 to 3/8-inch bit	
Screwdriver, Posidrive 440-2	
Wrench, 5/16-inch open-end	
Hex drive wrenches, 3/32, 5/64, 7/64-inch	
Torque Wrench Kit	003-1324-00

TROUBLESHOOTING

The spectrum analyzer contains firmware that will troubleshoot the frequency control system. A troubleshooting procedure for this system is provided in the Diagnostics part of this section. After the defective assembly or component has been located, refer to the Replacing Assemblies and Sub-assemblies part of this section for removal and replacement instructions.

Troubleshooting Aids

Diagrams – Functional block and circuit diagrams, on foldout pages in the Diagrams section, contain significant waveforms, voltages, and logic data information. Conditions for getting the data are provided on the diagram or adjacent to it. Refer to the Replaceable Electrical Parts list section for a description of all assemblies and components.

Schematic diagrams list the Tektronix Part Number (670-xxxx-xx) for the assembly or board along with the assembly number (e.g. A5) and name. The last two digits or suffix of the part number are not indicated on the diagram, however, they are listed in the Electrical Parts section. These two digits reflect changes or modifications to the assembly or board. When a change is made to the assembly the suffix rolls one digit. The diagram indicates these changes with a grey tint drawing of the original circuit or if a component changes value the symbol is enclosed with a grey tint box. When a major modification is made to an assembly or board and it is no longer compatible with earlier instruments a new part number is assigned and a separate schematic with associated illustrations are added, all diagrams indicate the new part number and the instrument serial number break. If the assembly is compatible with earlier instruments and the change is significant enough to require a separate schematic, this will also be identified.

NOTE

Corrections to the manual and instrument modifications are documented by adding correction pages behind a tabbed page, labeled Change Information, at the rear of the manual. Check this Change Information section for changes to the manual or the instrument.

Circuit Board Illustrations and Component Locator Charts – Electrical components, connectors, and test points are identified on circuit board illustrations that are located on the inside fold of the corresponding circuit diagram or the back of the preceding diagram. A grid on the circuit board illustration and the circuit schematic, plus a look-up table, provide the means to quickly locate components on either the diagram or the circuit board.

In most cases, circuit numbers are assigned according to the physical location of the component on the board or assembly. The first digit designates the row of a grid, the second the column, with the last two reserved as an expander. Three digit numbers designate chassis mounted components.

General Troubleshooting Techniques

Before using test equipment, to measure across static-sensitive components or assemblies, be certain that voltages or current supplied by the test equipment does not exceed the limits of the components to be tested.

Try to isolate the problem to a component through signal analysis. Determine that circuit voltages will not damage the replacement.

Semiconductor Checks – Semiconductor failures account for the majority of electronic equipment failures. All semiconductors are soldered to the boards to reduce pin contact problems. The following guidelines should be observed if you substitute any of these components.

1. Always turn the power off before removing an assembly or circuit board.
2. Use a de-soldering tool and 25 W or less soldering iron to remove the components.
3. Use only good components for substitution. Be sure the new component is inserted into the board properly before soldering. Refer to the manufacturer's data sheet for integrated circuit and transistor lead configuration.

Diode Checks – Most diodes can be checked in the circuit by taking measurements across the diode and comparing these with voltages listed on the diagram. Forward-to-back resistance ratios can usually be taken by referring to the schematic and pulling appropriate transistors and pin connectors to remove low resistance loops around the diode.

CAUTION

Do not use an ohmmeter scale with a high external current to check diode junctions. Do not check the forward-to-back resistance ratios of mixer diodes.

Diagnostic Firmware

The firmware in the spectrum analyzer provides diagnostic routines that can be used with the Diagnostic part of this section to troubleshoot the Frequency Control system. This part follows General Troubleshooting information. Refer to this part to help isolate problems within this loop. The following are also some general suggestions that may help isolate a problem when troubleshooting.

Troubleshooting Steps

1. Ensure that the problem exists in the spectrum analyzer by checking the operation of associated test equipment.
2. Try to isolate the problem to a circuit or at least to the board level by evaluating operational symptoms; for example, absence of the frequency dot could be caused by a malfunction in the marker generator, or switching circuits.
3. Three levels of block diagrams are provided to aid in understanding the theory of operation. The most detailed level is adjacent to the schematic and usually provides signal and voltage levels at critical points within the circuits. Signal levels are usually the levels required to produce full screen deflection.
4. Instructions on how to remove or replace those assemblies which are not obvious, are provided in this section. Refer to this part before removing any assembly.
5. Visually inspect the area or assembly for such defects as broken or loose connections, improperly connected components, overheated or burned components, chafed insulation, etc. Repair or replace all obvious defects. In the case of overheated components, try to determine the cause of the overheated condition and correct before applying power.

6. Use successive electrical checks to try to locate the problem. An oscilloscope is a valuable test item for evaluating circuit performance. If applicable, check the calibration adjustments; however, before changing an adjustment note its position so it can be returned to its original setting. This will facilitate recalibration after the trouble has been located and repaired.

7. Determine the extent of the repair needed; if complex, we recommend contacting your local Tektronix Field Office or representative. If minor, such as a component replacement, see the Replaceable Parts list for replacement information. Removal and replacement procedure of the assemblies and sub-assemblies are described under Corrective Maintenance.

CAUTION

When measuring voltages and waveforms, use extreme care with the placement of test probes. Because some circuit boards have a high component density, access to points in some circuits is limited. A test probe could accidentally short a circuit and generate transient voltages that can destroy many static-sensitive components.

CORRECTIVE MAINTENANCE

Corrective maintenance consists of component replacement and instrument repair. Special techniques and procedures that may be required to remove and replace assemblies and/or components in this instrument are described here.

Handling Static Sensitive Components

Most semiconductor types, both separately and in assemblies, are susceptible to damage to static charge, see Table 5-1 for voltage levels. We recommend static sensitive procedures be implemented for all operations involving semiconductor handling.

Obtaining Replacement Parts

All electrical and mechanical parts are available through your local Tektronix Field Office or representative. The Replaceable Parts list section contains information on how to order these replacement parts.

Parts orientation and lead dress should be duplicated because some components are oriented to reduce interaction between circuits or control circuit characteristics.

Where applicable, an improved part will be substituted when a replacement is ordered. If the change is complex, your local Field Office or representative will contact you concerning the change. After repair, the circuits may need recalibration.

Parts Repair and Return Program

Assemblies containing hybrid circuits or substrates in a semi-sealed module, and complex assemblies such as the 1st LO can be returned to Tektronix for repair under the repair and return program.

Tektronix repair centers provide replacement or repair service on major assemblies as well as the unit. Return the instrument or assembly to your local Field Office for this service, or contact your local Field Office for repair and exchange rates.

Selected Components

A few components are selected to meet certain parameters such as temperature compensation, or to center the range of some adjustable component/s. The selected components are identified as selectable on the circuit diagram and in the Replaceable Electrical Parts

list. The Replaceable Parts list description for the component gives a nominal value. The procedure for selection is explained in the adjustment part of recalibration procedure.

Replacing Firmware EPROM Devices

Firmware for the microcomputer is contained in a set of four ROM packs on the Microprocessor board. Refer to the Replaceable Electrical Parts list for the versions and part numbers. Refer to Replacing Transistor and Integrated Circuit for procedure.

Surface-Mounted Components

Surface-mounted components are used in this instrument. These components are mounted on pads on the circuit board, rather than through holes in the board. (In some rare instances, components may be mounted on pads around through holes.) Lead configurations of these components are shown in Figure 5-3.

The positive end of electrolytic capacitors is identified with a band. Other capacitors and resistors have no visible identification. However, like their axial-leaded counterparts, their values can be measured with a meter.

Surface-mounted semiconductor devices are sensitive to static electricity discharges, and should be treated as outlined in the beginning of this section.

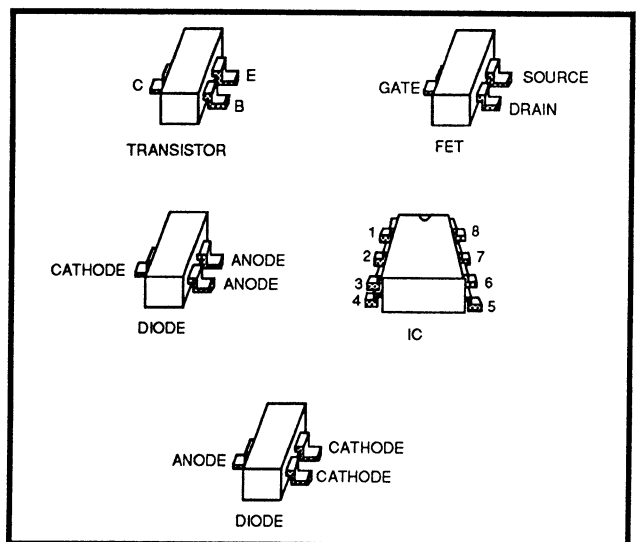


Figure 5-3. Surface-mounted components lead configuration.

**Table 5-3
SERVICING TOOLS FOR BOARDS WITH SURFACE MOUNTED COMPONENTS**

Description	Model Type	Tektronix Part No.
Hot Air Repair Terminal	Nu-Concepts Systems HART200A	N/A
Tempilaq	Nu-Concepts Systems	N/A
Tempilaq Thinner	Nu-Concepts Systems TLTH	N/A
Flux Dispenser	Nu-Concepts Systems FD2	N/A
Soldering Iron	Hexacon Model SMD10	003-1401-00
Soldering Iron SMD Tips		
Semi-Chisel, 1/16"	Hexacon Model Z780X	003-1402-00
Conical, 1/32"	Hexacon Model Z783X	003-1403-00
Sharp Conical"	Hexacon Model Z784X	003-1404-00
Bevel, 1/32"	Hexacon Model Z786X	003-1405-00
Chisel, 1/16"	Hexacon Model Z787X	003-1406-00
Bevel, 1/16"	Hexacon Model Z788X	003-1407-00
0.062" Slot"	Hexacon Model S303	003-1408-00
0.195" Slot	Hexacon Model S308	003-1409-00
0.195" Slot	Hexacon Model S314	003-1410-00
0.195" Slot	Hexacon Model S316	003-1411-00
0.195" Slot	Hexacon Modified S302	003-1412-00
Stainless Steel, Non-Magnetic Tweezers		
Straight Tip		003-464-00
Curved Tip		003-0465-00
Silver Solder		251-0514-00

Replacing Surface-Mounted Components

A Hot Air Machine, such as Hart Model 200A manufactured by Nu-Concept Systems Incorporated of Colmar, Pennsylvania, is recommended for unsoldering and soldering surface-mounted components.

Table 5-3 lists tools that are suitable for servicing circuit boards with surface-mounted components.

Do not apply too much heat, as the pad/s on which the device is soldered may be lifted from the circuit board.

1. Unsolder the component.
2. Clean the board with isopropyl alcohol.
3. Solder in the replacement. Surface-mounted components are pretinned, and therefore require little or no solder.

CAUTION

If you use a soldering iron, use one with a small tip. After applying the solderpaste, touch the corner of the pad with the iron to fasten the component. Avoid touching the component with the hot soldering iron. Thermal shock causes hairline cracks that are not visible to the eye.

Transistor and Integrated Circuit Configurations

Lead identification for transistors and integrated circuits, is readily available from manufacturer's data books. Integrated circuit pin-outs for Vcc and ground are shown with a box on the schematic diagram. Refer to Soldering Technique in Corrective Maintenance part for unsoldering and soldering instructions.

Diode Color Code

The cathode of each glass encased diode is indicated by a stripe, a series of stripes, or a dot. Some diodes have a diode symbol printed on one side. Figure 5-4 illustrates diode types and polarity markings that are used in this instrument.

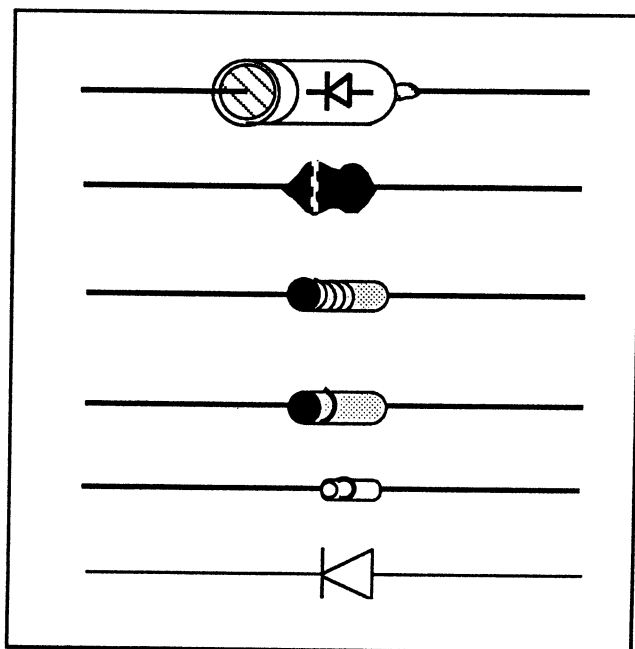


Figure 5-4. Diode polarity markings.

Multiple Terminal (Harmonica) Connectors

Some interconnect connections are made through square-pin connectors that are mounted in a harmonica type holder. If one of the pins is damaged and must be replaced, all the pins at that location must be replaced as a set. Except for two-pin connectors, the three-pin connector at the back of the Log board, and the 50-pin connector between the Microprocessor, Display Storage, and Digital Options boards, all ribbon-cable connectors are keyed. The key location on the circuit board is identified by a missing pin.

Resistor Values

Surface-mounted resistors have no visible identification. However, their values can be measured with a meter. Other types of resistors (such as composition, metal film, tapped, thick film resistor network package, plate, etc.) are used. The value is either color coded in accordance with the EIA color code, or printed on the body of the component.

Capacitor Marking

Surface-mounted capacitors (chip capacitors) have no visible markings. The capacitance value of electrolytic capacitors is marked in microfarads on the side of the component body. The ceramic tubular capacitors and feed-through capacitors are color coded in picofarads.

Soldering Techniques**CAUTION**

Disconnect the instrument from its power source before replacing or soldering components.

Extreme caution must be used when removing or replacing components because the instrument contains several multilayer circuit boards. Excess heat from the soldering iron and bent component leads may pull the plating out of the hole.

Most components in this Spectrum Analyzer are surface-mounted devices. A Hot Air Machine, such as Hart Model 200A manufactured by Nu-Concept Systems Incorporated of Colmar, Pennsylvania, is recommended for unsoldering and soldering surface-mounted components. See Table 5-5.

Some circuit boards do contain leaded components. To remove the component leads, use a 15 W (or less) pencil type soldering iron. Straighten the leads on the back side of the board; then when the solder melts, gently pull the soldered lead through the hole. A desoldering tool should be used to remove the old solder. Use a desoldering tool that has a low build-up of static charge, such as Silverstat Soldapullit desoldering tool, when unsoldering integrated circuits or transistors.

REMOVING AND REPLACING ASSEMBLIES AND SUBASSEMBLIES

Most assemblies or sub-assemblies in this instrument are easily removed and replaced. The following describes procedures for replacing those assemblies that require special attention. Top and bottom views are shown in Figures 5-5 and 5-6, respectively. These illustrations show the location and identify most assemblies by name.

The Microprocessor, Display Storage, and Digital Options boards must be placed on an extender to access test points or adjustments. A second extender card is added to the main extender for use with the Center Frequency, Log, and RF Options boards.

Turn the power off before removing an assembly.

Removing the Instrument from its Cabinet

1. Remove the power cord.
2. Set the instrument on its face with the front cover installed.
3. Remove the rear cover (two T15 Torx® head screws), two (front) top and bottom feet (four T15 screws), three pan-head screws from the bottom rear, and two pan-head screws from the top rear of the instrument.
4. Pull the cover up and off.

Replace the instrument in its cabinet by reversing the removal procedure.

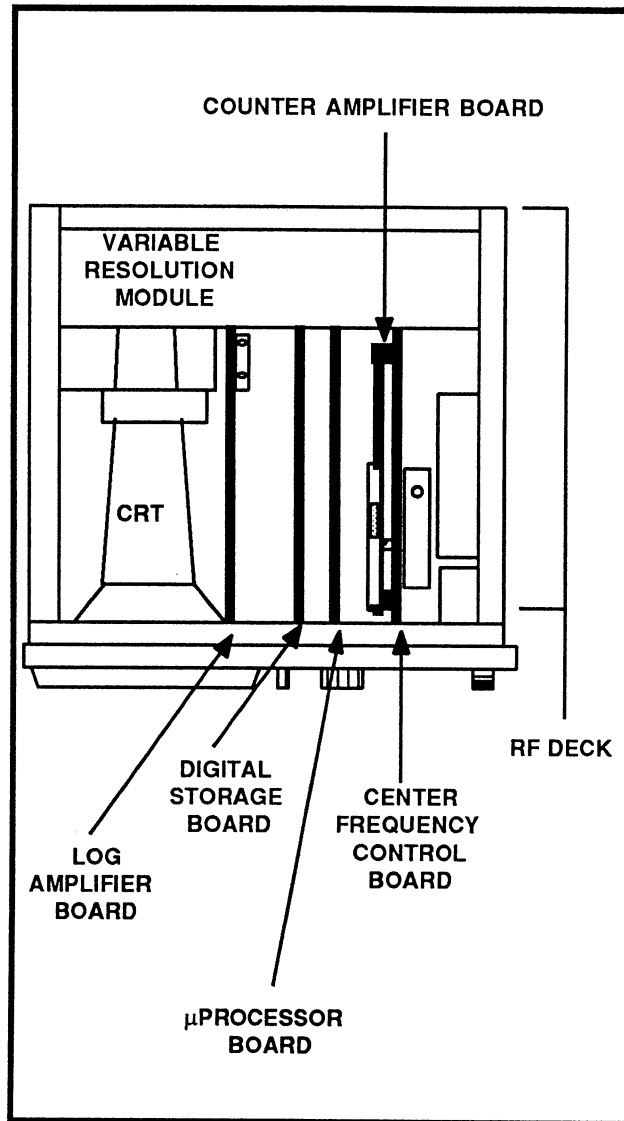


Figure 5-5. Top view of assemblies and RF Deck.

Replacing the Crt

WARNING

Breaking the crt may result in an implosion. Protective clothing and safety glasses should be worn. Avoid hitting the crt against any object which may cause it to crack. Place the crt in a protective carton or place it face-down on a smooth surface in a protected location with a soft mat under the face plate.

1. Remove the instrument from its cabinet.

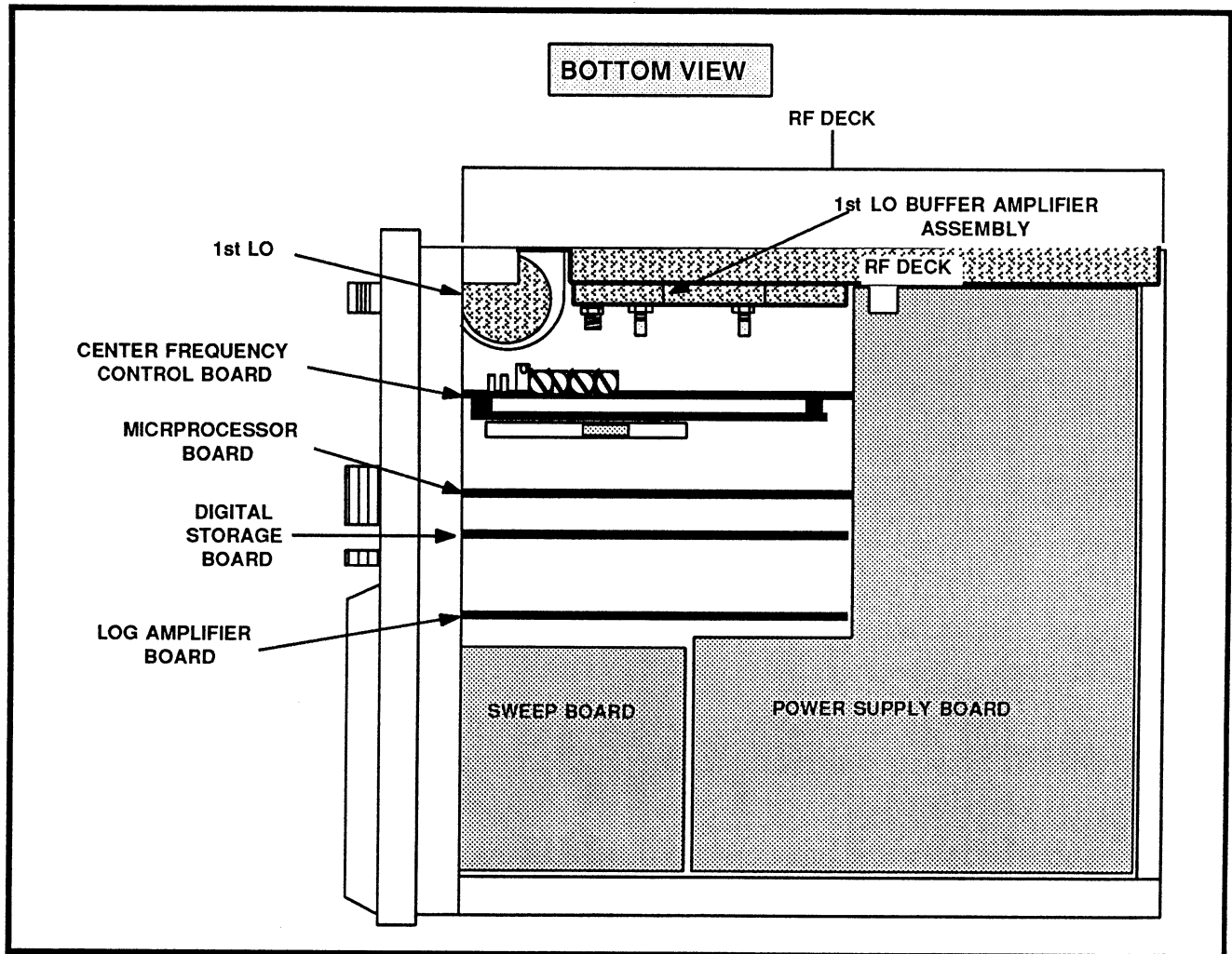


Figure 5-6. Assemblies seen from the bottom of the Spectrum Analyzer.

WARNING

The crt anode lead retains a high voltage charge after the instrument is turned off. To avoid electrical shock, ground the anode lead to the main chassis immediately after disconnecting.

2. Remove the circuit board retainer.
3. Disconnect the crt anode lead and discharge it to the main chassis.
4. Disconnect P0 (Geometry) from the Power Supply board.
5. Use a T440 Torx head driver to remove the two crt bezel screws, and remove the bezel.

6. Remove the crt rear cover and plastic shield.

7. Disconnect the crt socket.

8. Slide the crt out through the front panel.

Replace the crt by reversing the removal procedure.

Repairing the Crt Trace Rotation Coil

The trace rotation coil is part of the crt assembly. If the coil is damaged beyond repair, the crt with the damaged coil must be replaced.

If the "finish" (red) lead is broken, remove the tape and unwind one or two turns so it can be respliced and soldered to the lead wire. Rewind and retape.

If the "start" (black) lead is broken and the lead is too short to re-splice, attempt to fish out the broken end so

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one or two turns can be unwound, re-splice and solder to the lead; then rewind and retape.

In all three instances, the CRT must be removed from the instrument.

Removing or Replacing Semi-rigid Coaxial Cables

Performance of the instrument is easily degraded if these connectors are loose, dirty, or damaged. The following procedure will help ensure that the connection is good enough to maintain proper performance.

1. Use a 5/16 inch open-end wrench to loosen or tighten the connectors. It is good practice to use a second wrench to hold the rigid (receptacle) portion of the connector to prevent bending or twisting the cable.
2. Ensure that the plug and receptacle are clean and free of any foreign matter.
3. Insert the plug connector fully into the receptacle before screwing the nut on. Tighten the connection to 8 in-lb to ensure that the connection is tight. Do not overtighten (15 to 20 in-lb) because this can damage the connector.

Replacing the RF Deck

1. Remove the instrument from its cabinet.
2. Remove the circuit board retainer.
3. Remove the Variable Resolution module.
4. Disconnect P710 and P760 from the Center Frequency Control board.
5. Disconnect P410, P400, P100, P200, P430, and P460 from the RF Deck.
6. Remove the seven screws and two nuts shown in Figure 5-7.
7. Loosen the two nuts shown in Figure 5-7.
8. With the instrument facing you, carefully raise the rear part of the deck and swing it to the left while pulling it backwards.

Replace the RF deck by reversing the removal procedure.

Replacing the 1st Converter Mixer Diodes

1. Disconnect the semi-rigid cables from the RF Input, LO Input, and IF Input connectors on the 1st Converter.
2. Remove nuts and washers from the RF Input, LO Input, and IF Input connectors on the 1st Converter.
3. Unsolder the power supply lines at the feed-through capacitors in the side of the 1st converter assembly.
4. Remove the four flat head screws at the corners of the assembly.
5. Remove the 1st Converter assembly from the RF deck.
6. Remove the cover from the assembly.
7. Unsolder all connections at the external power-supply-coupling capacitors (Figure 5-8), and remove the coupling capacitors from the assembly. Be sure to make a note of which wire goes where.
8. Unsolder the strap from the upper board (RF Input board) to the mixer diode junction.
9. Remove 19 Allen-head screws (5/64") holding the two boards and an extrusion.
10. Remove the RF Input board and the small extrusion, then remove the lower board (1st Converter Mother board).
11. Replace the mixer diodes.

CAUTION

After soldering the diodes in the 1st Converter Mother board, clip off excess leads protruding out the bottom of the circuit board to avoid shorts.

When bending the diode leads, be sure to grasp the diode lead with needle nose pliers between the diode body and the bend point to minimize mechanical stress on the diode inside the case.

Re-install the 1st Converter in the Spectrum Analyzer by reversing the removal procedure.

The Spectrum Analyzer may not meet the start spur specification after the mixer diodes are replaced. Check that the start spur (0 Hz) amplitude is within limits by doing performance check step A in Section 4. Also check for spurs by doing performance check step B in Section 4.

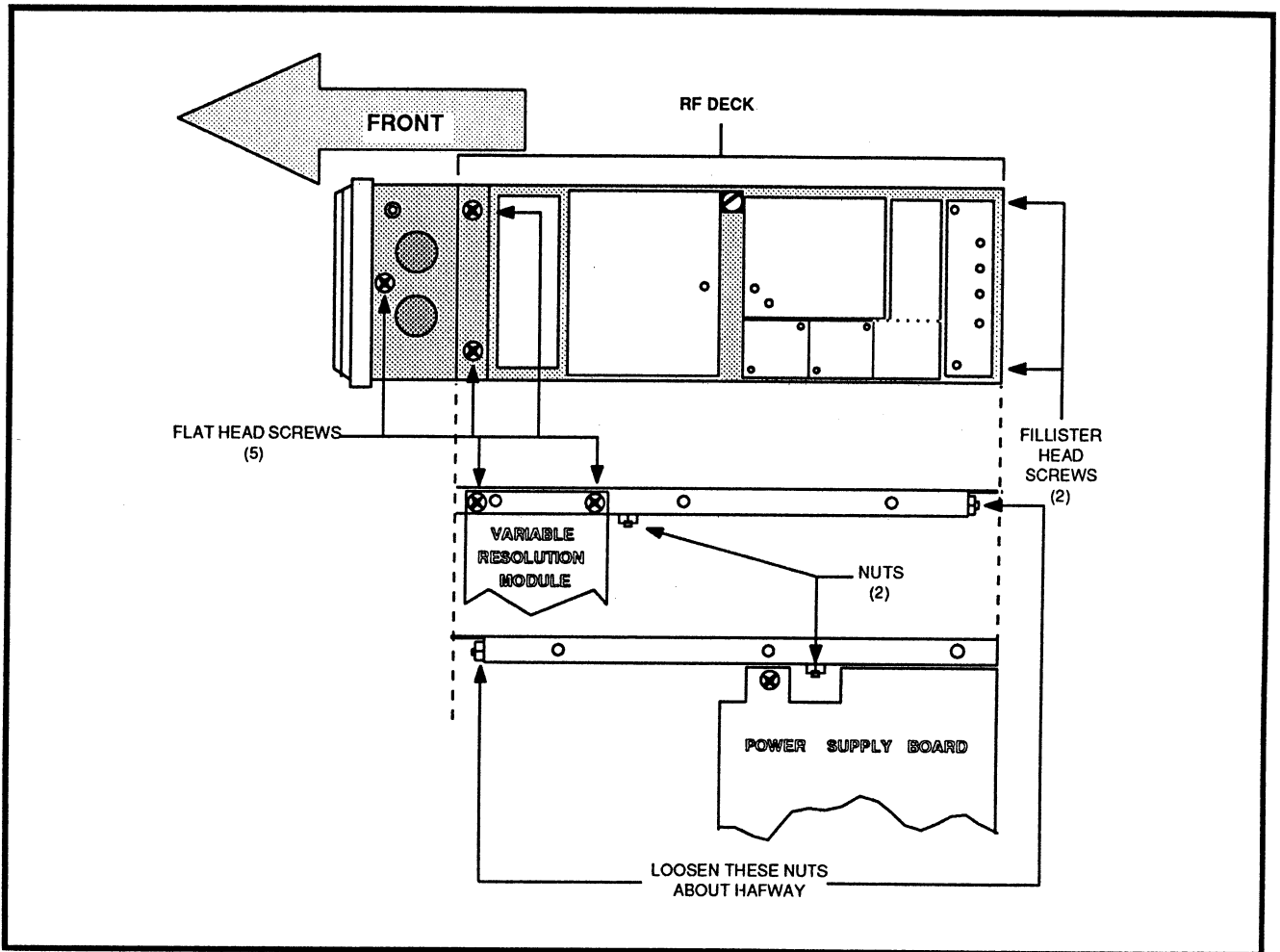


Figure 5-7. RF Deck screws and nuts.

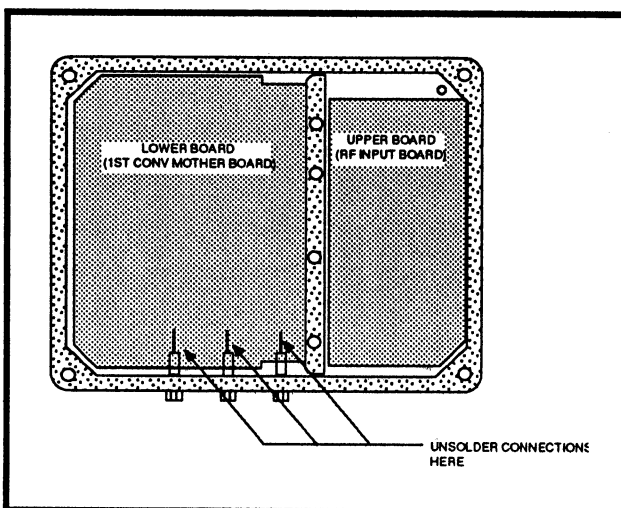


Figure 5-8. 1st Converter with the cover removed.

Replacing the 1st LO Assembly

1. Remove the RF Deck from the Spectrum Analyzer. See Figure 5-6 and Figure 5-7.
2. Disconnect P100 from the 1st LO Buffer Amplifier (semi-rigid cable from the 1st LO assembly to the 1st LO Buffer Amplifier).
3. Remove the 1st LO assembly from the RF deck.

Replace the 1st LO assembly by reversing the removal procedure.

Replacing the Step Attenuator

1. Disconnect P150 from the Step Attenuator.
2. Remove the nuts and washers from J100, J150, J200, and J250 on the Step Attenuator.

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3. Remove the Step Attenuator.

Replace the Step Attenuator by reversing the removal procedure.

Replacing the 1st LO Buffer Amplifier

1. Remove the RF Deck from the Spectrum Analyzer. See Figure 5-6 and Figure 5-7.
2. Disconnect P100 and P380 from the 1st LO Buffer Amplifier, and disconnect P100 from the 2nd Converter.
3. Remove the Step Attenuator.
4. Remove two 1/4" nuts and a screw holding the 1st LO buffer Amplifier in place. The screw is located at one corner of the 1st Converter assembly.
5. Remove the 1st LO Buffer Amplifier assembly from the RF deck.

Replace the assembly by reversing the removal procedure.

Replacing the Front Panel Board

1. Remove the instrument from its cabinet.
2. Remove the plug-in circuit board retainer.
3. Remove all the plug-in circuit boards.
4. Remove the nut and washer on the RF INPUT connector.
5. Remove the front, plug-in circuit board guide plate by removing four screws, two at the top and two at the bottom. See Figure 5-9.
6. Disconnect P6 from the Front Panel board.
7. Remove the small cover on the front panel by removing a screw and washer behind the front panel (Figure 5-9).

NOTE

If Option 04 is installed, the small cover and screw in Figure 5-9 are replaced by an output connector. In that case, remove the nut and washer on that connector.

8. Remove the four 5/16th inch nuts behind the front panel, near the corners of the front panel.

Replace the Front Panel by reversing the removal procedure.

Replacing the Fan Assembly

The fan comes as an assembly consisting of the fan, fan control unit, and connecting wires (two).

1. Remove the instrument from its cabinet.
2. Remove the Variable Resolution module.
3. Remove the crt rear cover.
4. Disconnect the crt socket.
5. Remove four (4) screws from the four corners of the rear chassis. Swing the rear chassis away from the Power Supply.
6. Unsolder the red and blue fan wires from the Power Supply board.
7. Remove two screws at opposite ends of the fan and two screws at opposite ends of the fan control unit.
8. Remove the fan.

Re-install the fan by reversing the removal procedure.

Replacing the RF Mother Board

1. Remove the instrument from its cabinet.
2. Disconnect P100, P410, and P670 from the RF Mother board.
3. Remove the nuts and washers from P100, P410, and P670 on the RF Mother board.
4. Remove four screws from the four corners of the RF Mother board.
5. Remove the RF Mother board assembly.

Replace the assembly by reversing the removal procedure.

Replacing the Power Supply Board

1. Remove the instrument from its cabinet.

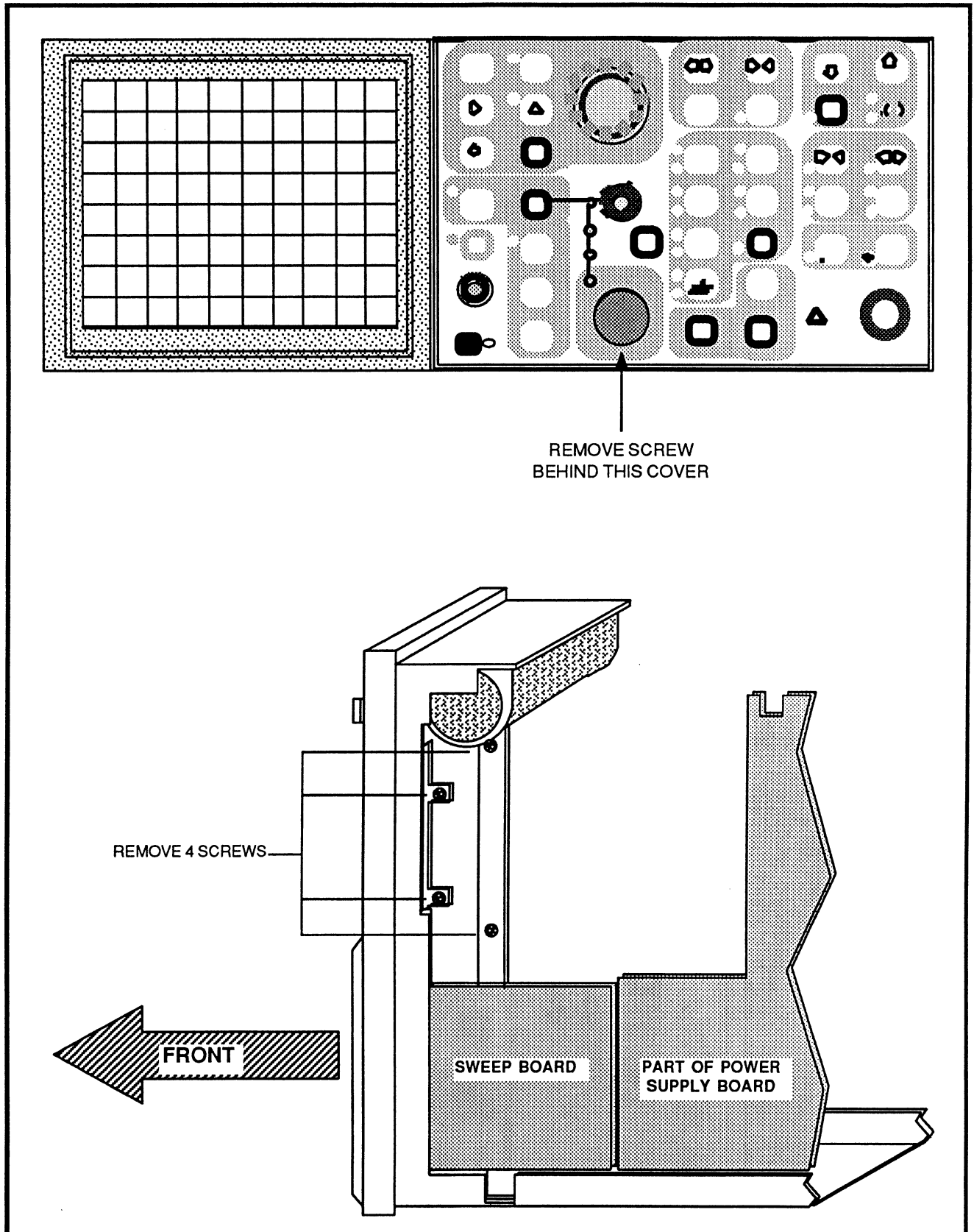


Figure 5-9. Removing the Front Panel.

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2. Remove the plug-in circuit board retainer.
3. Remove all the plug-in circuit boards.
4. Remove the Variable Resolution module.
5. Disconnect P0, P3, and P6 from the Power Supply board.
6. Disconnect P480 from the Sweep board (P5 etched on some early boards).
7. Disconnect the crt anode lead and ground it to the chassis.
8. Remove two screws that hold the heat sink for Q15 to the chassis.
9. Remove the rear crt cover and disconnect the crt socket.
10. Remove four screws at the corners of the rear sub-panel.
11. Remove five screws as shown in Figure 5-10).
12. Remove the Power Supply board together with the rear sub-panel as an assembly.

Replace the Power Supply board by reversing the removal procedure.

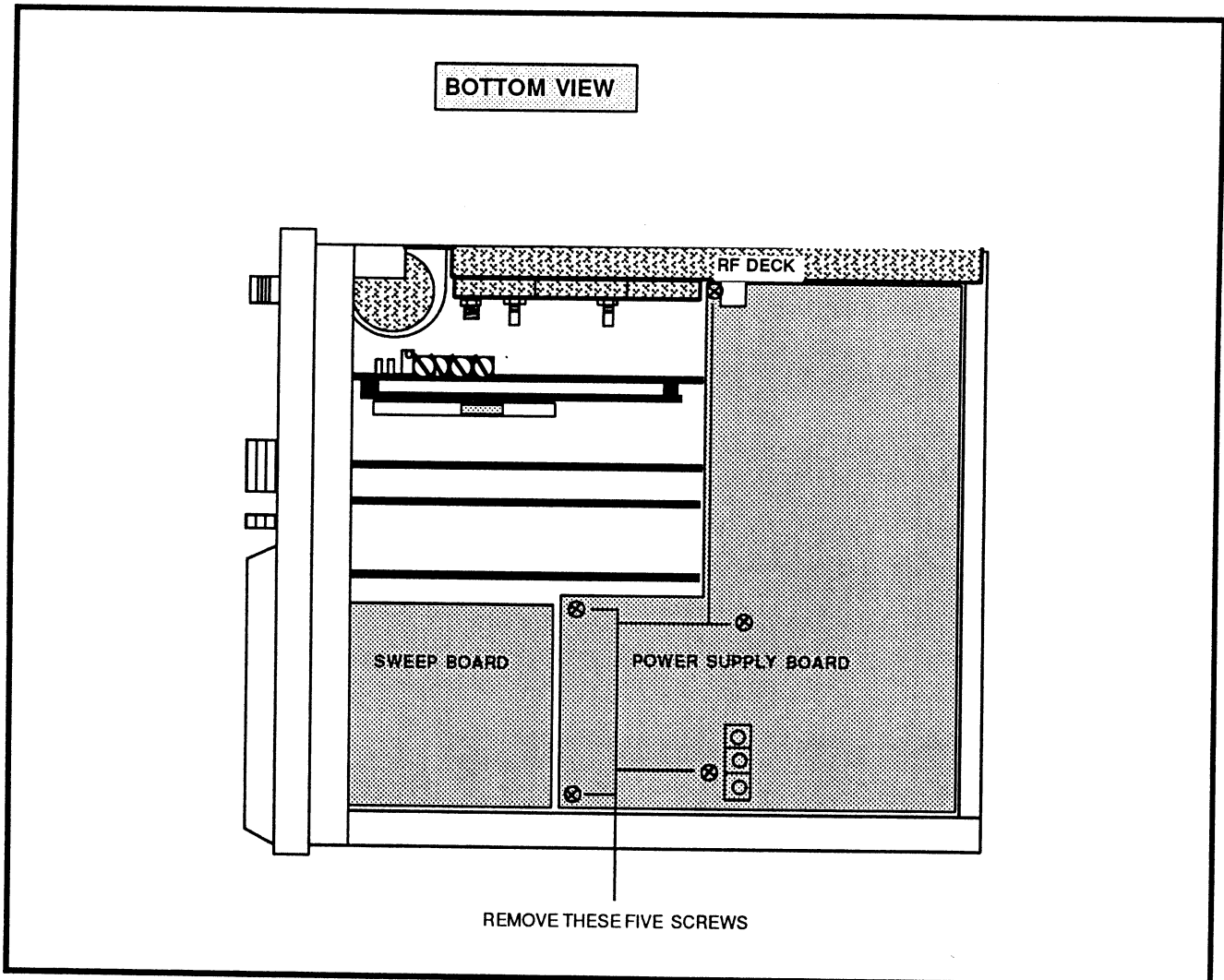


Figure 5-10. Power Supply board removal.

MAINTENANCE ADJUSTMENTS

Adjusting the Four Cavity Filter

The characteristics of the filter are checked with a network analyzer. Frequency of the filter is 2110 MHz, bandpass is approximately 20 MHz, 6 dB down, and insertion loss is approximately 1.5 dB.

Adjusting the 2nd Converter

The 2nd Converter assembly is precalibrated prior to installation, and requires no calibration after it is installed. The following procedure describes adjustments that can be made.

To gain access to the adjustments, remove the two aluminum shields over C205 and C208.

Enable the calibrator signal, and tune a marker to center screen. Adjust C205 and C208 (see Figure 5-11) for maximum signal amplitude.

Check for spurs by doing performance check step B in Section 3. If the spurious response check fails, readjust C205 and C208, and touch up the second 400 MHz Filter by adjusting the capacitors shown in Figure 5-11.

Adjusting the 1st LO Buffer Amplifier

Equipment Required

Power Meter	50 mV to 5 V
Test Oscilloscope	
Open-end Wrench, 5/16-in	
Allen Wrench, 5/64-in	
Phillips No. 1 Screwdriver	175-9254-00
50 Ω Coaxial Cable (Sealectro Female to BNC Female)	012-0649-00
50 Ω Coaxial Cable with SMA connectors	015-1018-00
BNC Female to SMA Male Adapter	103-0029-00
BNC Male to Male Adapter	

- Remove the RF Deck from the Spectrum Analyzer.
- Remove the 1st LO Buffer Amplifier assembly from the RF deck.
- Remove the cover from the 1st LO Buffer Amplifier assembly (22, 5/64" Allen-head screws).
- Remove the 1st LO assembly from the RF Deck.

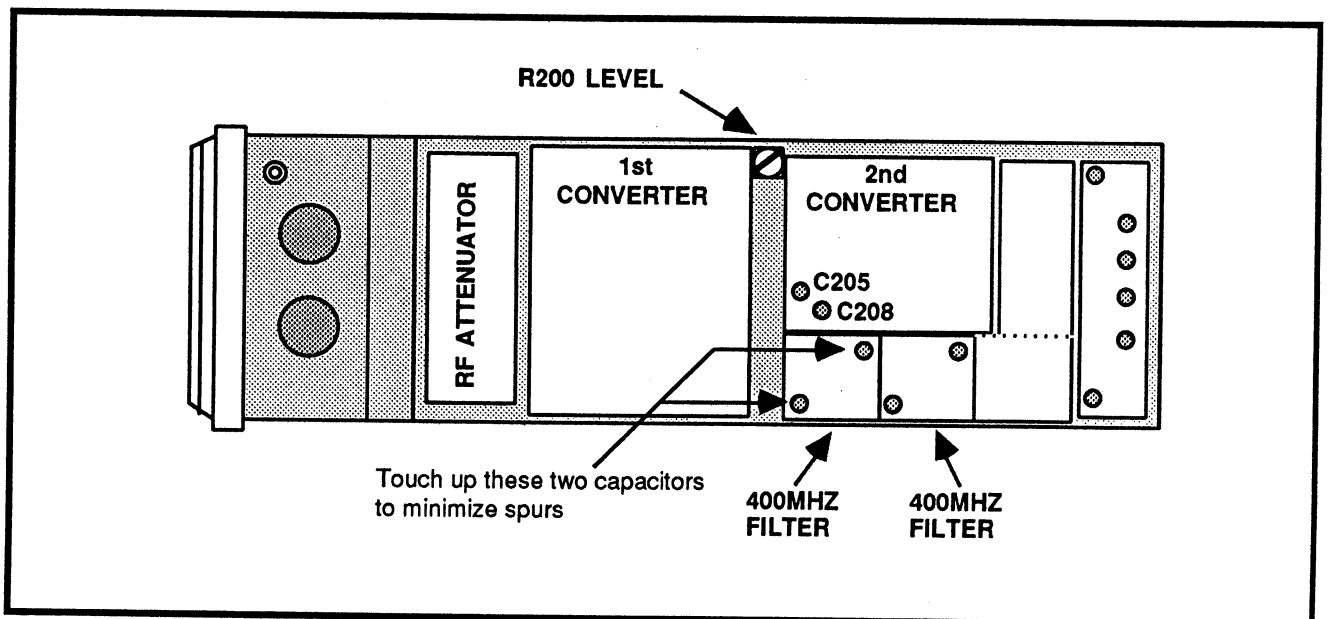


Figure 5-11. 2nd Converter adjustments.

e. Reconnect the 1st LO output cable and the Strobe Output cable (from the Center Frequency Control assembly) to J100 and J460 respectively on the 1st LO Buffer Amplifier assembly. See Figure 5-12.

f. Turn the 1st LO assembly Buffer and 1st LO over, and reconnect the power cables.

g. Apply power to the instrument, and monitor J380 on the 1st LO Buffer Amplifier assembly with a power meter.

h. Press the SWP/TRIG MENU button on the front panel, and select MANUAL SCAN (#7).

i. Turn the Digital Storage off, and set the dot to the far left side of the screen using the manual scan control.

j. Slowly move the dot to the far right side of the screen while noting the level on the test power meter. Note the lowest power meter reading, and set the dot at the position that yielded that reading.

k. Adjust R288 on the 1st LO Buffer Amplifier board for a power meter reading of +11.5 dBm.

l. Monitor J430 on the 1st LO Buffer Amplifier assembly with a test oscilloscope through a 600 Ω terminator.

m. Adjust R438 on the 1st LO Buffer Amplifier board for 0 V dc at J430.

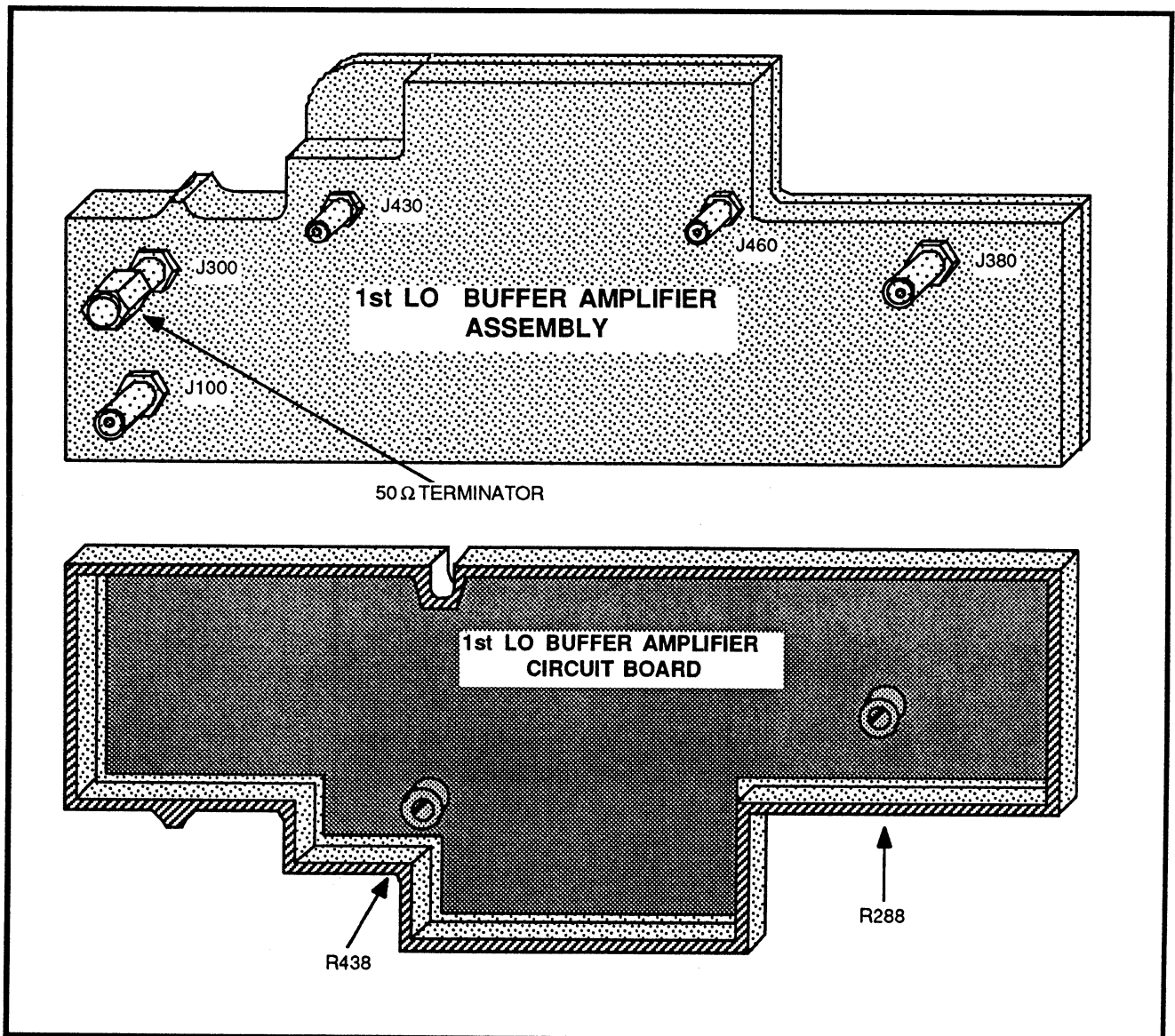


Figure 5-12. RF connectors and adjustments in the 1st LO Buffer Amplifier assembly.

OPTIONS

Introduction

This section describes the options available for the Spectrum Analyzer as of the publication of this manual. Changes in specifications, if any, are described in this section. Contact your local Tektronix Field Office or representative for additional information and ordering instructions (unless otherwise indicated).

Options are usually factory installed; however, field kits are available for some options. Contact your local Tektronix Field Office or representative for information on field kits and their installation.

Options A1 Through A5 (Power Cord Options)

There are five international power cord options offered for the spectrum analyzer. The physical descriptions of the cord plugs are listed in Table 6-1. For ordering purposes, refer to the Replaceable Mechanical Parts list.

Option B1 (Service Manual)

Option B1 includes a service manual with the instrument.

Options M1 Through M3 (Extended Service and Warranty Options)

There are three extended service and warranty options offered for the spectrum analyzer that go beyond the basic one-year coverage (see Table 6-2). Contact your local Tektronix Field Office or representative for additional information about your specific requirements.

OPTION 01

Option 01 provides minimum Resolution Bandwidth of 300 Hz and Span/Div of 1 kHz for measurement resolution that is commensurate with the improved frequency accuracy of 5×10^{-7} .

**Table 6-1
POWER CORD OPTIONS**

Option A1	Universal Euro, 220 V/50 Hz at 16A
Option A2	United Kingdom, 240 V/50 Hz at 13A
Option A3	Australian, 240 V/50 Hz, at 10A
Option A4	North American, 240 V/60 Hz, at 12A
Option A5	Swiss, 250 V/50 Hz, at 6A

OPTION 02

Option 02 provides a frequency counter with digital read-out resolution to 1 Hz.

OPTION 03¹

Option 03 provides General Purpose Interface (GPIB) bus access.

¹Availability dates to be announced. For current status, contact your nearest Tektronix Sales or Service Office.

**Table 6-2
EXTENDED SERVICE
AND WARRANTY OPTIONS**

Option	Description
M1	Two routine calibrations to published specifications; one each in years two and three of warranty coverage, plus two years remedial service.
M2	Four years remedial service
M3	Four routine calibrations to published specifications; one each in years two, three, four, and five of product ownership, plus four years of remedial service.

OPTION 06

Introduction

Option 06 includes the Tektronix 1106 Battery Power Supply and the Tektronix 1107 DC Converter with adapter mounting kits and their respective instruction manuals. The following describes the installation of the Tektronix 1106 and 1107 Battery Power option.

Installation of 1106 Battery Power Supply

Two mounting straps, with slots at each end, are welded on the bottom of the Spectrum Analyzer. These mounting straps with the conversion kit supplied with the 1106 Battery Power unit provide the means to attach the 1106 to the Spectrum Analyzer. The following procedure describes the process for installing the Battery Power Supply.

1. Lay the Spectrum Analyzer on its top so the underside is exposed. Note the two mounting straps, with slots at each end, welded to the bottom of the instrument.
2. Slide the four (4) studs, from the mounting kit, into the slots on the mounting strip and bolt them in place using the washers and the thick 8-32 nuts. See Figure 6-1. Tighten the four nuts finger tight so the studs will still move in the slot.
3. Now place the adapter plate assembly, with the slotted feet up, on the mounting studs and install the four (4) plain nuts to hold the plate assembly on the studs.
4. Using a 5/16 inch wrench, tighten the nuts holding the adapter plate on the studs.

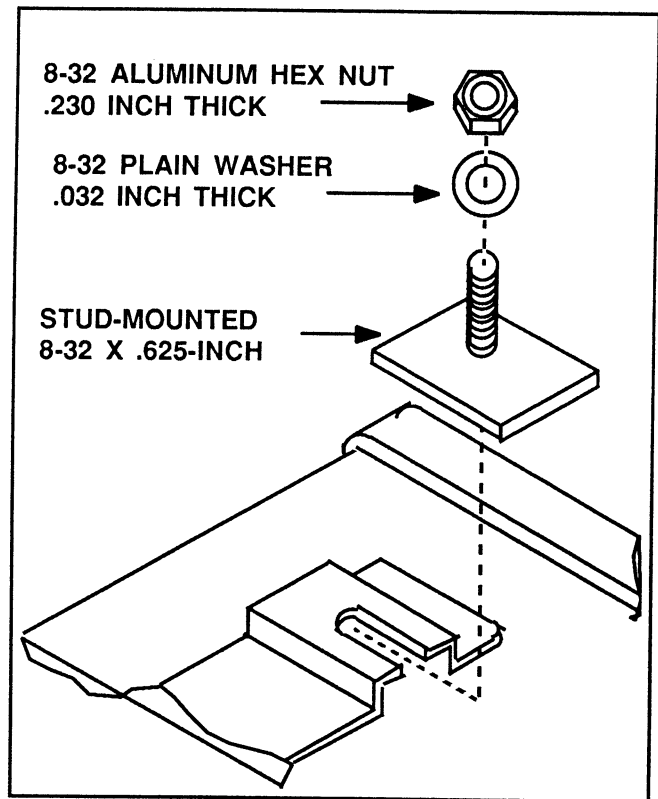


Figure 6-1. Installing a stud into a mounting strip.

5. The analyzer, with its adapter plate will now mount on the 1106 Battery Power Supply. Set the slotted feet of the adapter plate into the recessed holes on the battery pack and close the retaining slide catch.

Installing 1107 DC Converter

The installation kit for this Tektronix DC Converter consists of an adapter plate and mounting hardware. The following describes how to install this DC converter.

1. Remove the two Spectrum Analyzer rear panel mounting screws and replace them with the two standoff studs, supplied with the adapter kit.
2. Tighten the studs with a 5/16 inch open-end wrench.
3. Install the adapter plate on the standoff studs, using the two 8-32, 5/16 inch flat-head screws.
4. The 1107 DC Converter can now be mounted on the four slotted feet of the rear panel adapter plate.
5. Plug the DC Converter power cord into the receptacle on the Battery Power Supply pack.
6. The Spectrum Analyzer is now ready for battery power operation.

OPTION 08¹

Option 08 provides an RS 232 port.

OPTION 09

Option 09 is a Centronics

OPTION 10

Option 10 adds a Video Monitor.

OPTION 11

Option 11 adds non-volatile memory and user defined keys. Measurement sequences can be programmed and stored using front panel controls, then executed with a single key-stroke.

OPTION 15

Option 15 Interface for a 1405 TV Sideband Analyzer.

OPTION 30

Introduction

Option 30 enables mounting of the Spectrum Analyzer in a standard 19-inch rack. The Spectrum Analyzer is guaranteed to meet all electrical and environmental characteristics, published in both the Operators and Service Manuals, when it is mounted according to the procedures given in this instruction sheet.

Temperature Requirements

One temperature requirement is added to the specification for a rack-mounted Spectrum Analyzer.

¹Availability dates to be announced. For current status, contact your nearest Tektronix Sales or Service Office.

Ambient temperature inside the rack with the Spectrum Analyzer power on must not exceed +50° C (122° F).

Clearance Requirements

Figure 6-2 is a dimensional drawing of the Rack Adapter and Spectrum Analyzer. At least 5 1/4 inches (133 mm) of vertical space are needed to mount the Spectrum Analyzer in an equipment rack. Minimum width of the opening between the left and the right front rails in the rack must be 17 5/8 inches (448 mm). Total depth of the rack must be at least 17 inches (432 mm). These clearances will allow sufficient space for air circulation and accommodation of the power cord and mounting hardware.

NOTICE

The Rack Adapter is to be installed only on UL-Listed Spectrum Analyzers. Installation is to be performed only by qualified service personnel.

MOUNTING PROCEDURE

Assembling The Adapter

The following steps describe how to attach the Rack Adapter to the Spectrum Analyzer in preparation for installing it in a cabinet or rack.

1. Disconnect the power cord from the rear of the Spectrum Analyzer.
2. Use a #T15 Torx™ tip to remove the two screws that retain the rear panel, and the four screws that retain the feet at the top and bottom front of the Spectrum Analyzer cabinet. Remove the four feet and the rear panel.
3. Remove the two 4-32 x 5/16-inch screws from the top rear of the Spectrum Analyzer cabinet.

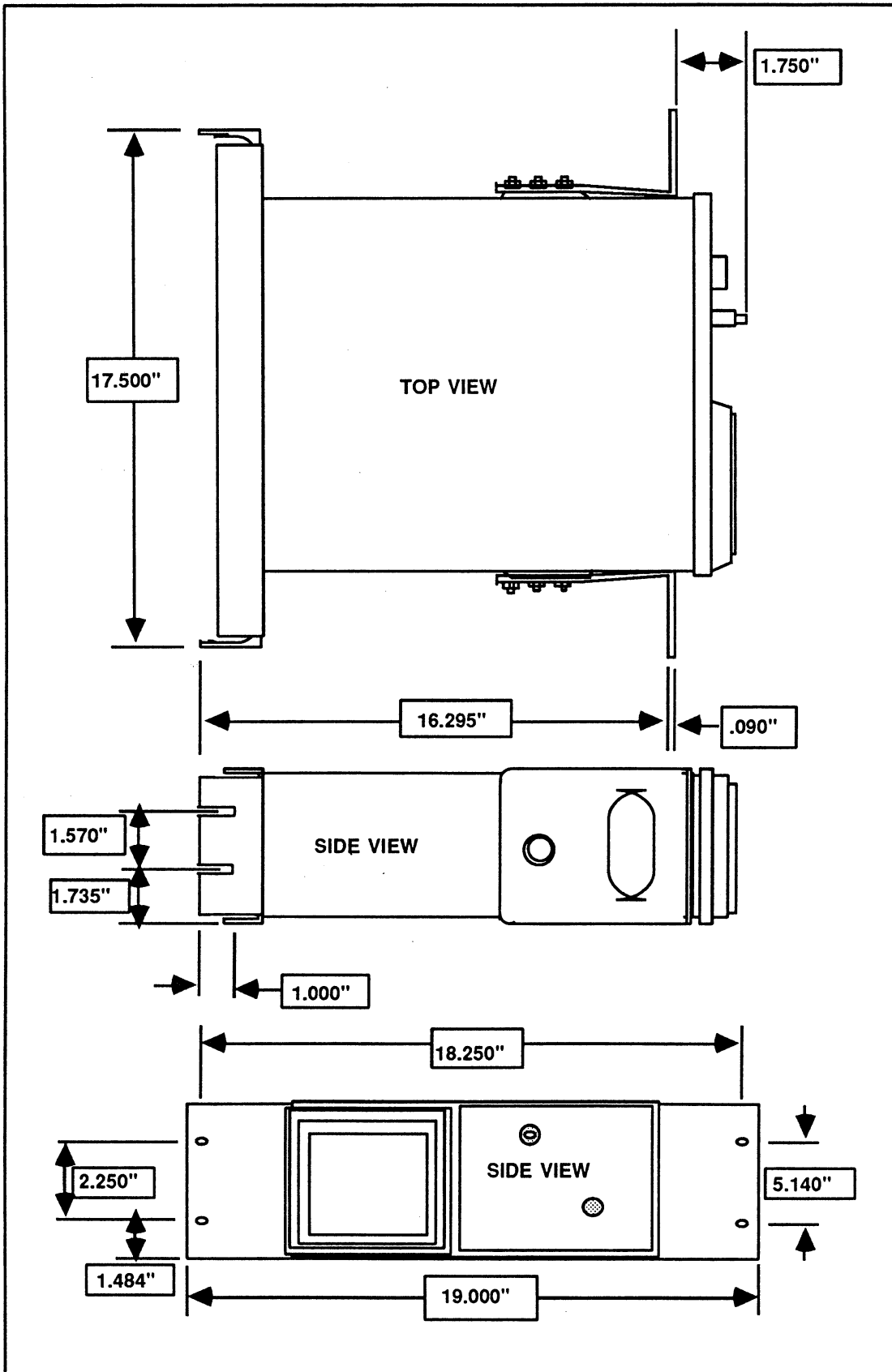


Figure 6-2. Dimensional drawing.

4. Pull the front panel and attached chassis forward and out of the Spectrum Analyzer cabinet.
5. Pry off the two rubber feet from the bottom front part of the instrument's cabinet.
6. Use a #T20 Torx tip to remove the two screws that retain the handle from the inside of the cabinet. Remove the handle.

NOTE

The following items (previously removed) can be set aside and saved, for reconverting to a portable Spectrum Analyzer at some future time, if so desired: rear panel with two attaching screws, four feet with four attaching screws, two feet, handle with two retaining screws.

7. Install the front right frame onto the Spectrum Analyzer cabinet using four 10-32 x 7/16-inch flat-head screws and four 10-32 Keps nuts. Use a small torque wrench to tighten the nuts to 20 in-lb.
8. Install the front left frame onto the Spectrum Analyzer cabinet using four 10-32 x 7/16-inch flat-head screws and four 10-32 Keps nuts. Tighten the nuts to 20 in-lb.
9. Slide the Spectrum Analyzer chassis back into its cabinet until the front edge of the cabinet is fully engaged in the front-panel groove. The rear edge of the cabinet should be flush with the rear of the Spectrum Analyzer chassis.

NOTE

Should the flat-head screws (installed in steps 7 and 8) cause the chassis to bind in the cabinet, remove the cabinet and tighten the screws until there is sufficient clearance for the chassis to slide freely into the cabinet.

A slight amount of chassis deformation will occur when tightening the screws. Therefore, the rear support must seat firmly on the Spectrum Analyzer chassis to ensure proper vibration dampening.

10. Install the two 4-32 x 5/16-inch screws in the top rear of the Spectrum Analyzer cabinet.

11. Install the rear support using four 6-32 x 7/16 -inch pan-head screws. Use a small torque wrench to tighten the nuts to 7.5 in-lb.

12. The adapted Spectrum Analyzer is now ready to be installed in a standard equipment rack.

RACKMOUNTING THE ADAPTED SPECTRUM ANALYZER

Perform the following procedure to install the Spectrum Analyzer (with attached rack adapter) in a standard 19-in rack.

1. Select appropriate mounting holes in the front rails of the equipment rack, observing the clearance measurements shown in Figure 6-3.
2. Secure a bracket extension to each of the two 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 mounting holes in the rear rails are tapped, use Figure 6-4A as a guide to secure the bracket. If the rear mounting holes are not tapped, use Figure 6-4B.

NOTE

Two persons are needed to bolt the Spectrum Analyzer in the rack. One person is needed to hold the Spectrum Analyzer in place while the other secures it in the rack.

3. Set the Spectrum Analyzer in the rack and align the screw holes in the front frames of the rack adapter with the screw holes selected in step 1.

4. Secure the front frames of the rack adapter to the front rails of the equipment rack using four oval-head screws, four finishing washers, and four plastic washers, as shown in Figure 6-5.

5. Secure the bracket extensions to the rear support using four 10-32 x 1/2-in hex-head screws, four flat washers, and two bar nuts as shown in Figure 6-4.

OPTION 33

Option 33 Provides a Travel Line package including a rain cover, accessory pouch, gray crt filter, and carrying strap.

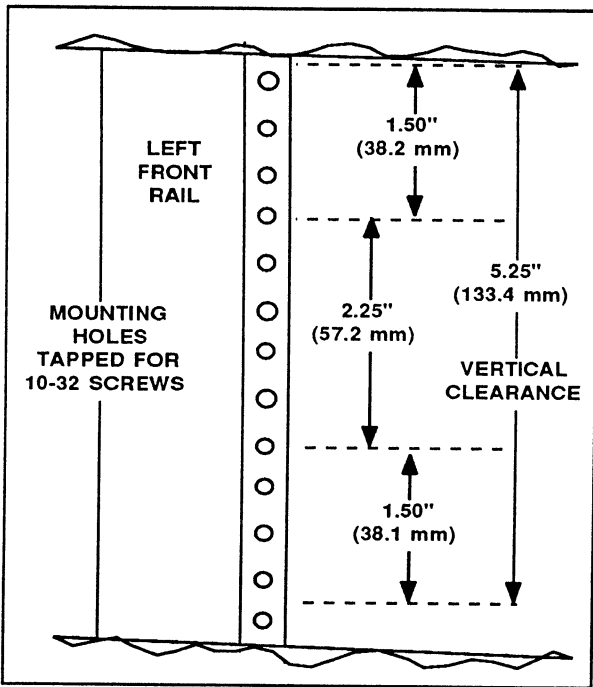


Figure 6-3. Locating mounting holes on front rails of equipment rack.

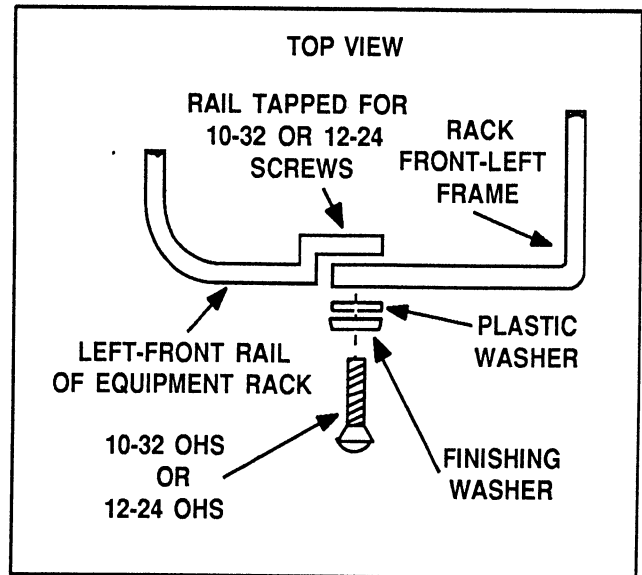


Figure 6-5. Securing rack-adapted Spectrum Analyzer to front rails of equipment rack.

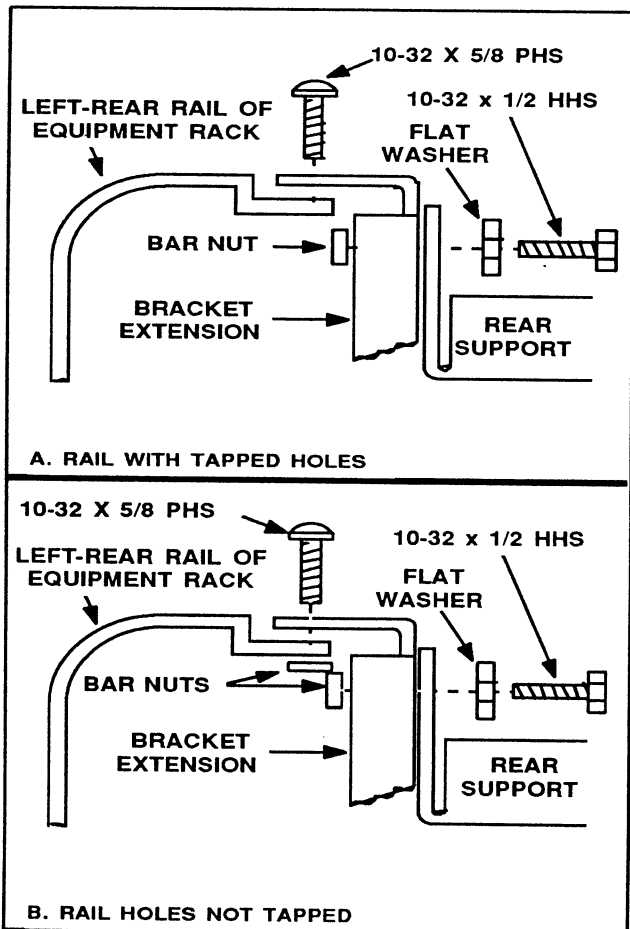


Figure 6-4. Installing bracket extensions.

OPTION 34

Option 34 This is a Portable to Rackmount adapter for 19 by 6.970 inch rack dimensions.

BLOCK DIAGRAM DESCRIPTION

The Spectrum Analyzer block diagram can be broken into the following major blocks:

- Attenuator
- Low Pass Filter
- 1st Converter
- Bandpass Filter (4 Cavity Filter)
- 2nd Converter
- RF Mother Board (3rd Converter)
- VR (Variable Resolution Amplifier)
- Log Amplifier
- Microprocessor
- Center Frequency Control
- Counter Amplifier
- 1st LO
- 1st LO Buffer Amplifier
- Display Storage Board
- Sweep
- Power Supply (Deflection)

This is a block diagram description of the Spectrum Analyzer. While reading this description, refer to Figure 7-1. The description titles use the block diagram names for easy reference.

NOTE

The power levels noted in the block diagram between the input and the Log Amplifier assume a -30 dBm input level.

The Block Diagram shows how the major sections in the instrument relate and the paths of most major signals. Not explicitly shown are the interconnections between the Power Supply and the circuit blocks, interconnections between the Sweep board and other major circuit blocks, and interconnections between the Deflection System and other circuit blocks. (The Deflection System is located on the Power Supply board.)

RF-type signal connections between modules are made via double-shielded/coaxial cables, while dc-type signal connections are made via either multi-pin jacks on the Power Supply board (Power Supply, Log Amplifier, RF Options, Display Storage, Microprocessor, Digital Options, and Center Frequency Control boards) or small ribbon cables.

The main Block Diagram at the front of the Diagrams section provides a chart of the interconnect system in addition to what is shown in Figure 7-1. Block diagrams showing more detail of these main sections appear before the appropriate schematics together with another description. Circuit schematic diagrams follow the main block diagram.

What It Does

The spectrum analyzer accepts an electrical signal as its input and displays the signal's frequency components on a crt. Signals are applied directly to the RF INPUT.

The display of the input signal appears on the crt as a graph where the horizontal axis is frequency and the vertical axis is amplitude.

How It Works

The Spectrum Analyzer operates as a variable bandwidth receiver. The crt beam moves horizontally as a range of frequencies is spanned. When a frequency component of an input signal is detected, the beam is deflected vertically as a function of input power at that frequency.

ATTENUATOR AND LOW PASS FILTER

There are two choices for inputs to the Spectrum Analyzer, the RF INPUT at the front panel and the internal calibrator signal.

The Attenuator adds attenuation to the input signal such that the level at the input of the 1st mixer (1st Converter) is limited to no more than -30 dBm. This would represent a full-screen signal. Also, an amplifier can be inserted in the signal path to improve sensitivity when small signals are applied to the RF INPUT by invoking the PREAMP mode. The Microprocessor sets the amount of attenuation, depending on the user-selected reference level, to maintain the proper signal level.

The signal is then routed to the 1st Converter via a Low Pass Filter. The Low Pass Filter attenuates out-of-band signals and helps minimize 1st Local Oscillator (LO) emission at the RF INPUT. When the PREAMP mode is invoked, the Microprocessor sets the appropriate amount of attenuation, or sets the gain of an internal amplifier (Variable Resolution) to maintain a calibrated display.

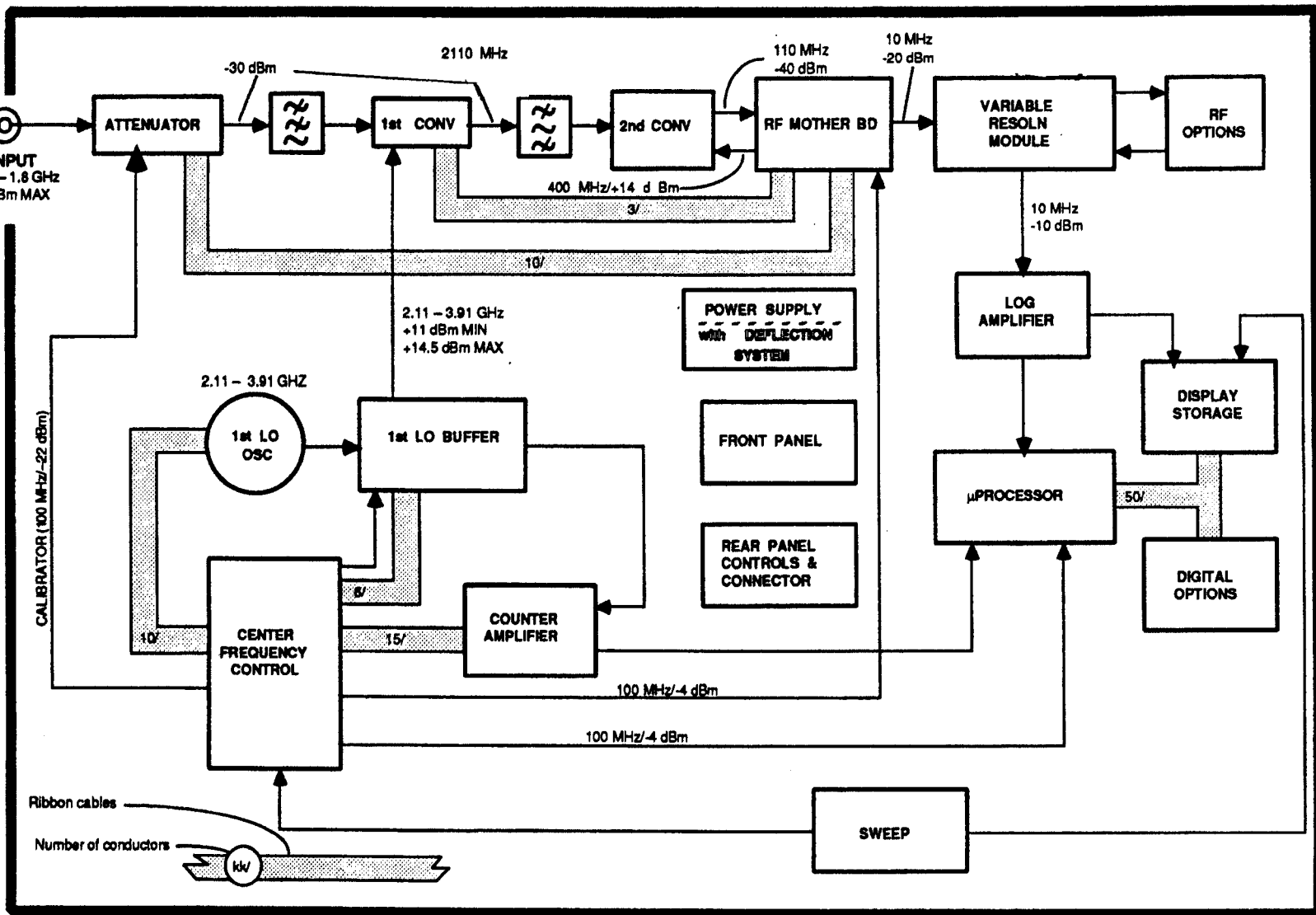


Figure 7-1. Main Block Diagram

1ST CONVERTER AND BANDPASS FILTER

The input signal is converted to an intermediate frequency (IF) signal of 2110 MHz. This is accomplished by mixing the input signal with a LO signal that varies over a range of 2.11 GHz to 3.91 GHz. The LO range corresponds to a range of 0 Hz to 1.8 GHz at the RF INPUT. The output of the mixer is then amplified to compensate for the conversion loss, and filtered to allow only the difference frequency to pass. All other mixer products are severely attenuated.

2ND CONVERTER

The 2nd Converter down-converts the 2110 MHz IF signal to 110 MHz, then ship this 2nd IF to the RF Mother board.

RF MOTHER BOARD

The RF Mother board contains the 5 MHz resolution bandwidth filter, several gain stages, and a mixer (3rd converter). The 3rd converter on the RF Mother board down-converts the 110 MHz 2nd IF to 10 MHz, then route this 3rd IF to the Variable Resolution module. The RF mother board also provides a "LO" source for the 2nd Converter.

VARIABLE RESOLUTION MODULE

The Variable Resolution contains several, selectable gain stages prior to the filters, four filters, and a compensation amplifier. One of the four filters or an external filter may be selected. Each filter has a pad associated with it that compensates for losses in the filter. The system selects the appropriate amplifier for each filter selected.

The signal (10 MHz IF) is processed through one of several band-pass filters, amplified once more, and then routed to the Log Amplifier board.

RF OPTIONS

The RF Options is a system of filters and detectors that enhance the measurement capability of the overall instrument. The board is configurable as a 300 Hz filter (part of Option 01), a set of additional filters (Option 14), a quasi-peak detector and associated CISPR filters (Option 12), or as a 300 Hz filter with the additional filters (Option 01 plus Option 14).

When configured as part of Option 01, the board provides the 300 Hz filter. No other features are included.

When configured as Option 14, the board provides extra resolution bandwidth filters. The board consists of an amplifier and a combination of four bandpass filters. The filter bandwidth range is 1.5 MHz, 100 kHz, 10 kHz, and 1 kHz.

When configured as Option 12, the board provides a Quasi-Peak Detector system consistent with the specifications described in Publication 16 of Comité International Spécial des Perturbations Radioélectriques (CISPR), together with a set of extra resolution bandwidth filters.

The quasi-peak detector has selectable charge and discharge times. The detector output can be displayed in a linear or log format at the users option. In addition, the audio source can be set to the predetected signal, thus, aiding in signal identification. The system is capable of being used in bands A, B, C, and D as called out in Publication 16.

The range of the bandwidth filters is 1.5 MHz, 120 kHz, 9 kHz, 1 kHz and 200 Hz filter.

The extra resolution bandwidths in either Option 12 or Option 14 compliment the bandwidths already in place giving the user enhanced measurement capability.

The combination of Option 01 and 14 adds the 300 Hz filter to the "fill in" filters.

LOG AMPLIFIER

The Log Amplifier performs the logarithmic conversion, linear detection and logarithmic detection of the incoming signal, and amplitude calibration. The log display has scale factors of 10dB/div, 5dB/div, and 1dB/div. The module also contains a FM detector, an audio amplifier, an amplitude-limited output for the period counter, and an out-of-band signal clamp.

The detector produces a voltage that corresponds to the input signal strength in decibels. The detector output is then vertically scaled and sent to the Display Storage and Sweep boards.

The control of the log by the control processor is through three 8-bit shift registers.

DISPLAY STORAGE

The Display Storage board contains the circuitry for putting text and waveforms onto the CRT display.

This board contains the following programmable Functions:

Block Diagram Description – 2710 Service

- Waveform Storage - four 512 point waveforms
- Dot Markers - up to two intensified markers
- Text Storage - four 32 character by 16 lines of text displayed one at a time
- Accumulator data - direct access to the output of the A-to-D converter.
- Non-Volatile memory - 64K total; 2K used for waveforms; 2K used for text; the rest is available for general use

When enabling the analog display, the waveforms A, B, C, and D are turned on, but not displayed. This results in a chopped-blanking effect between the readout and the analog display. The scanning alternates between the readout and the analog display.

The Display Storage board is capable of storing 4 waveforms of 512 bytes each, 4 pages of text of 512 bytes each, and up to two markers. Any combination of waveforms and text may be displayed on the CRT. If one or more waveforms are being displayed, the text portion of the display is limited to approximately 100 characters in order to avoid flicker.

Only one page of text may be displayed at any one time. The readout page is limited to approximately 100 characters.

The waveforms and text displays are accessed through memory reads and writes. When display A, B, C, or D is invoked allows the stored waveforms to be displayed. When A, B, C, or D is deselected, the display reverts to the real time (non-digitized) video waveform, and the readout is updated during the readout cycle.

CENTER FREQUENCY CONTROL

The Center Frequency Control (CFC) board contains the digital-to-analog converters (DACs) for controlling the frequency of the YIG Oscillator's 2 coils (main coil for large frequency changes and an FM coil for small frequency changes). This board also generates a 100MHz frequency for the Calibrator signal and 3rd LO. A sweep attenuator attenuates the sweep voltage coming from the sweep board so that the frequency will be accurate over the entire display.

This board contains the following:

- Input Shift Register
- Output Shift Register
- Sweep Attenuator DAC
- Main Coil DAC
- FM Coil Center DAC
- Sweep Select (Main Coil or FM Coil)

1st LO & 1st LO BUFFER

The 1st LO assembly consists of the 1st LO Interface, 1st LO, and a gain stage. The 1st LO Buffer consists of leveled amplifier and a phase gate detector.

The oscillator is a Yttrium Iron Garnet (YIG) sphere in a temperature-controlled chamber. The frequency of the sphere is controlled by a current through a main coil and an FM coil. The center frequency is determined by tuning the main coil for a coarse center frequency, then tuning the FM coil to fine tune the center frequency. Both of these coils are reset each time the center frequency is changed regardless of the span per division setting. The frequency is measured via a Counter and Phase Gate circuit, and the FM coil is retuned to the exact frequency within a certain tolerance.

The phase detector logs 1st LO drift. That information is then used for frequency corrections. The 1st LO Interface provides drive signals for the main coil and FM coil, a control signal for the main coil, and power for the gain stage.

COUNTER AMPLIFIER

The Counter Amplifier receives a strobe signal from a Phase Gate on the YIG Buffer Amplifier. The frequency range of the strobe signal is either 5 kHz to 40 MHz (for a 100 MHz strobe input) or 5 kHz to 13 MHz (for a 50 MHz strobe input), and the amplitude range is approximately -55 dBm to -45 dBm, depending on the strobe frequency and component tolerances.

This board contains several stages of linear amplification, a pair of selectable low pass filters, and a high speed

Schmitt trigger. The signal is amplified and filtered to provide a signal suitable for counting. The output, a rectangular wave, is routed to the μ P. The frequency from the Phase Gate is the difference frequency of the 1st LO and the nearest harmonic of the strobe being used.

SWEEP

The Sweep board contains a Microprocessor interface, horizontal sweep generator, trigger circuitry, vertical sweep (raster scan) circuitry, video processing, video line triggering, and graticule illumination.

This board receives messages from the μ P regarding its operation, but cannot send messages directly to the μ P.

Various combinations of resistors and capacitors yield the sweep speed selections.

The available trigger modes are Free Run, Internal, Line, External, TV Field, and TV Line. When the video monitor mode is selected (Option 10 installed), the readout, display storage, and video filter are turned off; the resolution bandwidth is set to 5 MHz; the Vertical display mode defaults to Lin; the span setting defaults to Zero Span; and the sweep rate defaults to 5 μ s. The video monitor mode can be aborted by deselecting via the trigger menu or by selecting another trigger mode.

The TV Line Trigger mode causes the Spectrum Analyzer to trigger on the selected line, display that line and part of the next line.

DISPLAY SYSTEM

The Display System consists of the Vertical Display circuit, Horizontal Display circuit, and Z-Axis circuit. See Figure 7-2.

The Display System has three possible display modes. Active spectrum display mode where the spectrum of the incoming signal is displayed, static spectrum display mode where the stored signals are displayed, and video monitor mode where live video signals are displayed.

Vertical Display

The Vertical Display circuit consists of a preamplifier and a paraphase amplifier. Gain and dc offset (Vertical Position) are set at the input of the preamplifier such that, for a full screen signal, the signal at the input of the paraphase amplifier swings from -0.7 V to +0.7 V. The output of the paraphase amplifier then drives the vertical deflection plates.

Three signals may be applied to the Vertical Display circuitry, namely:

- LOGVID (Detected video from the Log board)
- DSVER from the Display Storage board
- VIDVERT (Vertical Scan signal from the Sweep board)

Horizontal Display

The Horizontal Display circuit consists of a paraphase amplifier. In this case, gain and dc offset (Horizontal Position) are set at the input of the paraphase amplifier swings from -0.7 V to +0.7 V. The output of the paraphase amplifier then drives the horizontal deflection plates.

Two signals may be applied to the Horizontal Display circuitry, namely:

- SWP (Sweep from the Sweep board)
- DSHOR from the Display Storage board

When an active signal is displayed in normal mode, the horizontal drive signal is the sweep (SWP), and the vertical drive signal is the detected video (LOGVID); and when a stored signal is displayed, the horizontal drive signal becomes DSHOR from the Display Storage board, and the vertical drive signal becomes DSVER from the Display Storage board.

When the video monitor mode is enabled, the vertical signal is a vertical scan signal (VIDVERT) and LOGVID and DSVER are switched out. At the same time DSHOR is also switched out, and the sweep signal (SWP) set to a TV line rate. A third signal, VIDZ (live video), is routed to the Z-Axis circuit.

Z-Axis

The Z-Axis circuits receive signals from the Display Storage and Sweep boards, and accept control levels from the front-panel INTENSITY control. These signals are then used to generate unblanking signals to control the display brightness and focus.

The Z-Axis circuits provide the drive currents and bias voltage to operate the crt. They consist of the intensity control circuits, which control the crt beam current for normal signal display operations, and the unblanking gates, which furnish current to the Z-Axis drive amplifier to drive the crt control grid.

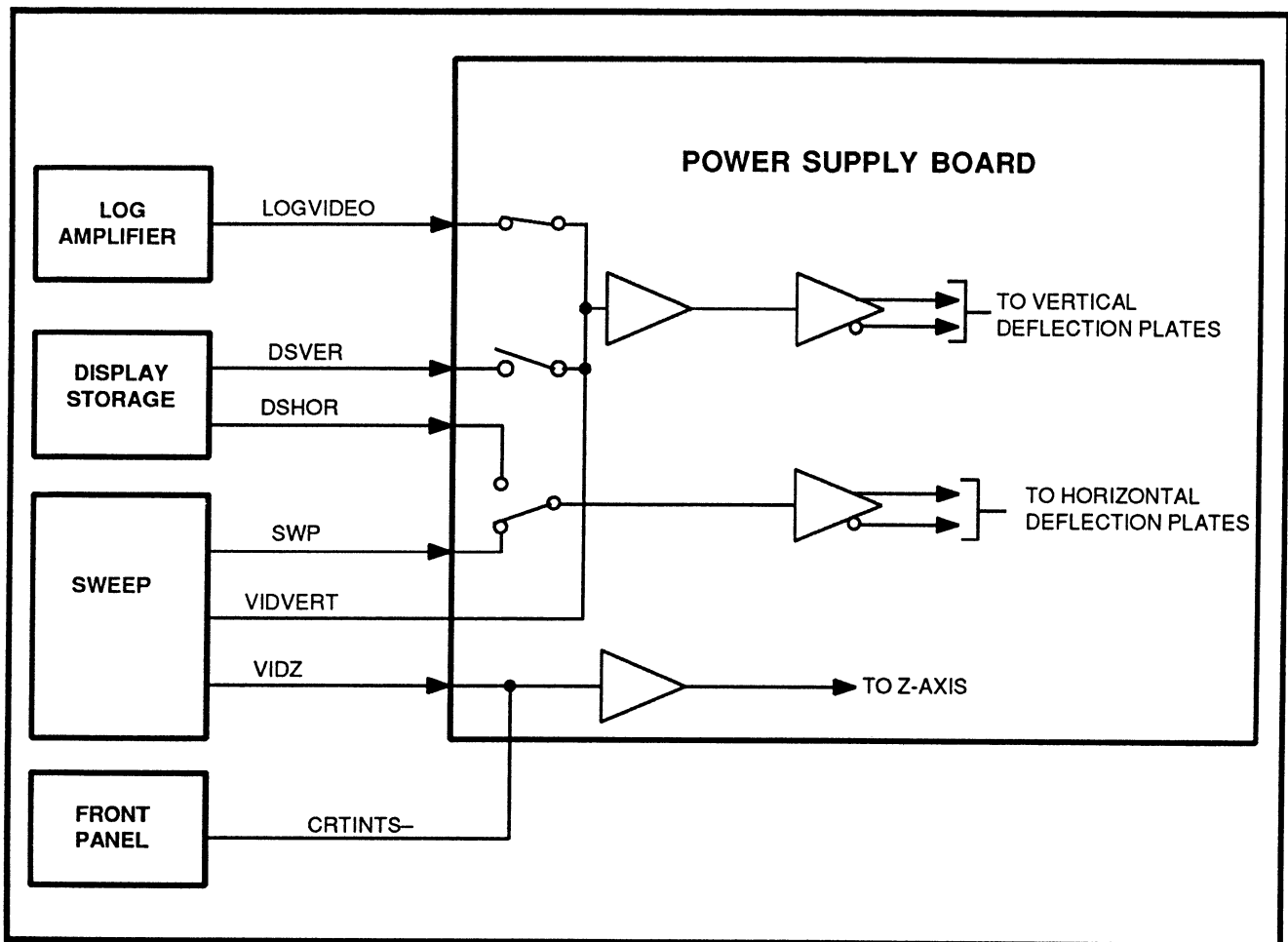


Figure 7-2. Display system.

The Z-Axis Drive Amplifier is an operational amplifier that consists of discrete transistors and related components. The input of the amplifier is a summing point for the VIDZ signal and the intensity control voltage from the front panel. Two gates also drive the amplifier, one gate (7) during readout display periods, and the second gate (SWPGATE) during sweep display periods.

Two transistors provide current for the trace rotation coil. The TRACE ROTATION adjustment sets the current so the displayed trace is aligned with the graticule.

The High-Voltage Supply furnishes the crt bias and filament voltage to the crt cathode, and provides dc restoration for the Z-AXIS DRIVE signal. The supply consists of three main circuits:

1. The voltage multiplier circuit rectifies and filters the high voltage for application to the crt cathode.

2. The high-voltage regulator circuit samples the high voltage and regulates the operation of the high-voltage oscillator.

3. The Z-Axis clipper and rectifier circuits couple the Z-AXIS drive signal to the crt control grid.

The voltage multiplier is encapsulated in a high insulation material. The output of the multiplier is applied to the crt cathode. Reference voltage for the regulator is also picked off the cathode line through a series of large resistors. The cathode voltage is also picked off and applied to the filament to hold the filament at the same potential as the cathode.

The high-voltage regulator circuit consists of a comparator and surrounding components. The high voltage is applied through a resistive voltage divider network. Thus, a sample of the high voltage is applied to

the non-inverting input of comparator. The correction signal, in the form of dc drive, is applied as bias to a transistor to control the current through the high voltage secondary winding.

The Z-Axis clipper circuit consists of two series diodes, plus associated components. The voltage that passes the clipper circuit is coupled through a capacitor to the Z-Axis rectifier.

The clipped Z-AXIS DRIVE signal is rectified by a pair of diodes. The rectified voltage is then fed to the grid of the crt. A capacitor couples fast changes of the drive voltage to the grid to speed up the response of the grid circuit. The crt grid is protected from high-voltage arcs by three neon bulbs, much like spark gaps. Also, a 4.75 k Ω resistor at the junction of the clipper diodes protects the rectifier diodes from high-voltage surges in case the crt arcs.

REPLACEABLE ELECTRICAL PARTS

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. 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.

LIST OF ASSEMBLIES

A list of assemblies can be found at the beginning of the Electrical Parts List. The assemblies are listed in numerical order. When the complete component number of a part is known, this list will identify the assembly in which the part is located.

CROSS INDEX-MFR. CODE NUMBER TO MANUFACTURER

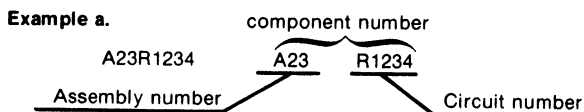
The Mfr. Code Number to Manufacturer index for the Electrical Parts List is located immediately after this page. The Cross Index provides codes, names and addresses of manufacturers of components listed in the Electrical Parts List.

ABBREVIATIONS

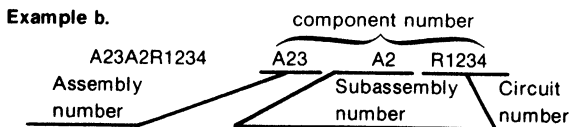
Abbreviations conform to American National Standard Y1.1.

COMPONENT NUMBER (column one of the Electrical Parts List)

A numbering method has been used to identify assemblies, subassemblies and parts. Examples of this numbering method and typical expansions are illustrated by the following:



Read: Resistor 1234 of Assembly 23



Read: Resistor 1234 of Subassembly 2 of Assembly 23

Only the circuit number will appear on the diagrams and circuit board illustrations. Each diagram and circuit board illustration is clearly marked with the assembly number. Assembly numbers are also marked on the mechanical exploded views located in the Mechanical Parts List. The component number is obtained by adding the assembly number prefix to the circuit number.

The Electrical Parts List is divided and arranged by assemblies in numerical sequence (e.g., assembly A1 with its subassemblies and parts, precedes assembly A2 with its subassemblies and parts).

Chassis-mounted parts have no assembly number prefix and are located at the end of the Electrical Parts List.

TEKTRONIX PART NO. (column two of the Electrical Parts List)

Indicates part number to be used when ordering replacement part from Tektronix.

SERIAL/MODEL NO. (columns three and four of the Electrical Parts List)

Column three (3) indicates the serial number at which the part was first used. Column four (4) indicates the serial number at which the part was removed. No serial number entered indicates part is good for all serial numbers.

NAME & DESCRIPTION (column five of the Electrical Parts List)

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

MFR. CODE (column six of the Electrical Parts List)

Indicates the code number of the actual manufacturer of the part. (Code to name and address cross reference can be found immediately after this page.)

MFR. PART NUMBER (column seven of the Electrical Parts List)

Indicates actual manufacturers part number.

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
00213	NYTRONICS COMPONENTS GROUP INC SUBSIDIARY OF NYTRONICS INC	ORANGE ST	DARLINGTON SC 29532
00681	MINE SAFETY APPLIANCE CO CATALYST RESEARCH DIV	1421 CLARKVIEW RD	BALTIMORE MD 21209-2103
00779	AMP INC	2800 FULLING MILL PO BOX 3608	HARRISBURG PA 17105
00809	CROVEN CRYSTALS SUB OF ELECTRONIC TECHNOLOGIES INC	500 BEECH ST PO BOX 420	WHITBY ONT CAN L1N 5S5
00853	SANGAMO WESTON INC COMPONENTS DIV	SANGAMO RD PO BOX 128	PICKENS SC 29671-9716
01121	ALLEN-BRADLEY CO	1201 SOUTH 2ND ST	MILWAUKEE WI 53204-2410
01281	TRW ELECTRONICS AND DEFENSE SECTOR RF DEVICES	14520 AVIATION BLVD	LAWNDALE CA 90260-1121
01295	TEXAS INSTRUMENTS INC SEMICONDUCTOR GROUP	13500 N CENTRAL EXP PO BOX 655012	DALLAS TX 75265
02111	HAMILTON STANDARD CONTROLS INC SPECTROL DIV	17070 E GALE AVE P O BOX 1220	CITY OF INDUSTRY CA 91749
02113	COILCRAFT INC	1102 SILVER LAKE RD	CARY IL 60013-1658
02777	HOPKINS ENGINEERING CO	12900 FOOTHILL BLVD	SAN FERNANDO CA 91342-4928
03508	GENERAL ELECTRIC CO SEMI-CONDUCTOR PRODUCTS DEPT	W GENESEE ST	AUBURN NY 13021
04222	AVX CERAMICS DIV OF AVX CORP	19TH AVE SOUTH P O BOX 867	MYRTLE BEACH SC 29577
04713	MOTOROLA INC SEMICONDUCTOR PRODUCTS SECTOR	5005 E MCDOWELL RD	PHOENIX AZ 85008-4229
05397	UNION CARBIDE CORP MATERIALS SYSTEMS DIV	11901 MADISON AVE	CLEVELAND OH 44101
07088	KELVIN ELECTRIC CO	5907 NOBLE AVE	VAN NUYS CA 91411
07716	TRW INC TRW IRC FIXED RESISTORS/BURLINGTON	2850 MT PLEASANT AVE	BURLINGTON IA 52601
11532	TELEDYNE RELAYS TELEDYNE INDUSTRIES INC SUB OF TELEDYNE INC	12525 DAPHNE AVE	HAWTHORNE CA 90250-3308
12697	CLAROSTAT MFG CO INC	LOWER WASHINGTON ST	DOVER NH 03820
12969	UNITRODE CORP	5 FORBES RD	LEXINGTON MA 02173-7305
13511	AMPHENOL CADRE DIV BUNKER RAMO CORP		LOS GATOS CA
14552	MICROSEMI CROP	2830 S FAIRVIEW ST	SANTA ANA CA 92704-5948
14936	GENERAL INSTRUMENT CORP DISCRETE SEMI CONDUCTOR DIV	600 W JOHN ST	HICKSVILLE NY 11802
15238	ITT SEMICONDUCTORS A DIVISION OF INTERNATIONAL TELEPHONE AND TELEGRAPH CORP	500 BROADWAY P O BOX 168	LAWRENCE MA 01841-3002
15454	AMETEK INC RODAN DIV	2905 BLUE STAR ST	ANAHEIM CA 92806-2510
16179	M/A-COM OMNI SPECTRA INC SUB OF M/A-COM INC	21 CONTINENTAL BLVD	MERRIMACK NH 03054-4303
18203	MICROWAVE CONNECTOR DIV ENGELMANN MICROWAVE DIV DIV OF KDI ELECTRONICS INC	60 S JEFFERSON RD	WHIPPANY NJJ 07981-1001
18324	SIGNETICS CORP MILITARY PRODUCTS DIV	4130 S MARKET COURT	SACRAMENTO CA 95834-1222
19701	MEPCO/CENTRALAB A NORTH AMERICAN PHILIPS CO	P O BOX 760	MINERAL WELLS TX 76067-0760
21847	FEI MICROWAVE INC	825 STEWART DR	SUNNYVALE CA 94086-4514
22526	DU PONT E I DE NEMOURS AND CO INC DU PONT CONNECTOR SYSTEMS, DIV MILITARY PRODUCTS GROUP	515 FISHING CREEK RD	NEW CUMBERLAND PA 17070-3007
24546	CORNING GLASS WORKS	550 HIGH ST	BRADFORD PA 16701-3737
27014	NATIONAL SEMICONDUCTOR CORP	2900 SEMICONDUCTOR DR	SANTA CLARA CA 95051-0606
28480	HEWLETT-PACKARD CO CORPORATE HQ	3000 HANOVER ST	PALO ALTO CA 94304-1112
29454	JOHANSON DIELECTRICS INC	2210 SCREENLAND DR P O BOX 6465	BURBANK CA 91505-1137
31433	UNION CARBIDE CORP ELECTRONICS DIV	HWY 276 SE PO BOX 5928	GREENVILLE SC 29606
31918	ITT SCHADOW INC	8081 WALLACE RD	EDEN PRAIRIE MN 55344-2224

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
32997	BOURNS INC TRIMPOT DIV	1200 COLUMBIA AVE	RIVERSIDE CA 92507-2114
33095	SPECTRUM CONTROL INC	2185 WEIGHT ST	ERIE PA 16505
50101	FREQUENCY SOURCES INC SEMICONDUCTOR DIV SUB OF LORAL CORP	16 MAPLE RD	CHELMSFORD MA 01824-3737
50140	K AND L MICROWAVE INC SUB OF DOVER CORP	408 COLES CIR	SALISBURY MD 21801-3214
50434	HEWLETT-PACKARD CO OPTOELECTRONICS DIV	370 W TRIMBLE RD	SAN JOSE CA 95131
51406	MURATA ERIE NORTH AMERICA INC GEORGIA OPERATIONS	2200 LAKE PARK DR	SMYRNA GA 30080
51642	CENTRE ENGINEERING INC	2820 E COLLEGE AVE	STATE COLLEGE PA 16801-7515
54473	MATSUSHITA ELECTRIC CORP OF AMERICA	ONE PANASONIC WAY PO BOX 1501	SECAUCUS NJ 07094-2917
54583	TDK ELECTRONICS CORP	12 HARBOR PARK DR	PORT WASHINGTON NY 11550
54937	DE YOUNG MANUFACTURING INC	12920 NE 125TH WAY	KIRKLAND, WA 98034-7716
55680	NICHICON /AMERICA/ CORP	927 E STATE PKY	SCHAUMBURG IL 60195-4526
56289	SPRAGUE ELECTRIC CO WORLD HEADQUARTERS	92 HAYDEN AVE	LEXINGTON MA 02173-7929
56880	MAGNETICS INC	3000 E PRESTON ST	BALTIMORE MD 21213-3935
57668	R-OHM CORP	16931 MILLIKEN AVE	IRVINE CA 92713
59660	TUSONIX INC	7741 N BUSINESS PARK DR PO BOX 37144	TUCSON AZ 85740-7144
60705	CERA-MITE CORPORATION	1327 6TH AVE	GRAFTON WI 53024-1831
62104	CALIFORNIA EASTERN LABORATORIES INC	3260 JAY ST	SANTA CLARA CA 95054-3309
71400	BUSSMANN DIV OF COOPER INDUSTRIES INC	114 OLD STATE RD PO BOX 14460	ST LOUIS MO 63178
72982	ERIE SPECIALTY PRODUCTS INC	645 W 11TH ST	ERIE PA 16512
73138	BECKMAN INDUSTRIAL CORP BECKMAN ELECTRONIC TECHNOLOGIES SUB OF EMERSON ELECTRIC	4141 PALM ST	FULLERTON CA 92635
73899	JFD ELECTRONICS COMPONENTS CORP A DIV OF MURTA ERIE NORTH AMERICA	112 MOTT ST	OCEANSIDE NY 11572-5823
74970	JOHNSON E F CO	299 10TH AVE S W	WASECA MN 56093-2539
75378	CTS KNIGHTS INC	400 REIMANN AVE	SANDWICH IL 60548-1846
75915	LITTELFUSE TRACTOR INC SUB TRACTOR INC	800 E NORTHWEST HWY	DES PLAINES IL 60016-3049
78488	STACKPOLE CORP THE	201 STACKPOLE ST	ST MARYS PA 15857-1401
80009	TEKTRONIX INC	14150 SW KARL BRAUM DR PO BOX 500 MS 53-111	BEAVERTON OR 97077
81483	INTERNATIONAL RECTIFIER	9220 SUNSET BLVD P O BOX 2321 TERMINAL ANNEX	LOS ANGELES CA 90069-3501
91637	DALE ELECTRONICS INC	2064 12TH AVE PO BOX 609	COLUMBUS NE 68601-3632
92966	GTE PRODUCTS CORP LIGHTING PRODUCTS GROUP HILLSBORO MINIATURE LAMP PLANT	WEST MAIN ST	HILLSBORO NH 03244
95275	VITRAMON INC	BOX 544	BRIDGEPORT CT 06601-0544
98291	SEAELECTRO CORP BICC ELECTRONICS	40 LINDEMAN DR	TURNBULL CT 06611-4739
D5243	ROEDERSTEIN E SPEZIALFABRIK FUER KONDENSATOREN GMBH	LUDMILLASTRASSE 23-25	8300 LANDSHUT GERMANY
S0545	NIPPON ELECTRIC CO LTD		TOKYO JAPAN
TK0146	BUEHLER PRODUCTS INC	PO BOX A, HIGHWAY 70	EAST KINSTON NC 28501
TK0213	TOPTRON CORP	TOKYO	JAPAN
TK0515	WORLD PRODUCTS INC	19678 8TH ST E PO OBX 517	SONOMA CA 95476-3803
TK0900	UNITED CHEMI-CON INC	9801 W HIGGINS SUITE 430	ROSEMONT IL 60018-4704
TK0961	NEC ELECTRONICS USA INC ELECTRON DIV	401 ELLIS ST PO OBX 7241	MOUNTAIN VIEW CA 94039
TK1345	ZMAN AND ASSOCIATES	7633 S 180TH	KENT WA 98032
TK1395	ROEDERSTEIN ELECTRONICS INC	2100 W FRONT ST	STATESVILLE NC 28677-3651
TK1421	COILTRON	PO BOX 904	BEAVERTON OR 97075
TK1424	MARCON AMERICA CORP	700 LANDWEHR RD	NORTHBROOK IL 60062

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Mfr. Code	Manufacturer	Address	City, State, Zip Code
TK1483	TEKA PRODUCTS INC	45 SALEM ST	PROVIDENCE RI 02907
TK1869	ALPS	100 N CENTRE AVE	ROCKVILLE CENTRE NY 11570

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A5	670-9417-00			CIRCUIT BD ASSY:SWEEP	80009	670-9417-00
A6	670-9413-00			CIRCUIT BD ASSY:FRONT PNL	80009	670-9413-00
A7	670-9480-00			CIRCUIT BD ASSY:LOG AMPLIFIER	80009	670-9480-00
A9	670-9468-00			CIRCUIT BD ASSY:DIGITAL STORAGE	80009	670-9468-00
A10	670-9469-00	B010000	B010253	CIRCUIT BD ASSY:MICROPROCESOR	80009	670-9469-00
A10	670-9469-01	B010254		CIRCUIT BD ASSY:MICROPROCESSOR	80009	670-9469-01
A10	671-0653-00	B010254		CIRCUIT BD ASSY:MICROPROCESSOR	80009	671-0653-00
A12	670-9474-00			CIRCUIT BD ASSY:CF CONTROL	80009	670-9474-00
A13	670-9475-00			CIRCUIT BD ASSY:VARIABLE RESOLUTION	80009	670-9475-00
A14	672-0200-00			CIRCUIT BD ASSY:RF ASSY	80009	672-0200-00
A14A1	670-9415-00			CIRCUIT BD ASSY:RF MOTHER	80009	670-9415-00
A14A2	670-9479-00			CIRCUIT BD ASSY:2ND CONVERTER	80009	670-9479-00
A15	621-0026-00			POWER SPLY ASSY:ASSEMBLED CIRCUIT BD & CHAS SIS	80009	621-0026-00
A15A1	670-9414-00			CIRCUIT BD ASSY:PWR SPLY	80009	670-9414-00
A16	119-2568-00	B010000	B010034	1ST MIXER ASSY:	80009	119-2568-00
A16	119-2568-01	B010035		MIXER ASSY:1ST	80009	119-2568-01
A16A1	-----			(PART OF A16)		
A16A2	-----			(PART OF A16)		
A17	119-2301-00			YIG BUFFER ASSY:	80009	119-2301-00
A17A1	-----			(PART OF A17)		
A18	670-9675-00			CIRCUIT BD ASSY:ATTENUATOR	80009	670-9675-00
A19	119-2206-00			OSCILLATOR,RF:1.9 TO 4.0 GHZ	80009	119-2206-00
A19A1	-----			(PART OF A19)		
A20	671-0218-00			CIRCUIT BD ASSY:COUNTER AMPLIFIER	80009	671-0218-00
A5	670-9417-00			CIRCUIT BD ASSY:SWEEP	80009	670-9417-00
A5C120	295-0199-00			CAP SET,MATCHED:(1) 10UF,1.5%,25V,(1) 0.1UF,1.5%,100V,MATCHED	80009	295-0199-00
A5C140	283-0672-00			CAP,FXD,MICA DI:200PF,1%,500V	00853	D155F2010F0
A5C142	283-0645-00			CAP,FXD,MICA DI:790PF,1%,100V	00853	D153F791F0
A5C221	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C230	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C231	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A5C248	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A5C250	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A5C254	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A5C264	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A5C279	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C280	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C282	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C330	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C346	283-5000-00			CAP,FXD,CER DI:10PF,5%,50V	54583	C3216C0G1H100D
A5C352	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A5C354	283-5014-00			CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A5C360	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A5C361	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A5C374	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A5C376	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A5C380	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C382	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C410	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A5C424	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C426	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A5C440	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A5C442	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A5C450	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A5C452	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A5C456	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A5C460	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A5C462	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A5C466	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A5C515	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C525	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C526	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C556	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A5C558	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C566	283-0100-00			CAP,FXD,CER DI:0.0047UF,10%,200V	04222	SR306A472KAA
A5C572	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A5C640	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A5C650	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A5C653	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C660	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A5C662	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A5C663	283-5008-00			CAP,FXD,CER DI:12PF,+/- 5%,50V	80009	283-5008-00
A5C680	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A5C760	283-5009-00			CAP,FXD,CER DI:15PF,+/- 5%,50V	80009	283-5009-00
A5C762	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A5C763	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A5C772	283-5019-00			CAP,FXD,CER DI:2PF,50V	54583	C3216C0G1H020C-T
A5C850	295-0199-00			CAP SET,MATCHED:(1) 10UF,1.5%,25V,(1) 0.1UF,1.5%,100V,MATCHED	80009	295-0199-00
A5CR211	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A5CR241	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A5CR242	152-5004-00			SEMICON DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A5CR311	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A5CR364	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A5CR652	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A5DS200	150-0097-00			LAMP,INCAND:6.3V,0.2A,#7381,WIRE LEADS	92966	7381
A5DS400	150-0097-00			LAMP,INCAND:6.3V,0.2A,#7381,WIRE LEADS	92966	7381
A5DS700	150-0097-00			LAMP,INCAND:6.3V,0.2A,#7381,WIRE LEADS	92966	7381
A5L660	108-5001-00			COIL,RF:FXD,70NH	02113	SS-162-70
A5L890	108-1262-00			INDUCTOR:100UH	54583	TSL0807-101KR75
A5P5	131-2514-00			CONN,RCPT,ELEC:CKT BD,2 X 10,MALE	00779	86479-1
A5Q110	151-5000-00			TRANSISTOR:PMP,SI,SOT-23	04713	MMBT3906T1
A5Q175	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A5Q193	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A5Q212	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A5Q256	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A5Q370	151-5000-00			TRANSISTOR:PMP,SI,SOT-23	04713	MMBT3906T1
A5Q525	151-5002-00			TRANSISTOR:JFET,N-CH,RDS=60	04713	MMBF4392T1
A5Q530	151-5000-00			TRANSISTOR:PMP,SI,SOT-23	04713	MMBT3906T1
A5Q640	151-5000-00			TRANSISTOR:PMP,SI,SOT-23	04713	MMBT3906T1
A5R110	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A5R112	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A5R128	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R150	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R152	321-5048-00			RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A5R153	321-5048-00			RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A5R154	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A5R155	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R166	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R168	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A5R170	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R171	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R173	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A5R174	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R175	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R176	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R177	321-5035-00		RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A5R179	321-5032-00		RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A5R180	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R190	321-5051-00		RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A5R191	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R192	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R194	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R210	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R212	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R220	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R222	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R232	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R252	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A5R254	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R258	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R262	321-5049-00		RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A5R263	321-5017-00		RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A5R265	321-5019-00		RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A5R270	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R272	321-5013-00		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A5R280	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R281	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A5R342	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R344	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R346	321-5034-00		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A5R348	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A5R350	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A5R352	321-5013-00		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A5R356	321-5034-00		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A5R357	321-5048-00		RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A5R360	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R370	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R372	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R373	321-5035-00		RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A5R374	321-5034-00		RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A5R380	321-5051-00		RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A5R412	321-5048-00		RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A5R413	321-5048-00		RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A5R424	321-5033-00		RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A5R430	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R441	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A5R442	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R445	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R446	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R460	311-1235-00		RES, VAR, NONNW: 100K OHM, 0.5W	32997	3386F-T04-104
A5R462	321-5017-00		RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A5R466	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A5R470	311-1235-00		RES, VAR, NONNW: 100K OHM, 0.5W	32997	3386F-T04-104
A5R474	321-5022-00		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A5R476	311-1235-00		RES, VAR, NONNW: 100K OHM, 0.5W	32997	3386F-T04-104
A5R510	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R512	321-5031-00		RES, FXD, FILM: 12.1K, 1%, 0.125W	01121	BCK1212FT
A5R514	321-5011-00		RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A5R520	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A5R522	321-5027-00		RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A5R523	321-5036-00		RES,FXD,FILM:33.2K,1%,0.125W	01121	BCK3322FT
A5R524	321-5036-00		RES,FXD,FILM:33.2K,1%,0.125W	01121	BCK3322FT
A5R525	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R526	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R530	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R539	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R542	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R560	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A5R561	321-5002-00		RES,FXD,FILM:15 OHM,1%,0.125W	57668	MCR18EZHFV 15E0
A5R562	321-5031-00		RES,FXD,FILM:12.1K,1%,0.125W	01121	BCK1212FT
A5R563	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R572	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R580	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R584	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R586	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R621	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R626	321-5020-00		RES,FXD,FILM:1.50K,1%,0.125W	01121	BCK1501FT
A5R628	321-5025-00		RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT
A5R630	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R632	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A5R634	321-5038-00		RES,FXD,FILM:47.5K,1%,0.125W	01121	BCK4752FT
A5R635	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R636	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R642	321-5038-00		RES,FXD,FILM:47.5K,1%,0.125W	01121	BCK4752FT
A5R651	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A5R701	301-0560-00		RES,FXD,FILM:56 OHM,5%,0.5W	19701	5053CX56R00J
A5R702	301-0560-00		RES,FXD,FILM:56 OHM,5%,0.5W	19701	5053CX56R00J
A5R720	311-1225-00		RES,VAR,NONWV:TRMR,1K OHM,0.5W	32997	3386F-T04-102
A5R760	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R761	321-5009-00		RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A5R770	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5R771	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A5R780	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A5U150	156-5097-00		MICROCKT,DGTL:SGL 8 CHAN MULTIPLEXER	80009	156-5097-00
A5U160	156-5097-00		MICROCKT,DGTL:SGL 8 CHAN MULTIPLEXER	80009	156-5097-00
A5U210	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A5U230	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A5U240	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A5U260	155-0055-00		MICROCKT,LINER:TRIGGER & SWP AMPL	80009	155-0055-00
A5U275	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A5U280	156-5298-00		MICROCKT,LINER:VOLTAGE RGLTR,+5V,100MA	80009	156-5298-00
A5U310	156-5110-00		MICROCKT,DGTL:LSTTL,SYNC 4 BIT UP/DN BIN CN TR	80009	156-5110-00
A5U320	156-5110-00		MICROCKT,DGTL:LSTTL,SYNC 4 BIT UP/DN BIN CN TR	80009	156-5110-00
A5U330	156-5098-00		MICROCKT,DGTL:CMOS,QUAD 2 INPUT NAND GATE	80009	156-5098-00
A5U340	156-5097-00		MICROCKT,DGTL:SGL 8 CHAN MULTIPLEXER	80009	156-5097-00
A5U350	156-5017-00		MICROCKT,LINER:DUAL 741 OP AMP,1MZ,S0-8	04713	MC1458
A5U380	156-5299-00		MICROCKT,LINER:VOLTAGE RGLTR,-5V,100MA	80009	156-5299-00
A5U410	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A5U420	156-5110-00		MICROCKT,DGTL:LSTTL,SYNC 4 BIT UP/DN BIN CN TR	80009	156-5110-00
A5U430	156-5106-00		MICROCKT,DGTL:CMOS,QUAD 2 INP NOR GATE	80009	156-5106-00
A5U530	156-5081-00		MICROCKT,DGTL:CMOS,HEX INVERTER	80009	156-5081-00
A5U540	156-5204-00		MICROCKT,DGTL:CMOS,DUAL JK FF W/RESET	80009	156-5204-00
A5U550	156-3131-00		MICROCKT,LINER:TV HORIZONTAL CONTROL	80009	156-3131-00
A5U570	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A5U620	156-5017-00		MICROCKT,LINER:DUAL 741 OP AMP,1MZ,S0-8	04713	MC1458

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Name & Description	Mfr. Code	Mfr. Part No.
A5U630	156-5119-00		MICROCKT, LINEAR: DUAL VOLTAGE COMPARATOR	80009	156-5119-00
A5U670	156-5257-00		MICROCKT, LINEAR: HIGH SPEED OP-AMP	80009	156-5257-00
A5U680	156-5257-00		MICROCKT, LINEAR: HIGH SPEED OP-AMP	80009	156-5257-00
A5U780	156-5017-00		MICROCKT, LINEAR: DUAL 741 OP AMP, 1MZ, S0-8	04713	MC1458
A6	670-9413-00		CIRCUIT BD ASSY: FRONT PNL	80009	670-9413-00
A6C140	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C141	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C143	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C151	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C160	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C215	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C231	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C241	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C292	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C314	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C363	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A6C370	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C382	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C391	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C484	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A6C522	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C552	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C560	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C581	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C640	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6C741	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A6CR134	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A6CR302	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A6CR402	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A6CR632	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A6DS180	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS210	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS211	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS222	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS232	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS280	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS311	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS321	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS331	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS333	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS340	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS343	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS410	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS412	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS420	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS422	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS430	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS431	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS440	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS442	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS443	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS462	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS491	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS493	150-5004-00		LT EMITTING DIO: RED, 635NM, 20MA	50434	HLMP6300-021
A6DS510	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS521	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS531	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021
A6DS541	150-5003-00		LT EMITTING DIO: GREEN, 565NM, 60MA	50434	HLMP6500-021

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A6DS542	150-5004-00		LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS562	150-5004-00		LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS564	150-5004-00		LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS580	150-5004-00		LT EMITTING DIO:RED,635NM,20MA	50434	HLMP6300-021
A6DS642	150-5003-00		LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6DS780	150-5003-00		LT EMITTING DIO:GREEN,565NM,60MA	50434	HLMP6500-021
A6J6	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A6Q132	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q220	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A6Q300	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q304	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q361	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A6Q401	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q481	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A6Q501	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6Q631	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A6R130	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A6R131	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A6R133	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A6R135	321-5049-00		RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A6R150	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R200	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A6R212	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R213	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R214	321-5038-00		RES,FXD,FILM:47.5K,1%,0.125W	01121	BCK4752FT
A6R216	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A6R221	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R233	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R281	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R282	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R290	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R291	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R301	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A6R303	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A6R305	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A6R310	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R312	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R320	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R322	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R330	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R332	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R334	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R341	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R342	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R344	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R360	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R362	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A6R364	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R365	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R366	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R390	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R400	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A6R403	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A6R411	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R421	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R432	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R441	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R450	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A6R460	311-0679-00		RES,VAR, NONMW:P NL,2X10K OHM,0.5W	12697	D381-CM39687
A6R461	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R471	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A6R482	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R483	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A6R485	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R490	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R492	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R500	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A6R502	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A6R511	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R520	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R530	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R550	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R551	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R561	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R563	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6R630	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A6R633	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A6R634	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A6R641	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A6R643	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A6R650	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A6R740	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A6R742	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R750	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A6R770	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A6R771	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A6R772	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A6SW260	311-2320-00		ENCODER,DIGITAL:INCREMENTAL,50PPR,50 DETENT ,QUAD OUTPUT,LOC LUG AT 9 O'CLOCK	TK1869	LA22661
A6U142	156-5265-00		MICROCKT,DGTL:CMOS,DUAL MONOSTABLE MULTI VI BRATOR	80009	156-5265-00
A6U161	156-5001-00		MICROCKT,DGTL:LSTTL,QUAD 2 INPUT NAND GATE	01295	SN74LS00D
A6U230	156-5272-00		MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U240	156-5272-00		MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U293	156-5080-00		MICROCKT,DGTL:CMOS,8 BIT STATIC SHIFT RGTR	80009	156-5080-00
A6U313	156-5272-00		MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U383	156-5272-00		MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U470	156-5079-00		MICROCKT,DGTL:LSTTL,QUAD 3-STATE BUFFER	80009	156-5079-00
A6U480	156-5037-00		MICROCKT,DGTL:LSTTL,HEX INVERTER,SCHMITT	01295	SN74LS14D
A6U553	156-5272-00		MICROCKT,DGTL:LSTTL,8 BIT SHF RGTR	80009	156-5272-00
A6U620	156-5080-00		MICROCKT,DGTL:CMOS,8 BIT STATIC SHIFT RGTR	80009	156-5080-00
A6U670	156-5076-00		MICROCKT,DGTL:CMOS,DUAL D TYPE FLIP FLOP	80009	156-5076-00
A7	670-9480-00		CIRCUIT BD ASSY:LOG AMPLIFIER	80009	670-9480-00
A7C101	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C111	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C112	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C120	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C121	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C130	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C142	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C151	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C170	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C172	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C181	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C183	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C232	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discont		Code	
A7C244	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C252	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C261	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C272	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C282	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C286	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C290	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C294	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C296	283-5008-00			CAP,FXD,CER DI:12PF,+/- 5%,50V	80009	283-5008-00
A7C300	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C303	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C314	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C315	283-5008-00			CAP,FXD,CER DI:12PF,+/- 5%,50V	80009	283-5008-00
A7C350	290-5000-00			CAP,FXD,ELCLTL:1UF,20%,50V	TK0900	S50V1MICROF
A7C351	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C352	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C354	290-0944-00			CAP,FXD,ELCLTL:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A7C360	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C361	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C362	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C365	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C369	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A7C371	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C374	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C381	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C383	281-0298-00			CAP,VAR,CER DI:6-50PF	51406	TZ03Z500YR
A7C390	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C394	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C396	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A7C397	283-5014-00			CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A7C399	281-0298-00			CAP,VAR,CER DI:6-50PF	51406	TZ03Z500YR
A7C401	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C402	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C410	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C413	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A7C414	283-5000-00			CAP,FXD,CER DI:10PF,5%,50V	54583	C3216C0G1H100D
A7C416	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A7C418	283-5008-00			CAP,FXD,CER DI:12PF,+/- 5%,50V	80009	283-5008-00
A7C420	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A7C422	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A7C423	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C429	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C430	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C434	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C435	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C436	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A7C437	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A7C442	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C446	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C447	283-5008-00			CAP,FXD,CER DI:12PF,+/- 5%,50V	80009	283-5008-00
A7C449	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A7C450	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C452	290-0944-00			CAP,FXD,ELCLTL:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A7C454	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A7C460	290-0944-00			CAP,FXD,ELCLTL:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A7C470	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C472	283-5008-00			CAP,FXD,CER DI:12PF,+/- 5%,50V	80009	283-5008-00
A7C473	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A7C474	283-5011-00		CAP, FXD, CER DI:33PF, 5%	95275	VJ1206A330JXA
A7C482	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C483	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C484	283-5001-00		CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A7C485	283-5014-00		CAP, FXD, CER DI:330PF, 5%, 50V	80009	283-5014-00
A7C486	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C491	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C494	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C500	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C504	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C508	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C520	283-5003-00		CAP, FXD, CER DI:0.01UF, 10%, 50V	54583	C3216X7R1H103K
A7C521	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C545	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C550	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C551	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C562	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C564	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C570	281-0298-00		CAP, VAR, CER DI:6-50PF	51406	TZ03Z500YR
A7C581	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C582	283-5011-00		CAP, FXD, CER DI:33PF, 5%	95275	VJ1206A330JXA
A7C583	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C587	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C590	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C591	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C593	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C601	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C605	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C616	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C620	283-5001-00		CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A7C625	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C629	283-5001-00		CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A7C636	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C639	283-5001-00		CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A7C643	283-5001-00		CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A7C651	283-5001-00		CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A7C661	283-5001-00		CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A7C664	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C669	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C670	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C671	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C672	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C683	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C686	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C687	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C690	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C694	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C702	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C705	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C712	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C715	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C720	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C723	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C727	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C730	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C735	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C738	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A7C739	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A7C743	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C747	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C750	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C755	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C758	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C763	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C766	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C768	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C771	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C773	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C778	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C780	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A7C784	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A7C785	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C797	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A7C850	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C872	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7C873	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A7CR180	152-0524-00			SEMICON DVC,DI:SW,SI,100V,0.1A,DO-35	28480	5082-1779
A7CR393	152-5004-00			SEMICON DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A7CR617	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR627	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR637	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR737	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR745	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR757	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR765	152-5005-00			SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56TI
A7CR770	152-5004-00			SEMICON DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A7J160	131-0391-01			CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A7J190	131-0391-01			CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A7J260	131-0391-01			CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A7J460	131-1857-00			TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A7J513	131-1857-00			TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A7J684	131-1857-00			TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A7L398	108-5012-00			COIL,RF:FXD,2.2UH	02113	1008FS-222
A7L415	108-5037-00			COIL,RF:FXD,22UH	80009	108-5037-00
A7L419	108-5037-00			COIL,RF:FXD,22UH	80009	108-5037-00
A7L471	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L475	108-1326-00			COIL,RF:FXD,2UH	80009	108-1326-00
A7L490	108-5005-00			COIL,RF:FXD,560NH	80009	108-5005-00
A7L493	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L563	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L592	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L685	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L703	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7L772	108-5027-00			COIL,RF:FXD,47UH	54583	NL453232T-470K
A7P7	131-3556-00			CONN,RCPT,ELEC:HEADER,2 X 76,HORIZ	22526	66527-012
A7P513	131-3618-00			LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A7P684	131-3618-00			LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A7Q241	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q242	151-5011-00			TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q274	151-5011-00			TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q288	151-5011-00			TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q289	151-5016-00			TRANSISTOR:PNP,SI	80009	151-5016-00
A7Q291	151-5011-00			TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q392	151-5016-00			TRANSISTOR:PNP,SI	80009	151-5016-00
A7Q506	151-5005-00			TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q507	151-5004-00			TRANSISTOR:NPN,SI,SOT-89	04713	BCX68

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Name & Description	Mfr. Code	Mfr. Part No.
A7Q537	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q585	151-5004-00		TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q586	151-5005-00		TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q614	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q623	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q633	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q646	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q647	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q648	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A7Q673	151-5004-00		TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q700	151-5005-00		TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q701	151-5004-00		TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q710	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q717	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q725	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q733	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q741	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q746	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q753	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q759	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q761	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q767	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7Q790	151-5005-00		TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q791	151-5004-00		TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A7Q795	151-5005-00		TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A7Q830	151-5011-00		TRANSISTOR:NPN,SI,SOT-23	80009	151-5011-00
A7R100	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R102	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A7R103	311-1244-00		RES,VAR,NONWV:TRMR,100 OHM,0.5W	32997	3386X-T07-101
A7R110	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R131	311-1245-00		RES,VAR,NONWV:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R140	311-1245-00		RES,VAR,NONWV:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R141	311-1245-00		RES,VAR,NONWV:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R150	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R153	311-1245-00		RES,VAR,NONWV:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R154	311-1245-00		RES,VAR,NONWV:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R160	311-1245-00		RES,VAR,NONWV:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A7R171	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R182	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A7R184	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R186	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R191	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A7R200	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R202	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R203	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R204	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R205	321-5029-00		RES,FXD,FILM:8.25K,1%,0.125W	01121	BCK8251FT
A7R207	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A7R211	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R212	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A7R213	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A7R221	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R223	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R230	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A7R231	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R233	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A7R240	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R245	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A7R246	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R250	321-5049-00		RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT
A7R253	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A7R254	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R255	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R262	321-5000-00		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R270	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R275	321-5043-00		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A7R276	321-5017-00		RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A7R277	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R278	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R280	321-5023-00		RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A7R281	321-5023-00		RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A7R282	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A7R284	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R285	321-5024-00		RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A7R290	321-5000-00		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R292	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R293	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A7R295	321-5043-00		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A7R297	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R301	321-5044-00		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R302	321-5044-00		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A7R304	321-5015-00		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R305	321-5013-00		RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A7R310	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R311	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R312	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R313	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R317	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R318	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R330	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R332	321-5021-00		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A7R340	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R342	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R343	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R344	321-5048-00		RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A7R345	321-5024-00		RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A7R353	321-5000-00		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R363	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R364	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R366	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A7R367	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A7R368	321-5029-00		RES, FXD, FILM: 8.25K, 1%, 0.125W	01121	BCK8251FT
A7R372	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R373	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A7R380	321-5043-00		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A7R382	321-5000-00		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A7R391	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R395	321-5002-00		RES, FXD, FILM: 15 OHM, 1%, 0.125W	57668	MCR18EZHFW 15E0
A7R400	321-5015-00		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R404	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A7R411	321-5015-00		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A7R412	321-5017-00		RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A7R417	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A7R424	321-5021-00		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A7R425	321-5021-00		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A7R426	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A7R427	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R428	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R438	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A7R440	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R441	321-5049-00		RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A7R443	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A7R444	321-5038-00		RES,FXD,FILM:47.5K,1%,0.125W	01121	BCK4752FT
A7R445	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R451	311-1239-00		RES,VAR,NONWV:TRMR,2.5K OHM,0.5W	32997	3386X-T07-252
A7R453	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R454	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A7R461	321-5005-00		RES,FXD,FILM:27.4 OHM,1%,0.125W	57668	MCR18EZHFW 27E4
A7R464	321-5008-00		RES,FXD,FILM:150 OHM,1%,0.125W	01121	BCK1500FT
A7R465	321-5008-00		RES,FXD,FILM:150 OHM,1%,0.125W	01121	BCK1500FT
A7R466	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A7R480	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A7R481	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A7R492	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R501	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R502	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R503	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R505	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A7R510	311-1244-00		RES,VAR,NONWV:TRMR,100 OHM,0.5W	32997	3386X-T07-101
A7R511	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7R512	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R530	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R531	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R532	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R533	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R534	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R535	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R536	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A7R540	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A7R541	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A7R542	321-5032-00		RES,FXD,FILM:15.0K,1%,0.125W	01121	BCK1502FT
A7R543	321-5040-00		RES,FXD,FILM:68.1K,1%,0.125W	01121	BCK6812FT
A7R546	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A7R547	321-5020-00		RES,FXD,FILM:1.50K,1%,0.125W	01121	BCK1501FT
A7R548	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R549	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A7R552	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R553	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R555	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R556	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R557	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R560	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R561	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R584	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R600	311-1244-00		RES,VAR,NONWV:TRMR,100 OHM,0.5W	32997	3386X-T07-101
A7R602	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R603	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R604	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R606	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A7R611	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A7R612	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R613	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7R615	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R618	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A7R619	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R621	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R622	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R624	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R626	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7R628	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R630	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R631	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R632	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R634	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7R635	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R638	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R640	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R641	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R642	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R644	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R645	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R649	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A7R650	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R652	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R653	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R660	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R662	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R663	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R665	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A7R667	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R668	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A7R674	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R675	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A7R676	321-5029-00		RES,FXD,FILM:8.25K,1%,0.125W	01121	BCK8251FT
A7R680	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R681	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R682	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R691	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R692	321-5018-40		:	80009	321-5018-40
A7R693	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R704	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R711	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R713	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A7R714	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A7R716	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R718	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R721	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A7R722	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A7R724	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R726	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R728	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A7R729	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A7R731	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R732	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R734	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R736	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7R740	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R742	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R744	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7R748	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A7R749	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R751	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A7R752	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R754	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R756	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7R760	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A7R762	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R764	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7R779	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A7R781	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R782	321-5040-00		RES,FXD,FILM:68.1K,1%,0.125W	01121	BCK6812FT
A7R783	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A7R792	321-5024-00		RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A7R793	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A7R794	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A7R796	321-5017-00		RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A7R831	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R832	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A7R833	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A7R834	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R840	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A7R851	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A7R852	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A7R853	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R854	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R860	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R862	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A7R863	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A7R864	321-5034-00		RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A7R865	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A7R870	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A7T187	120-1721-00		TRANSFORMER,RF:AUTO,6:6:6 RATIO	80009	120-1721-00
A7T206	120-0902-00		XFMR,TOROID:	80009	120-0902-00
A7T273	120-1721-00		TRANSFORMER,RF:AUTO,6:6:6 RATIO	80009	120-1721-00
A7T405	120-0902-00		XFMR,TOROID:	80009	120-0902-00
A7T777	120-1721-00		TRANSFORMER,RF:AUTO,6:6:6 RATIO	80009	120-1721-00
A7U201	156-5136-00		MICROCKT,LINER:BALANCED MODULATOR/DEMODULATOR	80009	156-5136-00
A7U210	156-5081-00		MICROCKT,DGTL:CMOS,HEX INVERTER	80009	156-5081-00
A7U220	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A7U222	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A7U232	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A7U243	156-5018-00		MICROCKT,LINER:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00
A7U260	156-2884-00		MICROCKT,LINER:AUDIO AMPLIFIER	80009	156-2884-00
A7U271	156-5018-00		MICROCKT,LINER:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00
A7U316	156-0317-00		MICROCKT,LINER:OPNL AMPL	80009	156-0317-00
A7U320	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A7U321	156-2874-00		MICROCKT,LINER:OPERATIONAL AMPLIFIER,WIDE BAND	80009	156-2874-00
A7U331	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A7U333	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A7U341	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A7U370	156-5269-00		MICROCKT,DGTL:TRIPLE LINE RECEIVER	80009	156-5269-00
A7U403	156-5269-00		MICROCKT,DGTL:TRIPLE LINE RECEIVER	80009	156-5269-00
A7U432	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A7U433	156-5138-00		MICROCKT,LINER:DUAL JFET,4MHZ	80009	156-5138-00
A7U448	156-0317-00		MICROCKT,LINER:OPNL AMPL	80009	156-0317-00
A7U544	156-5018-00		MICROCKT,LINER:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00
A7U554	156-5119-00		MICROCKT,LINER:DUAL VOLTAGE COMPARATOR	80009	156-5119-00
A7U580	156-5275-00		MICROCKT,LINER:FM IF DETECTOR,LOW POWER	80009	156-5275-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A7U688	156-5018-00		MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A7U871	156-5298-00		MICROCKT, LINEAR: VOLTAGE RGLTR, +5V, 100MA	80009	156-5298-00
A9	670-9468-00		CIRCUIT BD ASSY: DIGITAL STORAGE	80009	670-9468-00
A9BT510	146-0044-00		BATTERY, DRY: 3V, 0.17AH @ 0.85MA, BUTTON CELL, LITHIUM-MANGANESE DIOXIDE	00681	ORDER BY DESC
A9C118	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A9C180	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C182	283-5011-00		CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A9C183	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C185	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C191	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C254	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A9C268	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C272	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C276	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C280	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C282	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C283	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C284	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C286	283-0267-00		CAP, FXD, CER DI: 0.01UF, 20%, 500V	59660	0841546Y5500103M
A9C290	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A9C375	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C376	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C380	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C381	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A9C382	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C384	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C386	283-5014-00		CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A9C390	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C395	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A9C396	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C397	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C398	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C399	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A9C412	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A9C414	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A9C465	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C470	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A9C472	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C474	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C476	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C480	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C481	283-5011-00		CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A9C482	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A9C484	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A9C486	290-5000-00		CAP, FXD, ELCTLT: 1UF, 20%, 50V	TK0900	S50V1MICROF
A9C520	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C574	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A9C580	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A9C582	283-5049-00		CAP, FXD, CER DI: 180PF, 5%, 50V, NPO	54583	C3216C0G1H181J
A9C642	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C658	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C664	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C706	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C722	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C728	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C738	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C756	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Name & Description	Mfr. Code	Mfr. Part No.
A9C816	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C822	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C858	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C906	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C946	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C956	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9C970	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A9CR280	152-5004-00		SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A9CR282	152-5004-00		SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A9CR410	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A9CR438	152-5004-00		SEMICON DVC, DI: SI, SW, SER PR, 70V	04713	BAV99T1
A9CR536	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A9J550	131-2221-00		CONN, RCPT, ELEC: CKT BD, 50 CONT, MALE	22526	65626-150
A9L496	108-1262-00		INDUCTOR: 100UH	54583	TSL0807-101KR75
A9L498	108-1262-00		INDUCTOR: 100UH	54583	TSL0807-101KR75
A9P9	131-3556-00		CONN, RCPT, ELEC: HEADER, 2 X 76, HORIZ	22526	66527-012
A9Q195	151-5000-00		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A9Q196	151-5000-00		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A9Q292	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A9Q294	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A9Q296	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A9Q298	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A9Q490	151-5005-00		TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A9Q492	151-5000-00		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A9Q532	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A9R166	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R180	311-1248-00		RES, VAR, NONWV: TRMR, 500 OHM, 0.5W	32997	3386X-T07-501
A9R183	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A9R184	311-1239-00		RES, VAR, NONWV: TRMR, 2.5K OHM, 0.5W	32997	3386X-T07-252
A9R188	311-1248-00		RES, VAR, NONWV: TRMR, 500 OHM, 0.5W	32997	3386X-T07-501
A9R190	311-1237-00		RES, VAR, NONWV: 1K OHM, 10%, 0.50W	32997	3386X-DY6-102
A9R192	311-1248-00		RES, VAR, NONWV: TRMR, 500 OHM, 0.5W	32997	3386X-T07-501
A9R193	321-5022-00		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A9R194	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK2211FT
A9R198	321-5010-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK2211FT
A9R226	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R262	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R264	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R266	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R280	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A9R286	321-5032-00		RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A9R290	321-5022-00		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A9R291	321-5021-00		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A9R292	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R293	321-5019-00		RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A9R294	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R295	321-5019-00		RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A9R296	321-5022-00		RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A9R298	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A9R299	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R370	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R371	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A9R372	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R373	321-5015-00		RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A9R374	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A9R376	321-5000-00		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A9R377	321-5048-00		RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A9R378	321-5049-00		RES, FXD, FILM: 1 MEG, 1%, 0.125W	01121	BCK1004FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A9R379	321-5019-00			RES,FXD,FILM:1.21K,1%,0.125W	01121	BCK1211FT
A9R380	321-5018-00	B010000	B010076	RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A9R380	321-5006-00	B010077		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A9R381	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A9R382	321-5048-00			RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A9R383	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A9R384	321-5019-00			RES,FXD,FILM:1.21K,1%,0.125W	01121	BCK1211FT
A9R385	321-5035-00			RES,FXD,FILM:27.4K,1%,0.125W	01121	BCK2742FT
A9R386	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A9R387	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A9R388	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R389	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A9R390	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A9R391	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A9R392	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A9R393	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A9R394	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R436	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R470	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A9R476	321-5023-00			RES,FXD,FILM:2.74K,1%,0.125W	01121	BCK2741FT
A9R478	321-5023-00			RES,FXD,FILM:2.74K,1%,0.125W	01121	BCK2741FT
A9R483	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A9R484	321-5040-00			RES,FXD,FILM:68.1K,1%,0.125W	01121	BCK6812FT
A9R485	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R486	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R494	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R496	321-5025-00			RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT
A9R532	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R534	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R538	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A9R562	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R574	321-5023-00			RES,FXD,FILM:2.74K,1%,0.125W	01121	BCK2741FT
A9R576	321-5023-00			RES,FXD,FILM:2.74K,1%,0.125W	01121	BCK2741FT
A9R578	321-5023-00			RES,FXD,FILM:2.74K,1%,0.125W	01121	BCK2741FT
A9R586	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A9R978	311-1248-00			RES,VAR,NONWV:TRMR,500 OHM,0.5W	32997	3386X-T07-501
A9R982	311-1245-00			RES,VAR,NONWV:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A9R986	311-1236-00			RES,VAR,NONWV:TRMR,250 OHM,0.5W	32997	3386X-T07-251
A9R992	311-1245-00			RES,VAR,NONWV:TRMR,10K OHM,0.5W	32997	3386X-DY6-103
A9R998	311-1244-00			RES,VAR,NONWV:TRMR,100 OHM,0.5W	32997	3386X-T07-101
A9U104	156-5130-00			MICROCKT,DGTL:HCMS,TRIPLE 3 INP NAND GATE	80009	156-5130-00
A9U108	156-5148-00			MICROCKT,DGTL:HCMS,QUAD 2 TO 1 MUX	80009	156-5148-00
A9U114	156-5237-00			MICROCKT,DGTL:LSTTL,8 BIT MAGNITUDE COMPARA TOR	80009	156-5237-00
A9U120	156-5236-00			MICROCKT,DGTL:ALSTTL,10 BIT BUS INTERFACE D -TYPE LATCHES W/INVERTING,3 STATE OUTPUTS	80009	156-5236-00
A9U132	156-5203-00			MICROCKT,DGTL:LSTTL,4 BIT FULL ADDER	80009	156-5203-00
A9U134	156-1170-00			MICROCKT,DGTL:TTL,ROM,CHAR GEN	27014	DM86S64CAB/N
A9U140	156-5134-00			MICROCKT,DGTL:HCMS,4 BIT BINARY CNTR	80009	156-5134-00
A9U146	160-5006-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5006-00
A9U160	156-5289-00			MICROCKT,DGTL:HCMS,OCTAL D TYPE FF	80009	156-5289-00
A9U170	156-5289-00			MICROCKT,DGTL:HCMS,OCTAL D TYPE FF	80009	156-5289-00
A9U180	156-5043-00			MICROCKT,LINER:DAC,8 BIT,DAC-08E	80009	156-5043-00
A9U204	156-5172-00			MICROCKT,DGTL:TRIPLE 3 INPUT NOR GATE	04713	SN74LS27
A9U206	156-5148-00			MICROCKT,DGTL:HCMS,QUAD 2 TO 1 MUX	80009	156-5148-00
A9U208	160-5013-00			MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5013-00
A9U214	156-5289-00			MICROCKT,DGTL:HCMS,OCTAL D TYPE FF	80009	156-5289-00
A9U219	156-5289-00			MICROCKT,DGTL:HCMS,OCTAL D TYPE FF	80009	156-5289-00

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A9U220	156-5148-00		MICROCKT,DGTL:HCMOS,QUAD 2 TO 1 MUX	80009	156-5148-00
A9U224	156-5074-00		MICROCKT,DGTL:HCMOS,DUAL D TYPE FLIP FLOP	80009	156-5074-00
A9U226	156-5148-00		MICROCKT,DGTL:HCMOS,QUAD 2 TO 1 MUX	80009	156-5148-00
A9U232	156-5203-00		MICROCKT,DGTL:STTL,4 BIT FULL ADDER	80009	156-5203-00
A9U234	160-5011-00		MICROCKT,DGTL:STTL,PLD,FPLA,PRGM	80009	160-5011-00
A9U236	156-5285-00		MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A9U240	156-5134-00		MICROCKT,DGTL:HCMOS,4 BIT BINARY CNTR	80009	156-5134-00
A9U242	156-5285-00		MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A9U244	156-5112-00		MICROCKT,DGTL:LSTTL,DUAL J-K POS EDGE TRIGE RED FLIP FLOP	80009	156-5112-00
A9U246	156-5285-00		MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A9U254	156-5238-00		MICROCKT,DGTL:HCMOS,8-INP OR/NOR GATE	80009	156-5238-00
A9U256	160-5004-00		MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5004-00
A9U260	160-5007-00		MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5007-00
A9U270	156-5203-00		MICROCKT,DGTL:STTL,4 BIT FULL ADDER	80009	156-5203-00
A9U274	156-5081-00		MICROCKT,DGTL:HCMOS,HEX INVERTER	80009	156-5081-00
A9U280	156-5043-00		MICROCKT,LINER:DAC,8 BIT,DAC-08E	80009	156-5043-00
A9U284	156-5095-00		MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A9U292	156-5119-00		MICROCKT,LINER:DUAL VOLTAGE COMPARATOR	80009	156-5119-00
A9U304	156-5237-00		MICROCKT,DGTL:LSTTL,8 BIT MAGNITUDE COMPARATOR	80009	156-5237-00
A9U308	160-5005-00		MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5005-00
A9U318	160-5012-00		MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5012-00
A9U324	156-5081-00		MICROCKT,DGTL:HCMOS,HEX INVERTER	80009	156-5081-00
A9U326	156-5103-00		MICROCKT,DGTL:HCMOS,DUAL 4 BIT BIN CNTR	80009	156-5103-00
A9U334	156-5103-00		MICROCKT,DGTL:HCMOS,DUAL 4 BIT BIN CNTR	80009	156-5103-00
A9U336	156-5220-00		MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U342	156-5220-00		MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U352	160-5008-00		MICROCKT,DGTL:STTL,PLD,FPLA,PRGM	80009	160-5008-00
A9U360	160-5002-00		MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5002-00
A9U368	156-2800-00		MICROCKT,INTFC:CMOS,A/D CONVERTER,8 BIT FLA SH,10MHZ	80009	156-2800-00
A9U376	156-5095-00		MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A9U392	156-5095-00		MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A9U408	156-5172-00		MICROCKT,DGTL:TRIPLE 3 INPUT NOR GATE	04713	SN74LS27
A9U420	156-5220-00		MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U428	156-5235-00		MICROCKT,DGTL:ALSTTL,10 BIT BUS INTERFACE D -TYPE LATCHES W/NONINVERTING,3 STATE OUTPUT S	80009	156-5235-00
A9U436	156-5286-00		MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A9U438	156-5142-00		MICROCKT,DGTL:HCMOS,DUAL 2 TO 4 LINE DECODE R/DEMUX	80009	156-5142-00
A9U446	156-5220-00		MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U448	156-5220-00		MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U452	156-5220-00		MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U454	156-5220-00		MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U460	156-5289-00		MICROCKT,DGTL:HCMOS,OCTAL D TYPE FF	80009	156-5289-00
A9U462	156-5016-00		MICROCKT,DGTL:LSTTL,OCTAL BUS XCVR	80009	156-5016-00
A9U464	160-5003-00		MICROCKT,DGTL:STTL,PLD,FPLS,PRGM	80009	160-5003-00
A9U474	156-5043-00		MICROCKT,LINER:DAC,8 BIT,DAC-08E	80009	156-5043-00
A9U476	156-5095-00		MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A9U484	156-5274-00		MICROCKT,LINER:CMOS,ANALOG SWITCH	80009	156-5274-00
A9U486	156-5018-00		MICROCKT,LINER:DUAL OP AMP,LOW PWR,1MZ	80009	156-5018-00
A9U488	156-5088-00		MICROCKT,DGTL:HCMOS,3 TO 8 LINE DCDR/DEMUX	80009	156-5088-00
A9U494	156-0991-00		MICROCKT,LINER:VOLTAGE REGULATOR	04713	MC78L05ACP
A9U506	156-5134-00		MICROCKT,DGTL:HCMOS,4 BIT BINARY CNTR	80009	156-5134-00
A9U520	156-5237-00		MICROCKT,DGTL:LSTTL,8 BIT MAGNITUDE COMPARATOR	80009	156-5237-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A9U526	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A9U542	156-5235-00			MICROCKT,DGTL:ALSTTL,10 BIT BUS INTERFACE D	80009	156-5235-00
				-TYPE LATCHES W/NONINVERTING,3 STATE OUTPUT		
				S		
A9U566	156-5171-00			MICROCKT,DGTL:TRIPLE 3 INPUT AND GATE	04713	SN74LS11D
A9U574	156-5043-00			MICROCKT,LINEAR:DAC,8 BIT,DAC-08E	80009	156-5043-00
A10	670-9469-00	B010000	B010253	CIRCUIT BD ASSY:MICROPROCESSOR	80009	670-9469-00
A10	670-9469-01	B010254		CIRCUIT BD ASSY:MICROPROCESSOR	80009	670-9469-01
A10	671-0653-00	B010254		CIRCUIT BD ASSY:MICROPROCESSOR	80009	671-0653-00
A10C110	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C128	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C174	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C175	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C183	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C184	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C185	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C210	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C228	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C275	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C280	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C295	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C310	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C328	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C360	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C361	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A10C362	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A10C365	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C370	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C380	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C385	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C395	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C410	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C428	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C450	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C460	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C465	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C470	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C480	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C485	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C510	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C527	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A10C528	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C529	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C530	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C540	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C550	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C565	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C570	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C580	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C595	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C715	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A10C830	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A10C885	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A10C890	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A10C895	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C960	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A10C961	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A10C975	290-0944-00			CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A10C982	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C987	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10C990	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A10J180	131-0391-01		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A10J185	131-0391-01		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A10J190	131-0391-01		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A10J195	131-0391-01		CONN, RCPT, ELEC: SNAP-ON, MALE	98291	051-051-0119-22
A10J528	131-1875-00		CONTACT, ELEC: CONN, FEMALE, BRS TIN PL	00779	350551-1
A10J550	131-2221-00		CONN, RCPT, ELEC: CKT BD, 50 CONT, MALE	22526	65626-150
A10L350	108-5023-00		COTL, RF: 5.6UH, 20%	54583	NL453232T-180K
A10P10	131-3556-00		CONN, RCPT, ELEC: HEADER, 2 X 76, HORIZ	22526	66527-012
A10P528	131-3618-00		LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A10Q175	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A10Q194	151-5016-00		TRANSISTOR: PNP, SI	80009	151-5016-00
A10Q195	151-5016-00		TRANSISTOR: PNP, SI	80009	151-5016-00
A10Q196	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A10Q197	151-5000-00		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A10Q522	151-5001-00		TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A10Q970	151-5000-00		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A10Q973	151-5000-00		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A10Q975	151-5000-00		TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A10Q985	151-5016-00		TRANSISTOR: PNP, SI	80009	151-5016-00
A10Q986	151-5016-00		TRANSISTOR: PNP, SI	80009	151-5016-00
A10R172	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R175	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R176	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R177	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R180	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A10R184	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R185	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R186	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R190	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R191	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R192	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A10R193	321-5044-00		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R194	321-5004-00		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A10R195	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R196	321-5011-00		RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A10R197	321-5044-00		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R198	321-5044-00		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A10R199	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R242	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R266	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R267	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R270	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R280	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R290	321-5011-00		RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A10R291	321-5004-00		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A10R292	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A10R340	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R342	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R344	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R362	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R365	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R370	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R375	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R420	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A10R460	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discont		Code	
A10R520	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R524	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R535	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R536	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R574	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R696	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R886	321-5004-00			RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A10R887	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R890	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R895	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R970	321-5044-00			RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A10R971	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R972	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R973	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R974	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R975	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R978	321-5044-00			RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A10R979	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R980	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A10R981	321-5044-00			RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A10R982	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A10R984	321-5004-00			RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A10R985	321-5011-00			RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A10R986	321-5011-00			RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A10R987	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R990	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R991	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10R992	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A10R993	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A10U120	160-4500-00	B010000	B010253	MICROCKT,DGTL:NMOS,65536 X 8 EPROM,PRGM	80009	160-4500-00
A10U120	160-5429-00	B010254		MICROCKT,DGTL:NMOS,128K X 8 EPROM,PRGM	80009	160-5429-00
A10U130	156-5286-00			MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A10U170	156-5269-00			MICROCKT,DGTL:TRIPLE LINE RECEIVER	80009	156-5269-00
A10U175	156-5269-00			MICROCKT,DGTL:TRIPLE LINE RECEIVER	80009	156-5269-00
A10U185	156-5269-00			MICROCKT,DGTL:TRIPLE LINE RECEIVER	80009	156-5269-00
A10U195	156-5221-00			MICROCKT,DGTL:ECL DUAL D TYPE MASTER SLAVE FF	80009	156-5221-00
A10U220	160-4499-00	B010000	B010253	MICROCKT,DGTL:NMOS,65536 X 8 EPROM,PRGM	80009	160-4499-00
A10U220	160-5428-00	B010254		MICROCKT,DGTL:NMOS,128K X 8 EPROM,PRGM	80009	160-5428-00
A10U230	156-5286-00			MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A10U250	156-5301-00			MICROCKT,DGTL:CMOS,5MHZ,16 BIT MICROPRC	80009	156-5301-00
A10U253	156-5144-00			MICROCKT,DGTL:CMOS,QUAD D TYPE FF	80009	156-5144-00
A10U270	156-5069-00			MICROCKT,DGTL:OCTAL BUFFER/LINE DRVR,3 STAT E INVERTING	80009	156-5069-00
A10U280	156-5070-00			MICROCKT,DGTL:CMOS,OCTAL BUFFER/LINE DRVR	80009	156-5070-00
A10U290	156-5285-00			MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A10U294	156-5268-00			MICROCKT,DGTL:LSTTL,HEX INVERTER SCHMITT TR IG	80009	156-5268-00
A10U295	156-5285-00			MICROCKT,DGTL:ASTTL,4 BIT BIN UP/DN CNTR	80009	156-5285-00
A10U320	160-4498-00	B010000	B010253	MICROCKT,DGTL:NMOS,65536 X 8 EPROM,PRGM	80009	160-4498-00
A10U320	160-5427-00	B010254		MICROCKT,DGTL:NMOS,128K X 8 EPROM,PRGM	80009	160-5427-00
A10U330	156-5286-00			MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A10U340	156-5093-00			MICROCKT,DGTL:CMOS,PRGM INTRPT CONT,5MHZ	80009	156-5093-00
A10U365	156-5085-00			MICROCKT,DGTL:CMOS,QUAD 2 INP OR GATE	80009	156-5085-00
A10U370	156-5284-00			MICROCKT,DGTL:ALSTTL,8 BIT BIN CNTR W/INPRG TR	80009	156-5284-00
A10U380	156-5284-00			MICROCKT,DGTL:ALSTTL,8 BIT BIN CNTR W/INPRG TR	80009	156-5284-00

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A10U385	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U395	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A10U420	160-4497-00	B010000	B010253	MICROCKT,DGTL:NMOS,65536 X 8 EPROM,PRGM	80009	160-4497-00
A10U430	156-5286-00			MICROCKT,DGTL:CMOS,32768 X 8,SRAM	80009	156-5286-00
A10U440	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U450	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U460	156-5071-00			MICROCKT,DGTL:HCMOS,OCTAL BUS XCVR	80009	156-5071-00
A10U465	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U470	156-5092-00			MICROCKT,DGTL:CMOS,INTERVAL TIMER,5MHZ	80009	156-5092-00
A10U480	156-5284-00			MICROCKT,DGTL:ALSTTL,8 BIT BIN CNTR W/INPRG TR	80009	156-5284-00
A10U485	156-5070-00			MICROCKT,DGTL:HCMOS,OCTAL BUFFER/LINE DRVR	80009	156-5070-00
A10U495	156-5101-00			MICROCKT,DGTL:OCTAL D TYPE TRANSPARENT LATC H,3 STATE 74HCT373,	80009	156-5101-00
A10U515	160-5010-00	B010000	B010253	MICROCKT,DGTL:STTL,PLD,FPLA,PRGM	80009	160-5010-00
A10U515	160-5431-00	B010254		MICROCKT,DGTL:STTL,ADDRESS DECODER,PRGM	80009	160-5431-00
A10U530	160-5009-00	B010000	B010253	MICROCKT,DGTL:STTL,PLD,FPLA,PRGM	80009	160-5009-00
A10U530	160-5430-00	B010254		MICROCKT,DGTL:STTL,ADDRESS DECODER,PRGM	80009	160-5430-00
A10U540	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A10U550	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A10U560	156-5071-00			MICROCKT,DGTL:HCMOS,OCTAL BUS XCVR	80009	156-5071-00
A10U565	156-5070-00			MICROCKT,DGTL:HCMOS,OCTAL BUFFER/LINE DRVR	80009	156-5070-00
A10U570	156-5071-00			MICROCKT,DGTL:HCMOS,OCTAL BUS XCVR	80009	156-5071-00
A10U580	156-5092-00			MICROCKT,DGTL:CMOS,INTERVAL TIMER,5MHZ	80009	156-5092-00
A10U585	156-5123-00			MICROCKT,DGTL:HCMOS,4 TO 16 LINE DCDR/DEMUX	80009	156-5123-00
A10U595	156-5220-00			MICROCKT,DGTL:ACTAL TRI STATE BUFFER	80009	156-5220-00
A10W518	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A10W522	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A10W525	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A10W526	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A10Y350	158-5001-00			XTAL UNIT,QTZ:14.7456MHZ,PARALLEL RESONANCE ,SM49	80009	158-5001-00
A12	670-9474-00			CIRCUIT BD ASSY:CF CONTROL	80009	670-9474-00
A12C100	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12C101	283-5000-00			CAP,FXD,CER DI:10PF,5%,50V	54583	C3216C0G1H100D
A12C102	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12C103	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12C110	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12C111	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A12C120	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A12C121	281-0165-00			CAP,VAR,AIR DI:0.8-10PF,250V	73899	MVM-010W
A12C130	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A12C131	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A12C132	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A12C140	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A12C141	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A12C142	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A12C143	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A12C150	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A12C151	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A12C200	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12C210	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12C211	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12C212	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A12C220	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A12C221	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A12C230	283-5007-00			CAP, FXD, CER DI: 8PF, +/- 0.5PF, 50V	80009	283-5007-00
A12C231	283-5011-00			CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A12C232	283-5009-00			CAP, FXD, CER DI: 15PF, +/- 5%, 50V	80009	283-5009-00
A12C233	283-5005-00			CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A12C240	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A12C241	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A12C310	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C311	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C312	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C320	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A12C330	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A12C340	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C341	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C342	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A12C350	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C370	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C400	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C410	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C420	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C430	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C440	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C441	283-5002-00			CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A12C450	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C472	283-5011-00			CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A12C473	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C474	283-5011-00			CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A12C475	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C480	283-5015-00			CAP, FXD, CER DI: 3300PF, 10%, 50V	80009	283-5015-00
A12C481	283-5011-00			CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A12C482	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C483	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C490	283-5015-00			CAP, FXD, CER DI: 3300PF, 10%, 50V	80009	283-5015-00
A12C491	283-5011-00			CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A12C492	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C531	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C540	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C541	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C550	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C570	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C571	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C580	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C590	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C670	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C671	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C680	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C681	290-0944-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A12C690	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WVDC	54473	ECEA1EV221S
A12C741	283-5003-00			CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A12C750	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C760	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216COG1H101J
A12C800	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C800	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C801	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C801	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C802	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C802	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A12C803	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C803	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C804	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C804	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C805	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C805	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C806	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C807	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C808	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C809	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C810	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C811	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C812	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C813	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C814	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C815	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C816	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C817	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C818	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C821	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C822	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C823	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C824	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C900	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C900	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C901	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C901	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C902	290-0963-00			CAP, FXD, ELCTLT: 220UF, +50-20%, 25WVDC	54473	ECEA1EV221S
A12C903	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C903	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C904	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C904	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C905	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C906	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C907	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C908	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C909	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C910	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C911	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C911	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C912	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C912	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C913	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C913	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C914	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C914	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C915	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C915	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C916	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C916	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C917	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C917	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C918	290-5001-00	B010000	B010116	CAP, FXD, ELCTLT: 10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A12C918	290-5002-00	B010117		CAP, FXD, ELCTLT: 10UF, 16V	TK1424	20MC100M-TER
A12C919	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C920	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C921	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A12C922	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Name & Description	Mfr. Code	Mfr. Part No.
A12C923	290-0944-00		CAP,FXD,ELCTLT:220UF,+50-20%,10V	55680	ULB1A221TPAANA
A12C960	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A12CR330	152-5004-00		SEMICON DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A12CR331	152-5004-00		SEMICON DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A12CR350	152-5000-00		SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A12CR650	152-5000-00		SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A12CR740	152-5004-00		SEMICON DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A12J150	131-0391-01		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A12J610	131-1857-00		TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A12J611	131-1857-00		TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A12J710	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A12J760	131-1857-00		TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A12J800	131-0391-01		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A12J802	131-0391-01		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A12J804	131-0391-01		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0119-22
A12J810	131-4135-00		CONN,RCPT,ELEC:FEMALE,14 POS,SQ	80009	131-4135-00
A12L110	108-5009-00		COIL,RF:FXD,82UH	80009	108-5009-00
A12L210	108-5009-00		COIL,RF:FXD,82UH	80009	108-5009-00
A12L220	108-1325-00		COIL,RF:7UH,INDUCTOR,6.75 TURNS	80009	108-1325-00
A12L310	108-5009-00		COIL,RF:FXD,82UH	80009	108-5009-00
A12L410	108-5009-00		COIL,RF:FXD,82UH	80009	108-5009-00
A12L812	108-5009-00		COIL,RF:FXD,82UH	80009	108-5009-00
A12L900	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A12L901	108-5009-00		COIL,RF:FXD,82UH	80009	108-5009-00
A12P12	131-3556-00		CONN,RCPT,ELEC:HEADER,2 X 76,HORIZ	22526	66527-012
A12P610	131-3618-00		LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A12P611	131-3618-00		LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A12Q150	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12Q151	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12Q210	151-5010-00		TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A12Q220	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12Q230	151-5010-00		TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A12Q240	151-5010-00		TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A12Q241	151-5010-00		TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A12Q242	151-5000-00		TRANSISTOR:PMP,SI,SOT-23	04713	MMBT3906T1
A12Q510	151-1119-00		TRANSISTOR:FE,N-CHAN,SI,TO-39	81483	IRFF122
A12Q650	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A12Q750	151-5005-00		TRANSISTOR:PMP,SI,SOT-89	04713	BCX69T1
A12Q900	151-1127-00		TRANSISTOR:MOSFE,N CHANNEL,SI,TO-220	81483	IRF511
A12Q901	151-1128-00		TRANSISTOR:MOSFE,P-CHANNEL,SI,TO-220	81483	IRF9521
A12Q902	151-1127-00		TRANSISTOR:MOSFE,N CHANNEL,SI,TO-220	81483	IRF511
A12Q903	151-1128-00		TRANSISTOR:MOSFE,P-CHANNEL,SI,TO-220	81483	IRF9521
A12R100	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A12R101	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12R110	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A12R111	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12R120	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12R121	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12R130	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12R131	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12R140	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A12R141	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12R142	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A12R143	321-5042-00		RES,FXD,FILM:39.2 OHM,1%,0.125W	57668	MCR18FWEA39E2
A12R144	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A12R145	321-5045-00		RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A12R160	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A12R161	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A12R162	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A12R200	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R210	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A12R211	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R212	321-5045-00			RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A12R213	321-5005-00			RES, FXD, FILM: 27.4 OHM, 1%, 0.125W	57668	MCR18EZHF 27E4
A12R220	321-5017-00			RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A12R221	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12R222	321-5009-00			RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A12R223	321-5012-00			RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A12R240	321-5046-00			RES, FXD, FILM: 82.5 OHM, 1%, 0.125W	01121	BCK82R5FT
A12R241	321-5046-00			RES, FXD, FILM: 82.5 OHM, 1%, 0.125W	01121	BCK82R5FT
A12R242	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R243	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R244	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A12R250	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A12R251	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R261	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R262	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R263	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R264	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R265	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R266	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R270	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R310	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A12R311	321-5046-00			RES, FXD, FILM: 82.5 OHM, 1%, 0.125W	01121	BCK82R5FT
A12R330	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A12R331	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A12R332	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A12R333	321-5012-00			RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A12R340	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R341	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R342	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R343	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R344	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R345	321-5012-00			RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A12R350	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R360	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R370	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R371	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R372	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R373	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R374	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R375	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R400	321-5048-00			RES, FXD, FILM: 332K, 1%, 0.125W	01121	BCK3323FT
A12R401	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A12R402	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A12R403	321-5023-00			RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A12R404	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R405	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R410	308-0142-00			RES, FXD, WW: 30 OHM, 5%, 3W	00213	1240S-30-5
A12R411	321-5032-00			RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R412	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R414	321-5020-00			RES, FXD, FILM: 1.50K, 1%, 0.125W	01121	BCK1501FT
A12R420	321-5040-00	B010000	B010071	RES, FXD, FILM: 68.1K, 1%, 0.125W	01121	BCK6812FT
A12R420	321-5028-00	B010072		RES, FXD, FILM: 6.81K, 1%, 0.125W	01121	BCK6811FT
A12R421	321-5022-00	B010000	B010089	RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R421	321-5021-00	B010090		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discont		Code	
A12R422	311-1245-00			RES, VAR, NONW: TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A12R430	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R431	311-1245-00			RES, VAR, NONW: TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A12R440	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A12R441	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12R442	321-5002-00			RES, FXD, FILM: 15 OHM, 1%, 0.125W	57668	MCR18EZHFW 15E0
A12R443	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R444	321-5032-00			RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R445	321-5032-00			RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R460	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R461	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R462	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R463	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R464	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R465	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R466	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R467	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R468	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R470	321-5020-00			RES, FXD, FILM: 1.50K, 1%, 0.125W	01121	BCK1501FT
A12R471	321-5025-00			RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A12R472	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R473	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R474	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R475	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R480	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R481	321-5032-00			RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R482	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R483	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R484	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12R485	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R490	321-5025-00			RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A12R491	321-5032-00			RES, FXD, FILM: 15.0K, 1%, 0.125W	01121	BCK1502FT
A12R492	321-5023-00			RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A12R493	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R494	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R520	325-0414-00			RES, FXD, FILM: 3.2K OHM, 1%, 0.6W, TC=1PPM	80009	325-0414-00
A12R521	325-0410-00			RES, FXD, FILM: 14.3K, 1%, 0.3W, 1PPM	80009	325-0410-00
A12R522	321-0287-09			RES, FXD, FILM: 9.53K OHM, 1%, 0.125W, TC=T9	01121	ORDER BY DESCR
A12R523	321-1728-07			RES, FXD, FILM: 42.05K OHM, 0.1%, 0.125W, TC=T9	24546	NE55E42051B
A12R524	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R526	321-5036-00			RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A12R527	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A12R530	321-5036-00			RES, FXD, FILM: 33.2K, 1%, 0.125W	01121	BCK3322FT
A12R531	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R532	321-5041-00			RES, FXD, FILM: 82.5K, 1%, 0.125W	01121	BCK8252FT
A12R533	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R534	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R535	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R536	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R537	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R538	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R539	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A12R540	321-0289-07			RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12R541	321-0289-07			RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12R550	321-0816-07			RES, FXD, FILM: 5K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE5K000B
A12R570	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R571	321-5023-00			RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A12R572	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A12R573	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R574	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R575	321-5027-00		RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT
A12R576	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R577	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R580	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R581	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R583	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R584	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R585	321-5044-00		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A12R586	321-5044-00		RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A12R590	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R591	321-5029-00		RES, FXD, FILM: 8.25K, 1%, 0.125W	01121	BCK8251FT
A12R592	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R593	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R600	325-0412-00		RES, FXD, FILM: 1.5K OHM, 1%, 0.3W, 1PPM	80009	325-0412-00
A12R601	321-5043-00		RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A12R610	321-5009-00		RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A12R620	311-1860-00		RES, VAR, NONWV: TRMR, 10K OHM, 0.5W	32997	3299X-R27-103
A12R621	311-1245-00		RES, VAR, NONWV: TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A12R622	311-1245-00		RES, VAR, NONWV: TRMR, 10K OHM, 0.5W	32997	3386X-DY6-103
A12R730	325-0315-00		RES, FXD, FILM: 20K OHM, 0.05%, 0.3W	07088	K747 20KOHM .05%
A12R731	325-0411-00		RES, FXD, FILM: 15.6K, 1%, 0.3W, 1PPM	80009	325-0411-00
A12R740	321-0130-00		RES, FXD, FILM: 221 OHM, 1%, 0.125W, TC=T0	19701	5043ED221ROF
A12R741	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A12R750	321-0289-07		RES, FXD, FILM: 10.0K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE10K00B
A12R751	321-0816-07		RES, FXD, FILM: 5K OHM, 0.1%, 0.125W, TC=T9	19701	5033RE5K000B
A12R752	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R753	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R760	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R761	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R762	321-5021-00		RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A12R763	321-5030-00		RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A12R770	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R771	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R772	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R773	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R774	321-5018-00		RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A12R775	321-5047-00		RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A12R776	321-5000-00		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHF10E
A12R800	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R801	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R802	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R803	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R804	311-1680-00		RES, VAR, NONWV: TRMR, 250 OHM, 0.75W	02111	43P251T672
A12R805	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R806	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R807	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R808	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R809	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R810	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R812	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R813	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R814	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R815	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A12R900	325-0413-00		RES, FXD, FILM: 13 OHM, 1%, 3W, 1PPM	80009	325-0413-00
A12R901	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A12R902	321-5014-00		RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A12R903	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R904	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R905	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R906	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R907	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R908	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R909	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R910	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R911	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R912	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R913	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R914	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R915	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R916	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A12R917	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12R918	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A12U100	156-5279-00		MICROCKT,DGTL:ECL,QUAD AND GATE,2 INP	80009	156-5279-00
A12U160	156-5154-00		MICROCKT,DGTL:CMOS,QUAD 2 INP NAND GATE	80009	156-5154-00
A12U200	156-5221-00		MICROCKT,DGTL:ECL DUAL D TYPE MASTER SLAVE FF	80009	156-5221-00
A12U250	156-5155-00		MICROCKT,DGTL:HEX INVERTER	80009	156-5155-00
A12U260	156-5074-00		MICROCKT,DGTL:CMOS,DUAL D TYPE FLIP FLOP	80009	156-5074-00
A12U330	156-5120-00		MICROCKT,DGTL:CMOS,DUAL 4 CHAN ANALOG MUX/D EMUX	80009	156-5120-00
A12U350	156-2648-00		MICROCKT,DGTL:DUAL 12 BIT DIGITAL TO ANALOG CONVERTER,LOW NOISE	80009	156-2648-00
A12U360	156-5154-00		MICROCKT,DGTL:CMOS,QUAD 2 INP NAND GATE	80009	156-5154-00
A12U370	156-5080-00		MICROCKT,DGTL:CMOS,8 BIT STATIC SHIFT RGTR	80009	156-5080-00
A12U410	156-2848-00		MICROCKT,LINER:MONOLITH WIDEBAND,HIGH SLEW RATE,HIGH OUTPUT CURRENT BUFFER	80009	156-2848-00
A12U411	156-5017-00		MICROCKT,LINER:DUAL 741 OP AMP,1MZ,S0-8	04713	MC1458
A12U420	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U430	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U440	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U441	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U460	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A12U461	156-5142-00		MICROCKT,DGTL:CMOS,DUAL 2 TO 4 LINE DECODE R/DEMUX	80009	156-5142-00
A12U470	156-5017-00		MICROCKT,LINER:DUAL 741 OP AMP,1MZ,S0-8	04713	MC1458
A12U490	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U520	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U530	156-5073-00		MICROCKT,DGTL:CMOS,TRIPLE 2 CHAN ANALOG	80009	156-5073-00
A12U540	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U541	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U550	156-2648-00		MICROCKT,DGTL:DUAL 12 BIT DIGITAL TO ANALOG CONVERTER,LOW NOISE	80009	156-2648-00
A12U560	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A12U570	156-5095-00		MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A12U571	156-5095-00		MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A12U580	156-5095-00		MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A12U581	156-5297-00		MICROCKT,DGTL:POSITIVE SHUNT REGULATOR	80009	156-5297-00
A12U590	156-5095-00		MICROCKT,LINER:OP AMP,LOW NOISE	80009	156-5095-00
A12U600	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U630	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U631	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U640	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U650	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discont	Name & Description	Mfr. Code	Mfr. Part No.
A12U660	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A12U740	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U750	156-5082-00		MICROCKT,LINER:OP AMP,LOW NOISE/LOW OFFSET	80009	156-5082-00
A12U760	156-5227-00		MICROCKT,DGTL:DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR	80009	156-5227-00
A12U761	156-5278-00		MICROCKT,DGTL:HC MOS,QUAD BUFFER/LINE DRVR	80009	156-5278-00
A12VR210	152-0317-00		SEMICON DVC,DI:ZEN,SI,6.2V,5%,0.25W,DO-7	04713	SZG20012
A12VR730	152-0526-00		SEMICON DVC,DI:ZEN,SI,6.35V,1%,0.4W,DO-7	14552	DT840615A
A12Y230	158-0258-00		XTAL UNIT,QTZ:100MHZ,5PPM,-15 TO +75 DEG	00809	HC-35/U
A13	670-9475-00		CIRCUIT BD ASSY:VARIABLE RESOLUTION	80009	670-9475-00
A13C103	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C104	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C105	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C114	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C131	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C133	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C141	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C143	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C147	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C150	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C152	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C155	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C161	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C163	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C166	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C170	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C172	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C175	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C180	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C182	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C184	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C193	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C195	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C201	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C202	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C204	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C210	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C211	281-0267-00		CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C212	283-5011-00		CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A13C220	281-0267-00		CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C221	283-5011-00		CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A13C230	281-0267-00		CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C231	283-5011-00		CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A13C232	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C243	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C250	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C251	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C255	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C261	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A13C265	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C273	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C274	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C280	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C287	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C290	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C292	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C302	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C304	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A13C311	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C314	281-0267-00			CAP, VAR, PLASTIC:6-50PF, 50V	80009	281-0267-00
A13C315	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C323	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C325	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C330	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C337	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C340	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C343	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C346	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C353	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C355	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C357	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C360	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C361	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C363	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C364	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C371	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C372	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C381	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C383	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C386	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C392	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C396	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C399	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C401	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C411	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C414	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C416	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C417	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C421	283-5001-00			CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A13C422	283-5001-00			CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A13C424	283-5014-00			CAP, FXD, CER DI:330PF, 5%, 50V	80009	283-5014-00
A13C425	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C430	281-0267-00			CAP, VAR, PLASTIC:6-50PF, 50V	80009	281-0267-00
A13C433	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C437	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C446	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C454	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C455	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C460	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C466	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C468	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C471	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C473	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C477	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C481	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C482	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C485	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C487	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C489	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C492	290-0944-00			CAP, FXD, ELCTLT:220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A13C493	290-0944-00			CAP, FXD, ELCTLT:220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A13C494	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C501	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C504	283-5004-00			CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A13C505	283-5001-00			CAP, FXD, CER DI:100PF, 5%, 50V	54583	C3216C0G1H101J
A13C510	283-5014-00			CAP, FXD, CER DI:330PF, 5%, 50V	80009	283-5014-00

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A13C511	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A13C512	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A13C513	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A13C514	283-5005-00		CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A13C515	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A13C517	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A13C518	283-5015-00		CAP,FXD,CER DI:3300PF,10%,50V	80009	283-5015-00
A13C520	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A13C521	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A13C522	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A13C523	283-5005-00		CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A13C526	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C532	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C534	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C542	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C546	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C549	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C553	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C557	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C559	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C562	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C567	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C571	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C575	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C580	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C582	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C590	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C591	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C602	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C607	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C610	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C611	281-0267-00		CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C612	281-0267-00		CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C620	281-0267-00		CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C621	281-0267-00		CAP,VAR,PLASTIC:6-50PF,50V	80009	281-0267-00
A13C642	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C645	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C648	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C658	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C661	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C670	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A13C684	290-5000-00		CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A13CR157	152-5004-00		SEMICON DVC,DI:SI,SW,SER PR,70V	04713	BAV99T1
A13CR283	152-0524-00		SEMICON DVC,DI:SW,SI,100V,0.1A,DO-35	28480	5082-1779
A13CR480	152-0524-00		SEMICON DVC,DI:SW,SI,100V,0.1A,DO-35	28480	5082-1779
A13J113	131-2920-00		CONN,RCPT,ELEC:HEADER,2 X 5,0.1 SPACING	00779	86479-3
A13J100	131-0951-00		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0159-220
A13J150	131-0951-00		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0159-220
A13J190	131-0951-00		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0159-220
A13J246	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A13J600	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A13J620	131-0951-00		CONN,RCPT,ELEC:SNAP-ON,MALE	98291	051-051-0159-220
A13J630	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A13L164	108-5003-00	B010035	COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L173	108-5003-00	B010035	COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L191	108-5003-00	B010035	COIL,RF:FXD,12UH	54583	NL453232T-120K
A13L241	108-5027-00		COIL,RF:FXD,47UH	54583	NL453232T-470K
A13L342	108-5027-00		COIL,RF:FXD,47UH	54583	NL453232T-470K

Replaceable Electrical Parts - 2710

Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discont		Code	
A13L465	108-5003-00	B010035		COIL, RF: FXD, 12UH	54583	NL453232T-120K
A13L470	108-5003-00	B010035		COIL, RF: FXD, 12UH	54583	NL453232T-120K
A13L475	108-5003-00	B010035		COIL, RF: FXD, 12UH	54583	NL453232T-120K
A13L484	108-5003-00	B010035		COIL, RF: FXD, 12UH	54583	NL453232T-120K
A13L488	108-5003-00	B010035		COIL, RF: FXD, 12UH	54583	NL453232T-120K
A13L503	108-5027-00			COIL, RF: FXD, 47UH	54583	NL453232T-470K
A13L516	108-5027-00			COIL, RF: FXD, 47UH	54583	NL453232T-470K
A13L563	108-5003-00	B010035		COIL, RF: FXD, 12UH	54583	NL453232T-120K
A13L583	108-1262-00			INDUCTOR: 100UH	54583	TSL0807-101KR75
A13L654	108-5003-00	B010035		COIL, RF: FXD, 12UH	54583	NL453232T-120K
A13L685	108-1262-00			INDUCTOR: 100UH	54583	TSL0807-101KR75
A13L910	108-1326-00			COIL, RF: FXD, 2UH	80009	108-1326-00
A13L911	108-1326-00			COIL, RF: FXD, 2UH	80009	108-1326-00
A13L920	108-1326-00			COIL, RF: FXD, 2UH	80009	108-1326-00
A13L921	108-1326-00			COIL, RF: FXD, 2UH	80009	108-1326-00
A13P246	131-3618-00			LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A13P600	131-3618-00			LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A13P630	131-3618-00			LINK, TERM CONN: LOW PROFILE JUMPER	80009	131-3618-00
A13Q106	151-5009-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5009-00
A13Q115	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q116	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q135	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q136	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q144	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q145	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q158	151-5016-00			TRANSISTOR: PNP, SI	80009	151-5016-00
A13Q244	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q254	151-5016-00			TRANSISTOR: PNP, SI	80009	151-5016-00
A13Q256	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A13Q264	151-5009-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5009-00
A13Q271	151-5009-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5009-00
A13Q285	151-5009-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5009-00
A13Q303	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q310	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q320	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q321	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q326	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q327	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q338	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q362	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q370	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q385	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q397	151-5009-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5009-00
A13Q412	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q413	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q432	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q435	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q443	151-5001-00			TRANSISTOR: NPN, SI, SOT-23	04713	MMBT3904T1
A13Q447	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A13Q452	151-5009-00			TRANSISTOR: NPN, SI, SOT-89	80009	151-5009-00
A13Q453	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q476	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q491	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q530	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1
A13Q543	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A13Q547	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A13Q564	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q603	151-5005-00			TRANSISTOR: PNP, SI, SOT-89	04713	BCX69T1

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A13Q604	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13Q643	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A13Q649	151-5000-00			TRANSISTOR: PNP, SI, SOT-23	04713	MMBT3906T1
A13Q656	151-5004-00			TRANSISTOR: NPN, SI, SOT-89	04713	BCX68
A13R100	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R101	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R102	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R107	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R111	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R112	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R113	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R130	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R132	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R134	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R140	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R142	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R146	321-5001-00			RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHFW 12E1
A13R148	321-5013-00			RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A13R149	321-5013-00			RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A13R151	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R153	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A13R154	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R156	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R160	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R162	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R164	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R165	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R171	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R173	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R174	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R183	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R191	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R192	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R194	321-5014-00	B010000	B010034	RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R194	321-5009-00	B010035		RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A13R200	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R203	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R233	321-5003-00			RES, FXD, FILM: 18.2 OHM, 1%, 0.125W	57668	MCR18EZHFW 18E2
A13R234	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A13R235	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A13R240	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R245	321-5051-00			RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A13R247	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R248	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A13R252	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R253	321-5005-00			RES, FXD, FILM: 27.4 OHM, 1%, 0.125W	57668	MCR18EZHFW 27E4
A13R257	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R260	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A13R262	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R270	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R281	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A13R282	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R284	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R291	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R293	321-5045-00			RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R294	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R312	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R313	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A13R316	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R317	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R318	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R322	321-5009-00			RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A13R324	321-5050-00			RES,FXD,FILM:33.2 OHM,1%,0.125W	57668	MCR18FWEA33E2
A13R331	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R332	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R333	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R334	321-5011-00			RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A13R335	321-5004-00			RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A13R336	321-5011-00			RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A13R341	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R344	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A13R345	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A13R348	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R349	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A13R350	321-5008-00			RES,FXD,FILM:150 OHM,1%,0.125W	01121	BCK1500FT
A13R351	321-5050-00			RES,FXD,FILM:33.2 OHM,1%,0.125W	57668	MCR18FWEA33E2
A13R352	321-5008-00			RES,FXD,FILM:150 OHM,1%,0.125W	01121	BCK1500FT
A13R354	321-5011-00	B010000	B010034	RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A13R354	321-5009-00	B010035		RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A13R356	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A13R358	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R359	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R364	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R365	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A13R366	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R373	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R374	321-5045-00			RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A13R375	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A13R376	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A13R377	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R378	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R380	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A13R382	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A13R384	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R387	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R388	321-5045-00			RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A13R390	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A13R391	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R393	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A13R394	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R395	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R398	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHF10E
A13R402	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R403	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R404	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R410	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R418	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R420	321-5009-00			RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A13R423	321-5013-00			RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A13R434	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R436	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R438	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R439	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A13R440	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A13R441	321-5008-00			RES,FXD,FILM:150 OHM,1%,0.125W	01121	BCK1500FT
A13R442	321-5017-00			RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A13R444	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A13R445	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A13R448	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R449	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R451	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R456	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R461	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R462	321-5045-00			RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R463	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R465	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R467	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R469	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R470	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R472	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R474	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R475	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R483	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R484	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R486	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R488	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R490	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R495	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R524	321-5001-00			RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHFW 12E1
A13R525	321-5013-00			RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A13R531	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R533	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R540	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R541	321-5045-00			RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R544	321-5007-00			RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A13R545	321-5016-00			RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A13R548	321-5043-00			RES, FXD, FILM: 47.5 OHM, 1%, 0.125W	57668	MCR18FWEA47E5
A13R550	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R551	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R552	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R554	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R555	321-5045-00			RES, FXD, FILM: 68.1 OHM, 1%, 0.125W	01121	BCD68R1FT
A13R556	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R558	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R560	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R561	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A13R563	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R565	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A13R566	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R570	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R572	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A13R581	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R601	321-5051-00			RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A13R605	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R606	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R608	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R630	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A13R640	321-5009-00			RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A13R641	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A13R644	321-5023-00			RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A13R646	321-5013-00			RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A13R647	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A13R650	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R651	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A13R652	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R653	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R654	321-5018-00	B010000	B010034	RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R655	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R657	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R662	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A13R680	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13R681	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R682	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A13R683	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A13T249	120-1721-00			TRANSFORMER, RF: AUTO, 6:6:6 RATIO	80009	120-1721-00
A13T263	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T272	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T286	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T295	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T710	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T730	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A13T810	120-1718-00			TRANSFORMER, RF: TOROID, 3:36 RATIO	80009	120-1718-00
A13T830	120-1718-00			TRANSFORMER, RF: TOROID, 3:36 RATIO	80009	120-1718-00
A13U181	156-5155-00			MICROCKT, DGTL: HEX INVERTER	80009	156-5155-00
A13U300	156-5021-00			MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A13U301	156-5088-00			MICROCKT, DGTL: HCMOS, 3 TO 8 LINE DCDR/DEMUX	80009	156-5088-00
A13U400	156-5021-00			MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A13U500	156-5088-00			MICROCKT, DGTL: HCMOS, 3 TO 8 LINE DCDR/DEMUX	80009	156-5088-00
A13U573	156-5043-00			MICROCKT, LINEAR: DAC, 8 BIT, DAC-08E	80009	156-5043-00
A13U574	156-5021-00			MICROCKT, DGTL: CMOS, 8 STATE SHIFT AND STORE	18324	HEF4094BTD
A13U584	156-0991-00			MICROCKT, LINEAR: VOLTAGE REGULATOR	04713	MC78L05ACP
A13U660	156-5155-00			MICROCKT, DGTL: HEX INVERTER	80009	156-5155-00
A13Y711	158-0323-00			XTAL UNIT, QTZ: 4 POLE, 10MHZ	75378	965-267
A13Y720	158-0323-00			XTAL UNIT, QTZ: 4 POLE, 10MHZ	75378	965-267
A13Y811	158-0324-00			XTAL UNIT, QTZ: 6 POLE, 10MHZ	75378	965-0266
A13Y820	158-0324-00			XTAL UNIT, QTZ: 6 POLE, 10MHZ	75378	965-0266
A13Y821	158-0324-00			XTAL UNIT, QTZ: 6 POLE, 10MHZ	75378	965-0266
A14	672-0200-00			CIRCUIT BD ASSY: RF ASSY	80009	672-0200-00
A14A1	670-9415-00			CIRCUIT BD ASSY: RF MOTHER	80009	670-9415-00
A14A1C121	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C151	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C161	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C165	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C171	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C180	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C202	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C220	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C232	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C235	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C241	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C257	283-5001-00			CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A14A1C261	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C264	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C272	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C274	283-5004-00			CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C280	281-0168-00			CAP, VAR, AIR DI: 1.3-5.4PF, 250V	74970	187-0103-005

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A14A1C310	283-5011-00		CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A14A1C320	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A14A1C321	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C323	283-5011-00		CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A14A1C330	290-0944-00		CAP, FXD, ELCTLT: 220UF, +50-20%, 10V	55680	ULB1A221TPAANA
A14A1C331	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C360	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C363	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C366	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C370	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C372	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C373	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C377	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C380	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V	73899	MVM-010W
A14A1C384	283-0165-00		CAP, FXD, CER DI: 50PF, 5%, 1000V (PART OF A14A1FL485)	60705	562CZZ102ZZ500JA
A14A1C411	283-5011-00		CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A14A1C421	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A14A1C423	283-5011-00		CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A14A1C430	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C433	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A14A1C452	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C454	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C461	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C465	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C470	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C472	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C476	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C477	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C480	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL485)	73899	MVM-010W
A14A1C503	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C504	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C533	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C540	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C551	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C552	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C560	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C572	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C574	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C580	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL485)	73899	MVM-010W
A14A1C600	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C601	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A1C602	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C603	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A1C610	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A1C620	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A1C621	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL822)	73899	MVM-010W
A14A1C640	281-0165-00		CAP, VAR, AIR DI: 0.8-10PF, 250V (PART OF A14A1FL641)	73899	MVM-010W
A14A1C650	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C651	283-5014-00		CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A14A1C653	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A14A1C654	283-5014-00		CAP, FXD, CER DI: 330PF, 5%, 50V	80009	283-5014-00
A14A1C660	283-5004-00		CAP, FXD, CER DI: 0.1UF, 10%, 25V	54583	C3216X7R1E104K
A14A1C661	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J
A14A1C662	283-5001-00		CAP, FXD, CER DI: 100PF, 5%, 50V	54583	C3216C0G1H101J

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Name & Description	Mfr. Code	Mfr. Part No.
A14A1C675	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A14A1C676	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A14A1C680	281-0165-00		CAP,VAR,AIR DI:0.8-10PF,250V (PART OF A14A1FL485)	73899	MVM-010W
A14A1C701	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A14A1C702	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A14A1C722	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A14A1C726	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A14A1C727	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A14A1C730	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A14A1C732	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A14A1C733	281-0165-00		CAP,VAR,AIR DI:0.8-10PF,250V (PART OF A14A1FL641)	73899	MVM-010W
A14A1C750	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A14A1C754	283-5005-00		CAP,FXD,CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A14A1C755	283-5014-00		CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A14A1C763	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A14A1C772	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A14A1C780	281-0168-00		CAP,VAR,AIR DI:1.3-5.4PF,250V	74970	187-0103-005
A14A1C820	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A14A1C821	281-0165-00		CAP,VAR,AIR DI:0.8-10PF,250V (PART OF A14A1FL822)	73899	MVM-010W
A14A1C881	283-5011-00		CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A14A1C882	283-5011-00		CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A14A1CR367	152-0524-00		SEMICON DVC,DI:SW,SI,100V,0.1A,DO-35	28480	5082-1779
A14A1CR376	152-0524-00		SEMICON DVC,DI:SW,SI,100V,0.1A,DO-35	28480	5082-1779
A14A1FL485	119-2576-00		FILTER:110MHZ	80009	119-2576-00
A14A1FL641	119-2577-00		FILTER KIT:FILTER KIT FOR 400MHZ	80009	119-2577-00
A14A1FL822	119-2577-00		FILTER KIT:FILTER KIT FOR 400MHZ	80009	119-2577-00
A14A1J142	131-3570-00		TERMINAL,STUD:GOLD PL BRS	80009	131-3570-00
A14A1J160	131-1857-00		TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A14A1J350	131-3570-00		TERMINAL,STUD:GOLD PL BRS	80009	131-3570-00
A14A1J400	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A14A1J410	131-0938-00		CONN,RCPT,ELEC:SMB,FEMALE	98291	051-043-0349
A14A1J510	131-3570-00		TERMINAL,STUD:GOLD PL BRS	80009	131-3570-00
A14A1J670	131-0938-00		CONN,RCPT,ELEC:SMB,FEMALE	98291	051-043-0349
A14A1J700	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A14A1J770	131-1857-00		TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A14A1L322	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A14A1L332	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A14A1L378	108-5005-00		COIL,RF:FXD,560NH	80009	108-5005-00
A14A1L401	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A14A1L420	108-5001-00		COIL,RF:FXD,70NH	02113	SS-162-70
A14A1L422	108-5001-00		COIL,RF:FXD,70NH	02113	SS-162-70
A14A1L501	108-5012-00		COIL,RF:FXD,2.2UH	02113	1008FS-222
A14A1L502	108-5012-00		COIL,RF:FXD,2.2UH	02113	1008FS-222
A14A1L532	108-5000-00		COIL,RF:FXD,1UH	54583	NL453232T-1ROM
A14A1L729	108-5005-00		COIL,RF:FXD,560NH	80009	108-5005-00
A14A1L752	108-5001-00		COIL,RF:FXD,70NH	02113	SS-162-70
A14A1L771	108-5000-00		COIL,RF:FXD,1UH	54583	NL453232T-1ROM
A14A1L772	108-5000-00		COIL,RF:FXD,1UH	54583	NL453232T-1ROM
A14A1P160	131-3618-00		LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A14A1P770	131-3618-00		LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A14A1Q164	151-5010-00		TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A14A1Q230	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A14A1Q233	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A14A1Q234	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A14A1Q254	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A14A1Q255	151-5005-00			TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A14A1Q362	151-5010-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A14A1Q455	151-5010-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A14A1Q456	151-5010-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A14A1Q462	151-5010-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A14A1Q677	151-5010-00	B010000	B010029	TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A14A1Q677	151-5009-00	B010030		TRANSISTOR:NPN,SI,SOT-89	80009	151-5009-00
A14A1Q710	151-5010-00			TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A14A1Q720	151-5000-00			TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A14A1R110	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A14A1R111	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A14A1R120	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R130	321-5027-00			RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A14A1R131	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A14A1R140	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A14A1R141	321-5039-00			RES,FXD,FILM:56.2K,1%,0.125W	01121	BCK5622FT
A14A1R150	321-5036-00			RES,FXD,FILM:33.2K,1%,0.125W	01121	BCK3322FT
A14A1R162	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R166	321-5004-00			RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A14A1R170	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A14A1R172	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A14A1R200	311-1228-00			RES,VAR,NONNW:TRMR,10K OHM,0.5W	32997	3386F-T04-103
A14A1R221	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R222	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A14A1R223	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A14A1R224	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A14A1R236	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A14A1R240	321-5036-00			RES,FXD,FILM:33.2K,1%,0.125W	01121	BCK3322FT
A14A1R242	321-5036-00			RES,FXD,FILM:33.2K,1%,0.125W	01121	BCK3322FT
A14A1R244	321-5034-00			RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A14A1R250	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A14A1R251	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A14A1R252	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A14A1R253	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A14A1R256	321-5027-00			RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A14A1R262	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R263	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R271	321-5001-00			RES,FXD,FILM:12.1 OHM,1%,0.125W	57668	MCR18EZHFW 12E1
A14A1R273	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R274	321-5019-00			RES,FXD,FILM:1.21K,1%,0.125W	01121	BCK1211FT
A14A1R275	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A14A1R364	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A14A1R365	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A14A1R368	321-5004-00			RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A14A1R371	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A14A1R374	321-5043-00			RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A14A1R379	321-5003-00			RES,FXD,FILM:18.2 OHM,1%,0.125W	57668	MCR18EZHFW 18E2
A14A1R432	321-5010-00			RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A14A1R441	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A14A1R442	321-5044-00			RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A14A1R443	321-5015-00			RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A14A1R444	321-5044-00			RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A14A1R450	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R451	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A14A1R453	321-5006-00			RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A14A1R460	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R463	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A14A1R464	321-5014-00			RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix	Serial/Assembly No.		Name & Description	Mfr.	Mfr. Part No.
	Part No.	Effective	Discnt		Code	
A14A1R466	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A14A1R471	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A14A1R473	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R474	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R475	321-5001-00			RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHFW 12E1
A14A1R500	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A1R505	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A1R530	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A14A1R531	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A14A1R541	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A14A1R551	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R562	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A14A1R563	321-5015-00			RES, FXD, FILM: 562 OHM, 1%, 0.125W	01121	BCK5620FT
A14A1R564	321-5044-00			RES, FXD, FILM: 56.2 OHM, 1%, 0.125W	01121	BCD56R2FT
A14A1R571	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A14A1R604	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A1R611	321-5007-00			RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A14A1R612	321-5001-00			RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHFW 12E1
A14A1R613	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R671	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R672	321-5001-00			RES, FXD, FILM: 12.1 OHM, 1%, 0.125W	57668	MCR18EZHFW 12E1
A14A1R673	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R674	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A14A1R678	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A14A1R700	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A1R711	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R712	321-5017-00			RES, FXD, FILM: 825 OHM, 1%, 0.125W	01121	BCK8250FT
A14A1R721	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R723	321-5022-00			RES, FXD, FILM: 2.21K, 1%, 0.125W	01121	BCK2211FT
A14A1R725	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A1R728	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A1R760	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R761	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A14A1R764	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A14A1R771	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A1R773	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A14A1R774	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A14A1T163	120-1716-00			TRANSFORMER, RF: TOROID ON CORE 276-9712-00 & MOUNTED ON HOLDER 352-0138-00	80009	120-1716-00
A14A1T361	120-1716-00			TRANSFORMER, RF: TOROID ON CORE 276-9712-00 & MOUNTED ON HOLDER 352-0138-00	80009	120-1716-00
A14A1T431	120-0902-00			XFMR, TOROID:	80009	120-0902-00
A14A1T470	120-1716-00			TRANSFORMER, RF: TOROID ON CORE 276-9712-00 & MOUNTED ON HOLDER 352-0138-00	80009	120-1716-00
A14A1T550	120-1630-00			TRANSFORMER, RF: TOROID	80009	120-1630-00
A14A1T570	120-1716-00			TRANSFORMER, RF: TOROID ON CORE 276-9712-00 & MOUNTED ON HOLDER 352-0138-00	80009	120-1716-00
A14A1T750	120-0902-00			XFMR, TOROID:	80009	120-0902-00
A14A1T751	120-1630-00			TRANSFORMER, RF: TOROID	80009	120-1630-00
A14A1T770	120-1720-00			TRANSFORMER, RF: FEEDBACK AMPLIFIER, 2:8:22 RATIO	80009	120-1720-00
A14A1T775	120-1630-00			TRANSFORMER, RF: TOROID	80009	120-1630-00
A14A1U122	156-5018-00			MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A14A1U231	156-5298-00			MICROCKT, LINEAR: VOLTAGE RGLTR, +5V, 100MA	80009	156-5298-00
A14A1U243	156-5018-00			MICROCKT, LINEAR: DUAL OP AMP, LOW PWR, 1MZ	80009	156-5018-00
A14A1U440	156-5269-00			MICROCKT, DGTL: TRIPLE LINE RECEIVER	80009	156-5269-00
A14A1U731	156-5280-00			MICROCKT, LINEAR: WIDEBAND HIGH FREQUENCY AMPLIFIER	80009	156-5280-00

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Name & Description	Mfr. Code	Mfr. Part No.
A14A1U762	156-5281-00		MICROCKT, LINEAR: RING DEMODULATOR BALANCE MI XER	80009	156-5281-00
A14A2	670-9479-00		CIRCUIT BD ASSY: 2ND CONVERTER	80009	670-9479-00
A14A2C103	283-5000-00		CAP, FXD, CER DI: 10PF, 5%, 50V	54583	C3216COG1H100D
A14A2C105	283-5011-00		CAP, FXD, CER DI: 33PF, 5%	95275	VJ1206A330JXA
A14A2C107	283-5000-00		CAP, FXD, CER DI: 10PF, 5%, 50V	54583	C3216COG1H100D
A14A2C108	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A2C109	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C113	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C119	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A2C121	283-5003-00		CAP, FXD, CER DI: 0.01UF, 10%, 50V	54583	C3216X7R1H103K
A14A2C200	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A2C202	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C204	281-5005-00		CAP, VAR, CER DI: 0.25-0.7PF, 250V, TOP CONTROL	80009	281-5005-00
A14A2C208	281-0221-00		CAP, VAR, CER DI: 2-10PF, 100V	72982	0513013A 2 0-10
A14A2C209	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C212	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C216	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C218	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A2C219	283-5005-00		CAP, FXD, CER DI: 4PF, +/- 0.25PF, 50V	54583	C3216COG1H040C
A14A2C220	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A2C225	283-5002-00		CAP, FXD, CER DI: 1000PF, 10%, 50V	95275	VJ1206A102KXA
A14A2CR101	152-0322-00		SEMICON DVC, DI: SCHOTTKY, SI, 15V, DO-35	50434	5082-2672
A14A2CR102	152-0322-00		SEMICON DVC, DI: SCHOTTKY, SI, 15V, DO-35	50434	5082-2672
A14A2CR118	152-5000-00		SEMICON DVC, DI: SW, SI, 70V, COM CATHODE	04713	BAV70
A14A2CR203	152-0335-01		SEMICON DVC, DI: SNAP-OFF, SI, 40V, DO-35	50101	GC20279
A14A2J100	131-4203-00		CONN, RCPT, ELEC: SMA JACK TO SPCL END CONFIG	80009	131-4203-00
A14A2L104	108-5013-00		COIL, RF: FXD, 40NH	02113	1008CT-400-05
A14A2L106	108-5001-00		COIL, RF: FXD, 70NH	02113	SS-162-70
A14A2L117	108-5001-00		COIL, RF: FXD, 70NH	02113	SS-162-70
A14A2L120	108-5001-00		COIL, RF: FXD, 70NH	02113	SS-162-70
A14A2L211	108-5001-00		COIL, RF: FXD, 70NH	02113	SS-162-70
A14A2Q112	151-0689-00		TRANSISTOR: NPN, SI, MICRO-X	S0545	NE57835
A14A2Q210	151-0609-00		TRANSISTOR: NPN, SI, MICRO-STRIP LINE PKG	TK0961	NE21935
A14A2Q223	151-5012-00		TRANSISTOR: PNP, SI, SOT-23	80009	151-5012-00
A14A2R111	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A2R114	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A2R115	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A2R116	321-5004-00		RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A14A2R122	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A14A2R123	321-5026-00		RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A14A2R124	321-5007-00		RES, FXD, FILM: 121 OHM, 1%, 0.125W	01121	BCK1210FT
A14A2R201	321-5009-00		RES, FXD, FILM: 182 OHM, 1%, 0.125W	01121	BCK1820FT
A14A2R207	321-5006-00		RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A14A2R213	321-5002-00		RES, FXD, FILM: 15 OHM, 1%, 0.125W	57668	MCR18EZHFW 15E0
A14A2R214	321-5012-00		RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A14A2R215	321-5012-00		RES, FXD, FILM: 332 OHM, 1%, 0.125W	01121	BCK3320FT
A14A2R217	321-5008-00		RES, FXD, FILM: 150 OHM, 1%, 0.125W	01121	BCK1500FT
A14A2R221	321-5005-00		RES, FXD, FILM: 27.4 OHM, 1%, 0.125W	57668	MCR18EZHFW 27E4
A14A2R222	321-5000-00		RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A14A2R224	321-5024-00		RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A14A2R226	321-5033-00		RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A15	621-0026-00		POWER SPLY ASSY: ASSEMBLED CIRCUIT BD & CHAS SIS	80009	621-0026-00
A15B1	119-0830-00		FAN, TUBEAXIAL: 12VDC, 2.4W, 5250 RPM, 47 CFM	TK0146	SERIES 69.11.54
A15B15	119-0830-00		FAN, TUBEAXIAL: 12VDC, 2.4W, 5250 RPM, 47 CFM	TK0146	SERIES 69.11.54
A15F15	159-0160-00		FUSE, CARTRIDGE: 3AG, 1.5 A, 250 V, 18 SEC, UL	75915	31301.5
A15F15	159-0023-00		FUSE, CARTRIDGE: 3AG, 2A, 250V, SLOW BLOW	71400	MDX2

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A15FL15	119-0389-00			(OPTION A1,A2,A3,A4,A5 ONLY)		
A15Q15	151-1141-00	B010000	B010000	FILTER,RFI:3A,115/230VAC,60HZ	02777	F11935-3
A15Q15	151-1152-00	B010001		TRANSISTOR:FE,N-CHANNEL,SI,TO-220	04713	STP3000
A15W3	174-0187-00			TRANSISTOR:MOSFE,N-CHANNEL,SI,TO-220	04713	IRF820
A15A1	670-9414-00			CABLE ASSY,RF:50 OHM COAX,RIBBON	80009	174-0187-00
A15A1C102	285-1255-00			CIRCUIT BD ASSY:PMW SPLY	80009	670-9414-00
				CAP,FXD,PLASTIC:0.01UF,20%,3KV	56289	430P582
A15A1C110	285-1255-00			CAP,FXD,PLASTIC:0.01UF,20%,3KV	56289	430P582
A15A1C111	285-1255-00			CAP,FXD,PLASTIC:0.01UF,20%,3KV	56289	430P582
A15A1C120	283-0279-00			CAP,FXD,CER DI:0.001UF,20%,3000V	51406	DHR12Y5S102M3KV
A15A1C151	285-1252-00			CAP,FXD,PLASTIC:0.15UF,10%,250VAC	D5243	F1772-415-2000
A15A1C160	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y510
A15A1C171	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y510
A15A1C180	285-1252-00			CAP,FXD,PLASTIC:0.15UF,10%,250VAC	D5243	F1772-415-2000
A15A1C183	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y510
A15A1C192	283-0481-00			CAP,FXD,CER DI:220PF,10%,250VAC	TK1395	RK0611
A15A1C261	285-1252-00			CAP,FXD,PLASTIC:0.15UF,10%,250VAC	D5243	F1772-415-2000
A15A1C262	285-1192-00			CAP,FXD,PPR DI:0.0022 UF,20%,250VAC	TK0515	PME271Y510
A15A1C300	290-0947-00			CAP,FXD,ELCTLT:33UF,+50-10%,160V W/SLEEVE	55680	UHC2C330TFA
A15A1C301	290-0947-00			CAP,FXD,ELCTLT:33UF,+50-10%,160V W/SLEEVE	55680	UHC2C330TFA
A15A1C303	285-1255-00			CAP,FXD,PLASTIC:0.01UF,20%,3KV	56289	430P582
A15A1C304	283-0057-00			CAP,FXD,CER DI:0.1UF,+80-20%,200V	04222	SR306E104ZAA
A15A1C320	283-0279-00			CAP,FXD,CER DI:0.001UF,20%,3000V	51406	DHR12Y5S102M3KV
A15A1C321	281-0791-00			CAP,FXD,CER DI:270PF,10%,100V	04222	MA101C271KAA
A15A1C322	283-0057-00			CAP,FXD,CER DI:0.1UF,+80-20%,200V	04222	SR306E104ZAA
A15A1C323	283-0057-00			CAP,FXD,CER DI:0.1UF,+80-20%,200V	04222	SR306E104ZAA
A15A1C338	290-0963-00			CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A15A1C339	290-0963-00			CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A15A1C360	290-0922-00			CAP,FXD,ELCTLT:1000UF,20%,50V	55680	ULB1E102TFAANA
A15A1C362	283-0059-00			CAP,FXD,CER DI:1UF,+80-20%,50V	31433	C330C105M5R5CA
A15A1C380	290-0978-00			CAP,FXD,ELCTLT:75UF,+50-10%,450V	56289	17D1149
A15A1C382	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A15A1C385	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A15A1C388	283-5014-00			CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A15A1C390	290-0973-00			CAP,FXD,ELCTLT:100UF,20%,25VDC	55680	ULB1E101MPA
A15A1C392	283-0932-00			CAP,FXD,PLASTIC:0.1UF,20%,50V,MOLDED 2 PIN DIP	80009	283-0932-00
A15A1C400	290-0946-00			CAP,FXD,ELCTLT:270UF,+100-10%,40V	00853	301EN271W040B2
A15A1C401	290-0946-00			CAP,FXD,ELCTLT:270UF,+100-10%,40V	00853	301EN271W040B2
A15A1C406	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216COG1H101J
A15A1C411	290-0963-00			CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A15A1C413	290-0963-00			CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A15A1C414	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A15A1C415	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A15A1C418	281-0811-00			CAP,FXD,CER DI:10PF,10%,100V	04222	MA101A100KAA
A15A1C426	290-0963-00			CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A15A1C430	290-0963-00			CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A15A1C431	290-0963-00			CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A15A1C433	290-0963-00			CAP,FXD,ELCTLT:220UF,+50-20%,25WVDC	54473	ECEA1EV221S
A15A1C480	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A15A1C482	283-5003-00			CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A15A1C495	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A15A1C499	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A15A1C500	283-0057-00			CAP,FXD,CER DI:0.1UF,+80-20%,200V	04222	SR306E104ZAA
A15A1C502	283-0057-00			CAP,FXD,CER DI:0.1UF,+80-20%,200V	04222	SR306E104ZAA
A15A1C505	283-0057-00			CAP,FXD,CER DI:0.1UF,+80-20%,200V	04222	SR306E104ZAA
A15A1C512	290-0782-00			CAP,FXD,ELCTLT:4.7UF,+75-10%,35VDC	55680	ULB1V4R7TAAANA
A15A1C522	290-0782-00			CAP,FXD,ELCTLT:4.7UF,+75-10%,35VDC	55680	ULB1V4R7TAAANA

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A15A1C524	290-0963-00		CAP, FXD, ELCTLT:220UF, +50-20%, 25WVDC	54473	ECEA1EV221S
A15A1C530	290-0963-00		CAP, FXD, ELCTLT:220UF, +50-20%, 25WVDC	54473	ECEA1EV221S
A15A1C563	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C601	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C602	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C663	290-5001-00		CAP, FXD, ELCTLT:10UF, 20%, 16V	TK0900	ALCHIP-S16V10UF
A15A1C701	283-0057-00		CAP, FXD, CER DI:0.1UF, +80-20%, 200V	04222	SR306E104ZAA
A15A1C702	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C725	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C732	290-5000-00		CAP, FXD, ELCTLT:1UF, 20%, 50V	TK0900	S50V1MICROF
A15A1C741	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C805	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C815	283-5003-00		CAP, FXD, CER DI:0.01UF, 10%, 50V	54583	C3216X7R1H103K
A15A1C816	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C821	283-5011-00		CAP, FXD, CER DI:33PF, 5%	95275	VJ1206A330JXA
A15A1C826	283-5014-00		CAP, FXD, CER DI:330PF, 5%, 50V	80009	283-5014-00
A15A1C831	283-5011-00		CAP, FXD, CER DI:33PF, 5%	95275	VJ1206A330JXA
A15A1C914	283-5009-00		CAP, FXD, CER DI:15PF, +/- 5%, 50V	80009	283-5009-00
A15A1C932	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1C938	283-5004-00		CAP, FXD, CER DI:0.1UF, 10%, 25V	54583	C3216X7R1E104K
A15A1CR122	152-0808-00		SEMICON DVC, DI:RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR227	152-0808-00		SEMICON DVC, DI:RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR280	152-0848-00		SEMICON DVC, DI:RECT BRDG, 600V, 2A, FAST RCVY	14936	RKBF06
A15A1CR282	152-5000-00		SEMICON DVC, DI:SW, SI, 70V, COM CATHODE	04713	BAV70
A15A1CR294	152-0808-00		SEMICON DVC, DI:RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR323	152-5008-00		SEMICON DVC, DI:RECTIFIER, COMMON CATHODE, 1A , 400V BAW79D	80009	152-5008-00
A15A1CR325	152-5008-00		SEMICON DVC, DI:RECTIFIER, COMMON CATHODE, 1A , 400V BAW79D	80009	152-5008-00
A15A1CR350	152-5000-00		SEMICON DVC, DI:SW, SI, 70V, COM CATHODE	04713	BAV70
A15A1CR375	152-0661-00		SEMICON DVC, DI:RECT, SI, 600V, 3A	04713	SR3523
A15A1CR377	152-0839-00		SEMICON DVC, DI:RECT, SI, 400V, 50A, TO-220	04713	SUR116A
A15A1CR380	152-0661-00		SEMICON DVC, DI:RECT, SI, 600V, 3A	04713	SR3523
A15A1CR381	152-5005-00		SEMICON DVC, DI:DUAL, COMMON ANODE, 70V, BAW56	04713	MBAW56TI
A15A1CR411	152-0808-00		SEMICON DVC, DI:RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR412	152-0808-00		SEMICON DVC, DI:RECT, SI, 400V, 1.5 A, 50 NS	01281	DSR3400X
A15A1CR415	152-5000-00		SEMICON DVC, DI:SW, SI, 70V, COM CATHODE	04713	BAV70
A15A1CR420	152-5008-00		SEMICON DVC, DI:RECTIFIER, COMMON CATHODE, 1A , 400V BAW79D	80009	152-5008-00
A15A1CR421	152-5008-00		SEMICON DVC, DI:RECTIFIER, COMMON CATHODE, 1A , 400V BAW79D	80009	152-5008-00
A15A1CR422	152-0600-00		SEMICON DVC, DI:SCHOTTKY, RECTIFIER, SI, 35V, 1 5A, TO-220	04713	MBR1535CT
A15A1CR520	152-5008-00		SEMICON DVC, DI:RECTIFIER, COMMON CATHODE, 1A , 400V BAW79D	80009	152-5008-00
A15A1CR521	152-5008-00		SEMICON DVC, DI:RECTIFIER, COMMON CATHODE, 1A , 400V BAW79D	80009	152-5008-00
A15A1CR522	152-5008-00		SEMICON DVC, DI:RECTIFIER, COMMON CATHODE, 1A , 400V BAW79D	80009	152-5008-00
A15A1CR524	152-5008-00		SEMICON DVC, DI:RECTIFIER, COMMON CATHODE, 1A , 400V BAW79D	80009	152-5008-00
A15A1CR661	152-5000-00		SEMICON DVC, DI:SW, SI, 70V, COM CATHODE	04713	BAV70
A15A1CR707	152-5005-00		SEMICON DVC, DI:DUAL, COMMON ANODE, 70V, BAW56	04713	MBAW56TI
A15A1CR806	152-5005-00		SEMICON DVC, DI:DUAL, COMMON ANODE, 70V, BAW56	04713	MBAW56TI
A15A1DS220	150-0035-00		LAMP, GLOW:90V MAX, 0.3MA, AID-T, WIRE LD	TK0213	JH005/3011JA
A15A1DS221	150-0035-00		LAMP, GLOW:90V MAX, 0.3MA, AID-T, WIRE LD	TK0213	JH005/3011JA
A15A1DS222	150-0035-00		LAMP, GLOW:90V MAX, 0.3MA, AID-T, WIRE LD	TK0213	JH005/3011JA
A15A1J0	131-1425-00		CONN, RCPT, ELEC:RTANG HEADER, 1 X 36, 0.1 SP	22526	65521-136

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscnt	Name & Description	Mfr. Code	Mfr. Part No.
A15A1J2	131-0955-00		CONN,RCPT,ELEC:BNC,FEMALE (PART OF A15W2)	13511	31-279
A15A1J3	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A15A1J6	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A15A1J7	131-3557-00		CONN,RCPT,ELEC:HEADER,2 X 76,VERTICAL	80009	131-3557-00
A15A1J8	131-3557-00		CONN,RCPT,ELEC:HEADER,2 X 76,VERTICAL	80009	131-3557-00
A15A1J9	131-3557-00		CONN,RCPT,ELEC:HEADER,2 X 76,VERTICAL	80009	131-3557-00
A15A1J10	131-3557-00		CONN,RCPT,ELEC:HEADER,2 X 76,VERTICAL	80009	131-3557-00
A15A1J11	131-3557-00		CONN,RCPT,ELEC:HEADER,2 X 76,VERTICAL	80009	131-3557-00
A15A1J12	131-3557-00		CONN,RCPT,ELEC:HEADER,2 X 76,VERTICAL	80009	131-3557-00
A15A1J102	131-0955-00		CONN,RCPT,ELEC:BNC,FEMALE (PART OF W2)	13511	31-279
A15A1L302	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L304	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L311	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L312	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L313	108-0858-00		COIL,RF:FXD,3.2 UH	TK1345	108-0858-00
A15A1L314	108-0858-00		COIL,RF:FXD,3.2 UH	TK1345	108-0858-00
A15A1L376	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L380	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L410	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L412	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L424	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L425	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L427	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L428	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L429	108-1263-00		INDUCTOR:10UH	54583	TSL 0707-100K1R9
A15A1L432	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1L523	108-1262-00		INDUCTOR:100UH	54583	TSL0807-101KR75
A15A1Q307	151-5007-00		TRANSISTOR:PNP,SI,SOT-89	80009	151-5007-00
A15A1Q308	151-5006-00		TRANSISTOR:NPN,SI,SOT-89	04713	MXTA42
A15A1Q314	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A15A1Q355	151-0476-02		TRANSISTOR:SELECTED	04713	SJE389
A15A1Q364	151-0519-00		SCR:SI,TO-92	80009	151-0519-00
A15A1Q380	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A15A1Q393	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A15A1Q402	151-5007-00		TRANSISTOR:PNP,SI,SOT-89	80009	151-5007-00
A15A1Q453	151-0476-02		TRANSISTOR:SELECTED	04713	SJE389
A15A1Q491	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A15A1Q564	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A15A1Q565	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A15A1Q704	151-5007-00		TRANSISTOR:PNP,SI,SOT-89	80009	151-5007-00
A15A1Q706	151-5006-00		TRANSISTOR:NPN,SI,SOT-89	04713	MXTA42
A15A1Q708	151-5006-00		TRANSISTOR:NPN,SI,SOT-89	04713	MXTA42
A15A1Q711	151-5007-00		TRANSISTOR:PNP,SI,SOT-89	80009	151-5007-00
A15A1Q722	151-5006-00		TRANSISTOR:NPN,SI,SOT-89	04713	MXTA42
A15A1Q724	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A15A1Q732	151-5006-00		TRANSISTOR:NPN,SI,SOT-89	04713	MXTA42
A15A1Q740	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A15A1Q823	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A15A1Q833	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A15A1Q834	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A15A1Q934	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A15A1R5	311-2052-00		RES,VAR,NONWW:PNL,20K OHM,20%,0.5W (PART OF A15W2)	01121	WRA1A028S203M
A15A1R6	311-2052-00		RES,VAR,NONWW:PNL,20K OHM,20%,0.5W (PART OF A15W2)	01121	WRA1A028S203M
A15A1R7	311-2052-00		RES,VAR,NONWW:PNL,20K OHM,20%,0.5W (PART OF A15W2)	01121	WRA1A028S203M

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A15A1R103	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R104	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R105	311-2052-00			RES,VAR, NONWV:PNL,20K OHM,20%,0.5W (ON FRONT OF BOARD)	01121	WRA1A028S203M
A15A1R105	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R106	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R107	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R121	311-1968-00			RES,VAR, NONWV:PNL,5M OHM,20%,0.5W	01121	72M4N048S505M
A15A1R181	301-0474-00			RES,FXD,FILM:470K OHM,5%,0.5W	19701	5053CX470K0J
A15A1R182	301-0131-00			RES,FXD,FILM:130 OHM,5%,0.5W	19701	5053CX130R0J
A15A1R190	303-0154-00			RES,FXD,CMPSN:150K OHM,5%,1W	24546	FP1 150K OHM 5%
A15A1R203	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R207	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R208	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R209	321-5049-00			RES,FXD,FILM:1 MEG,1%,0.125W	01121	BCK1004FT
A15A1R210	321-5027-00			RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A15A1R211	321-5027-00			RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A15A1R223	315-0625-00			RES,FXD,FILM:6.2M OHM,5%,0.25W	01121	CB6255
A15A1R224	321-5016-00			RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A15A1R225	321-5002-00			RES,FXD,FILM:15 OHM,1%,0.125W	57668	MCR18EZHFV 15E0
A15A1R226	321-5002-00			RES,FXD,FILM:15 OHM,1%,0.125W	57668	MCR18EZHFV 15E0
A15A1R240	321-5041-00			RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A15A1R241	321-5041-00			RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A15A1R250	301-0512-00			RES,FXD,FILM:5.1K OHM,5%,0.5W	19701	5053CX5K100J
A15A1R281	308-0843-00			RES,FXD,WW:0.2 OHM,5%,1/0W	91637	RS1A-90-R2J
A15A1R306	321-5037-00			RES,FXD,FILM:39.2K,1%,0.125W	01121	BCK3922FT
A15A1R315	321-5051-00			RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A15A1R316	321-5018-00			RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A15A1R317	321-5041-00			RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A15A1R318	321-5041-00			RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A15A1R319	321-5041-00			RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A15A1R320	321-5041-00			RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A15A1R321	321-5025-00			RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT
A15A1R322	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A15A1R324	321-5026-00			RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A15A1R351	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A15A1R352	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A15A1R353	321-5041-00			RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A15A1R356	321-5000-00	B010000	B010055	RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A15A1R356	321-5051-00	B010056		RES,FXD,FILM:0 OHM,1%,0.125W (MATCHED SET WITH A15A1R463)	80009	321-5051-00
A15A1R361	321-5033-00			RES,FXD,FILM:18.2K,1%,0.125W	01121	BCK1822FT
A15A1R362	321-5033-00			RES,FXD,FILM:18.2K,1%,0.125W	01121	BCK1822FT
A15A1R363	321-5033-00			RES,FXD,FILM:18.2K,1%,0.125W	01121	BCK1822FT
A15A1R367	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A15A1R375	308-0555-00			RES,FXD,WW:5 OHM,5%,3W	00213	1200S-5.0-5
A15A1R378	301-0331-00	B010000	B010053	RES,FXD,FILM:330 OHM,5%,0.5W	19701	5053CX330R0J
A15A1R378	308-0252-00	B010054		RES,FXD,WW:390 OHM,5%,3W	00213	1240S 390-5
A15A1R380	308-0555-00			RES,FXD,WW:5 OHM,5%,3W	00213	1200S-5.0-5
A15A1R381	301-0331-00	B010000	B010053	RES,FXD,FILM:330 OHM,5%,0.5W	19701	5053CX330R0J
A15A1R381	308-0252-00	B010054		RES,FXD,WW:390 OHM,5%,3W	00213	1240S 390-5
A15A1R383	321-5041-00			RES,FXD,FILM:82.5K,1%,0.125W	01121	BCK8252FT
A15A1R384	321-5034-00			RES,FXD,FILM:22.1K,1%,0.125W	01121	BCK2212FT
A15A1R386	311-1563-00			RES,VAR, NONWV:TRMR,1K OHM,0.5W	32997	3352T-DY7-102
A15A1R387	321-5000-00			RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A15A1R389	321-5024-00			RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A15A1R390	321-5030-00			RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A15A1R394	321-5047-00			RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A15A1R395	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R396	321-5033-00			RES, FXD, FILM: 18.2K, 1%, 0.125W	01121	BCK1822FT
A15A1R403	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R404	321-5035-00			RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A15A1R407	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A15A1R408	321-5016-00			RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A15A1R409	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R414	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R416	321-5014-00			RES, FXD, FILM: 475 OHM, 1%, 0.125W	01121	BCK4750FT
A15A1R417	321-5034-00			RES, FXD, FILM: 22.1K, 1%, 0.125W	01121	BCK2212FT
A15A1R418	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R420	321-5000-00			RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R463	321-5000-00	B010000	B010055	RES, FXD, FILM: 10 OHM, 1%, 0.125W	57668	MCR18EZHFW10E
A15A1R463	321-5051-00	B010056		RES, FXD, FILM: 0 OHM, 1%, 0.125W (MATCHED SET WITH A15A1R356)	80009	321-5051-00
A15A1R480	321-5037-00			RES, FXD, FILM: 39.2K, 1%, 0.125W	01121	BCK3922FT
A15A1R481	321-5010-00			RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A15A1R483	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R484	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R486	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R487	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R490	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R492	321-5028-00			RES, FXD, FILM: 6.81K, 1%, 0.125W	01121	BCK6811FT
A15A1R493	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A15A1R494	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R501	311-1235-00			RES, VAR, NONW: 100K OHM, 0.5W	32997	3386F-T04-104
A15A1R502	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R504	311-1235-00			RES, VAR, NONW: 100K OHM, 0.5W	32997	3386F-T04-104
A15A1R505	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R506	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R526	311-1235-00			RES, VAR, NONW: 100K OHM, 0.5W	32997	3386F-T04-104
A15A1R527	321-5039-00			RES, FXD, FILM: 56.2K, 1%, 0.125W	01121	BCK5622FT
A15A1R528	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R529	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R560	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R566	321-5039-00			RES, FXD, FILM: 56.2K, 1%, 0.125W	01121	BCK5622FT
A15A1R635	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R636	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R660	321-5039-00			RES, FXD, FILM: 56.2K, 1%, 0.125W	01121	BCK5622FT
A15A1R662	321-5030-00			RES, FXD, FILM: 10.0K, 1%, 0.125W	01121	BCK1002FT
A15A1R670	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R671	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R680	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R681	321-5026-00			RES, FXD, FILM: 4.75K, 1%, 0.125W	01121	BCK4751FT
A15A1R700	321-5013-00			RES, FXD, FILM: 392 OHM, 1%, 0.125W	01121	BCK3920FT
A15A1R702	321-5025-00			RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A15A1R703	321-5020-00			RES, FXD, FILM: 1.50K, 1%, 0.125W	01121	BCK1501FT
A15A1R705	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R710	321-5020-00			RES, FXD, FILM: 1.50K, 1%, 0.125W	01121	BCK1501FT
A15A1R714	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R720	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R721	321-5051-00			RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A15A1R723	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A15A1R730	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R731	321-5051-00			RES, FXD, FILM: 0 OHM, 1%, 0.125W	80009	321-5051-00
A15A1R733	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A15A1R740	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R741	321-5027-00			RES, FXD, FILM: 5.62K, 1%, 0.125W	01121	BCK5621FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A15A1R801	321-5028-00			RES, FXD, FILM: 6.81K, 1%, 0.125W	01121	BCK6811FT
A15A1R803	321-5029-00			RES, FXD, FILM: 8.25K, 1%, 0.125W	01121	BCK8251FT
A15A1R804	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R809	321-5018-00			RES, FXD, FILM: 1.00K, 1%, 0.125W	01121	BCK1001FT
A15A1R810	321-5047-00			RES, FXD, FILM: 100K, 1%, 0.125W	01121	BCK1003FT
A15A1R811	321-5024-00			RES, FXD, FILM: 3.32K, 1%, 0.125W	01121	BCK3321FT
A15A1R812	321-5037-00			RES, FXD, FILM: 39.2K, 1%, 0.125W	01121	BCK3922FT
A15A1R813	321-5029-00			RES, FXD, FILM: 8.25K, 1%, 0.125W	01121	BCK8251FT
A15A1R814	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R817	321-5023-00			RES, FXD, FILM: 2.74K, 1%, 0.125W	01121	BCK2741FT
A15A1R820	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R822	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R824	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A15A1R825	321-5025-00			RES, FXD, FILM: 3.92K, 1%, 0.125W	01121	BCK3921FT
A15A1R828	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R830	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R832	321-5019-00			RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R834	321-5004-00			RES, FXD, FILM: 22.1 OHM, 1%, 0.125W	57668	MCR18FWEA22E1
A15A1R900	311-1225-00			RES, VAR, NONWM: TRMR, 1K OHM, 0.5W	32997	3386F-T04-102
A15A1R901	311-1225-00			RES, VAR, NONWM: TRMR, 1K OHM, 0.5W	32997	3386F-T04-102
A15A1R912	321-5035-00			RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A15A1R913	321-5019-00	B010000	B010000	RES, FXD, FILM: 1.21K, 1%, 0.125W	01121	BCK1211FT
A15A1R913	321-5016-00	B010001		RES, FXD, FILM: 681 OHM, 1%, 0.125W	01121	BCK6810FT
A15A1R917	321-5035-00			RES, FXD, FILM: 27.4K, 1%, 0.125W	01121	BCK2742FT
A15A1R920	321-5021-00			RES, FXD, FILM: 1.82K, 1%, 0.125W	01121	BCK1821FT
A15A1R921	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A15A1R931	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A15A1R935	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R936	321-5011-00			RES, FXD, FILM: 274 OHM, 1%, 0.125W	01121	BCK2740FT
A15A1R937	321-5006-00			RES, FXD, FILM: 100 OHM, 1%, 0.125W	01121	BCK1000FT
A15A1R939	321-5010-00			RES, FXD, FILM: 221 OHM, 1%, 0.125W	01121	BCK221FT
A15A1RT140	307-0863-00			RES, THERMAL: 10 OHM, 10%, NTC	15454	SG-13S
A15A1SW150	260-1849-00			SWITCH, PUSH: DPDT, 4A, 250VAC	31918	NE15/F2U103EE
A15A1T260	120-1449-00			TRANSFORMER, RF: COMMON MODE, 2.7MH, 2A	02113	P104
A15A1T270	120-1455-00			TRANSFORMER, RF: DIFFERENTIAL MODE, POT CORE	TK1421	120-1455-00
A15A1T290	120-1776-00			TRANSFORMER, RF: ENERGY STORAGE POT CORE	80009	120-1776-00
A15A1T310	120-1401-00			XFMR, TRIGGER: LINE, 1:1 TURNS RATIO	54937	DMI 500-2044
A15A1T430	120-1703-00			TRANSFORMER, PWR: HIGH VOLTAGE	80009	120-1703-00
A15A1T460	120-1347-00			TRANSFORMER, RF: DRIVER SATURATING	54583	BDT-001
A15A1U130	152-0806-00			SEMICOND DVC, DI: HV MULTR, 4KVAC INPUT, 12KVDC OUTPUT	12969	CMX647
A15A1U385	156-1627-00			MICROCKT, LINEAR: PULSE WIDTH MODULATED CONT CIRCUIT, SWITCHING POWER SUPPLY, SCRN	12969	UC494ACN
A15A1U480	156-5074-00			MICROCKT, DGTL: HCMOS, DUAL D TYPE FLIP FLOP	80009	156-5074-00
A15A1U590	156-5123-00			MICROCKT, DGTL: HCMOS, 4 TO 16 LINE DCDR/DEMUX	80009	156-5123-00
A15A1U750	156-5081-00			MICROCKT, DGTL: HCMOS, HEX INVERTER	80009	156-5081-00
A15A1U760	156-5088-00			MICROCKT, DGTL: HCMOS, 3 TO 8 LINE DCDR/DEMUX	80009	156-5088-00
A15A1U761	156-5098-00			MICROCKT, DGTL: HCMOS, QUAD 2 INPUT NAND GATE	80009	156-5098-00
A15A1U771	156-5144-00			MICROCKT, DGTL: HCMOS, QUAD D TYPE FF	80009	156-5144-00
A15A1U780	156-5121-00			MICROCKT, DGTL: LSTTL, 8 TO 3 LINE PRI ENCDR	80009	156-5121-00
A15A1U807	156-5298-00			MICROCKT, LINEAR: VOLTAGE RGLTR, +5V, 100MA	80009	156-5298-00
A15A1U902	156-5098-00			MICROCKT, DGTL: HCMOS, QUAD 2 INPUT NAND GATE	80009	156-5098-00
A15A1U911	156-5274-00			MICROCKT, LINEAR: CMOS, ANALOG SWITCH	80009	156-5274-00
A15A1U914	156-5257-00			MICROCKT, LINEAR: HIGH SPEED OP-AMP	80009	156-5257-00
A15A1U933	156-5299-00			MICROCKT, LINEAR: VOLTAGE RGLTR, -5V, 100MA	80009	156-5299-00
A15A1VR152	307-0456-00			RES, V SENSITIVE: 250VAC, 20W, METAL OXIDE	03508	MOV-V250LA15A
A15A1VR363	152-0304-00			SEMICOND DVC, DI: ZEN, SI, 20V, 5%, 0.4W, DO-7	15238	Z5411
A15A1VR392	152-5011-00			SEMICOND DVC, DI: 6.2VZ, 5%	80009	152-5011-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No.		Name & Description	Mfr. Code	Mfr. Part No.
		Effective	Discont			
A15A1W1	174-0370-00			CA ASSY, SP, ELEC:13.22 AWG,9.0 L	80009	174-0370-00
A15A1W2	174-0188-00			CABLE ASSY, RF:50 OHM COAX,9.0 L,RIBBON	80009	174-0188-00
A15A1W5	175-4464-00			CA ASSY, SP, ELEC:20,28 AWG,2,5 L,RIBBON	22526	80641-001
A15A1W13	174-0198-00			CA ASSY, SP, ELEC:RIBBON	80009	174-0198-00
A15A1W14	174-0198-00			CA ASSY, SP, ELEC:RIBBON	80009	174-0198-00
A15A1W15	174-0197-00			CA ASSY, SP, ELEC:	80009	174-0197-00
A16	119-2568-00	B010000	B010034	1ST MIXER ASSY:	80009	119-2568-00
A16	119-2568-01	B010035		MIXER ASSY:1ST	80009	119-2568-01
A16C101	281-0825-00			CAP, FXD, CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C102	281-0825-00			CAP, FXD, CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C103	281-0825-00			CAP, FXD, CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C105	290-0512-00			CAP, FXD, ELCTLT:22UF,20%,15V	05397	T368B226M015AS
A16C106	290-0536-00			CAP, FXD, ELCTLT:10UF,20%,25V TANTALUM	05397	T368B106M025AS
A16C201	281-0825-00			CAP, FXD, CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C202	281-0825-00			CAP, FXD, CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A16C350	290-0524-00			CAP, FXD, ELCTLT:4.7UF,20%,10V	05397	T368A475M010AZ
A16R107	315-0181-00			RES, FXD, FILM:180 OHM,5%,0.25W	57668	NTR25J-E180E
A16R108	313-1820-00			RES, FXD, FILM:82 OHM,5%,0.2W	57668	TR20JE 82E
A16A1	-----			(PART OF A16)		
A16A1C106	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C108	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C112	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C114	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C202	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C204	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C214	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C222	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C240	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C241	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C242	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C243	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C244	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C245	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C246	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C250	283-5002-00			CAP, FXD, CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A16A1C251	283-5002-00			CAP, FXD, CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A16A1C304	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C312	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C322	283-5003-00			CAP, FXD, CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A16A1C324	283-5003-00			CAP, FXD, CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A16A1C326	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C328	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C330	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C338	283-5005-00			CAP, FXD, CER DI:4PF,+/- 0.25PF,50V	54583	C3216C0G1H040C
A16A1C340	283-5002-00			CAP, FXD, CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A16A1C341	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C342	283-5042-00			CAP, FXD, CER DI:27PF,5%,100V	29454	101R18N270JW4-T
A16A1C343	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C344	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C345	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1C351	283-5004-00			CAP, FXD, CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A1CR120	152-0723-00			SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF,DO-35	21847	A2X1518
A16A1CR125	152-0723-00			SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF,DO-35	21847	A2X1518
A16A1CR220	152-0723-00			SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF,DO-35	21847	A2X1518
A16A1CR225	152-0723-00			SEMICON DVC,DI:SCHOTTKY,SI,6V,0.45PF,DO-35	21847	A2X1518
A16A1CR340	152-5011-00			SEMICON DVC,DI:6.2VZ,5%	80009	152-5011-00
A16A1CR341	152-5011-00			SEMICON DVC,DI:6.2VZ,5%	80009	152-5011-00
A16A1J410	131-1803-02			CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A16A1J670	131-1803-02		CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A16A1Q204	151-0608-00		TRANSISTOR:NPN,SI,MICRO-STRIPLINE PKG	62104	NE64535
A16A1Q212	151-0608-00		TRANSISTOR:NPN,SI,MICRO-STRIPLINE PKG	62104	NE64535
A16A1Q324	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A16A1Q326	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A16A1Q335	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A16A1Q338	151-5005-00		TRANSISTOR:PNP,SI,SOT-89	04713	BCX69T1
A16A1R102	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A16A1R104	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A16A1R106	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A16A1R114	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A16A1R204	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A16A1R214	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A16A1R224	321-5033-00		RES,FXD,FILM:18.2K,1%,0.125W	01121	BCK1822FT
A16A1R234	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A16A1R236	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A16A1R240	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A1R242	321-5017-00		RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A16A1R244	321-5017-00		RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A16A1R250	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A1R251	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A1R252	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A16A1R253	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A1R254	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A1R255	321-5003-00		RES,FXD,FILM:18.2 OHM,1%,0.125W	57668	MCR18EZHFW 18E2
A16A1R314	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A16A1R315	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A16A1R322	321-5009-00		RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A16A1R324	321-5028-00		RES,FXD,FILM:6.81K,1%,0.125W	01121	BCK6811FT
A16A1R325	321-5028-00		RES,FXD,FILM:6.81K,1%,0.125W	01121	BCK6811FT
A16A1R326	321-5009-00		RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A16A1R328	321-5033-00		RES,FXD,FILM:18.2K,1%,0.125W	01121	BCK1822FT
A16A1R330	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A16A1R332	321-5028-00		RES,FXD,FILM:6.81K,1%,0.125W	01121	BCK6811FT
A16A1R334	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A16A1R335	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A16A1R336	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A16A1R338	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A16A1R340	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A16A1R341	311-5031-00		RES,VAR,NONW:10K,10%,0.2W	32997	3335W-1-103
A16A1R350	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A16A1R351	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A1R352	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A16A1U230	156-5017-00		MICROCKT,LINEAR:DUAL 741 OP AMP,1MZ,S0-8	04713	MC1458
A16A1U340	156-5095-00		MICROCKT,LINEAR:OP AMP,LOW NOISE	80009	156-5095-00
A16A2	-----		(PART OF A16)		
A16A2C240	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C241	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C242	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C243	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C244	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C245	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C246	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C250	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A16A2C251	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A16A2C340	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A16A2C341	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C343	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Discnt	Name & Description	Mfr. Code	Mfr. Part No.
A16A2C344	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C345	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2C351	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A16A2CR340	152-5011-00		SEMICON DVC,DI:6.2VZ,5%	80009	152-5011-00
A16A2CR341	152-5011-00		SEMICON DVC,DI:6.2VZ,5%	80009	152-5011-00
A16A2J100	131-4203-00		CONN,RCPT,ELEC:SMA JACK TO SPCL END CONFIG	80009	131-4203-00
A16A2R240	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A2R241	321-5017-00		RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A16A2R242	321-5017-00		RES,FXD,FILM:825 OHM,1%,0.125W	01121	BCK8250FT
A16A2R250	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A2R251	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A2R252	321-5003-00		RES,FXD,FILM:18.2 OHM,1%,0.125W	57668	MCR18EZHFW 18E2
A16A2R253	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A16A2R254	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A2R255	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A16A2R340	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A16A2R341	311-5008-00		RES,VAR,NONWW:10K OHM,10%,0.5W	80009	311-5008-00
A16A2R350	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A16A2R351	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A16A2R352	321-5022-00		RES,FXD,FILM:2.21K,1%,0.125W	01121	BCK2211FT
A16A2U340	156-5095-00		MICROCKT,LINEAR:OP AMP,LOW NOISE	80009	156-5095-00
A17	119-2301-00		YIG BUFFER ASSY:	80009	119-2301-00
A17C172	281-0825-00		CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A17C192	281-0825-00		CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A17C568	281-0825-00		CAP,FXD,CER DI:0.005UF,+100-0%,100V	33095	51-726-008
A17HY450	155-0338-00		MICROCKT,LINEAR:0 GATE	80009	155-0338-00
A17J100	131-1803-02		CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A17J300	131-1803-02		CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A17J380	131-1803-02		CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A17J430	131-0938-00		CONN,RCPT,ELEC:SMB,FEMALE	98291	051-043-0349
A17J460	131-0938-00		CONN,RCPT,ELEC:SMB,FEMALE	98291	051-043-0349
A17P300	015-1022-00		TERMN,COAXIAL:50 OHM,0.5W,SMA	18203	T198CS
A17W12	174-0383-00		CA ASSY,SP,ELEC:6.26 AWG,10.5 L,RIBBON	80009	174-0383-00
A17W27	174-0383-00		CA ASSY,SP,ELEC:6.26 AWG,10.5 L,RIBBON	80009	174-0383-00
A17A1	-----		(PART OF A17)		
A17A1C130	283-0252-00		CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C140	283-0252-00		CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C142	283-0252-00		CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C150	283-0252-00		CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C152	283-0252-00		CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C160	283-5018-00		CAP,FXD,CER DI:0.033UF,10%,50V	80009	283-5018-00
A17A1C180	290-5001-00		CAP,FXD,ELCTLT:10UF,20%,16V	TK0900	ALCHIP-S16V10UF
A17A1C182	283-0432-00		CAP,FXD,CER DI:51PF,5%,50V	95275	VJ0805-A-510-J-H
A17A1C190	283-5003-00		CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A17A1C194	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C266	283-0252-00		CAP,FXD,CER DI:0.001UF,10%,50V	04222	ULA105C102K2T60
A17A1C267	283-5003-00		CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A17A1C280	283-0432-00		CAP,FXD,CER DI:51PF,5%,50V	95275	VJ0805-A-510-J-H
A17A1C282	283-5001-00		CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A17A1C290	283-5002-00		CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A17A1C292	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C296	283-5042-00		CAP,FXD,CER DI:27PF,5%,100V	29454	101R18N270JW4-T
A17A1C298	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C392	290-5001-00		CAP,FXD,ELCTLT:10UF,20%,16V	TK0900	ALCHIP-S16V10UF
A17A1C442	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C444	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C466	283-5003-00		CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A17A1C468	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A17A1C550	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C560	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A17A1C564	283-5003-00		CAP,FXD,CER DI:0.01UF,10%,50V	54583	C3216X7R1H103K
A17A1CR178	152-0962-00		SEMICON DVC,DI:SCHOTTKY,SI,CER STRIPLINE C ASE	80009	152-0962-00
A17A1CR290	152-0725-00		SEMICON DVC,DI:SI,SCHOTTKY,20V,1.2PF,DO-35	21847	A2X1582
A17A1Q150	151-1221-00		TRANSISTOR:MESFET,GAAS,N CHANNEL	80009	151-1221-00
A17A1Q158	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A17A1Q164	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A17A1Q190	151-5004-00		TRANSISTOR:NPN,SI,SOT-89	04713	BCX68
A17A1Q460	151-5010-00		TRANSISTOR:NPN,SI,SOT-89	80009	151-5010-00
A17A1R128	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A17A1R130	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A17A1R158	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A17A1R160	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A17A1R164	321-5005-00		RES,FXD,FILM:27.4 OHM,1%,0.125W	57668	MCR18EZHFV 27E4
A17A1R166	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A17A1R168	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A17A1R178	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A17A1R184	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A17A1R186	321-5048-00		RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A17A1R192	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A17A1R194	321-5005-00		RES,FXD,FILM:27.4 OHM,1%,0.125W	57668	MCR18EZHFV 27E4
A17A1R230	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A17A1R232	321-5016-00		RES,FXD,FILM:681 OHM,1%,0.125W	01121	BCK6810FT
A17A1R264	321-5024-00		RES,FXD,FILM:3.32K,1%,0.125W	01121	BCK3321FT
A17A1R266	321-5009-00		RES,FXD,FILM:182 OHM,1%,0.125W	01121	BCK1820FT
A17A1R268	321-5012-00		RES,FXD,FILM:332 OHM,1%,0.125W	01121	BCK3320FT
A17A1R280	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A17A1R284	321-5020-00		RES,FXD,FILM:1.50K,1%,0.125W	01121	BCK1501FT
A17A1R288	311-0622-00		RES,VAR,NONWV:TRMR,100 OHM,0.5W	32997	3329H-L58-101
A17A1R294	321-5048-00		RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A17A1R296	321-5048-00		RES,FXD,FILM:332K,1%,0.125W	01121	BCK3323FT
A17A1R322	321-5011-00		RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A17A1R324	321-5011-00		RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A17A1R332	321-5011-00		RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A17A1R334	321-5011-00		RES,FXD,FILM:274 OHM,1%,0.125W	01121	BCK2740FT
A17A1R394	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A17A1R438	311-0607-00		RES,VAR,NONWV:TRMR,10K OHM,0.5W	73138	82-25-2
A17A1R464	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFV10E
A17A1R466	321-5046-00		RES,FXD,FILM:82.5 OHM,1%,0.125W	01121	BCK82R5FT
A17A1R540	321-5025-00		RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT
A17A1R542	321-5025-00		RES,FXD,FILM:3.92K,1%,0.125W	01121	BCK3921FT
A17A1R550	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A17A1R552	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A17A1R560	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A17A1R562	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A17A1R563	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A17A1R564	321-5051-00		RES,FXD,FILM:0 OHM,1%,0.125W	80009	321-5051-00
A17A1T450	120-1737-00		TRANSFORMER,RF:	80009	120-1737-00
A17A1U290	156-5095-00		MICROCKT,LINEAR:OP AMP,LOW NOISE	80009	156-5095-00
A17A1VR190	152-5015-00		SEMICON DVC,DI:ZENER,SI,7.5V	80009	152-5015-00
A17A1VR284	152-5011-00		SEMICON DVC,DI:6.2VZ,5%	80009	152-5011-00
A18	670-9675-00		CIRCUIT BD ASSY:ATTENUATOR	80009	670-9675-00
A18C100	283-0253-00		CAP,FXD,CER DI:0.01UF,10%,100V	04222	15051C103KZT6C
A18C101	283-0278-01		CAP,FXD,CER DI:2.2UF,20%,100V	51642	
A18C143	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A18C144	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A18C145	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A18C151	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A18C210	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A18C220	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A18C225	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A18C230	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A18C235	283-5004-00		CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A18C240	290-5004-00		CAP,FXD,ELCTLT:22UF,20V,TANTALUM	80009	290-5004-00
A18C245	290-5004-00		CAP,FXD,ELCTLT:22UF,20V,TANTALUM	80009	290-5004-00
A18C330	290-5002-00		CAP,FXD,ELCTLT:10UF,16V	TK1424	20MC100M-TER
A18C412	290-5000-00		CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A18J205	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A18J300	131-1803-02		CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A18J333	131-1803-02		CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A18J432	131-1803-02		CONN,RCPT,ELEC:SMA,FEMALE	16179	2056-3206-00
A18K103	148-0198-00		RELAY,REED:DPDT,98 OHMS,6V	11532	712-6
A18K110	148-0198-00		RELAY,REED:DPDT,98 OHMS,6V	11532	712-6
A18K111	148-0198-00		RELAY,REED:DPDT,98 OHMS,6V	11532	712-6
A18K120	148-0198-00		RELAY,REED:DPDT,98 OHMS,6V	11532	712-6
A18K121	148-0198-00		RELAY,REED:DPDT,98 OHMS,6V	11532	712-6
A18K122	148-0198-00		RELAY,REED:DPDT,98 OHMS,6V	11532	712-6
A18K130	148-0198-00		RELAY,REED:DPDT,98 OHMS,6V	11532	712-6
A18Q300	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A18Q421	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A18Q430	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A18Q432	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A18Q434	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A18Q441	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A18Q443	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A18Q445	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A18R100	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A18R101	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A18R102	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A18R112	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A18R113	321-5027-00		RES,FXD,FILM:5.62K,1%,0.125W	01121	BCK5621FT
A18R114	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A18R115	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A18R120	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A18R121	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A18R122	321-5007-00		RES,FXD,FILM:121 OHM,1%,0.125W	01121	BCK1210FT
A18R123	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A18R130	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A18R131	321-5010-00		RES,FXD,FILM:221 OHM,1%,0.125W	01121	BCK221FT
A18R132	321-5004-00		RES,FXD,FILM:22.1 OHM,1%,0.125W	57668	MCR18FWEA22E1
A18R133	321-5014-00		RES,FXD,FILM:475 OHM,1%,0.125W	01121	BCK4750FT
A18R134	321-5013-00		RES,FXD,FILM:392 OHM,1%,0.125W	01121	BCK3920FT
A18R135	321-5001-00		RES,FXD,FILM:12.1 OHM,1%,0.125W	57668	MCR18EZHFW 12E1
A18R140	321-5045-00		RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A18R141	321-5045-00		RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A18R142	321-5008-00		RES,FXD,FILM:150 OHM,1%,0.125W	01121	BCK1500FT
A18R150	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A18R250	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A18R251	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A18R301	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A18R400	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A18R401	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A18R410	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A18R411	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A18R413	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A18R420	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A18R422	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A18R431	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A18R432	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A18R440	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A18R442	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A18R444	321-5026-00		RES,FXD,FILM:4.75K,1%,0.125W	01121	BCK4751FT
A18U230	156-2691-00		MICROCKT,LINER:NEC,UHF AMPLIFIER	80009	156-2691-00
A18U414	156-5021-00		MICROCKT,DGTL:CMOS,8 STATE SHIFT AND STORE	18324	HEF4094BTD
A19	119-2206-00		OSCILLATOR,RF:1.9 TO 4.0 GHZ	80009	119-2206-00
A19A1	-----		(PART OF A19)		
A19A1C120	290-0326-02		CAP,FXD,ELCTLT:820UF,10%,6V	56289	109D827X9006F2
A19A1C240	290-0726-00		CAP,FXD,ELCTLT:220UF,20%,10V	56289	196D227X0010TE3
A19A1C260	290-5001-00		CAP,FXD,ELCTLT:10UF,20%,16V	TK0900	ALCHIP-S16V10UF
A19A1C320	290-0326-02		CAP,FXD,ELCTLT:820UF,10%,6V	56289	109D827X9006F2
A19A1C430	290-0726-00		CAP,FXD,ELCTLT:220UF,20%,10V	56289	196D227X0010TE3
A19A1CR320	152-5005-00		SEMICON DVC,DI:DUAL,COMMON ANODE,70V,BAW56	04713	MBAW56T1
A19A1J230	131-3774-00		CONN,RCPT,ELEC:HEADER,2 X 36,0.1 SPACING	22526	65610-172
A19A1K220	148-5000-00		RELAY,REED:SWITCH	80009	148-5000-00
A19A1Q120	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A19A1Q140	-----		(PART OF A19)		
A19A1Q318	-----		(PART OF A19)		
A19A1Q320	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A19A1Q328	-----		(PART OF A19)		
A19A1R118	321-0097-00		RES,FXD,FILM:100 OHM,1%,0.125W,TC=TO	91637	CMF55116G100ROF
A19A1R130	321-5045-00		RES,FXD,FILM:68.1 OHM,1%,0.125W	01121	BCD68R1FT
A19A1R136	-----		(PART OF A19)		
A19A1R212	321-0122-00		RES,FXD,FILM:182 OHM,1%,0.125W,TC=TO	19701	5033ED182ROF
A19A1R214	321-0202-00		RES,FXD,FILM:1.24K OHM,1%,0.125W,TC=TO	24546	NA55D1241F
A19A1R216	321-0139-00		RES,FXD,FILM:274 OHM,1%,0.125W,TC=TO	07716	CEAD274ROF
A19A1R218	-----		(PART OF A19)		
A19A1R219	-----		(PART OF A19)		
A19A1R230	-----		(PART OF A19)		
A19A1R232	-----		(PART OF A19)		
A19A1R234	-----		(PART OF A19)		
A19A1R236	-----		(PART OF A19)		
A19A1R240	-----		(PART OF A19)		
A19A1R318	-----		(PART OF A19)		
A19A1R320	-----		(PART OF A19)		
A19A1R322	321-5043-00		RES,FXD,FILM:47.5 OHM,1%,0.125W	57668	MCR18FWEA47E5
A19A1R324	-----		(PART OF A19)		
A19A1R326	-----		(PART OF A19)		
A19A1R327	-----		(PART OF A19)		
A19A1R328	-----		(PART OF A19)		
A19A1R360	-----		(PART OF A19)		
A19A1R362	-----		(PART OF A19)		
A19A1R364	-----		(PART OF A19)		
A19A1RV130	-----		(PART OF A19)		
A19A1RV330	-----		(PART OF A19)		
A19A1RV340	-----		(PART OF A19)		
A19A1U120	-----		(PART OF A19)		
A19A1U320	-----		(PART OF A19)		
A19A1U350	-----		(PART OF A19)		
A19A1VR120	152-0304-00		SEMICON DVC,DI:ZEN,SI,20V,5%,0.4W,DO-7	15238	Z5411
A19A1VR218	152-0304-00		SEMICON DVC,DI:ZEN,SI,20V,5%,0.4W,DO-7	15238	Z5411
A19A1W29	174-0406-00		CA ASSY,SP,ELEC:3,26 AWG,6.5 L	80009	174-0406-00
A20	671-0218-00		CIRCUIT BD ASSY:COUNTER AMPLIFIER	80009	671-0218-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
A20C114	283-5002-00			CAP,FXD,CER DI:1000PF,10%,50V	95275	VJ1206A102KXA
A20C120	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C216	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C310	283-5014-00			CAP,FXD,CER DI:330PF,5%,50V	80009	283-5014-00
A20C315	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C321	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C362	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C363	283-5049-00			CAP,FXD,CER DI:180PF,5%,50V,NPO	54583	C3216C0G1H181J
A20C370	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C372	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A20C374	283-5027-00			CAP,FXD,CER DI:470PF,5%,50V	54583	C3216C0G1H471J-T
A20C376	283-5022-00			CAP,FXD,CER DI:47PF,5%,50V	54583	C3216C0G1H470J-T
A20C377	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A20C381	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C383	283-5027-00			CAP,FXD,CER DI:470PF,5%,50V	54583	C3216C0G1H471J-T
A20C385	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A20C386	283-5049-00			CAP,FXD,CER DI:180PF,5%,50V,NPO	54583	C3216C0G1H181J
A20C391	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C411	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C413	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A20C422	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C423	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C424	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C425	283-5011-00			CAP,FXD,CER DI:33PF,5%	95275	VJ1206A330JXA
A20C451	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C452	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C461	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C463	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C465	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C471	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C474	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A20C476	283-5049-00			CAP,FXD,CER DI:180PF,5%,50V,NPO	54583	C3216C0G1H181J
A20C478	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A20C481	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C482	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C485	283-5049-00			CAP,FXD,CER DI:180PF,5%,50V,NPO	54583	C3216C0G1H181J
A20C488	283-5001-00			CAP,FXD,CER DI:100PF,5%,50V	54583	C3216C0G1H101J
A20C494	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C496	290-5000-00			CAP,FXD,ELCTLT:1UF,20%,50V	TK0900	S50V1MICROF
A20C511	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C520	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C570	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C580	283-5004-00			CAP,FXD,CER DI:0.1UF,10%,25V	54583	C3216X7R1E104K
A20C820	290-5001-00			CAP,FXD,ELCTLT:10UF,20%,16V	TK0900	ALCHIP-S16V10UF
A20C910	290-5001-00			CAP,FXD,ELCTLT:10UF,20%,16V	TK0900	ALCHIP-S16V10UF
A20CR122	152-5000-00			SEMICON DVC,DI:SW,SI,70V,COM CATHODE	04713	BAV70
A20J200	131-1931-00			CONN,RCPT,ELEC:SNAP CPLG,R ANGLE,CKT BD MT	16179	5164-5006-09
A20J490	131-1931-00			CONN,RCPT,ELEC:SNAP CPLG,R ANGLE,CKT BD MT	16179	5164-5006-09
A20J530	131-1425-00			CONN,RCPT,ELEC:RTANG HEADER,1 X 36,0.1 SP	22526	65521-136
A20L211	108-5000-00			COIL,RF:FXD,1UH	54583	NL453232T-1ROM
A20L373	108-5049-00			COIL,RF:FXD,820NH,5%	02113	1008CS-821-05
A20L375	108-5005-00			COIL,RF:FXD,560NH	80009	108-5005-00
A20L384	108-5049-00			COIL,RF:FXD,820NH,5%	02113	1008CS-821-05
A20L477	108-5030-00			COIL,RF:FXD,100NH	80009	108-5030-00
A20P110	131-1857-00			TERM SET,PIN:36/0.025 SQ PIN,ON 0.1 CTRS	TK1483	082-3643-SS10
A20P530	131-3618-00			LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
A20Q111	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A20Q123	151-5001-00			TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1

Component No.	Tektronix Part No.	Serial/Assembly No. Effective Dscont	Name & Description	Mfr. Code	Mfr. Part No.
A20Q360	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A20Q390	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A20Q460	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A20Q462	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A20Q464	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A20Q490	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A20Q491	151-5000-00		TRANSISTOR:PNP,SI,SOT-23	04713	MMBT3906T1
A20Q492	151-5001-00		TRANSISTOR:NPN,SI,SOT-23	04713	MMBT3904T1
A20R112	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R113	321-5047-00		RES,FXD,FILM:100K,1%,0.125W	01121	BCK1003FT
A20R121	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A20R124	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R212	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A20R213	321-5042-00		RES,FXD,FILM:39.2 OHM,1%,0.125W	57668	MCR18FWEA39E2
A20R214	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R220	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R221	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R222	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A20R223	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R224	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R311	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A20R312	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R313	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A20R314	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R320	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A20R322	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R323	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A20R324	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R325	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A20R361	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R371	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R380	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R382	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R412	321-5044-00		RES,FXD,FILM:56.2 OHM,1%,0.125W	01121	BCD56R2FT
A20R414	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A20R415	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R416	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R417	321-5030-00		RES,FXD,FILM:10.0K,1%,0.125W	01121	BCK1002FT
A20R420	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R421	321-5015-00		RES,FXD,FILM:562 OHM,1%,0.125W	01121	BCK5620FT
A20R450	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A20R453	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R470	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R472	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R473	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R479	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R480	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R483	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R484	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R486	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R493	321-5018-00		RES,FXD,FILM:1.00K,1%,0.125W	01121	BCK1001FT
A20R495	321-5006-00		RES,FXD,FILM:100 OHM,1%,0.125W	01121	BCK1000FT
A20R512	321-5000-00		RES,FXD,FILM:10 OHM,1%,0.125W	57668	MCR18EZHFW10E
A20U110	156-5106-00		MICROCKT,DGTL:HCMOS,QUAD 2 INP NOR GATE	80009	156-5106-00
A20U215	156-5279-00		MICROCKT,DGTL:ECL,QUAD AND GATE,2 INP	80009	156-5279-00
A20U410	156-5269-00		MICROCKT,DGTL:TRIPLE LINE RECEIVER	80009	156-5269-00
A20U510	156-5280-00		MICROCKT,LINER:WIDEBAND HIGH FREQUENCY AMP LIFIER	80009	156-5280-00

Replaceable Electrical Parts - 2710

Component No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Name & Description	Mfr. Code	Mfr. Part No.
E1	276-0614-00	B010033		CORE,EM:TOROID,FERRITE (PART OF W9)	78488	57-1656
E2	276-0640-00	B010033		CORE,EM:TOROID,FERRITE (PART OF W4)	56880	J-41005-TC
E3	276-0640-00	B010033		CORE,EM:TOROID,FERRITE (PART OF W4)	56880	J-41005-TC
FL16	119-0294-01			FILTER,LOW PASS:DC TO 1.8GHZ	50140	11L250-X1800-0
FL17	119-2205-00			1ST IF FILTER:TUNED CAVITY 2110	80009	119-2205-00
FL18	015-1027-00	B010038		FILTER,LOW PASS:	80009	015-1027-00
J102	136-0094-00			JACK, TELEPHONE:MINIATURE,SHUNT TYPE (PART OF W25 CABLE ASSY)	80009	136-0094-00
LS103	119-0962-00			LOUDSPEAKER,PM:8 OHM,3W,2.047 DIA (PART OF W25 CABLE ASSY)	54473	EAS-5PH04SC
R101	315-0820-00			RES,FXD,FILM:82 OHM,5%,0.25W (PART OF W25 CABLE ASSY)	57668	NTR25J-E82E0
V1	154-0913-00			ELECTRON TUBE:CRT,FINISHED	80009	154-0913-00
W4	174-0199-00			CA ASSY,SP,ELEC:SEMI-RIGID	80009	174-0199-00
W6	175-4287-00			CA ASSY,SP,ELEC:20,28 AWG,13.75 L,RIBBON	22526	ORDER BY DESCR
W7	174-0195-00			CA ASSY,SP,ELEC:	80009	174-0195-00
W8	174-0196-00			CA ASSY,SP,ELEC:	80009	174-0196-00
W9	174-0193-00	B010000	B010037	CA ASSY,SP,ELEC:	80009	174-0193-00
W10	174-0194-00			CA ASSY,SP,ELEC:	80009	174-0194-00
W11	174-0818-00			CABLE ASSY,RF:50 OHM COAX,5.25 L	80009	174-0818-00
W12	174-0817-00			CABLE ASSY,RF:50 OHM COAX,7.25 L	80009	174-0817-00
W16	174-0819-00			CABLE ASSY,RF:50 OHM COAX,8.25 L	80009	174-0819-00
W17	174-0819-00			CABLE ASSY,RF:50 OHM COAX,8.25 L	80009	174-0819-00
W18	174-0819-00			CABLE ASSY,RF:50 OHM COAX,8.25 L	80009	174-0819-00
W19	174-0819-00			CABLE ASSY,RF:50 OHM COAX,8.25 L	80009	174-0819-00
W20	174-0819-00			CABLE ASSY,RF:50 OHM COAX,8.25 L	80009	174-0819-00
W21	174-0819-00			CABLE ASSY,RF:50 OHM COAX,8.25 L	80009	174-0819-00
W22	174-0200-00			CA ASSY,SP,ELEC:SEMI-RIGID	80009	174-0200-00
W23	174-0747-00			CABLE ASSY,RF:50 OHM COAX,8.5 L	80009	174-0747-00
W24	174-0192-00			CA ASSY,SP,ELEC: SEMI-RIGID	80009	174-0192-00
W25	174-0251-00			CA ASSY,SP,ELEC:4,26 AWG,3.0 L,RIBBON	80009	174-0251-00
W26	174-0534-00			CA ASSY,SP,ELEC:50,28 AWG,5.0 L RIBBON	80009	174-0534-00
W30	174-1138-00	B010038		CABLE ASSY,RF:4 CAV FLTR TO LOW PASS FLTR,4 .915 L,SEMI-RIGID	80009	174-1138-00
W31	174-1143-00	B010038		CABLE ASSY,RF:LOW PASS FLTR TO 1ST CONVERTE R,2.37 L,SEMI-RIGID	80009	174-1143-00

DIAGRAMS AND CIRCUIT BOARD ILLUSTRATIONS

Symbols

Graphic symbols and class designation letters are based on ANSI Standard Y32.2-1975.

Logic symbols are based on ANSI/IEEE 91-1984. Logic symbols show the logic function performed and may differ from the manufacturer's data.

Abbreviations are based on ANSI Y1.1-1972.

Other ANSI standards used in diagrams are:

- Y14.15-1966 Drafting Practices.
- Y14.2-1973 Line Conventions and Lettering.
- Y10.5-1975 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 (μ F).

Resistors = Ohms (Ω).

Assembly and Circuit Numbering

Each assembly and subassembly are assigned assembly numbers. The assembly number appears on the circuit board outline on the diagram, in the title for the circuit board illustration, and in the corresponding looku table.

The Replaceable Electrical Parts list prefixes the circuit numbers with the corresponding assembly and subassembly numbers.

EXAMPLE: R2080 on assembly A20 becomes A20R2080.

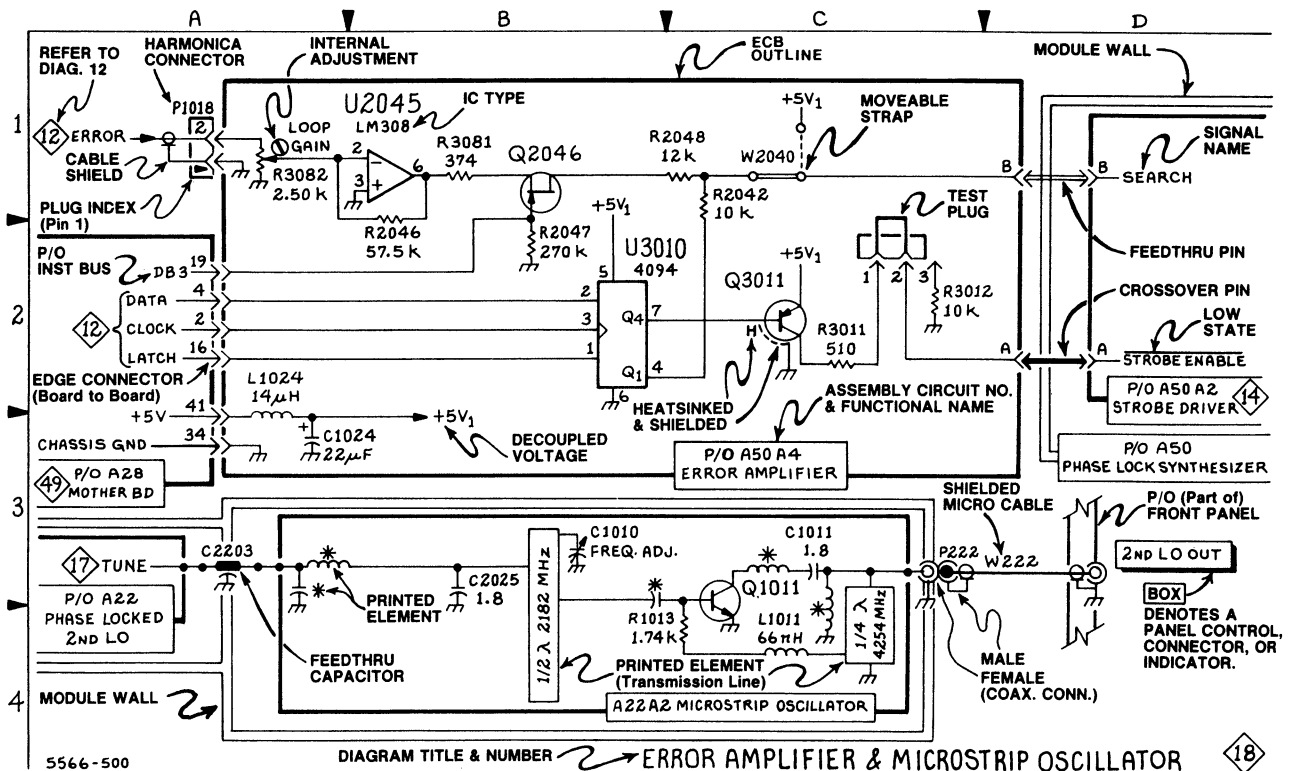
EXAMPLE: U1044 on subassembly A1 of assembly A36 is found in the electrical parts list as A36A1U1044.

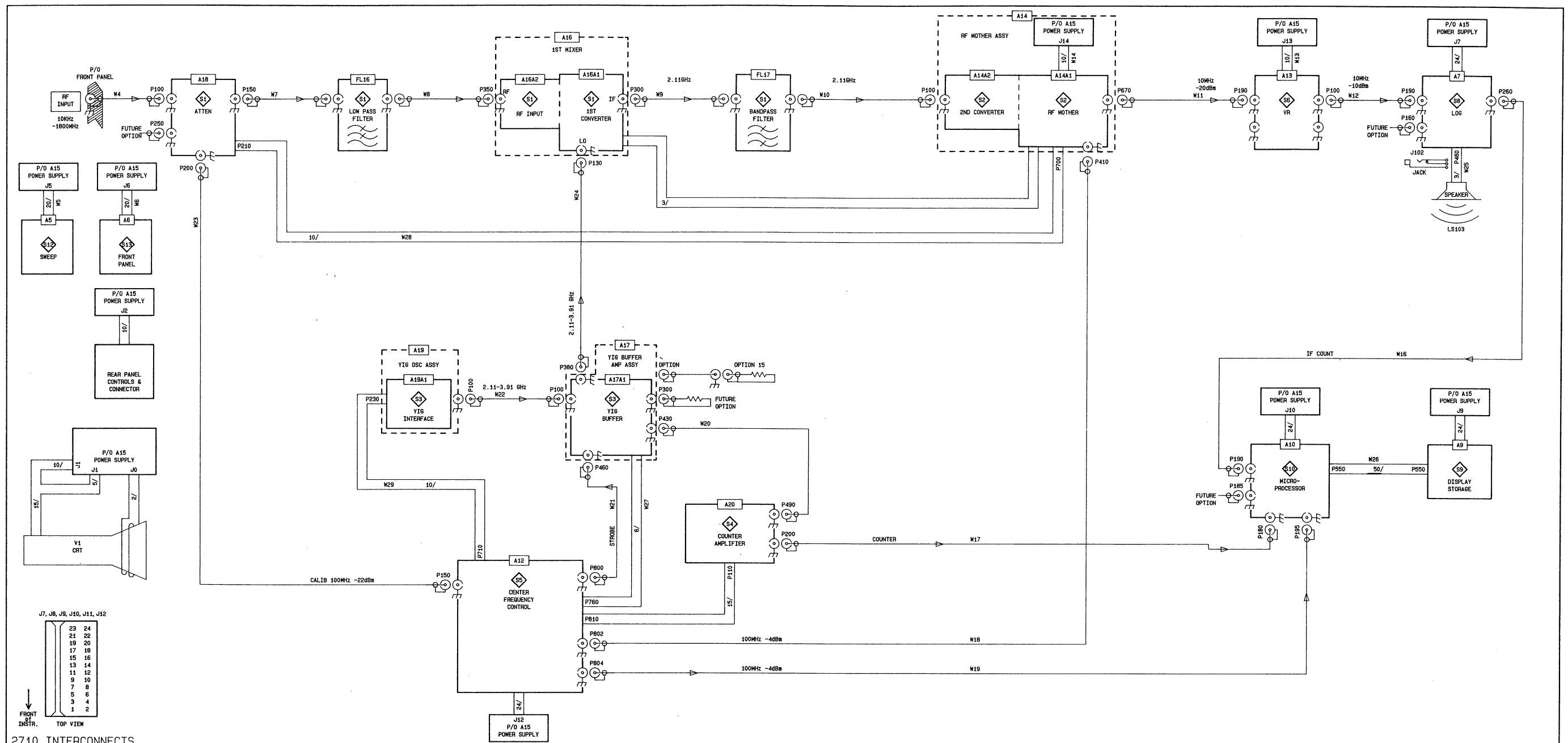
Grid Coordinates

The schematic diagrams and circuit board illustration are labeled with horizontal and vertical grids. Looku tables with the grid coordinates are provided as a cross reference to help locate components on the corresponding schematic and circuit board.

Sample Diagram

The following sample diagram labels various details found on schematic diagrams.





2710 INTERCONNECTS

PIN #	J1 CRT SKT	J2 RPANLPOTS	J3 REAR CON	S14 DATA I/VLVL	S12 SMP SNEEP	S13 CRTINTS-TLVL	J7 LOG	S7 RF OPT	S9 DISP STOR	S10 DETVID	S11 DIB OPT	S8 SWSLOPE	J13 VR	S2 RF MOTHER	PIN #
1	CRT-12	EXTVSYNC	EXTVID	DATAI	SMP SNEEP	CRTINTS-TLVL	SWSLOPE	RF OPT	DISP STOR	DETVID	DIB OPT	SWSLOPE	VR	RF MOTHER	1
2	CRT-11	TR +9.4V	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	2
3	CRT-10	TR -9.4V	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	3
4	CRT-9	TR -9.4V	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	TR CENTER	4
5	CRT-8	VP -5V1	LOGVID	LOGVID	LOGVID	LOGVID	LOGVID	LOGVID	LOGVID	LOGVID	LOGVID	LOGVID	LOGVID	LOGVID	5
6	CRT-7	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	VP CENTER	6
7	CRT-6	VP GND	VP GND	VP GND	VP GND	VP GND	VP GND	VP GND	VP GND	VP GND	VP GND	VP GND	VP GND	VP GND	7
8	CRT-5	HP +5V1	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	8
9		HP CENTER	KEYACK	KEYACK	KEYACK	KEYACK	KEYACK	KEYACK	KEYACK	KEYACK	KEYACK	KEYACK	KEYACK	KEYACK	9
10		HP -5V1	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	KEYREQ	10
11															11
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25															25

2710 INTERCONNECT DIAGRAM



ATTENUATOR AND 1ST CONVERTER

The Attenuator and 1st Converter signal path consists of:

- Attenuator
- Low-Pass Filter
- 1st Mixer
- Bandpass Filter

Attenuator

The Spectrum Analyzer input frequency range is 10 kHz to 1.8 GHz. The low end of the frequency range is determined by a capacitor on the Attenuator board, the narrowest resolution filter in the Variable Resolution assembly, and FM characteristics of the 1st LO (YIG Oscillator).

The signal comes in at the front-panel RF IN connector. The RF INPUT connector is connected to a 0-50 dB step attenuator, capable of stepping from 0 to 50 dB in 2 dB steps. The Attenuator consists of relay-controlled pads of 2, 4, 8, 16, and 20 dB. The relays are controlled by the instrument firmware to provide the necessary attenuation to maintain a calibrated reference level.

A relay switch at the input of the Attenuator selects the rf input signal or the internal calibrator signal. See Figure S1-1. Since the calibrator signal comes into the Attenuator assembly ahead of the attenuators, it can be used to verify the accuracy of the Attenuator besides other parameters. Selection is made via the INPUT MENU control on the front-panel.

Also, an amplifier with 18 to 20 dB of gain may be inserted in the signal path at the output of the Attenuator. This is the PREAMP mode, selectable via the INPUT MENU. It is used to enhance sensitivity, when small signals are applied to the input, by maintaining the same signal-to-noise ratio from the input to the 2nd Converter. When a small signal is applied to the RF INPUT, and the PREAMP mode activated, both the signal and the noise level are amplified an equal amount. Any attenuation, less than the gain of the preamp, will then attenuate both the signal and the noise. Thus, signal-to-noise ratio remains nearly constant. In the meantime, the instrument makes corrections in the IF to maintain a calibrated reference level.

Low Pass Filter

The Low Pass Filter severely attenuates all out-of-band

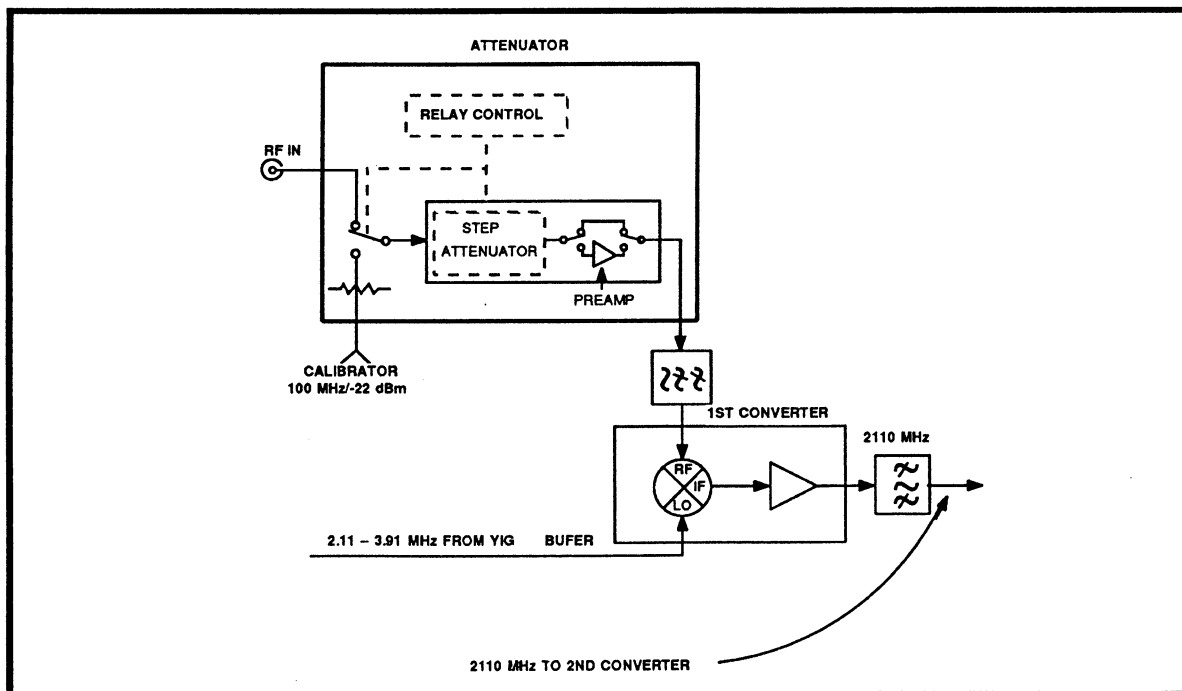


Figure S1-1 Attenuator and 1st Converter

frequencies, i.e., it tends to reject all frequencies above 1.8 GHz, preventing them from reaching the mixer input and creating unwanted images. By the same token, it reduces emissions from internally-generated frequencies above 1.8 GHz.

1st Converter

The 1st Converter converts the incoming RF signals to the 1st IF. Input signals are applied through Step Attenuator and Low-Pass Filter, and via the YIG Buffer Amplifier.

The 1st Converter receives the RF signal through the Low Pass Filter and a 1st LO signal from the YIG Buffer Amplifier. These signals combine to produce mixing products that are filtered to yield the 2110 MHz IF signal.

The mixer output is coupled to the input of a balanced amplifier where the signal is split into two paths. The signals in the two paths are 90 degrees out of phase. The signals are recombined at the output, yielding a gain of approximately 10 dB. Any reflections to the input are dissipated in a 50 Ω termination. The output is also terminated in 50 Ω to assure a match at the output port.

Bandpass Filter

The Bandpass Filter, a four-cavity filter, is a low-loss narrow-band filter that only passes the 2110 MHz IF signal to the 2nd Converter. Any other frequencies are reflected back to the 1st Converter and terminated. In addition, the filter prevents the 2nd Converter "LO" and mixer products from feeding back into the 1st Converter.

Each end resonator is capacitively coupled to external circuits through a coupling hat plugged into a 3 mm connector. Intercavity coupling is provided by coupling loops that protrude from the machined filter top. The resonant frequency of each cavity is determined primarily by the depth of a gap in the underside of the filter top, and is fine-tuned with a tuning screw on the side of each cavity. When properly tuned, the filter return loss is greater than 25 dB from either end (in a 50 Ω system). Figure S1-2 shows the equivalent electrical circuit, and Figure S1-3 shows a cross sectional view of the filter.

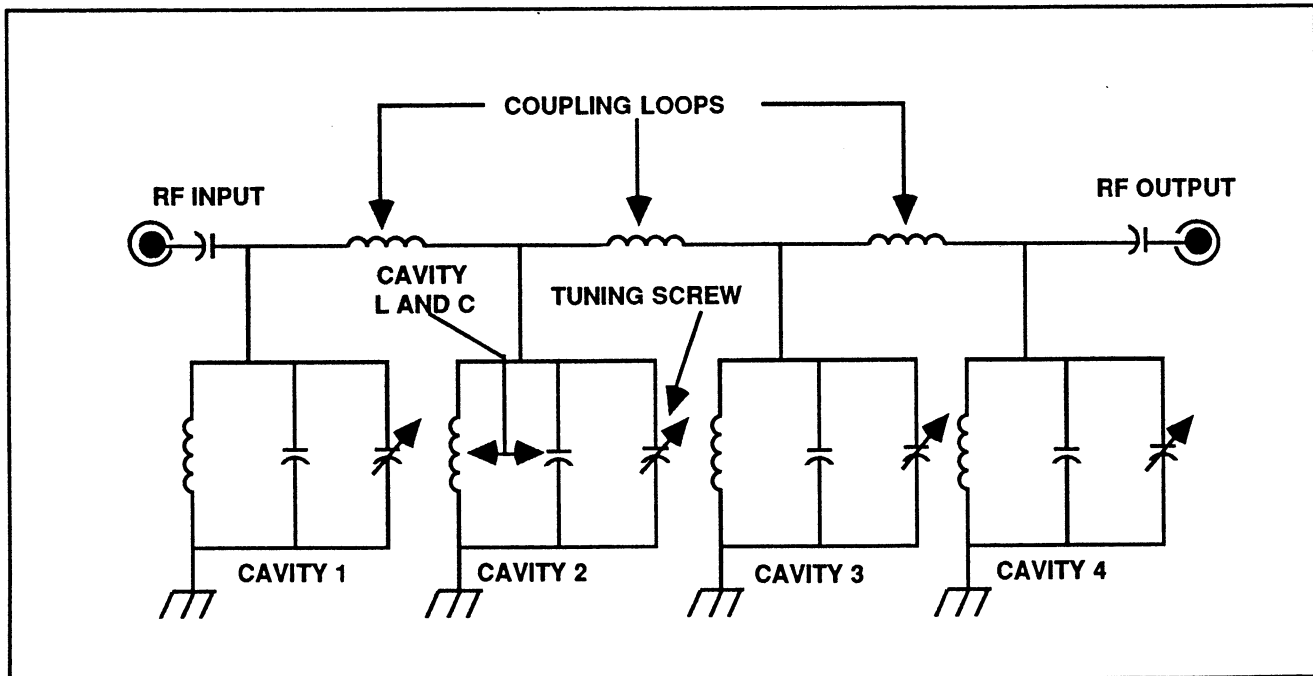


Figure S1-2. Equivalent electrical circuit for the 4-cavity filter.

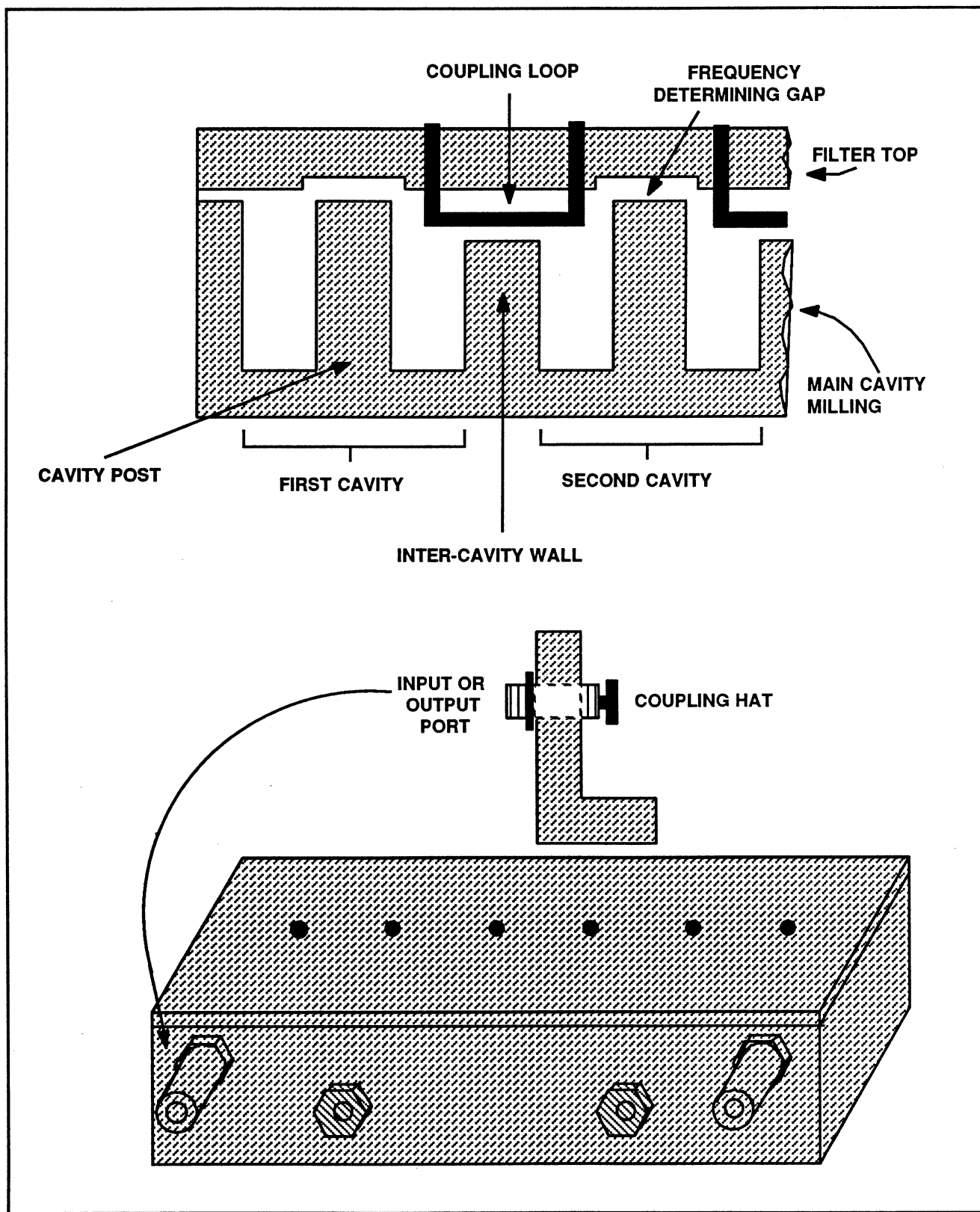


Figure S1-3. Cross-section of 4-cavity filter.

A18 ATTENUATOR

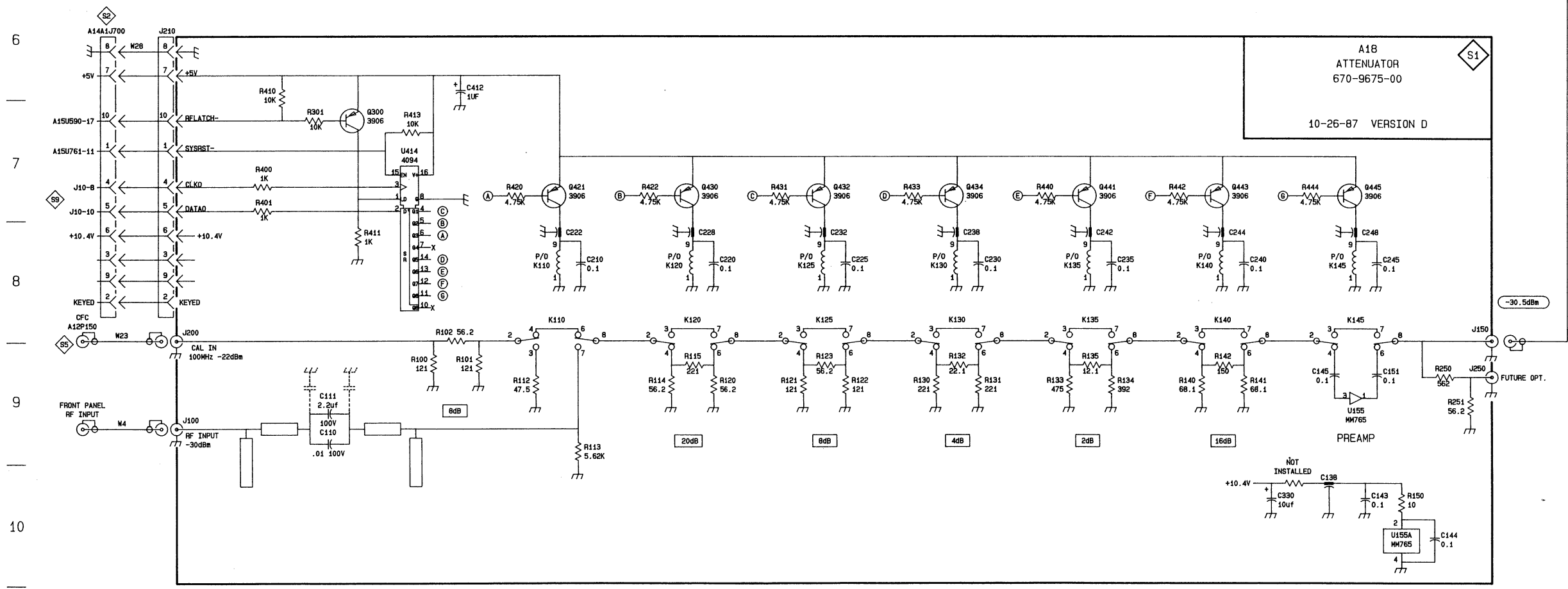
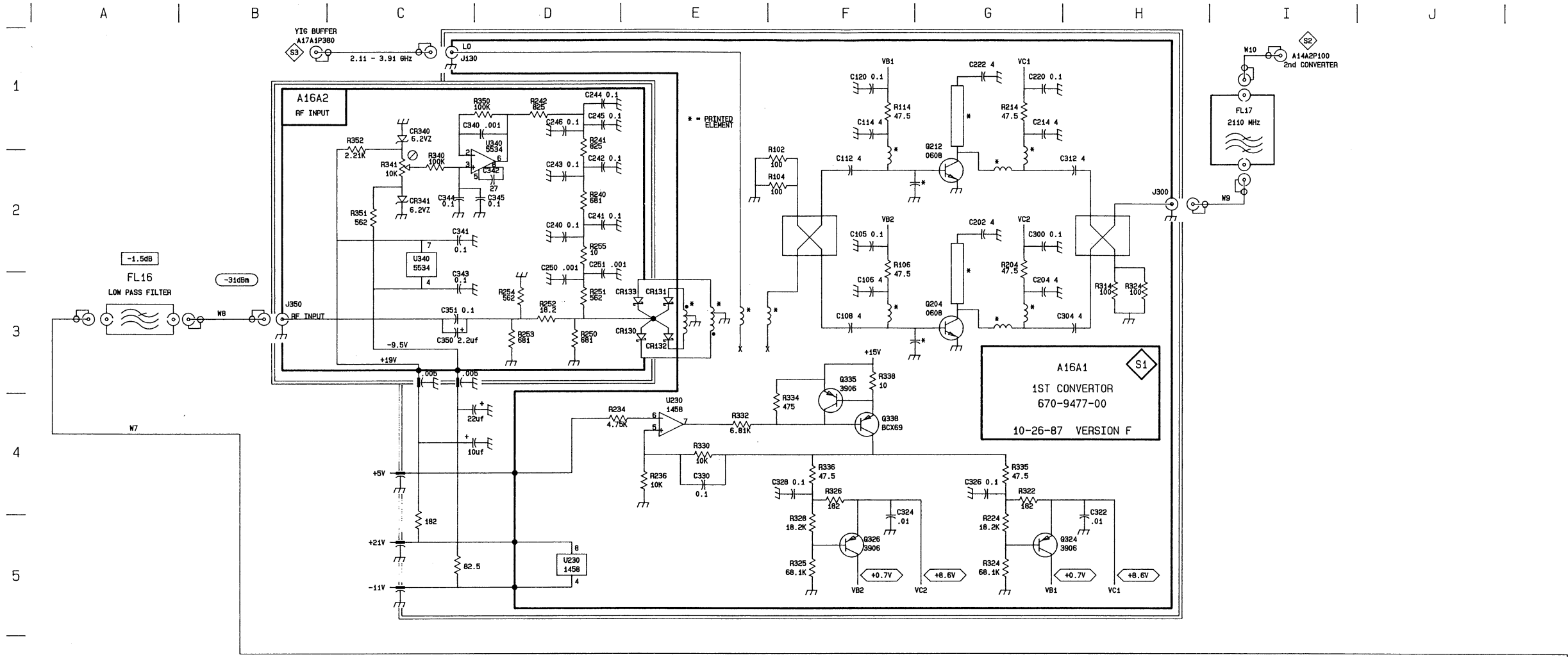


CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C110	B-9	A-1	K125	F-8	B-2	R132	G-9	C-1
C111	B-9	A-1	K130	G-8	C-2	R133	G-9	C-1
C138	I-10	C-1	K135	H-8	C-2	R134	H-9	C-1
C143	I-10	D-1	K140	H-8	C-2	R135	H-9	C-1
C144	J-10	D-1	K145	I-8	D-2	R140	H-9	C-1
C145	I-9	D-1	J210	A-6	A-3	R141	I-9	D-1
C151	J-9	D-1	Q300	C-7	D-2	R142	I-9	C-1
C210	D-8	A-2	Q421	D-7	C-3	R150	I-10	D-1
C220	E-8	B-2	Q430	E-7	B-3	R250	J-9	D-2
C222	D-8	B-2	Q432	G-7	B-3	R251	J-9	D-2
C225	F-8	B-2	Q434	G-7	B-3	R301	B-7	D-5
C228	E-8	B-2	Q441	H-7	A-3	R400	B-7	D-6
C230	G-8	C-2	Q443	H-7	A-3	R401	B-7	D-6
C232	F-8	C-2	Q445	I-7	A-3	R410	B-6	D-5
C235	H-8	C-2	R100	C-9	A-2	R411	C-8	D-6
C238	G-8	C-2	R101	D-9	A-2	R413	C-7	C-6
C240	I-8	C-2	R102	C-8	A-2	R420	D-7	C-6
C242	H-8	C-2	R112	D-9	A-2	R422	E-7	B-6
C244	I-8	D-2	R113	D-9	A-2	R431	F-7	B-6
C245	J-8	C-2	R114	E-9	B-1	R433	F-7	B-6
C248	I-8	D-2	R115	E-9	B-1	R440	G-7	B-6
J100	A-9	A-1	R120	E-9	B-1	R442	H-7	A-6
J150	J-8	D-1	R121	F-9	B-1	R444	I-7	A-6
J200	A-8	A-2	R122	F-9	B-1	U155	I-9	D-1
J250	J-9	D-2	R123	F-9	B-1	U155A	J-10	D-1
K110	D-8	A-2	R130	F-9	B-1	U414	C-7	C-6
K120	E-8	B-2	R131	G-9	C-1			

A16A1 1ST CONVERTER



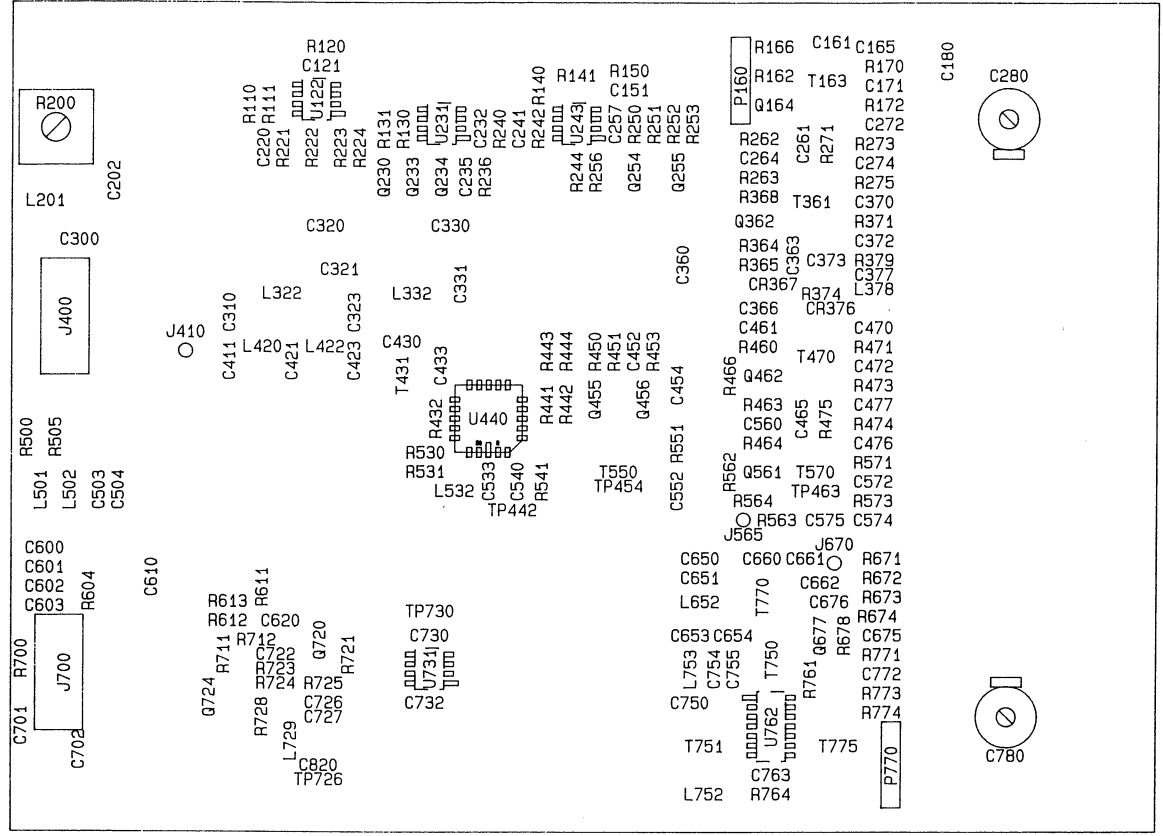
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C105	F-2	A-4	C343	C-3	C-1	R242	D-1	B-1
C106	F-3	A-4	C344	C-2	C-1	R250	D-3	B-1
C108	F-3	A-4	C345	D-2	C-1	R251	D-3	B-1
C112	F-2	A-3	C350	C-3	C-1	R252	D-3	B-1
C114	F-1	A-3	C351	C-3	C-1	R253	D-3	C-1
C120	F-1	A-3	CR130	E-3	A-2	R254	D-3	C-1
C202	G-2	B-4	CR131	E-3	A-3	R255	D-2	B-1
C204	G-3	B-4	CR132	E-3	B-2	R314	H-3	C-3
C214	G-1	B-3	CR133	E-3	A-2	R315	G-5	C-3
C220	G-1	B-3	CR340	C-1	C-1	R322	G-4	C-3
C222	G-1	B-3	CR341	C-2	C-1	R324	H-3	C-3
C240	D-2	B-1	J130	C-1	A-2	R324	G-5	C-3
C241	D-2	B-1	J300	H-2	C-4	R325	F-5	C-3
C242	D-2	B-1	J350	B-3	C-2	R326	F-4	C-3
C243	D-2	B-1	Q204	G-3	B-4	R328	F-5	C-3
C244	D-1	B-1	Q212	G-2	B-3	R330	E-5	C-2
C245	D-1	B-1	Q324	H-5	C-3	R332	E-4	C-2
C246	D-1	B-1	Q326	F-5	C-3	R334	F-4	C-2
C250	D-3	B-1	Q335	F-4	C-2	R335	G-4	C-2
C251	D-3	B-1	Q338	F-4	C-2	R336	F-4	C-2
C300	G-2	B-4	R102	F-2	A-4	R338	F-3	C-2
C304	H-3	C-4	R104	F-2	A-4	R340	C-2	C-1
C312	H-2	C-3	R106	F-3	A-4	R341	C-2	C-1
C322	H-5	C-3	R114	F-1	A-3	R350	D-1	C-1
C324	F-5	C-3	R204	G-3	B-4	R351	C-2	C-1
C326	G-4	C-3	R214	G-1	B-3	R352	C-2	C-1
C328	F-4	C-3	R224	G-5	B-3	U230	E-4	B-2
C330	E-5	C-2	R234	D-4	B-2	U230A	D-5	B-2
C340	D-1	C-1	R236	E-5	B-2	U340	D-2	C-1
C341	C-2	C-1	R240	D-2	B-1	U340A	C-3	C-1
C342	D-2	C-1	R241	D-1	B-1			



ATTENUATOR and
1st CONVERTER

A | B | C | D | E | F | G | H | I | J

1
2
3
4
5
6
7



A14A1—RF Mother

A14A1 RF MOTHER BOARD



CIRCUIT NUMBER	SCHEMATIC LOCATION	CKT BRD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	CKT BRD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	CKT BRD LOCATION
C121	B-4	C-1	C755	B-2	G-6	R379	BC-1	H-3
C151	F-4	F-1	C763	H-3	G-7	R432	B-5	D-4
C161	A-2	H-1	C772	I-1	H-6	R441	C-5	E-4
C165	A-2	H-1	C780	G-2	I-7	R442	C-5	E-4
C171	A-1	H-1	C820	E-5	C-7	R443	B-5	E-3
C180	E-2	I-1	CR367	C-2	G-3	R444	C-5	E-3
C202	C-1	A-2	CR376	C-2	H-3	R450	D-5	F-3
C220	B-3	C-2	J400	C-1	A-3	R451	C-5	F-3
C232	E-1	E-2	J410	A-5	B-3	R453	C-5	F-3
C235	C-3	D-2	J565	J-3	G-5	R460	C-2	G-3
C241	H-3	E-2	J670	J-1	H-5	R463	D-3	G-4
C257	F-3	F-2	J700	A-3	A-6	R464	D-2	G-4
C261	A-1	G-2	L201	C-1	A-2	R466	D-2	G-4
C264	B-2	G-2	L322	D-1	C-3	R471	D-2	H-3
C272	A-1	H-2	L332	D-1	D-3	R473	C-1	H-4
C274	B-2	H-2	L378	C-2	H-3	R474	D-3	H-4
C280	E-2	I-1	L420	A-5	C-3	R475	D-3	H-4
C300	C-1	A-2	L422	A-5	C-3	R500	A-4	A-4
C310	A-5	B-3	L501	A-3	A-5	R530	B-6	D-4
C320	D-1	C-2	L502	A-3	A-5	R531	B-6	D-4
C321	D-1	C-3	L532	A-5	D-5	R541	C-5	E-5
C323	A-5	C-3	L652	I-2	F-6	R551	C-4	F-4
C330	D-1	D-2	L729	E-5	C-7	R562	E-2	G-4
C331	D-1	F-3	L752	H-2	G-7	R563	J-3	G-5
C360	C-3	D-3	L753	I-2	F-6	R564	J-3	G-5
C363	B-1	G-3	P160	A-2	G-1	R571	E-2	H-4
C366	C-3	G-3	P770	H-1	H-7	R573	D-2	H-5
C370	B-1	H-2	Q164	A-2	G-1	R604	A-4	A-5
C372	B-1	H-2	Q230	C-3	D-2	R611	D-6	C-5
C373	C-2	H-3	Q233	C-3	D-2	R612	D-6	B-6
C377	C-2	H-3	Q234	C-3	D-2	R613	D-5	B-6
C411	A-5	B-3	Q254	F-3	F-2	R671	J-1	H-5
C421	A-5	C-3	Q255	F-4	F-2	R672	J-1	H-5
C423	A-5	C-3	Q362	B-2	G-2	R673	J-1	H-5
C430	B-5	D-3	Q455	D-5	F-4	R674	J-2	H-6
C433	B-6	D-4	Q456	C-5	F-4	R678	J-2	H-6
C452	C-5	F-3	Q462	C-2	G-4	R700	A-4	A-6
C454	C-4	F-4	Q561	D-2	G-4	R711	D-6	B-6
C461	D-2	G-3	Q677	I-2	H-6	R712	D-5	C-6
C465	D-2	G-4	Q720	D-5	C-6	R721	D-5	C-6
C470	C-2	H-3	Q724	E-6	B-6	R723	D-5	C-6
C472	C-2	H-4	R110	A-3	C-1	R724	D-5	C-6
C476	D-3	H-4	R111	B-3	C-1	R725	D-5	C-6
C477	C-1	H-4	R120	B-4	C-1	R728	D-5	C-7
C503	E-6	A-5	R130	C-3	D-2	R761	I-2	G-6
C504	E-6	A-5	R131	C-3	D-2	R764	H-3	G-7
C533	A-5	E-5	R140	H-4	E-1	R771	I-1	H-6
C540	C-5	E-5	R141	F-4	E-1	R773	H-3	H-6
C552	C-4	F-5	R150	F-4	F-1	R774	H-3	H-6
C560	E-2	G-4	R162	A-2	G-1	T163	A-1	H-1
C572	D-2	H-5	R166	A-2	G-1	T361	B-1	G-2
C574	D-1	H-4	R170	A-2	H-1	T431	B-5	D-4
C575	J-3	H-5	R172	A-1	H-1	T470	C-2	G-3
C600	A-3	A-5	R200	A-3	A-2	T550	C-4	F-4
C601	A-4	A-5	R221	B-3	C-2	T570	D-2	G-4
C602	A-3	A-5	R222	B-3	C-2	T750	I-2	G-6
C603	A-4	A-6	R223	B-3	C-2	T751	H-2	G-7
C610	F-6	B-5	R224	B-3	C-2	T770	I-1	G-5
C620	D-6	C-6	R236	C-3	E-2	T775	H-2	H-7
C650	I-2	G-5	R240	H-4	E-2	TP442	C-5	E-5
C651	I-2	G-5	R242	H-4	E-2	TP454	D-4	F-5
C653	I-2	F-6	R244	E-4	E-2	TP463	E-2	G-5
C654	I-2	G-6	R250	G-3	F-2	TP726	E-5	C-7
C660	I-1	G-5	R251	F-3	F-2	TP730	C-5	D-6
C661	J-1	G-5	R252	F-3	F-2	U122	B-4	C-1
C662	J-1	H-5	R253	F-3	F-2	U122A	B-3	C-1
C675	J-2	H-6	R256	F-4	F-2	U122B	B-3	C-1
C676	J-1	H-6	R262	A-1	G-2	U231	E-1	D-2
C701	A-4	A-7	R263	B-2	G-2	U243	G-3	E-2
C702	A-5	A-7	R271	A-1	H-2	U243A	F-4	E-2
C722	D-5	C-6	R273	B-1	H-2	U243B	H-4	E-2
C726	D-5	C-6	R275	B-2	H-2	U440	A-6	E-4
C727	E-5	C-7	R364	C-2	G-3	U440A	C-5	E-4
C730	D-6	D-6	R365	C-2	G-3	U440B	B-5	E-4
C732	D-5	D-6	R368	B-2	G-2	U440C	B-5	E-4
C750	H-3	F-6	R371	B-1	H-2	U731	D-6	D-6
C754	I-2	G-6	R374	C-2	H-3	U762	H-2	G-7

RF MOTHER BOARD AND 2ND CONVERTER

The RF Mother board converts the 2nd IF (110 MHz) to the third and final IF (10 MHz). The board consists of the 100 MHz Gain stage for the incoming LO signal, 110 MHz IF Gain stage, PIN Diode Attenuator, 110/5 MHz Bandpass Filter, 3rd Converter, 10 MHz IF Gain stage, and a 400 MHz "LO" source for the 2nd Converter. See Figure S2-1.

100 MHz Gain

The 100 MHz Gain stage consists of two amplifiers. The Reference Oscillator output is coupled to the first amplifier via a low pass filter and a transformer. The two amplifiers have a combined gain of ~30 dB, which yields a total gain of ~25 dB from the input to the second amplifier

output. The output of these two amplifiers (3rd LO) drives the switching inputs of the 3rd Converter via a transformer.

110 MHz IF Gain

The 110 MHz IF Gain stage consists of four amplifiers and a PIN diode attenuator. Each one of these amplifiers typically has a gain of ~8.5 dB, for a combined gain of +34 dB. However, taking into account losses between stages, the total gain realized becomes +27 dB.

The PIN diode attenuator is used to set the overall gain of the IF system while the 50 ohm integrity of the system.

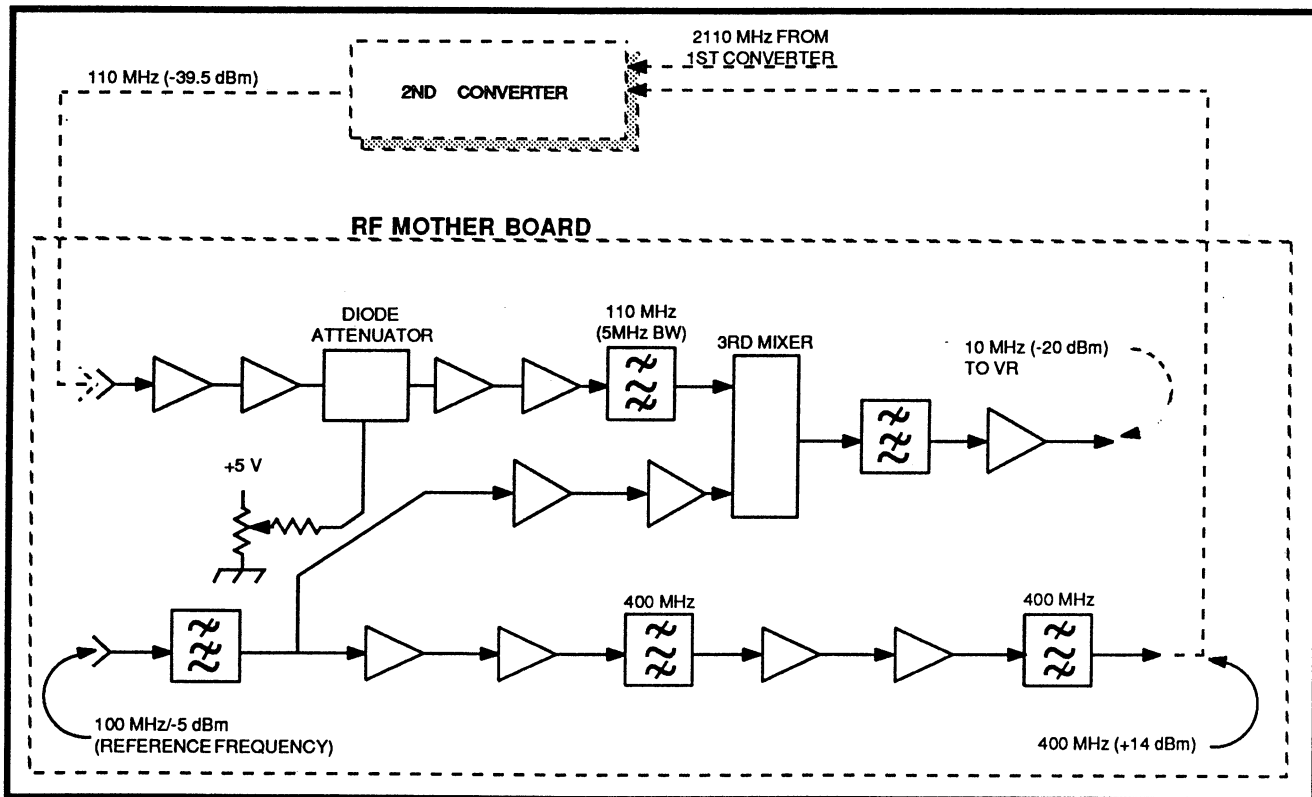


Figure S2-1. RF Mother board block diagram.

110/5 MHz Bandpass Filter

The 110/5 MHz Bandpass Filter is centered at 110 MHz and from 4 MHz to 6 MHz wide at the 6 dB down point, and is the 5 MHz resolution bandwidth filter. The filter output is coupled to the carrier inputs of the 3rd Converter via a transformer.

3rd Converter

The 3rd Converter consists of a balanced demodulator/mixer and a low pass filter. The carrier input signal is the 2nd IF, and the LO input signal is the reference frequency (100 MHz). The low pass filter suppresses high order mixer products and passes the 10 MHz IF.

10 MHz IF Gain

The 10 MHz IF Gain stage is an amplifier having a gain of 11 dB. The net gain from input to the output is +9 dB.

2ND CONVERTER

The 2nd Converter mixes the 2110 MHz IF from the 1st Converter with a 2000 MHz "LO" to produce the 110 MHz 2nd IF. The converter consists of three major stages, viz:

- Frequency Snap Diode
- Gain
- 200 Mhz Filter
- Mixer
- Low Pass Filter
- See Figure 6-E

Low Pass Filter

The Low Pass Filter serves a dual purpose. It passes the 400 MHz, the 4th harmonic of the reference oscillator, and attenuates higher harmonics. Secondly, high order products of the X5 Multiplier, a snap diode multiplier, are prevented from feeding back into the Mother board.

X5 Multiplier

The multiplier stage uses a snap diode to generate energy across the frequency spectrum. The input low-pass filter prevents high order energy from feeding back into the 400 MHz source, while the bandpass filter blocks all frequencies other than the desired 2000 MHz. Out of band frequencies are dissipated by a damping network (not shown in Figure S2-2) consisting of an RC time constant. This improves output purity by reducing the phase noise around the 2000 MHz signal.

Gain

The amplifier stage consists of two gain stages and two 3 dB pads (not shown) with a combined gain of +10 dB at 2000 MHz. With a matching network between the output of the last gain stage and the LO input port of the mixer, the total gain then becomes +13 dB.

Mixer

The mixer converts the 2110 MHz 1st IF signal to 110 MHz 2nd IF signal. A lowpass filter at the IF output port passes the 110 MHz IF signal and attenuates all high order products from the mixer. The filter has an insertion loss of approximately 1 dB.

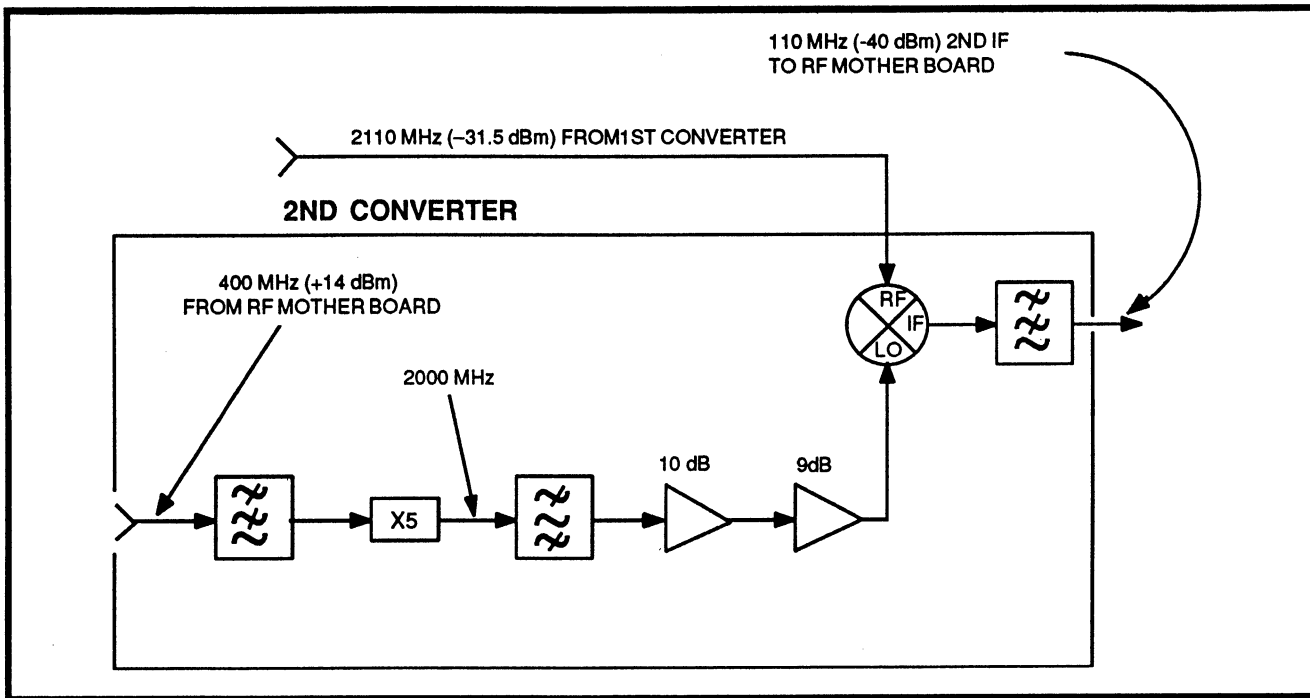
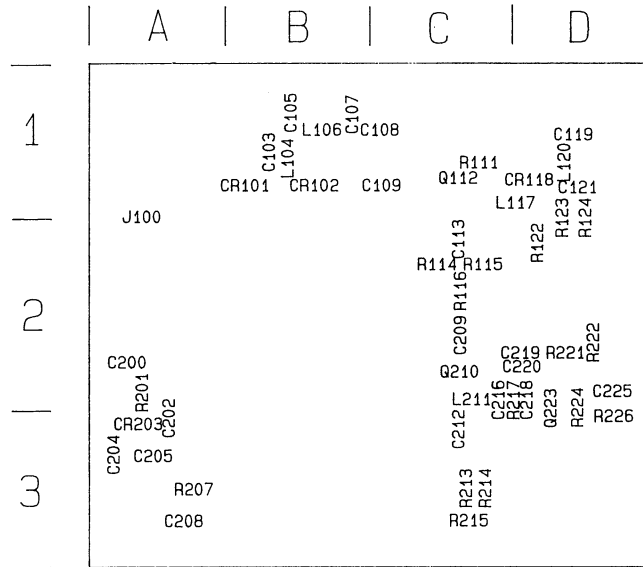


Figure S2-2. 2nd Converter block diagram.

A14A2 2ND CONVERTER



CIRCUIT NUMBER	SCHEMATIC LOCATION	CKT BRD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	CKT BRD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	CKT BRD LOCATION
C103	J-6	B-1	C219	G-5	D-2	R114	I-6	C-2
C105	J-6	B-1	C220	H-5	D-2	R115	H-6	C-2
C107	J-6	B-1	C225	G-5	D-2	R116	H-6	C-2
C108	J-5	C-1	CR101	J-5	B-1	R122	I-5	D-2
C109	I-5	C-1	CR102	J-5	B-1	R123	I-5	D-1
C113	I-6	C-2	CR118	I-5	D-1	R124	I-5	D-2
C119	I-5	D-1	CR203	G-6	A-3	R201	G-6	A-2
C121	I-5	D-1	J100	J-6	A-1	R207	F-6	A-3
C200	G-6	A-2	L104	J-6	B-1	R213	G-6	C-3
C202	G-6	A-2	L106	J-6	B-1	R214	G-6	C-3
C204	F-6	A-3	L117	I-5	D-1	R215	G-6	C-3
C205	F-6	A-3	L120	I-5	D-1	R217	G-5	D-2
C208	F-6	A-3	L211	H-6	C-2	R221	G-5	D-2
C209	H-6	C-2	Q112	I-6	C-1	R222	G-5	D-2
C212	H-6	C-3	Q210	H-6	C-2	R224	G-5	D-3
C216	G-5	C-2	Q223	G-5	D-3	R226	G-5	D-3
C218	H-5	D-2	R111	I-5	C-1			



A14A2—2nd Converter

1st LO INTERFACE AND 1st LO, AND 1st LO BUFFER AMPLIFIER

1st LO INTERFACE AND 1st LO

The 1st LO has a tuning range of 2.11 to 3.91 GHz. The oscillator assembly includes the interface circuit board that couples operating and tuning voltages from the Center Frequency Control board.

Two zener diodes on the interface board clamp transient voltages from the main coil. See Figure S3-1.

When the FM coil is used to sweep the oscillator, the relay on the interface board closes and couples a large capacitor (two capacitors in parallel) across the main coil. The capacitors lower the noise bandwidth of the main coil driving circuit while the FM coil is in operation. The heater provides temperature stability.

The rest of the circuitry on the Interface board provides operating voltages for the two amplifiers in the 1st LO assembly.

The output of the 1st LO drives the YIG Buffer Amplifier.

1st LO BUFFER AMPLIFIER

The 1st LO Buffer Amplifier consists of the following:

- An automatic-level-controlled (alc) amplifier
- Strobe Driver
- Sampling Gate

ALC Amplifier

The Alc Amplifier is composed of a wide-band amplifier with impedance matching transmission lines at the input and output, a directional coupler, a detector, a level comparator, and active bias. See Figure S3-2.

The directional coupler couples a portion of the amplified LO signal to the detector, approximately -15 dBm. The coupled signal is then amplitude detected, and the resultant dc level fed to the non-inverting input of a comparator, where it is compared to a reference dc level. (The reference dc level is connected to inverting input). The output of the comparator then controls the active bias tending to hold the amplifier's output at a constant level.

Strobe Driver

A Strobe signal (100 MHz or 50 MHz) from the Center Frequency Control board is coupled to the Strobe Driver. The Strobe Driver is a transformer-coupled gain stage. Its output is coupled to the Sampling Gate.

Sampling Gate

A power divider at the input of the amplifier routes 50% of the 1st LO's output to another power divider. One port of the second divider is reserved for a future option, and is terminated in 50 ohms. The other port is coupled to the Sampling Gate.

If the output frequency of the 1st LO were stable, LO sampling would occur at the same level since the rate at which the LO output is sampled is constant. However, the LO output has a tendency to drift slightly under certain conditions such as unstable ambient temperature. Consequently, sampling occurs at different levels, resulting in a beat note. Thus, the Beat Note signal is a measure of the 1st LO's drift.

The output of the Sampling Gate is routed to the Counter Amplifier.

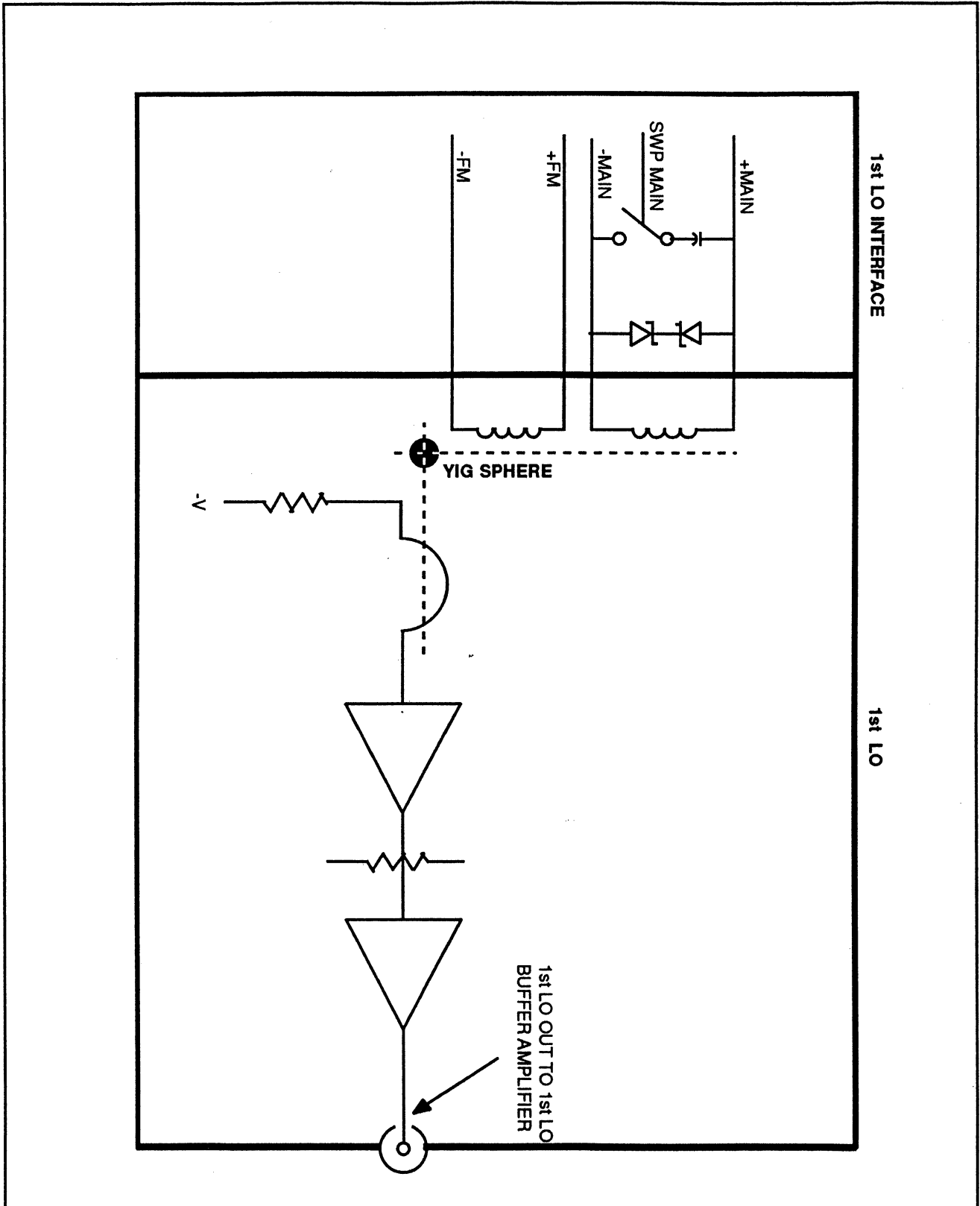


Figure S3-1. 1st LO Interface and 1st LO.

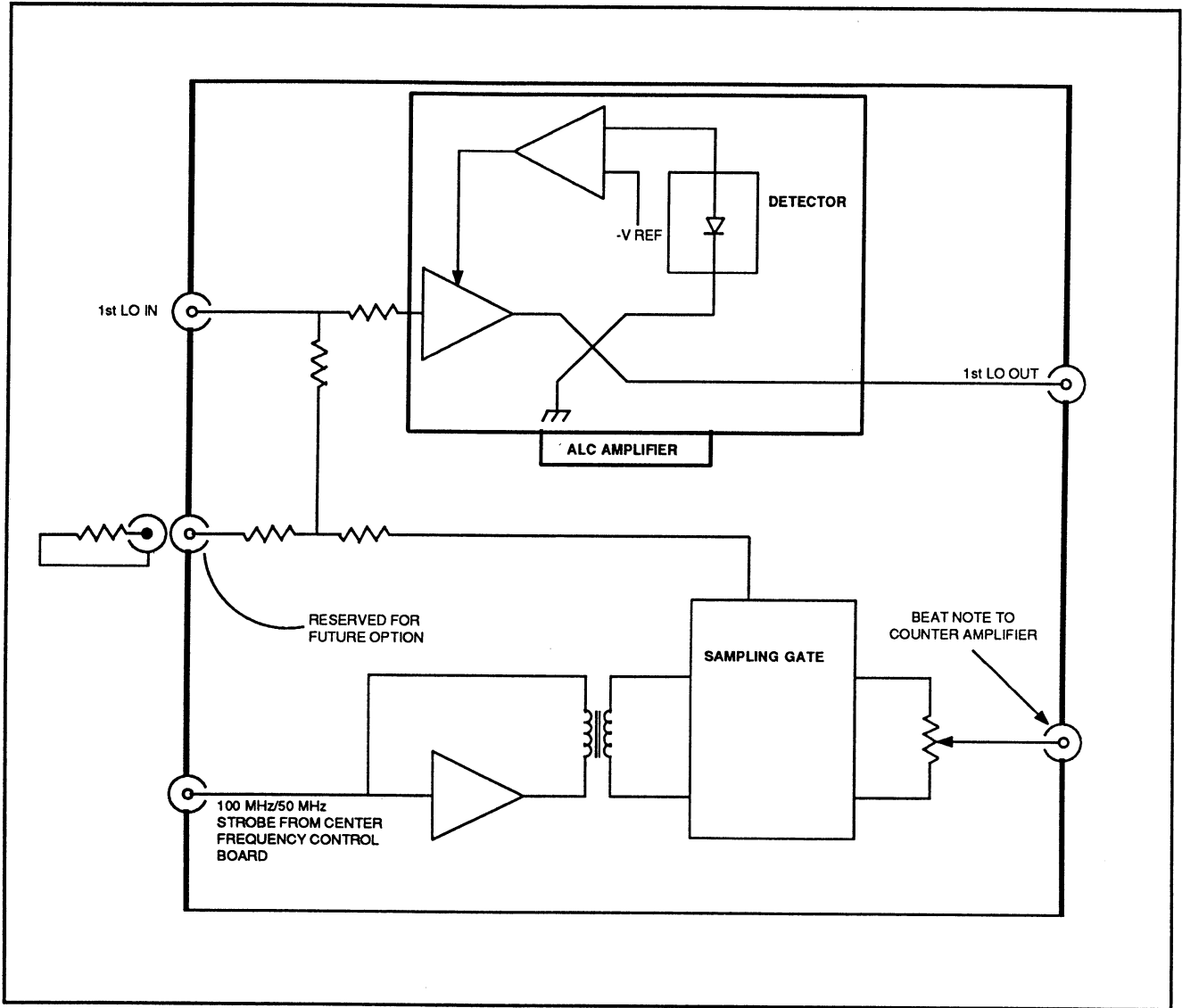


Figure S3-2. 1st LO Buffer Amplifier.

A19A1 1st LO INTERFACE

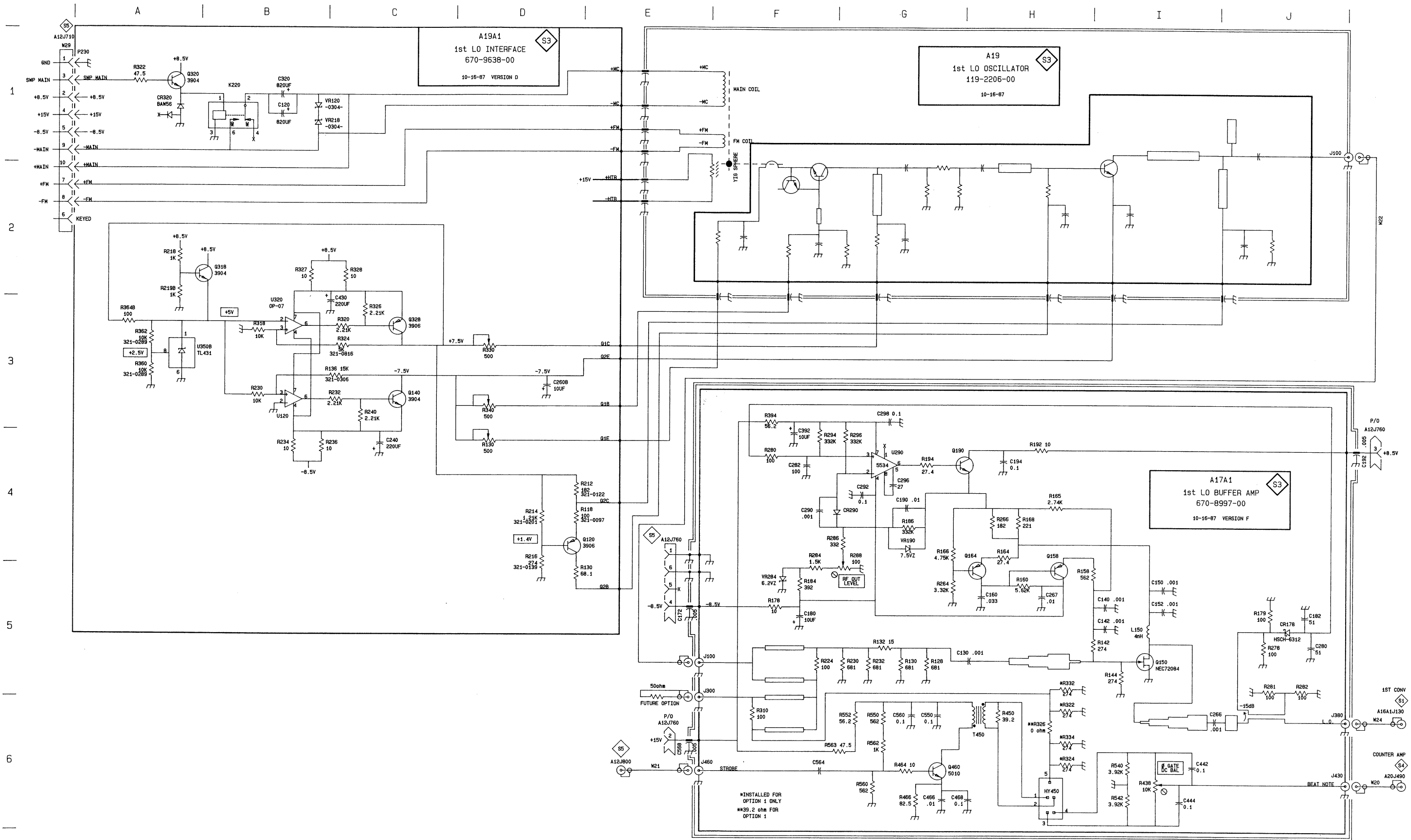


CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C120	B-1	B-1	R136	C-3	B-1	R324	C-3	A-2
C240	C-4	B-1	R212	D-4	A-1	R326	C-3	B-2
C260B	D-3	BACK	R214	D-4	A-1	R327	B-2	B-2
C320	B-1	A-2	R216	D-4	A-1	R328	C-2	B-2
C430	C-3	B-2	R218	A-2	A-2	R330	D-3	B-2
CR320	A-1	A-2	R219B	A-2	BACK	R340	D-3	B-2
K220	B-1	A-1	R230	B-3	B-1	R360	A-3	A-2
P230	A-1	B-1	R232	C-3	B-1	R362	A-3	A-2
Q120	D-4	A-1	R234	B-4	B-1	R364B	A-3	BACK
Q140	C-3	B-1	R236	C-4	B-1	U120	B-3	A-1
Q318	B-2	A-2	R240	C-3	B-1	U320	B-3	A-2
Q320	A-1	A-2	R318	B-3	A-2	U350B	A-3	BACK
Q328	C-3	B-2	R320	C-3	A-2	VR120	B-1	A-1
R118	D-4	A-1	R322	A-1	A-2	VR218	B-1	A-1
R130	D-4	B-1						

A17A1 1st LO BUFFER AMP



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C130	H-5	A-1	J100	E-5	A-1	R278	J-5	D-1
C140	I-5	B-1	J300	E-5	A-2	R280	F-4	D-1
C142	I-5	B-1	J380	J-6	D-2	R281	J-5	D-2
C150	I-5	B-1	J430	J-6	A-3	R282	J-5	D-2
C152	I-5	B-1	J460	E-6	C-3	R284	F-5	D-1
C160	H-5	C-1	L150	I-5	B-1	R286	G-4	D-1
C172	E-5	C-1	Q150	I-5	B-1	R288	G-5	D-2
C180	F-5	D-1	Q158	H-4	C-1	R294	F-4	D-2
C182	J-5	D-1	Q164	H-4	C-1	R296	G-4	D-2
C190	G-4	D-1	Q190	H-4	D-1	R310	F-6	A-2
C192	J-4	CHASSIS	Q460	G-6	C-3	R322	H-6	A-2
C194	H-4	D-1	R128	G-5	A-1	R324	H-6	A-2
C266	J-6	C-2	R130	G-5	A-1	R326	H-6	A-2
C267	H-5	C-1	R132	G-5	A-1	R332	H-5	A-2
C280	J-5	D-1	R142	I-5	B-1	R334	H-6	A-2
C282	F-4	D-1	R144	I-5	B-1	R394	F-3	D-2
C290	F-4	D-1	R158	I-5	B-1	R438	I-6	B-3
C292	G-4	D-1	R160	H-5	C-1	R450	H-6	C-3
C296	G-4	D-1	R164	H-4	C-1	R464	G-6	C-3
C298	G-3	D-2	R165	H-4	C-1	R466	G-6	C-3
C392	F-3	D-2	R166	G-4	C-1	R540	I-6	B-3
C442	I-6	B-3	R168	H-4	C-1	R542	I-6	B-3
C444	I-6	B-3	R178	F-5	C-1	R550	G-6	C-3
C466	G-6	C-2	R179	J-5	C-1	R552	G-6	C-3
C468	H-6	C-2	R184	F-5	D-1	R560	G-6	C-3
C550	G-6	C-3	R186	G-4	D-1	R562	G-6	C-3
C560	G-6	C-3	R194	G-4	D-1	R563	G-6	C-3
C564	F-6	C-3	R224	F-5	A-1	T450	H-6	C-3
C568	E-6	C-3	R230	G-5	A-1	U290	G-4	D-1
CR178	J-5	D-1	R232	G-5	A-1	VR190	G-4	D-1
CR290	G-4	D-1	R264	G-5	C-1	VR284	F-5	D-1
HY450	H-6	B-3	R266	H-4	C-1			



1st LO INTERFACE, 1st LO,
and 1st LO BUFFER AMP



COUNTER AMPLIFIER

The Counter Amplifier receives a strobe signal (\emptyset Gate) from a Phase Gate on the 1st LO Buffer Amplifier. The frequency range of the strobe signal is either 5 kHz to 40 MHz (for a 100 MHz strobe input) or 5 kHz to 13 MHz (for a 50 MHz strobe input), and the amplitude range is approximately -55 dBm to -45 dBm, depending on the strobe frequency and component tolerances.

This board contains several stages of linear amplification, a pair of selectable low pass filters, and a high speed Schmitt trigger. See Figure S4-1. Independent adjustments are provided for each filter. The signal is amplified and filtered to provide a signal suitable for counting.

The output of the Counter Amplifier is intended to drive a 50 Ω load tied to a reference voltage of approximately 4 V. The output is a rectangular waveform with an amplitude of approximately 0.8 Vp-p, and a rise and fall time of 3 ns (independent of the input frequency and amplitude).

Two gain stages amplify the input signal by approximately 38 dB. Transistors then steer the signal to one of two low pass filters depending on the frequency of the strobe input. The filter output is routed to another pair of gain stages (19 dB and 10 dB) bringing the total gain adjustment to approximately 64 dB (if the filter adjustments are set to maximum). The signal is then routed to a Schmitt trigger via a low pass filter. The low pass filter, with a cutoff frequency of approximately 50 MHz, removes newly acquired broadband noise. The output of the Schmitt trigger goes through shaping and level shifting circuitry before being shipped to the counter on the μ P board.

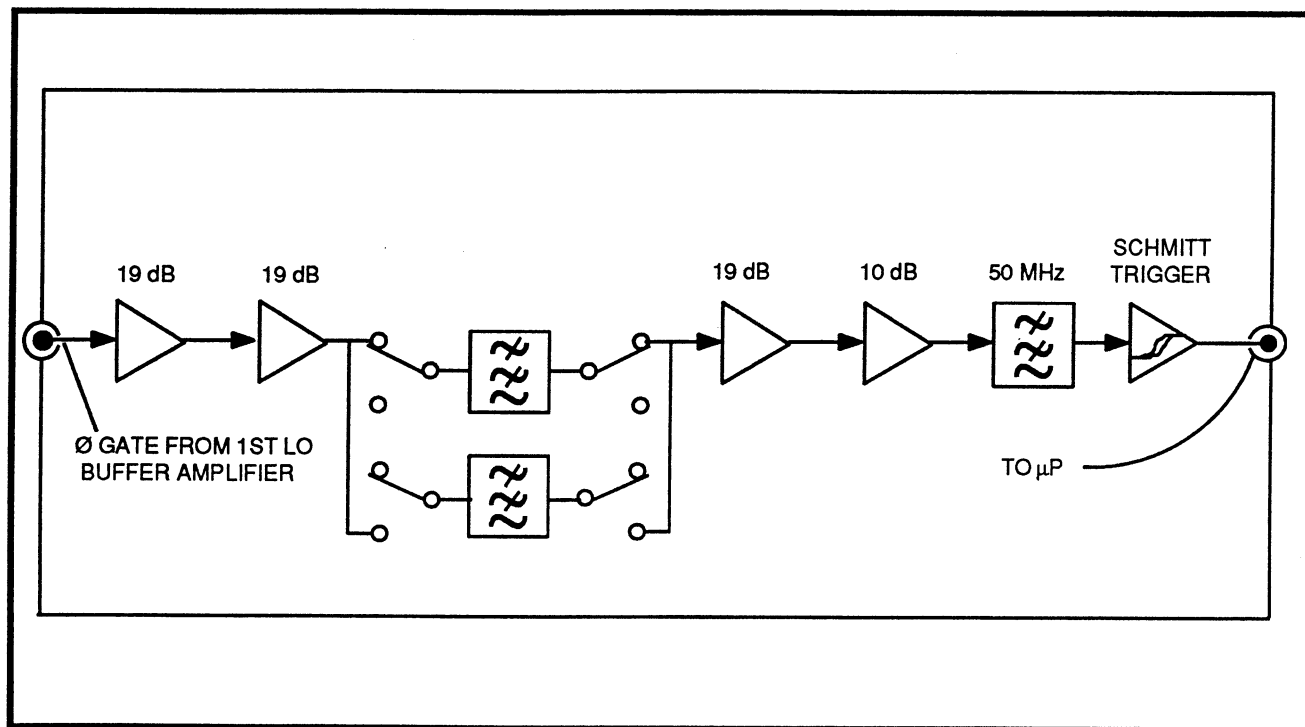
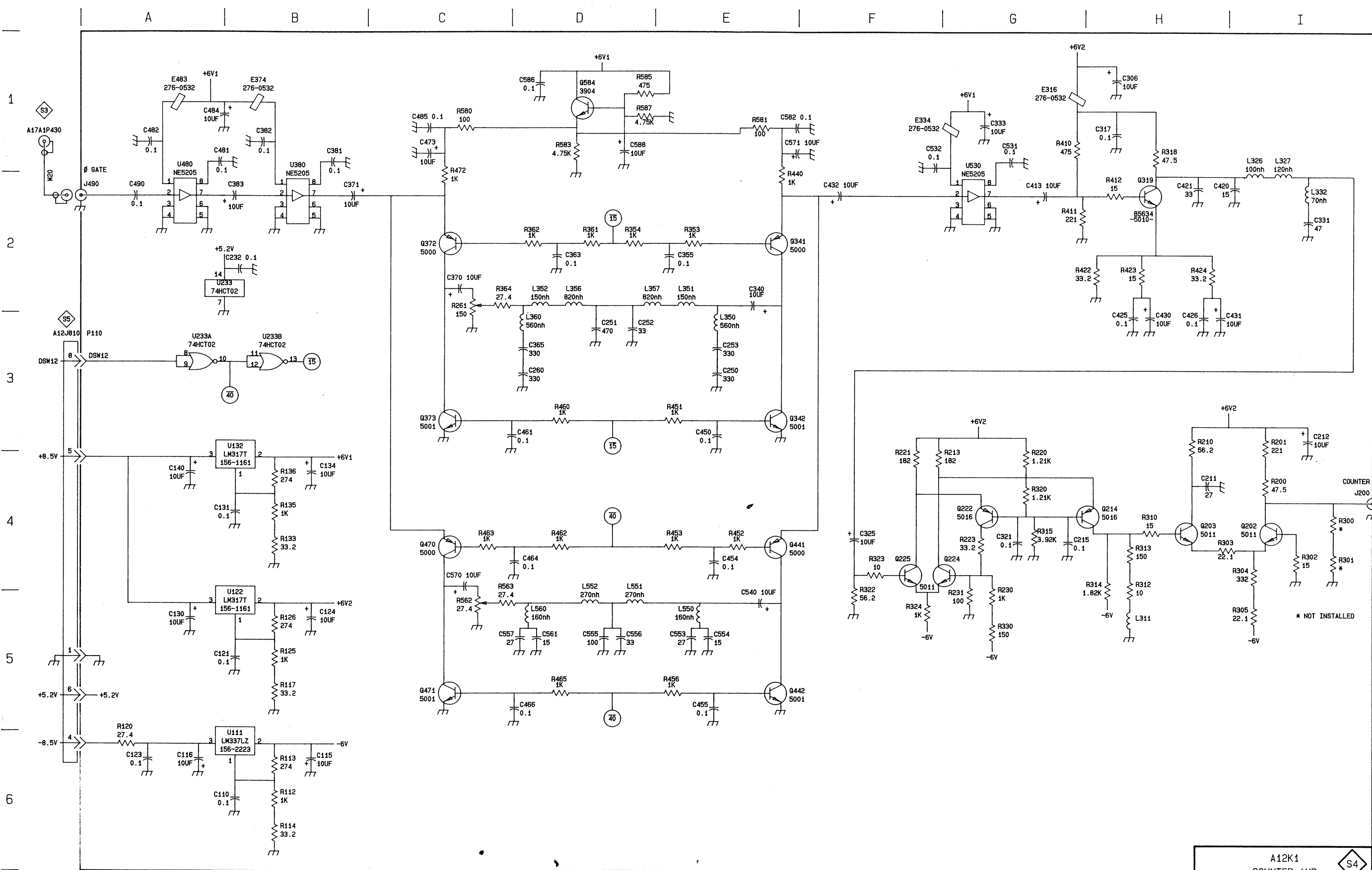


Figure S4-1. Counter Amplifier.

A20 COUNTER AMP

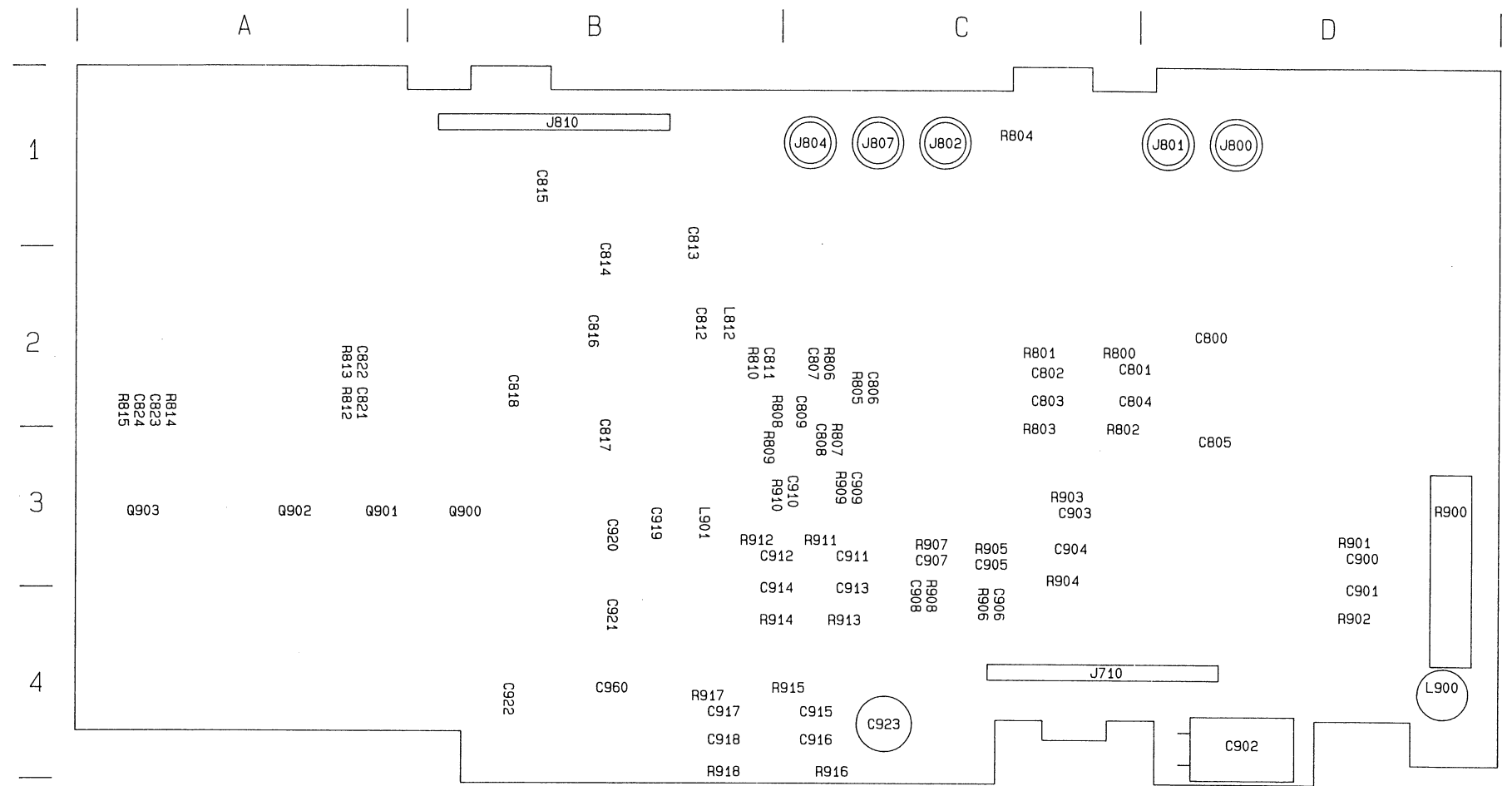


CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C110	B-6	A-1	C556	D-5	C-4	R220	G-4	A-2
C115	B-6	A-1	C557	D-5	C-4	R221	F-4	A-2
C116	A-6	A-1	C561	D-5	C-4	R223	G-4	A-2
C121	B-5	A-1	C570	C-4	C-4	R230	G-5	B-2
C123	A-6	A-1	C571	E-1	D-4	R231	G-5	A-2
C124	B-5	B-1	C582	E-1	D-4	R261	C-2	C-2
C130	A-5	B-1	C586	D-1	D-4	R300	I-4	A-2
C131	B-4	B-1	C588	D-1	D-4	R301	I-4	A-2
C134	B-4	B-1	E316	G-1	A-3	R302	I-4	A-2
C140	A-4	B-1	E334	G-1	B-3	R303	H-4	A-2
C211	H-4	A-2	E374	B-1	D-3	R304	I-4	A-3
C212	I-3	A-2	E483	A-1	D-4	R305	I-5	A-3
C215	G-4	A-2	J200	I-4	A-2	R310	H-4	A-2
C232	B-2	B-2	J490	A-2	D-3	R312	H-4	A-2
C250	E-3	C-2	L311	H-5	A-2	R313	H-4	A-2
C251	D-3	C-2	L326	I-1	A-3	R314	H-4	A-3
C252	D-3	C-2	L327	I-1	A-3	R315	G-4	A-3
C253	E-3	C-2	L332	I-2	B-3	R318	H-1	A-3
C260	D-3	C-2	L350	E-3	C-2	R320	G-4	A-2
C306	H-1	A-3	L351	E-2	C-2	R322	F-5	A-3
C317	H-1	A-3	L352	D-2	C-2	R323	F-4	B-2
C321	G-4	A-2	L356	D-2	C-2	R324	F-5	B-2
C325	F-4	B-3	L357	D-2	C-2	R330	G-5	B-2
C331	I-2	B-3	L360	D-3	C-2	R353	E-2	C-3
C333	G-1	B-3	L550	E-5	C-4	R354	D-2	C-3
C340	E-2	B-2	L551	D-5	C-4	R361	D-2	C-3
C355	E-2	C-3	L552	D-5	C-4	R362	D-2	C-3
C363	D-2	C-3	L560	D-5	C-4	R364	C-3	C-2
C365	D-3	C-2	P110	A-3	A-1	R410	G-1	A-3
C370	C-2	C-2	Q202	I-4	A-2	R411	G-2	A-3
C371	B-2	D-2	Q203	H-4	A-2	R412	H-2	A-3
C381	B-1	D-3	Q214	H-4	A-2	R422	H-2	A-3
C382	B-1	D-3	Q222	G-4	A-2	R423	H-2	A-3
C383	B-2	D-3	Q224	G-4	B-2	R424	H-2	A-3
C413	G-2	A-4	Q225	F-4	B-2	R440	E-1	B-3
C420	I-2	A-3	Q319	H-2	A-3	R451	E-3	C-3
C421	H-2	A-3	Q341	E-2	B-3	R452	E-4	C-3
C425	H-3	B-3	Q342	E-3	B-3	R453	E-4	C-3
C426	H-3	B-4	Q372	C-2	C-3	R456	D-5	C-4
C430	H-3	B-3	Q373	C-3	C-3	R460	D-3	C-3
C431	H-3	B-4	Q441	E-4	B-3	R462	D-4	C-3
C432	F-2	B-3	Q442	E-5	B-4	R463	C-4	C-3
C450	E-3	C-3	Q470	C-4	C-3	R465	E-5	C-4
C454	E-4	C-3	Q471	C-5	C-4	R472	C-1	C-4
C455	E-5	C-4	Q584	D-1	D-4	R562	C-5	C-4
C461	D-3	C-3	R112	B-6	A-1	R580	C-1	D-4
C464	D-4	C-3	R113	B-6	A-1	R581	E-1	D-4
C466	D-5	C-4	R114	B-6	A-1	R583	D-1	D-4
C473	C-1	D-4	R117	B-5	A-1	R585	D-1	D-4
C481	A-1	D-3	R120	A-6	A-1	R587	D-1	D-4
C482	A-1	D-3	R125	B-5	A-1	U111	B-6	A-1
C484	A-1	D-4	R126	B-5	B-2	U122	B-5	B-1
C485	C-1	D-4	R133	B-4	B-1	U132	B-4	B-1
C490	A-2	D-3	R135	B-4	B-2	U233	A-2	B-2
C531	G-1	B-4	R136	B-4	B-2	U233A	A-3	B-2
C532	F-1	B-4	R200	I-4	A-2	U233B	A-3	B-2
C540	E-5	B-4	R201	I-3	A-2	U380	B-2	D-2
C553	E-5	C-4	R210	H-3	A-2	U480	A-2	D-3
C554	E-5	C-4	R213	F-4	A-2	U530	G-2	B-4
C555	D-5	C-4						



A12K1
 COUNTER AMP
 388-9618-00
 11-2-87 VERSION D





A12—Center Frequency Control

CENTER FREQUENCY CONTROL BOARD

The Center Frequency Control (CFC) board controls the frequency of the 1st LO, and generates the Spectrum Analyzer's reference frequency. This board can be divided into five areas:

- Data Interfacing
- CFC Digital-to-Analog Converters (CFC DACs)
- Summing Stages
 - Main Coil Driver
 - FM Coil Driver
- Sweep Attenuator
- Reference Oscillator and Calibrator (100 MHz)

Data Interfacing

Two shift registers link the Center Frequency Control board to the μ P, one at the input and another at the output. The input register (24-bits wide) holds the control data for the board while the output register (8-bits wide) collects information regarding the status of the board.

The Input Register is serially loaded by the μ P with 24 bits. These bits divide into the following five fields:

UPD (Up-load): 1 bit
 A0 through A2: 3 bits
 DB0 through DB3: 3 bits
 DB'0 through DB'3: 4 bits
 DSW4 through DSW15: 12 bits

UPD is a control line used for latching data from the DAC's internal buffers to their corresponding converters. This control line works in conjunction with a write (WRT) line. Both of these lines are not shown in Figure S5-1.

A0 through A2 are addresses for multiplexing data into the DAC's buffers.

DB0 through DB3 and DB'0 through DB'3 make up two 4-bit data buses for sending data to the DACs. Data is loaded into each DAC with three nibbles of 4 bits each.

DSW4 (SWP Select 1) connects the sweep signal to the main coil's summing stage, and disconnects the capacitor across the main coil.

DSW5 (SWP Select 0) connects the sweep signal to the FM driving stage.

DSW6 (AS 1) connects the sweep signal to the PLL summing stage.

DSW7 (AS 0) selects the decade attenuation desired in the sweep attenuator.

DSW8 (Calibrator Enable) connects the 100 MHz calibrator (-22 dBm) signal to the Step Attenuator.

DSW9 (Lock Interrupt Enable) allows the break lock detectors to interrupt the μ P if the PLL approaches break.

DSW10 (PLL Drive/FM Drive) selects which circuit will drive the FM coil. In the PLL mode of operation, the error amplifier of the PLL drives the FM coil; otherwise, the FM driver drives the FM coil.

DSW11 (Count F Beat) is set low for counting the beat note generated by the 1st LO's phase gate (IF Port).

DSW12 (100 MHz/50 MHz) allows the Microprocessor to select either 100 MHz (when set high) or 50 MHz (when set low) strobe frequency for driving the 1st LO's phase gate.

DSW13 (Check ID) is set high to enable an end-of-sweep signal to interrupt the μ P.

DSW14 (Load Exam Enable) set high when the Microprocessor is ready to shift data into the output shift register.

DSW15 (Read Exam) allows the μ P to interrupt itself and read the contents of the output shift register.

The contents of the output register indicate the status of the board. In its normal mode of operation, a condition on the board triggers an interrupt for the μ P and the register latches its parallel data before sending the data to the μ P. For a data path testing, the register is loaded serially.

During a data path test, the μ P joins the two registers together and loads the output register with a known data string. It then reads the contents of the output register and compares the contents to the data sent. After completing the test, the μ P returns the registers to their normal mode of operation.

Once the input register establishes the board's mode of operation, the board functions as an analog unit. Digital-to-Analog Converters (DACs) convert digital data into equivalent analog voltages, which are summed at appropriate summing stages. See Figure S5-1.

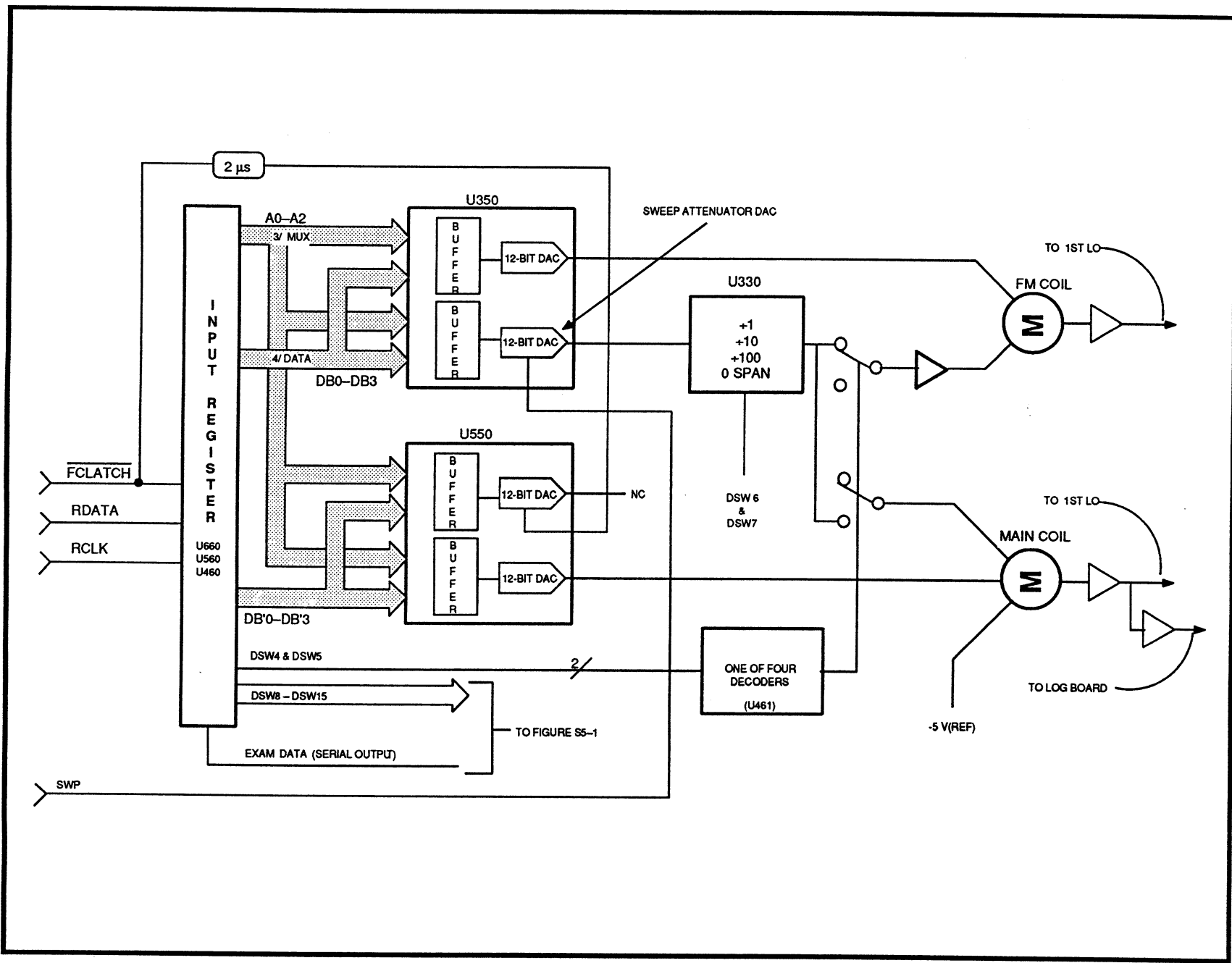


Figure S5-1. Part of Center Frequency Control board

The Main Coil Driver drives current through the 1st LO's main coil, proportional to the voltages summed at the Main Coil summing node. A DAC generates the center frequency control voltage. The sweep voltage sweeps the main coil summing stage when required by the frequency span/div. An offset voltage (scaled down from the -5 V reference), sets the 1st LO frequency to the middle of its frequency range.

The FM coil driver operates like the main driver, except it does not require an offset voltage.

The sweep attenuator attenuates the sweep voltage coming from the Sweep board before passing the sweep to a summing stage. The user, by selecting a frequency span, sets the multiplication constant of the attenuator DAC (via an algorithm of processes of the μ P).

100 MHz (3rd LO)

A crystal oscillator provides the 100 MHz reference frequency for the instrument. With additional buffering, the 100 MHz signal is routed to the calibration port of the instrument, to the Strobe Generator, to the RF Mother board, and to the μ P board.

Strobe Generator

DSW12 selects either 100 MHz or 50 MHz strobe frequency for driving the 1st LO's phase gate. When DSW12 is set high, the Strobe Generator becomes a divide-by-one circuit and when set low, becomes a divide-by-two circuit.

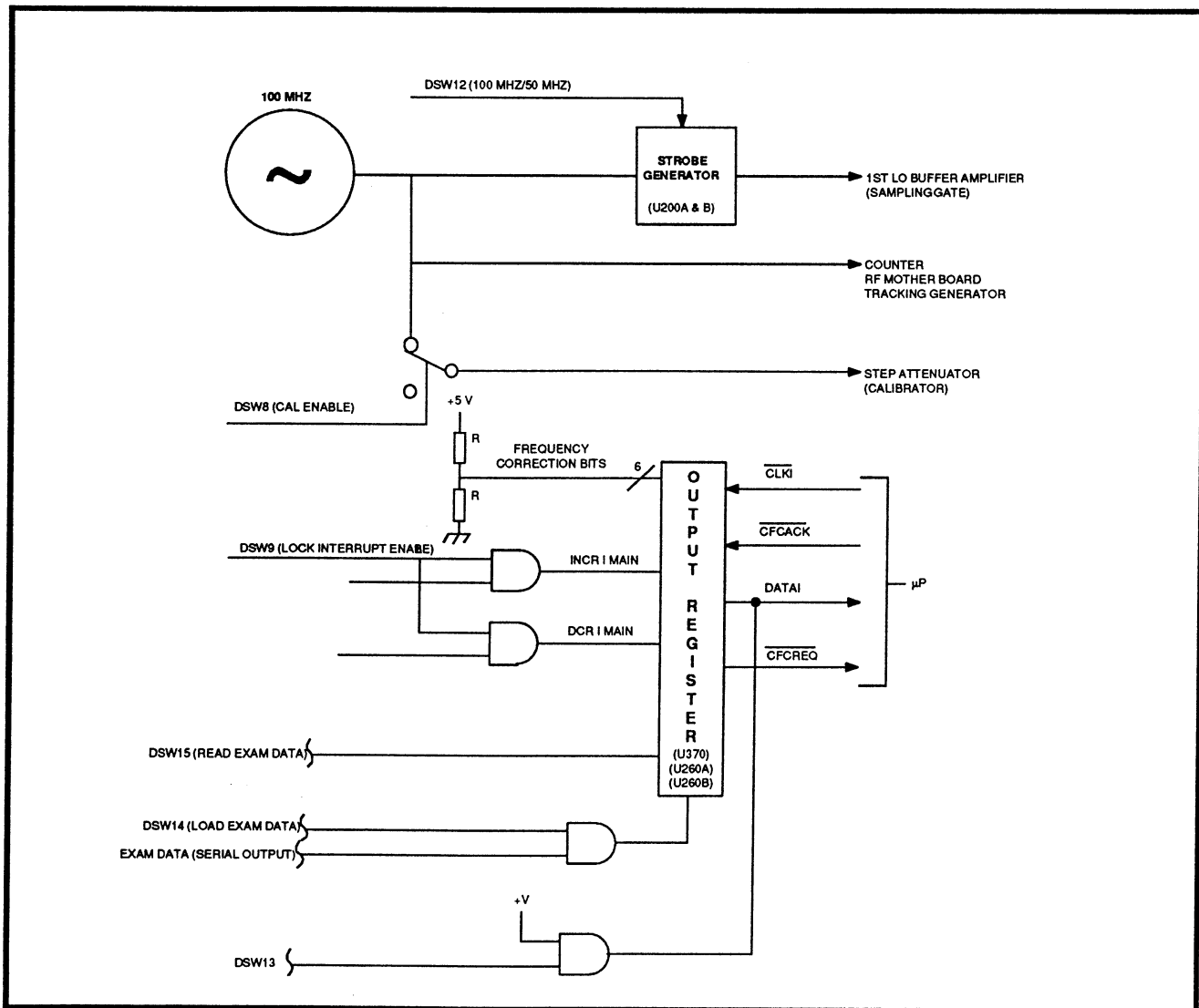


Figure S5-2. Part of Center Frequency Control board.

A12 CENTER FREQUENCY CONTROL



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C100	I-1	A-1	L210	J-4	A-1	R372	C-2	D-2
C101	I-2	A-1	L220	F-2	B-1	R373	C-2	D-2
C102	J-1	A-1	Q100	J-6	A-2	R374	C-2	D-2
C103	I-4	A-1	Q120	U-4	C-1	R375	B-2	D-2
C110	J-1	A-1	Q150	G-4	C-1	R460	F-5	C-3
C111	J-4	A-1	Q210	G-2	A-2	R461	C-2	C-2
C120	J-2	A-1	Q220	H-1	A-1	R462	C-2	C-2
C121	F-2	B-1	Q230	F-2	B-2	R463	D-2	C-2
C130	G-3	B-1	Q240	G-2	B-1	R464	D-2	C-2
C131	G-2	B-1	Q241	H-2	B-1	R465	D-2	C-2
C132	J-2	B-1	R100	I-1	A-1	R466	D-2	C-2
C140	J-1	B-1	R101	I-2	A-1	R467	D-2	D-2
C141	H-1	B-1	R102	J-6	A-1	R468	D-2	D-2
C142	I-2	B-1	R110	J-1	A-1	R752	C-3	C-4
C143	I-3	C-1	R111	J-5	A-1	R753	C-3	C-4
C150	H-4	C-1	R112	J-6	A-1	R760	B-3	C-4
C151	H-4	C-1	R120	J-2	A-1	R761	B-3	C-4
C200	J-5	A-2	R121	J-3	A-1	R762	B-4	C-4
C210	J-4	A-1	R130	J-2	B-1	R763	C-3	C-4
C211	G-1	A-1	R131	J-2	B-1	R770	A-3	C-4
C212	G-1	A-1	R140	J-1	B-1	R771	A-4	C-4
C220	I-2	A-1	R141	J-2	B-1	R772	A-4	C-4
C221	F-1	B-1	R142	J-2	A-1	R773	A-4	D-4
C230	G-2	B-1	R143	H-1	A-1	R774	A-4	D-4
C231	G-2	B-1	R144	I-2	A-1	R775	A-4	D-4
C232	G-2	B-1	R145	I-2	A-1	R804	G-3	C-1
C233	G-2	B-2	R160	I-4	C-1	U100	J-2	A-1
C240	H-2	B-2	R161	I-5	C-1	U100A	J-1	A-1
C241	H-3	B-2	R162	D-2	C-1	U160	H-5	C-1
C310	G-3	A-2	R200	J-5	A-1	U160A	I-5	C-1
C311	G-3	A-2	R210	J-4	A-1	U160B	B-3	C-1
C312	I-1	A-2	R211	H-1	A-1	U160C	A-3	C-1
C320	F-2	B-2	R212	G-1	A-1	U160D	I-5	C-1
C330	F-2	B-2	R213	G-1	A-1	U200	J-4	A-2
C360	C-1	C-2	R214	G-2	A-2	U200A	J-5	A-2
C370	B-2	D-1	R220	G-1	A-1	U200B	J-6	A-2
C750	C-3	C-4	R221	I-2	A-1	U250	G-4	C-1
C760	B-3	C-4	R222	I-1	A-1	U250A	E-6	C-1
C813	G-4	B-2	R223	F-1	B-2	U250B	A-3	C-1
C814	A-1	B-2	R240	G-2	B-1	U250C	B-1	C-1
C815	H-5	B-1	R241	G-2	B-2	U250D	B-3	C-1
C816	E-2	B-2	R242	G-2	B-2	U250E	I-4	C-1
C817	D-4	B-3	R243	H-2	B-2	U250F	G-5	C-1
C818	F-5	B-2	R244	H-2	B-2	U260	A-1	C-2
C920	C-4	B-3	R250	G-5	C-1	U260A	B-1	C-2
C921	B-4	B-4	R251	A-1	C-2	U260B	B-2	C-2
C922	A-3	B-4	R261	A-2	C-2	U360A	C-1	C-2
C960	C-3	B-4	R262	A-3	C-2	U360B	C-1	C-2
CR100	J-6	A-1	R263	A-3	C-2	U360C	C-1	C-2
CR110	J-6	A-1	R264	A-3	C-2	U370	B-2	C-2
CR120	J-6	A-1	R265	C-2	C-1	U460	D-4	C-3
CR350	B-1	C-2	R266	A-2	C-2	U461	F-5	C-2
HR230	F-2	B-1	R270	B-2	D-1	U560	C-4	C-3
J150	J-4	C-1	R310	G-3	A-2	U660	B-4	C-4
J800	J-4	A-1	R311	G-3	A-2	U760	C-3	C-4
J801	J-2	D-1	R330	F-2	B-2	U761	A-3	C-4
J802	J-2	B-1	R331	F-2	B-2	U761A	A-2	C-4
J804	J-2	B-1	R333	F-3	B-2	U761B	A-4	C-4
J807	J-1	C-1	R350	B-1	C-2	U761C	A-4	C-4
J810	C-6	C-1	R360	C-1	C-2	U761D	A-3	C-4
K250	H-4	C-1	R370	C-2	D-2	VR210	G-3	A-2
L110	J-1	A-1	R371	C-2	D-2			

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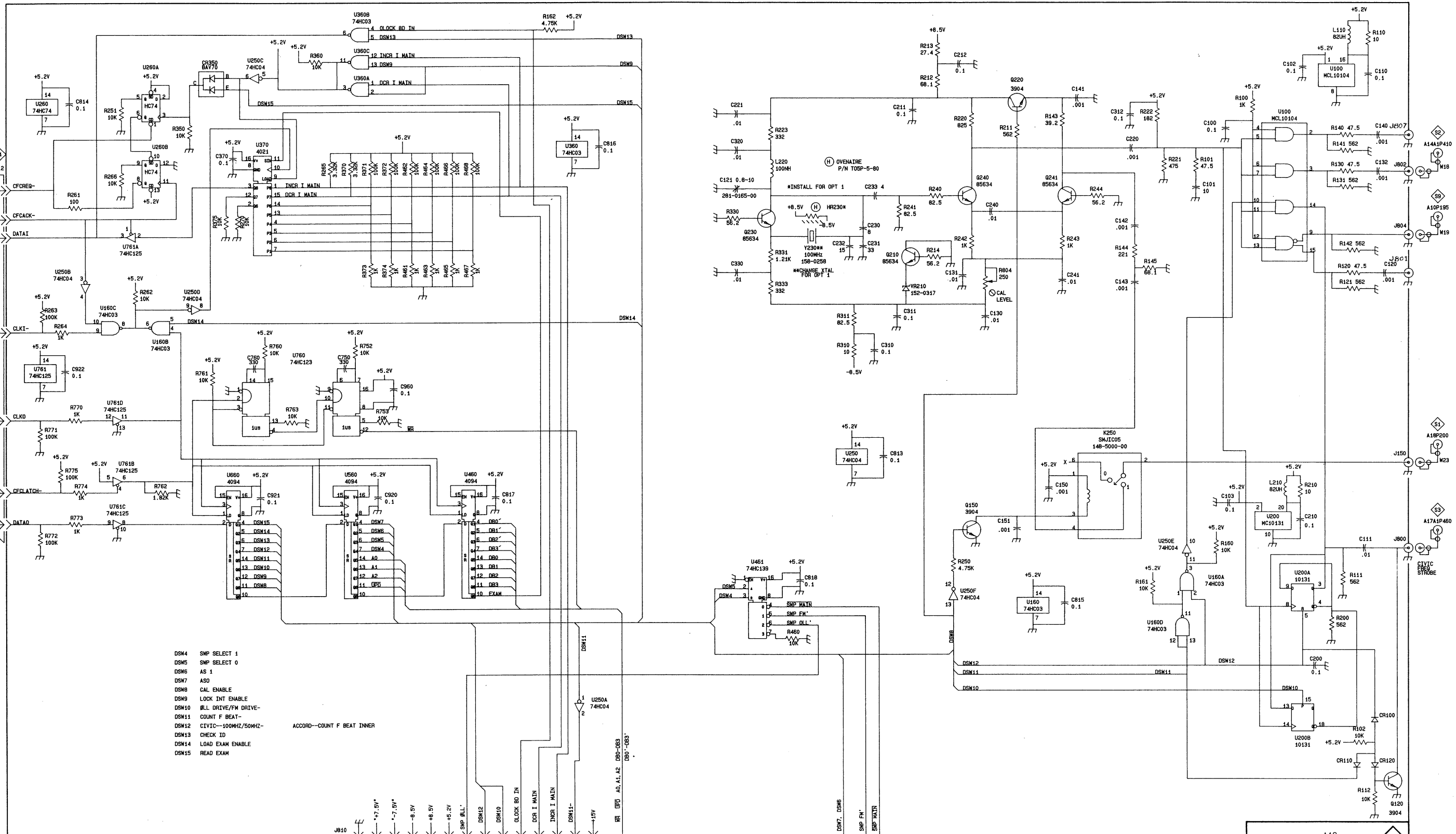
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- DSM4 SMP SELECT 1
- DSM5 SMP SELECT 0
- DSM6 AS 1
- DSM7 ASD
- DSM8 CAL ENABLE
- DSM9 LOCK INT ENABLE
- DSM10 PLL DRIVE/FM DRIVE-
- DSM11 COUNT F BEAT-
- DSM12 CIVIC-100MHZ/50MHZ-
- DSM13 CHECK ID
- DSM14 LOAD EXAM ENABLE
- DSM15 READ EXAM

ACCORD-COUNT F BEAT INNER

J810
 1 17.5V
 2 17.5V
 3 17.5V
 4 -8.5V
 5 -8.5V
 6 +5.2V
 7 SMP PLL
 8 DSM12
 9 DSM10
 10 GLOCK BD IN
 11 DCR I MAIN
 12 INCR I MAIN
 13 DSM11
 14 +15V

Page 2
 RR UPD A0, A1, A2 DBD-DBS
 DBD-DBS

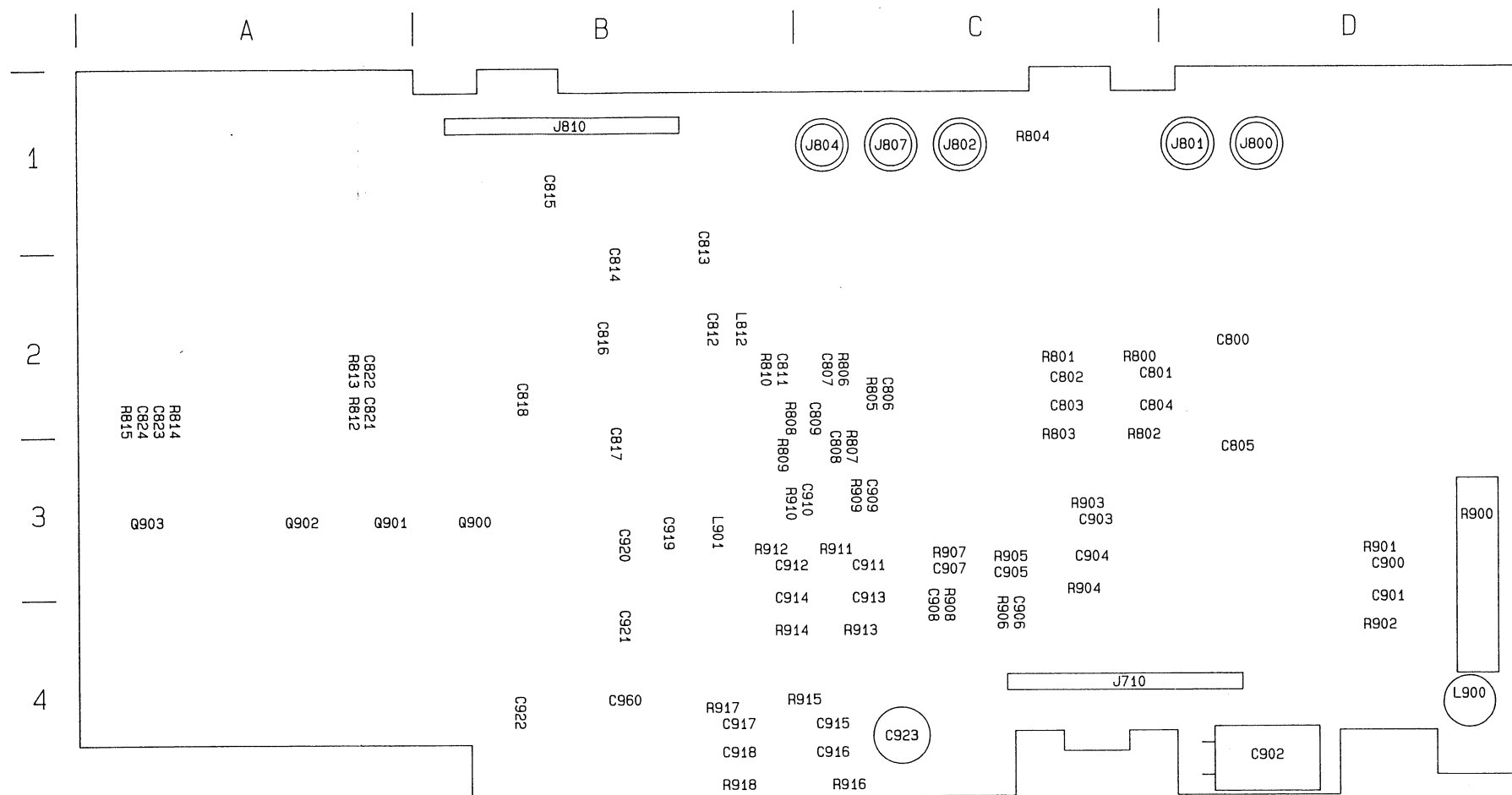
Page 2 DSM6

Page 2 SMP FM

Page 2 SMP MAIN

A12
 CENTER FREQUENCY CONTROL
 670-9474-00
 PAGE 1 OF 2
 10-23-87 VERSION E

CENTER FREQUENCY CONTROL



A12—Center Frequency Control

A12 CENTER FREQUENCY CONTROL

(Continued)



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
U410	I-3	A-2	U520	H-3	B-3	U581	B-6	D-3
U410A	I-3	A-2	U520A	G-3	B-3	U590	C-5	D-3
U411	I-6	A-3	U530A	F-2	B-3	U590A	A-5	D-3
U411A	I-6	A-3	U530B	F-2	B-3	U600	H-4	A-3
U411B	J-6	A-3	U540	D-2	B-3	U630	D-4	B-3
U420	H-3	B-2	U541	C-2	C-3	U631	C-4	B-3
U430	F-2	B-2	U550	B-4	C-3	U640	E-3	B-3
U440	D-2	B-2	U570	E-6	C-3	U640A	D-3	B-3
U441	C-1	C-2	U570A	C-6	C-3	U650	E-3	C-3
U470	A-4	D-2	U571	C-6	D-3	U740	F-6	B-4
U470A	B-2	D-2	U571A	A-6	D-3	U750	F-5	C-4
U470B	B-5	D-2	U580	C-5	D-3	VR730	E-6	B-4
U490	A-2	D-2	U580A	E-5	D-3			

A13 VARIABLE RESOLUTION



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C103	I-4	A-1	C582	A-6	I-4	R291	A-2	J-2
C104	I-4	A-1	C590	A-6	J-4	R293	A-2	J-2
C105	I-4	A-1	C591	A-6	J-4	R294	A-2	J-2
C150	F-5	F-1	C642	C-5	E-5	R344	E-5	E-2
C152	F-4	F-1	C645	C-4	E-5	R345	D-5	E-3
C155	E-4	F-1	C648	C-5	E-5	R347	E-5	E-2
C161	G-1	G-1	C658	J-2	F-5	R348	E-5	E-2
C163	G-1	G-1	C661	B-3	G-5	R349	E-5	E-3
C166	G-2	G-1	C670	B-3	H-5	R350	D-5	F-2
C170	E-1	H-1	C684	A-6	I-5	R351	D-5	F-3
C172	E-1	H-1	CR157	F-5	F-1	R352	D-4	F-3
C175	E-2	H-1	CR283	D-2	I-2	R354	I-2	F-3
C180	G-3	I-1	CR480	D-2	I-3	R356	I-1	F-2
C182	B-1	I-1	J100	J-4	A-1	R358	I-2	F-2
C184	B-1	I-1	J150	G-4	F-1	R359	I-2	F-2
C193	B-2	J-1	J190	A-3	J-1	R365	F-1	G-3
C195	A-3	J-1	J620	H-4	C-5	R366	G-1	G-3
C201	I-5	A-1	J690	A-3	J-5	R373	E-2	H-3
C204	I-5	A-2	L583	A-6	I-4	R374	E-1	H-3
C250	F-5	F-2	L685	A-6	I-5	R375	E-1	H-3
C251	F-6	F-2	Q106	I-5	A-1	R376	E-1	H-2
C255	F-5	F-2	Q158	F-5	F-1	R377	E-1	H-3
C261	E-5	G-2	Q244	E-6	E-2	R378	E-1	H-3
C265	G-2	G-2	Q254	F-5	F-2	R380	D-2	I-3
C273	E-2	H-2	Q256	F-5	F-2	R382	D-2	I-3
C274	E-2	H-2	Q264	G-2	G-2	R384	D-2	I-3
C280	D-2	I-2	Q271	E-2	H-2	R387	B-2	I-3
C287	B-1	I-2	Q285	B-2	I-2	R388	C-1	I-3
C290	B-2	J-2	Q362	G-2	G-3	R390	B-1	J-2
C292	B-2	J-2	Q370	E-2	H-2	R391	A-2	J-2
C302	B-4	A-3	Q385	B-2	I-2	R393	C-1	J-3
C343	E-5	E-2	Q397	A-2	J-2	R394	C-1	J-3
C346	D-5	E-3	Q443	E-5	E-3	R395	C-1	J-3
C353	J-2	F-3	Q447	C-6	E-3	R398	A-2	J-3
C355	I-1	F-2	Q452	I-2	F-3	R440	F-6	E-3
C357	I-1	F-2	Q453	I-2	F-4	R441	D-6	E-3
C360	I-2	G-2	Q476	F-2	H-4	R442	D-6	E-3
C361	I-2	G-3	Q491	C-2	I-4	R444	C-6	E-3
C363	G-1	G-3	Q543	C-6	E-4	R445	C-6	E-3
C364	G-2	G-2	Q547	C-5	E-4	R448	C-6	E-3
C371	E-1	H-2	Q564	H-2	G-4	R449	C-6	E-4
C372	E-2	H-3	Q643	C-5	E-5	R451	C-6	E-4
C381	D-2	I-2	Q649	C-5	E-5	R456	H-1	F-4
C383	D-2	I-3	Q656	J-2	F-5	R461	G-2	G-3
C386	B-2	I-3	R100	J-4	A-1	R462	G-1	G-3
C392	A-2	J-2	R101	J-4	A-1	R463	G-1	G-3
C396	A-1	J-3	R102	J-4	A-1	R464	G-1	G-3
C399	A-2	J-3	R107	I-4	A-1	R465	H-2	G-4
C446	C-6	E-3	R151	F-5	F-1	R467	G-2	G-4
C454	I-1	F-4	R153	F-5	F-1	R469	H-1	G-4
C455	I-2	G-3	R154	F-4	F-1	R470	F-2	H-3
C460	G-2	G-3	R156	E-4	F-1	R472	E-2	H-3
C466	H-2	G-4	R160	E-5	G-1	R474	F-1	H-3
C468	H-1	G-4	R162	G-1	G-1	R475	F-2	H-4
C471	F-2	H-3	R164	G-2	G-1	R483	A-3	I-4
C473	F-1	H-3	R165	G-2	G-1	R484	C-2	I-3
C477	F-2	H-4	R171	E-1	H-1	R486	C-2	I-3
C481	D-2	I-3	R173	E-2	H-1	R488	C-2	I-4
C482	D-2	I-4	R174	E-2	H-1	R490	C-1	J-3
C485	C-2	I-3	R183	B-1	I-1	R495	A-2	J-3
C487	C-1	I-3	R191	B-2	J-1	R540	C-6	E-4
C489	C-2	I-4	R192	B-2	J-1	R541	C-6	E-4
C492	A-6	J-4	R194	A-2	J-1	R544	C-5	E-4
C493	A-6	J-4	R200	I-5	A-1	R545	C-5	E-4
C494	A-2	J-3	R203	I-5	A-1	R548	C-4	E-4
C542	C-6	E-4	R247	D-6	E-2	R550	C-6	E-4
C546	C-5	E-4	R248	F-5	F-1	R551	C-5	E-4
C549	C-4	E-4	R252	F-6	F-2	R552	C-5	E-4
C553	I-2	F-4	R253	F-5	F-1	R554	I-2	F-4
C557	I-2	F-5	R257	F-5	F-2	R555	I-1	F-4
C559	J-1	F-5	R260	E-5	G-2	R556	I-1	F-4
C562	G-3	G-4	R262	G-2	G-2	R558	I-2	F-5
C567	B-3	G-5	R270	E-2	H-2	R560	I-1	G-4
C571	B-3	H-4	R281	D-2	I-2	R561	I-1	G-4
C575	H-2	G-4	R282	D-2	I-2	R563	H-2	G-4
C580	A-3	I-4	R284	B-2	I-1	R565	B-3	G-5

VARIABLE RESOLUTION MODULE

Input Amplifier

The input amplifier used is a transformer feedback stage which provides approximately 12 dB of gain with 10 dB of reverse isolation. See Figure S6-1. The match at each port with the other terminated is better than 15 dB at 10 MHz. The noise figure is less than 3 dB and, with 12 mA flowing in the device, the output intercept is about +30 dBm. The match at each port is highly sensitive to a proper termination being presented to the other port.

PIN Attenuator

The PIN attenuator design is based upon a pair of reasonably well matched pin diodes used in a Tee configuration. A characteristic of this configuration is that the impedance match at each end can be maintained, providing the product of the PIN diode resistances is equal to the square of the end terminations. This can be approximated if the sum of the currents in the PIN diodes is equal to a constant. The DAC has complementary current outputs whose total is set by an adjustment. The attenuation range is about 12 dB with a 1 dB minimum loss. The worst case return loss at the end points is 15 dB. The step-size for an 8-bit DAC is .04 dB steps in the center of its range.

10 dB Gain Step Amplifier

The 10 dB gain step stages also incorporate a transformer fed back amplifier. The stage has about 0.5 dB of loss or

9.5 dB of gain for a net difference of 10 dB. When the step gain is selected, the signal is routed through the amplifier for a gain of about 11.5 dB. A pad of approximately 1.5 dB is added to trim the gain down to 10 dB. The signal is then routed through a switch which has about 0.5 dB of loss. When the amplifier is deselected, the signal is routed around the amplifier altogether, thus preserving noise figure and intercept point. A total of 4 of these step gain stages are used.

1 dB Gain Step Amplifier

The 1 dB Gain Step Amplifier is the last amplifier before the filter switching tree. The amplifier is composed of a class AB, three-stage, feed back amplifier. The gain is adjusted in 2 dB steps for a total of 10 dB. The 1 dB steps are done by shunting part of the signal to ground appearing at the input of this amplifier. This configuration allows the entire 10 dB gain sequence to be contained within one step-gain stage.

Routing Switches

The routing switches are used to route RF signals to various areas. They are composed of a transistor in heavy saturation that has the characteristic of relatively large charge storage characteristics. The topology used is a shunt series configuration. These switches are used on both the input and output of each filter including the external filter connection.

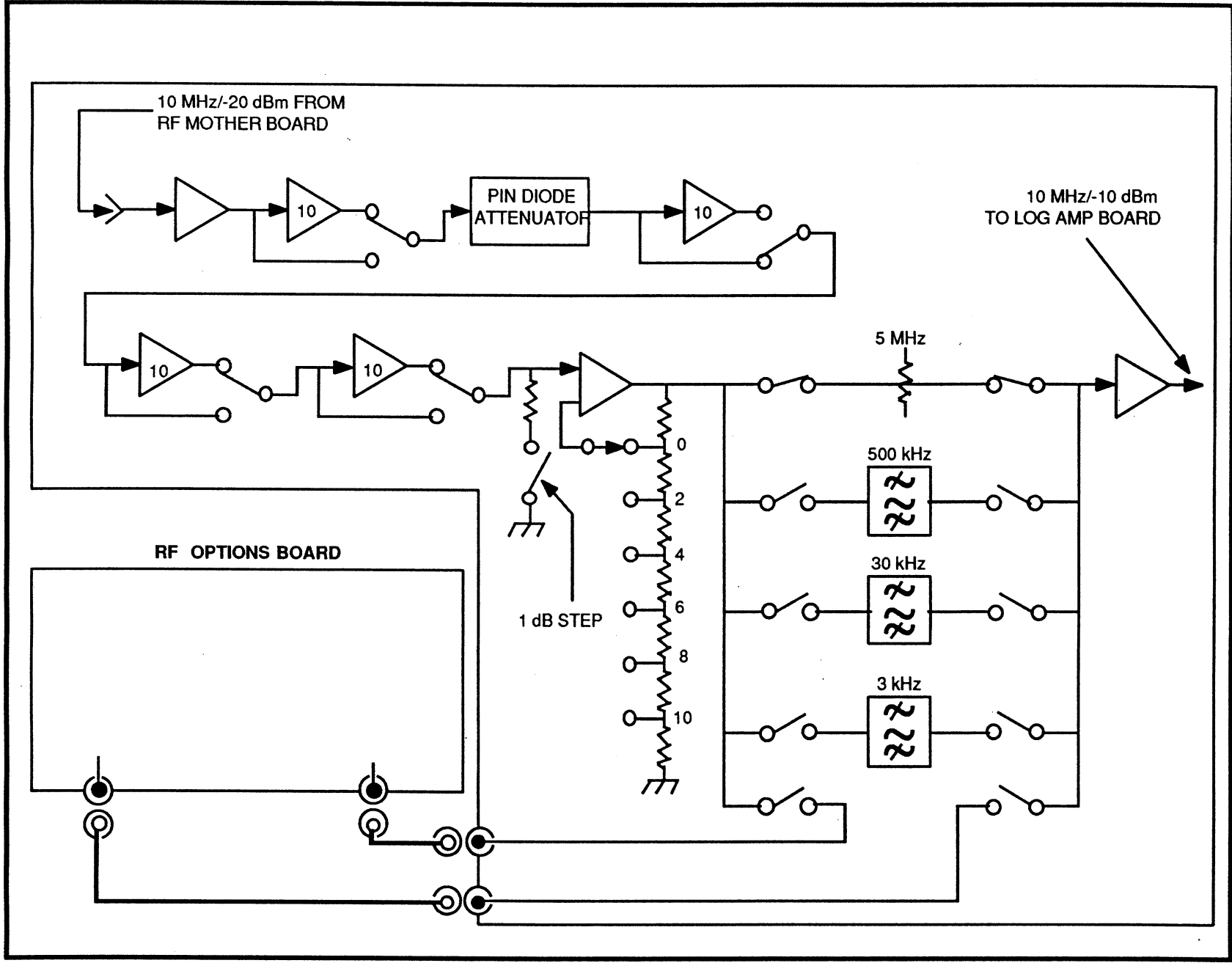
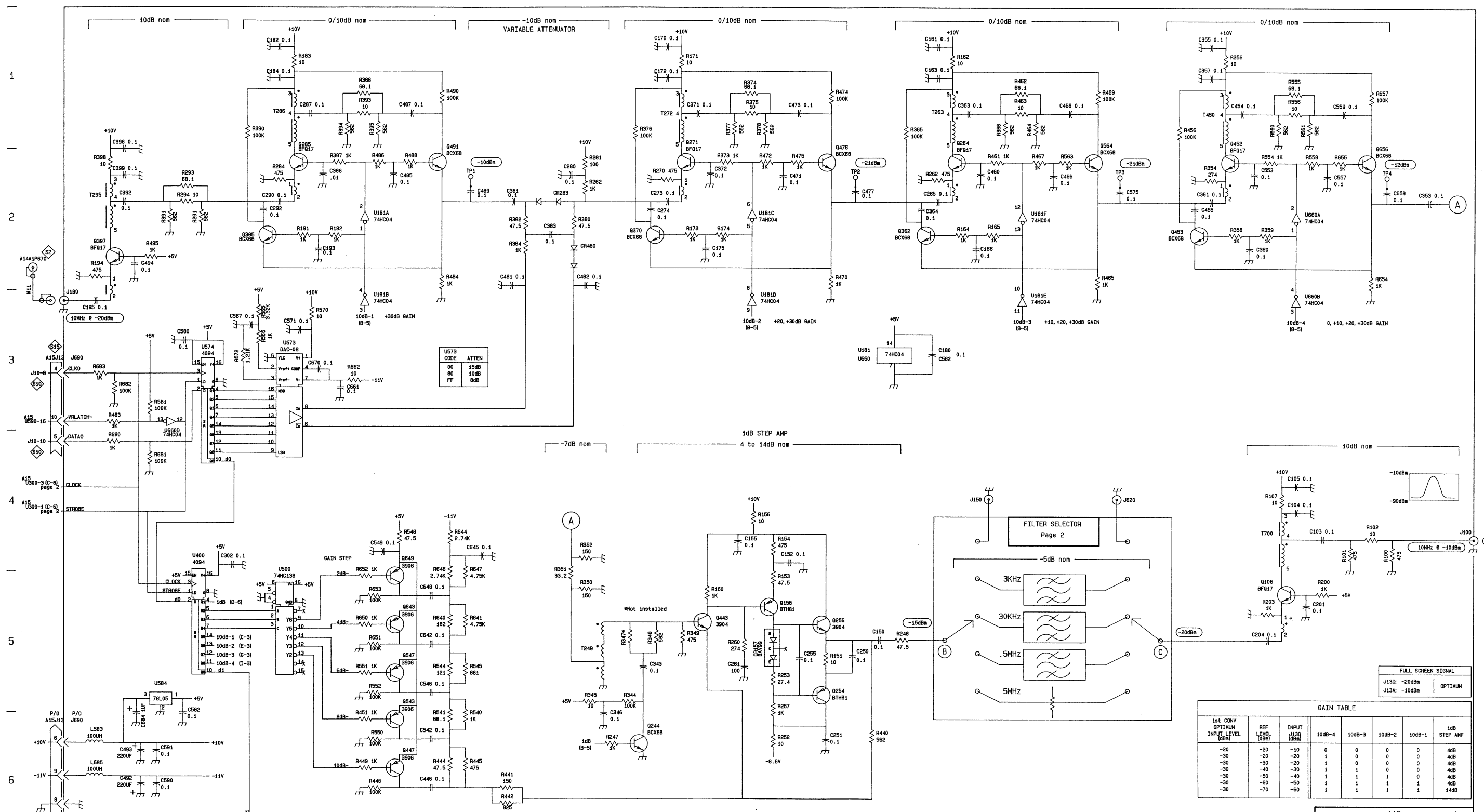


Figure S6-1. Block diagram of the Variable Resolution Module.



U573 CODE	ATTEN
00	15dB
80	10dB
FF	8dB

J130:	-20dBm	OPTIMUM
J13A:	-10dBm	OPTIMUM

1st CONV OPTIMUM INPUT LEVEL (dBm)	REF LEVEL (dBm)	INPUT (J130) (dBm)	10dB-4	10dB-3	10dB-2	10dB-1	1dB STEP AMP
-20	-20	-10	0	0	0	0	4dB
-30	-20	-20	1	0	0	0	4dB
-30	-20	-30	1	0	0	0	4dB
-30	-30	-30	1	1	0	0	4dB
-30	-40	-40	1	1	1	0	4dB
-30	-50	-50	1	1	1	1	4dB
-30	-60	-60	1	1	1	1	4dB
-30	-70	-70	1	1	1	1	14dB

A13
VR BOARD
670-9475-
PAGE 1 OF 2

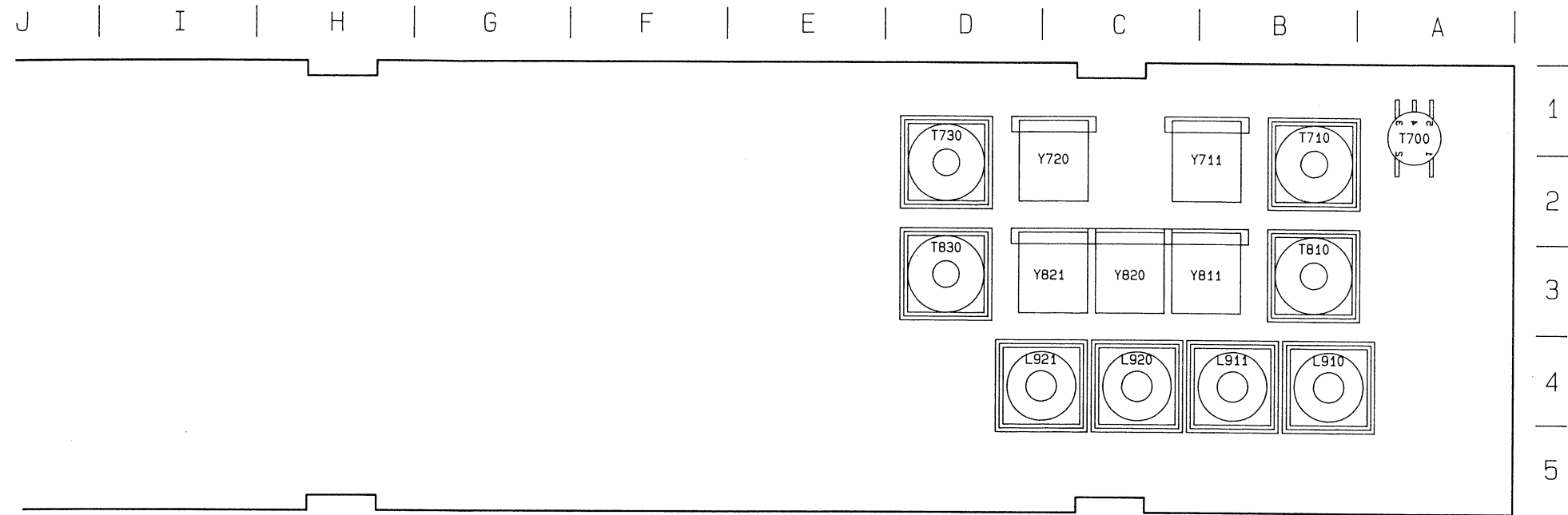
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A13 VARIABLE RESOLUTION

(Continued)



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
R566	B-3	G-5
R570	B-3	H-4
R572	B-3	H-5
R581	A-3	I-4
R640	C-5	E-5
R641	C-5	E-5
R644	C-4	E-5
R646	C-5	E-5
R647	C-5	E-5
R650	C-5	E-5
R651	C-5	E-5
R652	C-5	E-5
R653	C-5	E-5
R654	J-2	F-5
R655	J-2	F-5
R657	J-1	F-5
R662	C-3	G-5
R680	A-4	I-5
R681	A-4	I-5
R682	A-3	I-5
R683	A-3	I-5
T249	D-5	E-2
T263	G-1	G-2
T272	E-1	H-2
T286	B-1	I-2
T295	A-2	J-2
T450	I-1	F-3
T700	I-4	A-1 ^a
TP1	C-2	I-4
TP2	F-2	H-4
TP3	H-2	G-4
TP4	J-2	F-5
U181A	C-2	I-1
U181B	C-3	I-1
U181C	E-2	I-1
U181D	E-3	I-1
U181E	G-3	I-1
U181F	G-2	I-1
U400	A-5	A-3
U500	B-5	A-4
U573	B-3	H-5
U574	B-3	H-5
U584	A-5	I-4
U660A	I-2	G-5
U660B	I-3	G-5
U660D	A-3	G-5



A13A2—VR Filter Selector

^a These components are located on the back of the circuit board.

A13 VARIABLE RESOLUTION

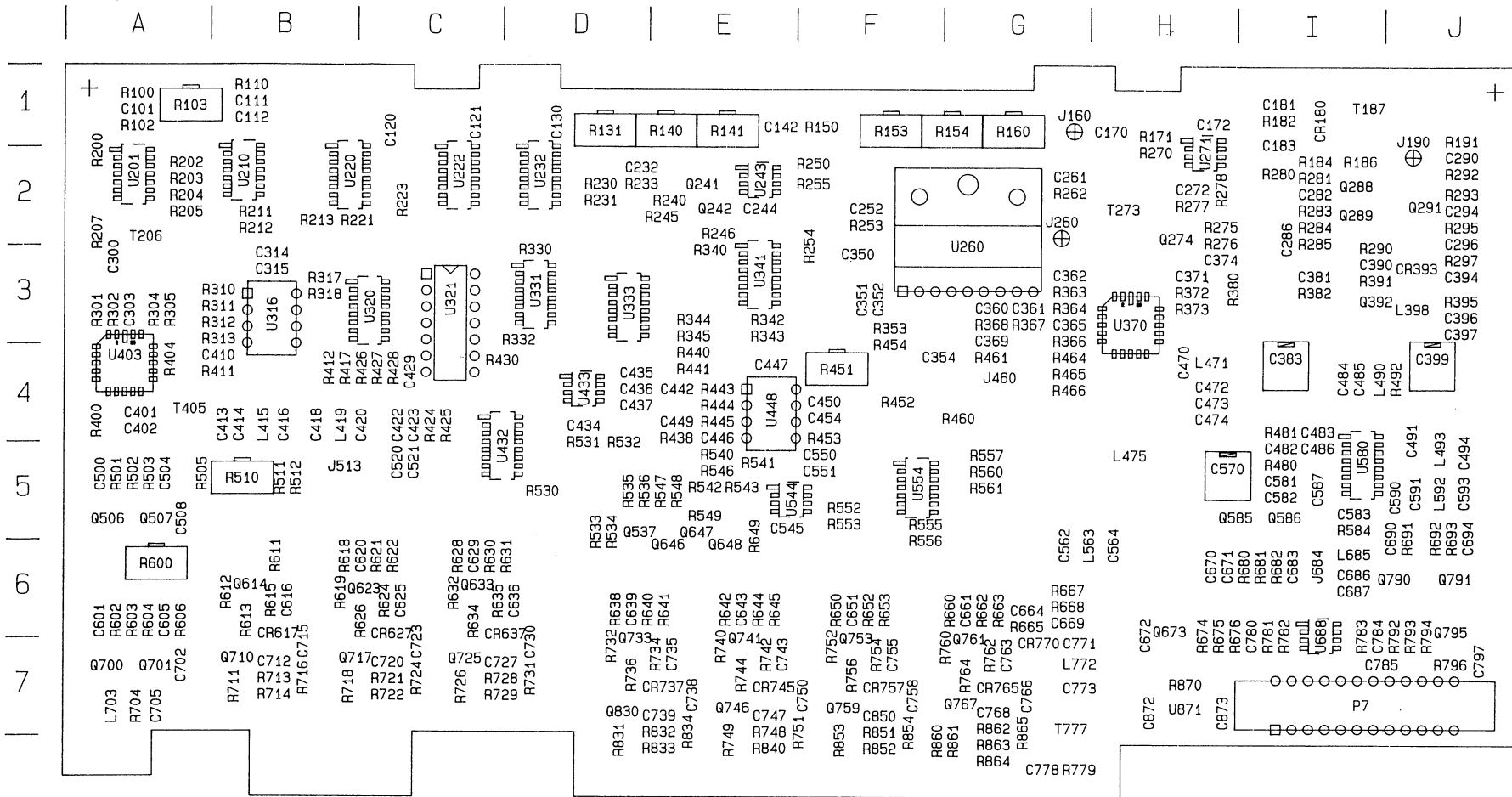


CIRCUIT NUMBER	SCHE-ATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHE-ATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHE-ATIC LOCATION	BOARD LOCATION
C110	G-2	B-1	C522	D-4	C-4	R146	C-1	E-1
C114	G-2	B-1	C523	D-4	C-5	R148	C-1	E-1
C131	B-2	D-1	C526	B-4	D-4	R149	C-1	E-1
C133	B-2	D-1	C532	B-4	D-4	R233	C-2	D-2
C141	B-1	E-1	C534	B-3	E-4	R234	C-2	D-2
C143	B-1	E-1	C601	G-1	A-5	R235	C-2	D-2
C147	B-1	E-1	C602	G-1	A-5	R240	B-1	E-1
C202	C-5	A-2	C607	G-1	B-5	R242	A-1	E-2
C210	G-2	B-2	C610	G-1	B-5	R312	G-3	B-3
C211	E-2	B-2	C611	F-4	B-5	R313	G-3	B-3
C212	E-2	B-2	C612	E-4	B-5	R316	G-5	C-3
C220	D-2	C-2	C620	D-4	C-5	R317	G-4	C-3
C221	D-2	C-2	C621	D-4	C-5	R318	G-4	C-3
C230	D-2	D-2	J150	C-1	F-1	R322	C-5	C-3
C231	D-2	D-2	J620	G-1	D-5	R324	C-5	C-3
C232	B-2	D-1	L241	B-1	E-2	R331	B-4	D-3
C243	A-1	E-2	L342	A-2	E-3	R332	B-4	D-3
C245	B-1	E-1	L503	G-1	A-5	R333	B-5	D-3
C304	G-3	B-2	L516	H-2	B-4	R334	C-3	D-3
C311	G-3	B-3	L910	E-4	B-4	R335	C-3	D-3
C314	E-3	B-3	L911	E-4	B-4	R336	C-3	D-3
C315	G-5	C-2	L920	D-4	C-4	R341	A-2	E-2
C323	G-5	C-3	L921	D-4	D-4	R402	G-4	A-3
C325	B-5	C-3	P246	A-1	E-1	R403	G-4	A-4
C330	B-4	D-2	P600	H-1	A-5	R404	G-4	A-4
C337	B-3	D-3	P630	D-6	D-4	R410	G-3	B-3
C340	A-2	E-2	Q115	G-2	B-1	R418	H-2	B-4
C401	G-4	A-3	Q116	G-2	B-1	R420	C-5	C-3
C411	G-3	B-3	Q135	B-2	D-1	R423	C-4	C-4
C414	G-4	B-4	Q136	B-2	D-1	R434	B-4	D-4
C415	E-3	B-3	Q144	B-1	E-1	R436	B-3	E-3
C416	G-4	C-3	Q145	B-1	E-1	R438	B-3	E-3
C417	H-2	B-4	Q303	G-3	B-2	R439	B-3	E-4
C421	C-4	C-4	Q310	G-3	B-2	R502	H-1	A-4
C422	C-4	C-4	Q320	G-5	C-3	R524	C-4	C-4
C424	C-4	C-4	Q321	G-4	C-3	R525	C-4	C-4
C425	B-5	D-3	Q326	B-4	C-3	R531	B-4	D-4
C430	D-3	D-3	Q327	B-5	C-3	R533	B-4	D-4
C431	D-3	D-3	Q338	B-3	D-3	R605	G-1	B-5
C433	B-4	D-4	Q412	G-4	B-4	R606	G-1	B-5
C437	B-3	E-3	Q413	G-4	B-4	R608	G-1	B-5
C501	H-1	A-4	Q432	B-4	D-4	R631	D-6	D-5
C504	G-4	A-4	Q435	B-3	D-4	T710	E-2	B-2
C505	F-4	B-5	Q530	B-4	D-4	T730	D-2	D-2
C510	F-4	B-4	Q603	G-1	A-5	T810	E-3	B-3
C511	F-4	B-4	Q604	G-1	A-5	T830	D-3	D-3
C512	F-4	B-5	R111	G-2	B-1	U300	D-6	A-2
C513	F-4	B-5	R112	G-2	B-1	U301	D-6	A-2
C514	E-4	B-4	R113	G-2	B-1	U660C	D-6	G-5
C515	E-4	B-4	R130	B-2	D-1	Y711	E-2	B-2
C517	E-4	C-4	R132	B-2	D-1	Y720	D-2	C-2
C518	E-4	C-4	R134	B-2	D-1	Y811	E-3	B-3
C520	D-4	C-4	R140	B-1	E-1	Y820	E-3	C-3
C521	D-4	C-4	R142	B-1	E-1	Y821	D-3	C-3

A7 LOG BOARD



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C112	D-4	B-1	C670	D-3	H-6	Q623	H-2	C-6
C120	C-4	C-1	C671	D-3	H-1	Q633	H-2	C-6
C121	C-5	C-1	C672	C-6	H-6	Q673	C-6	H-6
C130	D-5	D-1	C683	C-3	I-6	Q700	J-1	A-7
C142	E-6	E-1	C686	C-2	I-6	Q701	J-2	A-7
C170	J-4	H-1	C687	D-2	I-6	Q710	I-2	B-7
C172	C-3	H-1	C690	D-2	J-5	Q717	H-2	B-7
C181	B-3	I-1	C694	D-2	J-5	Q725	H-2	C-7
C183	B-3	I-1	C702	J-1	A-7	Q733	G-2	D-6
C232	I-4	D-2	C705	J-1	A-7	Q741	F-2	E-6
C244	E-6	E-2	C712	I-2	B-7	Q746	F-2	E-7
C252	I-5	F-2	C715	I-3	B-6	Q753	E-2	F-6
C261	J-4	G-2	C720	I-2	C-7	Q759	E-2	F-7
C272	C-3	H-2	C723	H-3	C-6	Q761	E-2	G-6
C282	B-3	I-2	C727	H-2	D-7	Q767	E-2	G-7
C286	B-2	I-2	C730	H-3	D-6	Q790	C-2	J-6
C290	A-1	J-2	C735	G-1	E-7	Q791	C-2	J-6
C294	B-1	J-2	C738	G-3	E-7	Q795	B-6	J-6
C296	A-2	J-2	C739	G-2	C-7	Q830	G-2	D-7
C350	I-5	F-3	C743	F-1	E-7	R101	J-5	CHASSIS
C351	I-5	F-3	C747	F-2	E-7	R131	C-4	D-1
C352	I-5	F-3	C750	F-3	F-7	R140	I-4	E-1
C354	I-5	F-4	C755	E-1	F-7	R141	G-6	E-1
C360	I-5	G-3	C758	E-3	F-7	R150	F-6	F-1
C361	H-5	G-3	C763	D-1	G-7	R153	F-6	F-1
C362	F-4	G-3	C766	D-3	G-7	R154	A-3	G-1
C365	H-5	G-3	C768	E-2	G-7	R160	A-3	G-1
C369	I-4	G-3	C771	D-3	G-6	R171	A-3	H-1
C371	G-5	H-3	C773	D-3	G-7	R182	B-3	I-1
C374	J-5	H-3	C778	D-2	G-7	R184	B-3	I-2
C381	A-2	I-3	C780	B-6	I-6	R186	A-2	I-2
C383	C-2	I-4	C784	B-6	I-6	R191	A-1	J-1
C390	B-2	I-3	C785	C-6	I-7	R211	A-4	B-2
C394	B-2	J-3	C797	A-4	J-7	R212	B-4	B-2
C396	B-2	J-3	C850	F-2	F-7	R213	A-5	B-2
C397	B-2	J-3	C872	A-6	H-7	R221	A-5	B-2
C399	B-2	J-4	C873	A-6	H-7	R223	B-4	C-2
C452	I-5	F-4	CR180	B-3	I-1	R230	A-4	D-2
C460	I-5	G-4	CR393	A-2	J-3	R231	A-4	D-2
C470	F-5	H-4	CR617	I-2	B-6	R233	I-4	D-2
C472	F-5	H-4	CR627	I-2	C-6	R240	I-6	E-2
C473	E-5	H-4	CR637	H-2	D-6	R245	I-6	E-2
C474	E-5	H-4	CR737	G-2	E-7	R246	H-6	E-2
C482	E-5	I-5	CR745	F-2	E-7	R250	F-6	F-2
C483	D-4	I-4	CR757	F-2	F-7	R253	I-5	F-2
C484	C-2	I-4	CR765	E-2	G-7	R254	G-4	F-2
C485	C-2	I-4	CR770	D-1	G-6	R255	E-5	F-2
C486	E-5	I-4	J102	J-6	CHASSIS	R262	J-4	G-2
C491	D-5	J-4	J160	J-4	G-1(BACK)	R270	A-3	H-2
C494	D-5	J-5	J190	A-2	J-2(BACK)	R275	J-5	H-2
C500	J-3	A-5	J260	F-6	G-2	R276	J-5	H-2
C504	J-3	A-1	J684	C-1	I-6	R277	A-3	H-2
C508	J-3	A-5	L398	B-2	J-3	R278	A-3	H-2
C562	D-1	G-6	L471	F-5	H-4	R280	A-3	I-2
C564	C-1	H-6	L475	F-5	H-5	R281	B-3	I-2
C570	E-5	H-5	L490	C-2	I-4	R283	B-2	I-2
C581	E-5	I-5	L493	D-5	J-4	R284	B-2	I-2
C582	E-5	I-5	L563	D-1	G-6	R285	A-2	I-2
C583	D-1	I-5	L592	D-5	J-5	R290	B-2	I-2
C587	E-5	I-5	L685	C-1	I-6	R292	A-1	J-2
C590	D-6	J-5	L703	J-1	A-7	R293	A-1	J-2
C591	D-5	J-5	L772	D-2	G-7	R295	A-1	J-2
C593	D-5	J-5	LS103	J-5	CHASSIS	R297	A-2	J-3
C601	J-1	A-6	J460	J-5	G-4	R340	G-6	E-2
C605	J-2	A-6	Q241	I-6	E-2	R342	G-6	E-3
C616	I-1	B-6	Q242	I-6	E-2	R343	G-6	E-3
C620	I-1	C-6	Q274	J-4	H-2	R353	I-5	F-3
C625	H-1	C-6	Q288	A-1	I-2	R363	H-5	G-3
C629	H-1	C-6	Q289	B-1	I-2	R364	H-5	G-3
C636	G-1	D-6	Q291	B-1	J-2	R366	H-5	G-3
C639	G-1	D-6	Q392	B-2	I-3	R367	H-4	G-3
C643	F-1	E-6	Q506	J-3	A-5	R368	I-4	G-3
C651	F-1	F-6	Q507	J-3	A-5	R372	G-5	H-3
C661	E-2	G-6	Q585	C-3	H-5	R373	F-5	H-3
C664	D-1	G-6	Q586	C-3	I-5	R380	J-5	H-3
C669	D-1	G-6	Q614	I-2	B-6	R382	A-2	I-3



A7-Log

LOG AMPLIFIER

The LOG system is an intermediate amplifier system that provides linear and logarithmic detection of the incoming signal. The log display has scale factors of 10 dB/div, 5 dB/div, and 1 dB/div. The linear mode has ability to magnify the top portion of the waveform to enhance the measurement capability. The board also contains a FM detector which can be used to monitor the modulated input signal for enhanced signal identification, when used with the built in audio amplifier. See Figure S8-1.

The processor interface is through three 8-bit shift registers.

Preamplifier

The 10 MHz IF input signal from the VR circuits drives an input preamplifier that provides variable gain between 18 dB and 24 dB, depending on where the frequency of the YIG oscillator is set. The variable gain compensates for amplitude errors in the Variable Resolution module. The amplitude error, which is frequency dependent, is greater at the higher frequencies. Therefore, the preamplifier is adjusted such that the gain is 18 dB at low frequencies and approximately 24 dB at the high end of the frequency range. The variable gain is accomplished by applying an analog voltage (Sweep Slope from the Center Frequency Control board) to a PIN Diode Gain Cell. The Sweep Slope voltage is proportional to the center frequency, and has a full range of +5 V to -5 V.

The preamplifier is composed of a three stage feed back amplifier running class AB. The gain is established by setting the ratio of the feedback to the input transistor. The variable gain is done by shunting part of the signal to ground appearing at the input of this amplifier. The feedback is adjusted by changing the impedance of PIN diode in the gain cell.

The output of the preamplifier is then fed to a 2-pole Noise Filter, and to a buffer amplifier configured in a common base stage to form the auxiliary IF output. The signal level at the output of this amplifier, for full-screen deflection, is +8 dBm.

Noise Filter

The Noise Filter band-limits the noise to 5 MHz and provides two more poles of 5 MHz bandwidth resolution filter. The output of this filter is then sent to routing switches via a jumper so the signal can be processed for calibration purposes, and to the FM Detector.

Logarithmic Amplifier Stages

Logarithmic amplification of the signal is required to calibrate the graticule in dB/division. This is performed by a seven stage amplifier that produces an output proportional to the logarithm of the input. Thus, in the 10 dB/div display mode for example, each division of displacement on the screen represents a signal level change of 10 dB regardless of its location on the crt.

The amplifier circuits logarithmically amplify the input signal from the VR, apply it to a synchronous detector circuit, then route the detected video output to the Sweep board, Display Storage board, and the rear-panel connector J103.

The logging stages consist of seven cascaded cells that have the unique property of having approximately 10 dB (3.16) of gain for small signal levels and 0 dB (1) at large signal levels. Each stage is identical to the previous stage. The result of the cascade is a piece-wise approximation to a log curve. Each cell consists of a cascode stage and this discussion will be about one cell. A simplified expression for the gain of the cell is the total load resistance divided by the total emitter resistance. For small signals the emitter resistance is the sum of the discrete emitter resistors in parallel with the dynamic resistance of a diode pair at the emitter. For large signals the diodes become reverse biased and the dynamic resistance is much higher, and the total gain of the cell drops to unity.

Routing switches are used to route RF signals to either the logging stages when in LOG mode or to the detector via a variable pad when in the LIN mode. They are composed of a transistor in heavy saturation that has the characteristic of relatively large charge storage characteristics. The topology used is a shunt series configuration.

After the mode of the signal is determined the output of the routing switches is passed to the Synchronous Detector.

Video Detector

This detector is a cross-coupled double differential pair. Detection is accomplished by limiter and multiplier circuits. The limiter consists of two ECL line receivers, and the multiplier configured out of the balanced modulator. The IF signal is coupled to the lower transistors in the multiplier to determine the absolute

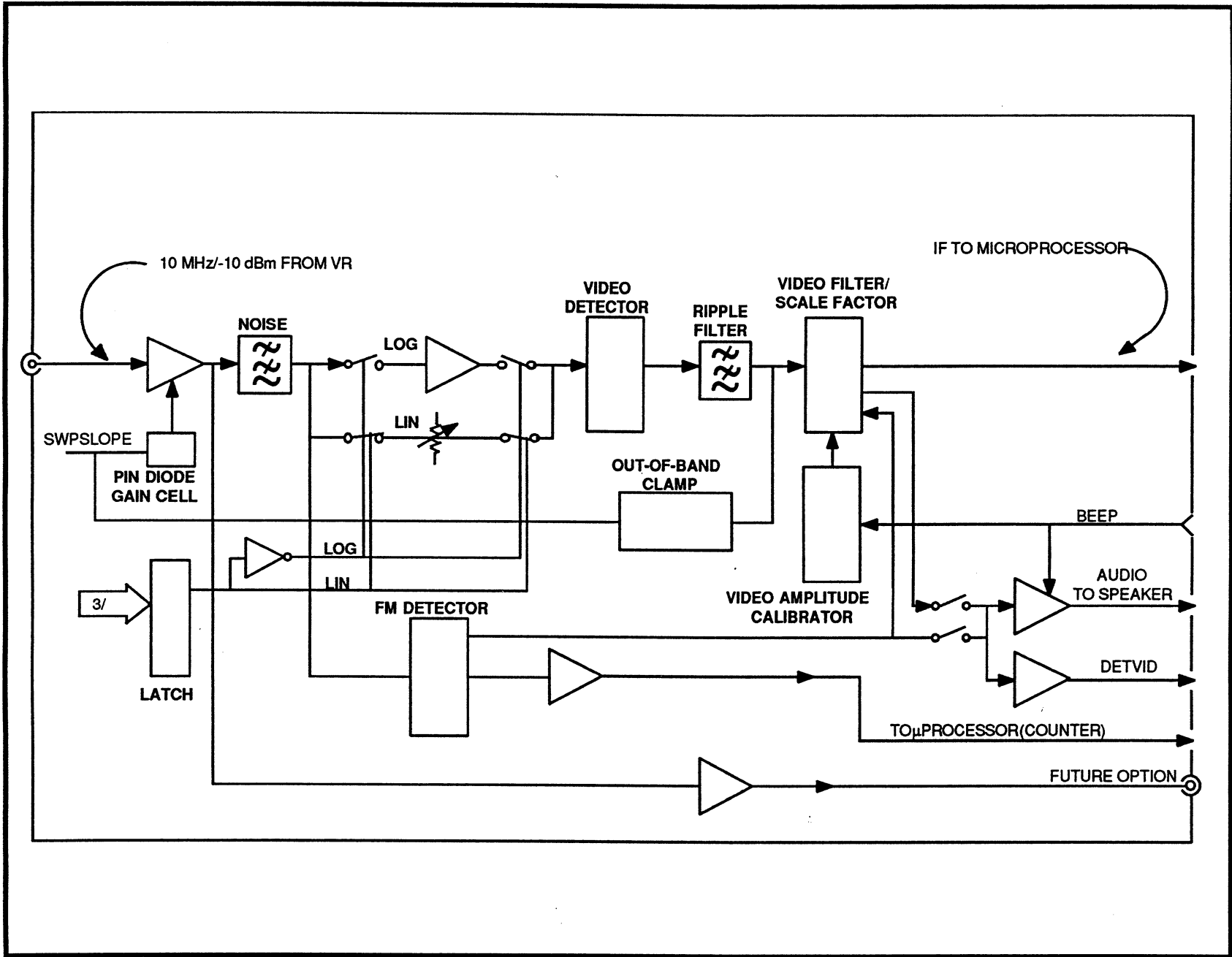


Figure S8-1. Log Amplifier block diagram.

value of the differential current. At the same time, a portion of this signal is sent to the limiters which are used to control the upper switching transistors in the balanced modulator chip. The differential outputs of the multiplier drive a differential amplifier. The result is that alternate half cycles of the IF signal flow into opposite sides of the differential amplifier, yielding full-wave rectification of the IF signal. The output of the multiplier is converted from a differential signal to a single ended one by the differential amplifier.

Ripple Filter

The Ripple Filter is a 5-pole, elliptic filter with a finite transmission zero at the 10 MHz IF frequency. The filter removes any of the remaining 10 MHz component that may still exist. Because of the full-wave rectification provided by the synchronous detector, the 10 MHz component is attenuated by approximately 30 dB. This greatly reduced the requirements of the ripple filter. However, the signal is not always at 10 MHz. The widest bandwidth is 5 MHz so there is still a significant requirement for ripple reduction as low as 5 MHz input frequency.

Video Filter/Scale Factor

After the video filter, the signal is offset before being amplified to bring the equivalent of a full-screen signal in log or linear mode to correspond to 0 V output. The out-of-band clamping is also done at this time to deflect the CRT beam past the bottom of the screen when the display would otherwise be outside the frequency limits of the Spectrum Analyzer.

Next the video filter selector is chosen. The bandwidth of the vertical chain is approximately 3 MHz. Therefore, when a video filter path is chosen, the maximum bandwidth drops to bandwidth of the selected Video Filter. This switching tree also multiplexes in the external signals from the rear panel, RF options board, or the FM detector.

Immediately following the video filters is the Scale Factor amplifier. The Microprocessor sends the proper code to

set the gain of the amplifier to 1.1, 2.2, or 11 corresponding to 10dB/div, 5dB/div, or 1dB/div. The linear function is made with the gain set to 1.1.

FM Detector/Period Counter Output

The detector consists of a FM limiter and quadrature detector in one chip for demodulating FM signals, and a gain stage. The audio output is sent to the audio amplifier selector and to the video input selector (switching tree).

A portion of the energy in the quadrature detector resonator is used to drive an ECL line receiver which is used by the period counter located on the Microprocessor board.

Audio Amplifier

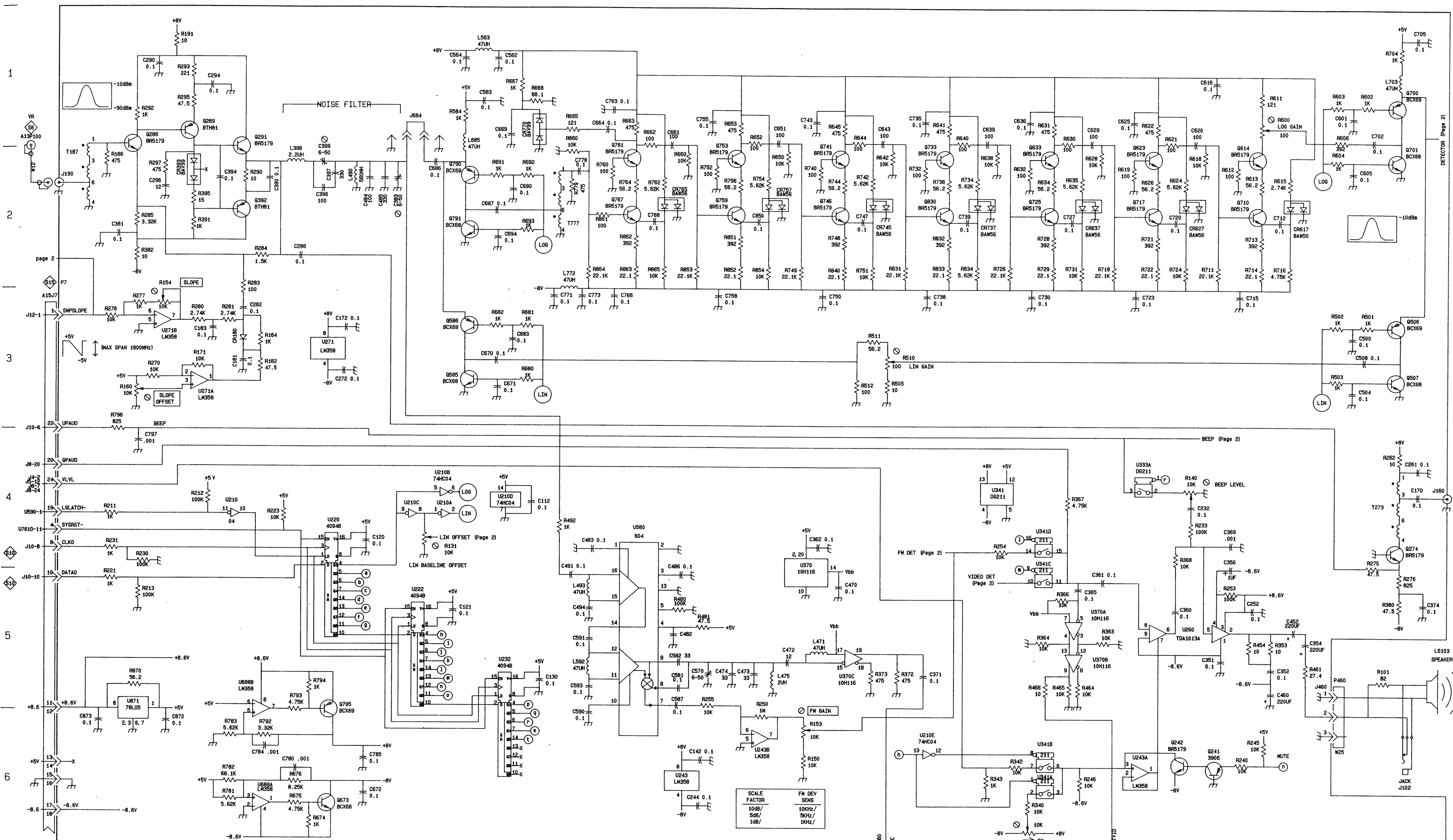
The audio amplifier is used for monitoring purposes and as a means of providing feedback to the user from the Microprocessor.

Video Amplitude Calibrator

Audio from the Microprocessor (μ PAUD) is used for providing feedback to the operator for push button clicks and out of range (uncal) conditions. This signal is also used to provide a calibration signal for calibrating the video amplifier and display storage. The sweep triggers are also tested by this signal.

System Reset

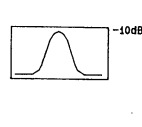
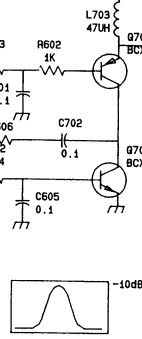
At power-up, the system reset line on (SYSRST-) low until the Microprocessor resets it. During this time, the control latches' output enable line is held false and the outputs are in a high impedance state. This has no useful effect except to the mute bit (n). The mute circuitry in the Audio Amplifier force a mute condition during this time, and thus disallow any extraneous noise from the speaker.



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LOG BOARD

SCALE FACTOR	FM DEV
10dB/	5KHz/
5dB/	1KHz/
1dB/	



DETECTOR (Page 2)

BEEP (Page 2)

FM DET (Page 2)

VIDEO DET (Page 2)

L5103 SPEAKER

JACK J102

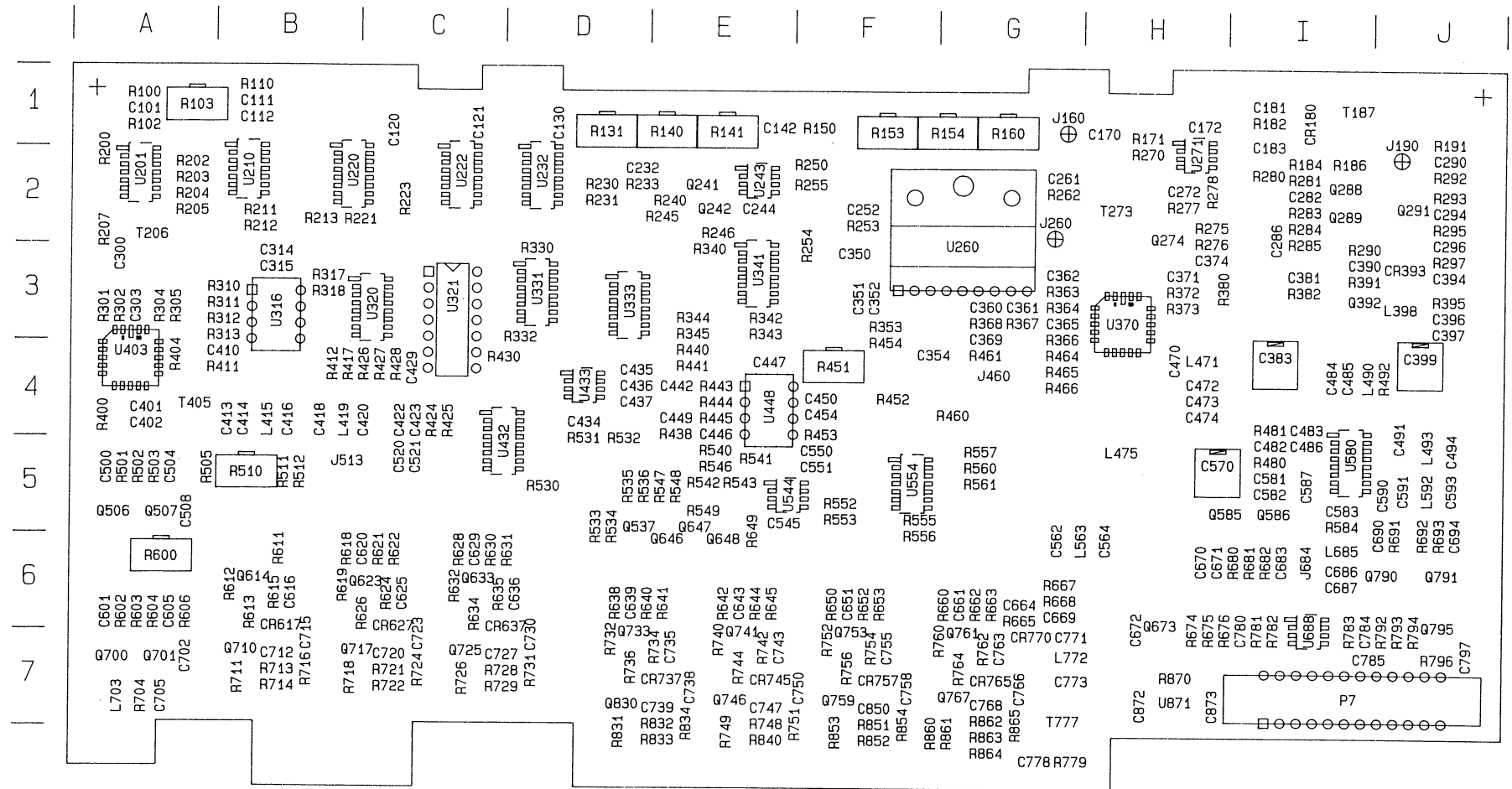
FUTURE OPTION

J10-1

A10 UP

A10P190

J10-1



A7-Log

A7 LOG BOARD



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C101	C-3	A-1	R204	B-2	A-2	R547	I-4	E-5
C111	C-1	B-1	R205	C-2	A-2	R548	I-4	E-5
C300	B-3	A-3	R207	B-2	A-2	R549	I-4	E-5
C303	A-2	A-3	R301	B-2	A-3	R552	E-3	F-5
C314	D-2	B-3	R302	B-2	A-3	R553	E-3	F-5
C315	D-2	B-3	R304	B-2	A-3	R555	E-3	F-5
C401	A-2	A-4	R305	B-3	A-3	R556	E-3	F-6
C402	A-3	A-4	R310	D-1	B-3	R557	E-3	G-5
C410	D-2	B-4	R311	C-2	B-3	R560	E-3	G-5
C413	D-2	B-4	R312	C-2	B-3	R561	D-3	F-5
C414	E-2	B-4	R313	D-2	B-3	R649	I-3	E-5
C416	E-2	B-4	R317	I-3	B-3	T206	B-3	A-2
C418	E-2	B-4	R318	I-2	B-3	T405	A-2	A-4
C420	E-2	C-4	R330	H-2	D-2	U201	C-2	A-2
C422	G-4	C-4	R332	F-4	D-3	U316	D-2	B-3
C423	G-4	C-4	R344	G-2	E-3	U316A	D-2	B-3
C429	I-1	C-4	R345	G-2	E-3	U320A	I-2	C-3
C430	I-1	C-4	R400	B-2	A-4	U320B	I-2	C-3
C434	F-5	D-4	R404	A-2	A-4	U320C	I-2	C-3
C435	F-4	D-4	R411	D-2	B-4	U320D	H-2	C-3
C436	G-4	D-4	R412	I-3	B-4	U321	I-1	C-3
C437	G-4	D-4	R417	I-2	B-4	U321A	H-2	C-3
C442	F-1	E-4	R425	G-4	C-4	U331A	H-2	D-3
C446	F-1	E-4	R426	I-3	C-4	U331B	F-4	D-3
C447	F-1	E-4	R427	I-2	C-4	U331C	G-2	D-3
C449	F-6	E-4	R428	H-2	C-4	U331D	G-2	D-3
C450	F-1	F-4	R438	F-6	E-4	U333B	H-4	D-3
C454	G-2	F-4	R440	G-2	E-4	U333C	G-2	D-3
C520	G-4	C-5	R441	G-2	E-4	U333D	G-2	D-3
C521	G-4	C-5	R443	F-2	E-4	U403	B-2	A-4
C545	F-3	E-5	R444	F-2	E-4	U403B	B-2	A-4
C550	F-3	F-5	R445	F-2	E-4	U432A	G-5	D-5
C551	F-3	F-5	R451	F-2	F-4	U432B	G-5	D-5
J513	F-1	B-5	R453	G-1	F-4	U432C	G-5	D-5
L415	E-2	B-4	R530	G-5	D-5	U432D	H-5	D-5
L419	E-2	B-4	R531	E-4	D-4	U433	F-5	D-4
Q537	I-4	E-5	R532	E-4	D-4	U433A	F-4	D-4
Q646	I-4	E-5	R533	H-4	D-5	U433B	H-2	D-4
Q647	I-4	E-5	R534	H-4	D-5	U448	F-1	E-4
R100	C-2	A-1	R535	I-3	D-5	U448A	F-2	E-4
R102	C-3	A-1	R536	I-3	E-5	U544	F-3	E-5
R103	C-1	A-1	R540	F-2	E-5	U544A	F-3	E-5
R110	C-1	B-1	R541	F-3	E-5	U544B	E-3	E-5
R200	C-3	A-2	R542	F-3	E-5	U554	E-2	F-5
R202	C-2	A-2	R543	F-3	E-5	U554A	E-3	F-5
R203	B-2	A-2	R546	F-2	E-5	U554B	E-3	F-5

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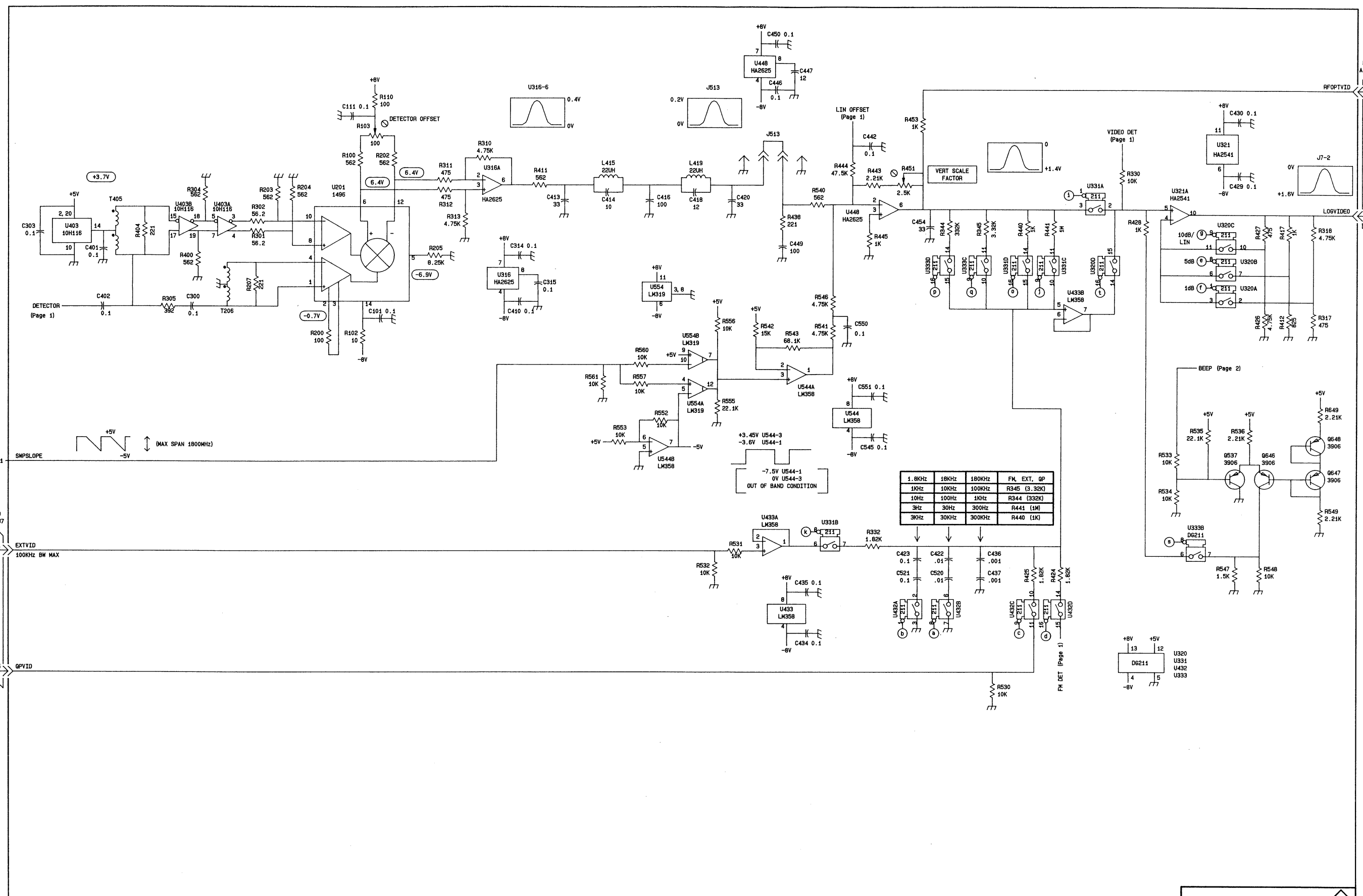
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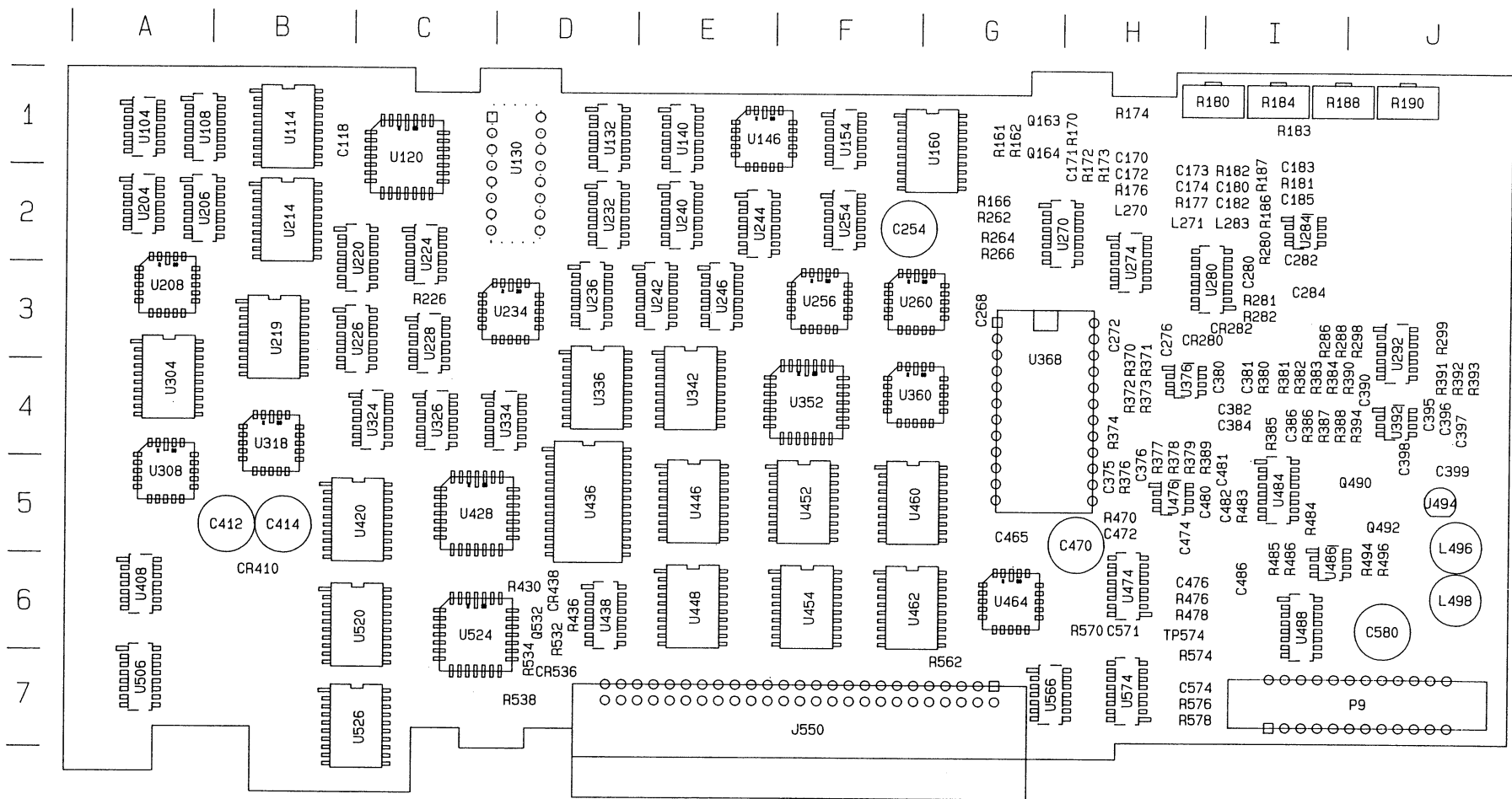
J3-





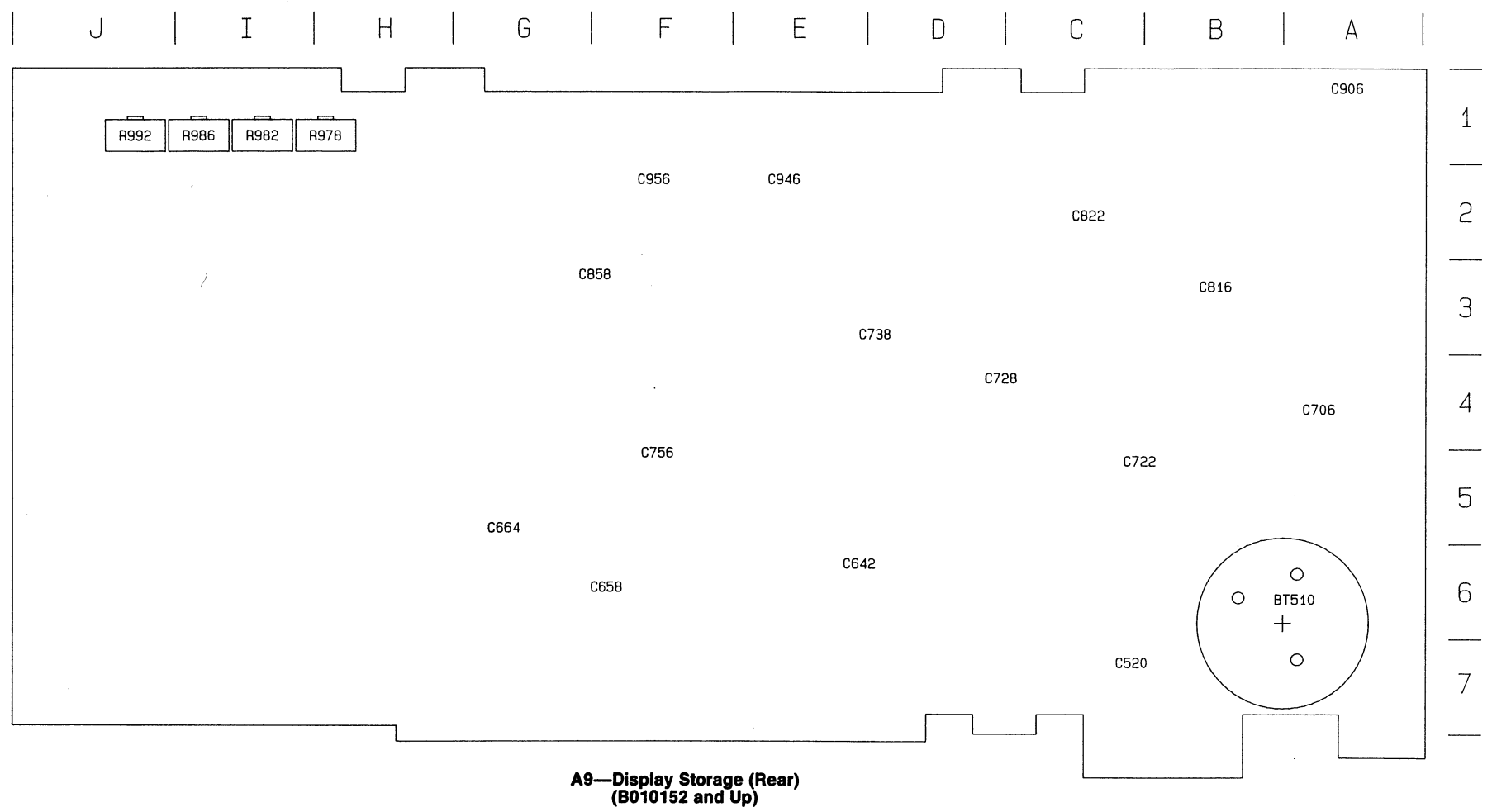
1.8KHz	18KHz	180KHz	FM EXT.	GP
1KHz	10KHz	100KHz	R345 (3.32K)	
10Hz	100Hz	1KHz	R344 (332K)	
3Hz	30Hz	300Hz	R441 (1M)	
3KHz	30KHz	300KHz	R440 (1K)	

LOG BOARD



**A9—Display Storage (Front)
(B010152 and Up)**

A9—Display Storage (Rear)
(B010152 and Up)
A9—Display Storage (Front)
(B010152 and Up)



A9—Display Storage (Rear)
(B010152 and Up)

DISPLAY STORAGE

Only the vertical information is digitized since the horizontal sweep is a linear function, and thus can be predicted. The Horizontal Display is broken up into 512 discrete locations or "bins". When a bin boundary is crossed and which bin the sweep is currently in is the only data that need be recorded from the sweep.

The Display Storage consists mainly of 4 distinct sections. These are the Vertical Acquisition, Horizontal Acquisition, Memory and I/O Arbiter, and the Display consisting of the readout and the vector control.

Horizontal Acquisition

The horizontal acquisition system consists of a tracking analog-to-digital converter (ADC). The type of ADC converter used ensures that all values of the sweep get digitized, and facilitates the detection of when a bin boundary is crossed. When a bin boundary is crossed, all of the vertical information that has been acquired since the previous bin boundary crossing is then stored in Memory. The bin boundary signal is called Store-.

The tracking converter is made up of operational amplifier U392; comparators U292A and U292B; state machine U464; up/down counters U246, U242, and U236; digital-to-analog converter (DAC) U574; and some random logic.

Operation of the tracking converter starts with the sweep. The sweep is negative going +1.6 V to -1.6 V. The operational amplifier buffers and inverts the sweep. The voltage appearing on the output then determines the voltage at the window comparator. The digital value in the DAC is such that the voltage appearing in the window comparator is always within the window. When the voltage is outside of the window, the state machine will clock the up/down counters up or down, as appropriate, until the system reaches equilibrium.

The state machine controls the operation of the horizontal tracking ADC. When the Up- line is asserted (in the logic low condition), the next positive edge of the clock sets the output of a J-K flip-flop which enables the Up-Clock to the up/down counters. These counters will count up until HA9 and HA10 reach a 0 state, except when the NOISE line is false (logic low) in which case the counter will count up until HA0, HA9, and HA10 are in a zero state. The DN line causes a similar sequence of events except the counter is counted down. During the time that the counter is enabled, the STORE- line will go low if the STEN line is high, and initiate a write cycle to the Memory. U488, U566A, and U324D prevent the up/down counters from overflowing and underflowing.

Horizontal Multiplexer

When the STORE- line is low, buffers U452 and U446 are enabled. The Horizontal Acquisition address is then placed on the address bus. At this time, the data in MAX accumulator or MIN accumulator is then loaded into Memory. During a write cycle all four display partitions are written into sequentially. If one of the displays has been saved, the write cycle is completed but the actual write enable signal is inhibited for that display during this period. If the NOISE line was low, then both a MIN and a MAX is written (eight clock cycles) into two adjacent storage locations. If the NOISE line is high, then just a MAX is written into one memory location (four clock cycles).

The arbitration for the Memory and the enabling of the display writes (Save A, B, C, D) is done by programmable logic sequencer (PLS) U360. This PLS is the ram arbiter. Internal to the ram arbiter are registers that control the display updates, when written to by the microprocessor.

Vertical Acquisition

The flash ADC U368 provides new data at VA0-VA7 soon after the rising edge of CLK (clock). This data is an accurate digital representation, within limits, of the analog video signal. Multiplexers U206 and U108 select the ADC data or, during the max hold cycle, the output of the Memory. The outputs of the multiplexers are compared by U114 against the MAX accumulator, and the outputs of the ADC are compared by U304 against the MIN accumulator. State machine U318 determines the appropriate time to update (flush) the MIN and MAX accumulators with the present acquired data (VA0-VA7). The accumulators are flushed at the end of a write cycle, when the comparators determine that the data in the accumulator is either greater than (MAX) or less than (MIN) the present acquired data, or at the end of a read accumulator cycle. Another pair of multiplexers, U220 and U226 select the output of the MIN or MAX accumulator to be written into Memory. Max hold and the read accumulator command will force these multiplexers to only select the contents of the max accumulator to be written into memory. The contents of the min accumulator are selected only when MIN MAX pairs are written into memory.

Display Control

The active display is controlled by a state machine composed of U260 and one half of a pair of ripple counters U326A. Eight registers in the state machine retain the active displays, when written to by the Microprocessor.

Up to four vector display pages and four pages of text can be active at any one time, although having more than one page of text active at one time can be confusing. The current active display is depicted by PA0, PA1, and PA2 originating from the counter. When a page of information is completed, a trailing edge detector inside U260 asserts NEWP- (low) and toggles the counter thus selecting the next page. If the next page is inactive, NEWP- will toggle again until an active page is selected.

Vertical Display Control

A state machine in U200 controls the display of vector waveforms, the readout, and the timing for the display-A function. Each vector is eight clock periods or 3.25 μ s long with a 2.46 MHz clock.

Readout

A state machine in U146 is used, in conjunction with character generator chip U130 and some peripheral logic, for controlling the display of the readout characters. Counters U240 and U140 are used for both the display of vectors and the generation of a vertical positioning ramp for the readout. When in the vector mode, the counters are merely preset but not clocked, and when in the character mode the counters are counted but not preset. Exclusive OR-gates U154A, U154B, and U154C invert the ramp when the characters are displayed (as the readout IC displays the characters from top to bottom). The

contents of scroll register U160 are added to the displayed row by 4-bit adder U270. U280 and U180 are display DACs. During a readout page, only one display DAC (U280) is used, and during a vector display both display DACs are used.

Vector Display

Displayed data is loaded into display latch U170 for the MIN vectors, and into latches U240 and U140 for the MAX vectors. The vector is drawn by loading new data into one of the two DACs and then linearly turning on the reference voltage. As reference current in one DAC is increased, the other DAC current is decreased, thus drawing a linear vector between each display point.

Display -A

Vector controller U208 loads the "A" information into tristateable, inverting latch U120. If a (Display - A) is not to be completed, then the inverting latch is held cleared. The "D" inputs to the latch are inverted so that the data appearing at the output is the "ones" complement of the input data. The output of the latch is then added with the I/O data by adders U232 and U132. The resultant is the I/O data minus the "A" data less the end around carry. Since the output is ultimately visual the end around carry was not performed thus providing a one bit error. Also no overflow or underflow blanking is performed. The resultant display can be at the top or at the middle depending on the sense of FULL/HALF-.

A9 DISPLAY STORAGE
B010152 And up



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	CKTBRD LOCATION
BT510	F-4	B-6 ^a	R184	B-3	I-1	U260	E-1	F-3
C118	A-6	B-1	R188	J-1	I-1	U292A	B-3	J-3
C254	A-6	F-2	XR190	J-1	J-1	U292B	B-3	J-3
C282	B-6	I-2	R286	B-3	I-3	U292C	B-4	J-3
C284	B-6	I-3	R288	B-3	I-3	U308	F-1	A-5
C376	J-1	H-5	R298	B-3	J-3	U324D	D-5	C-4
C382	B-6	I-4	R299	B-3	J-3	U324F	F-2	C-4
C384	B-6	I-4	R374	J-2	H-4	U326A	F-2	C-4
C390	A-3	J-4	R377	J-2	H-4	U326B	G-1	C-4
C395	A-3	J-4	R378	J-2	H-4	U334A	G-2	D-4
C396	A-3	J-4	R379	J-1	H-4	U334B	G-2	D-4
C397	B-6	J-4	R381	C-3	I-4	U336	H-2	D-4
C398	A-5	J-4	R382	B-3	I-4	U342	H-1	E-4
C399	A-6	J-5	R383	B-3	I-4	U352	G-4	F-4
C412	F-4	B-5	R384	B-3	I-4	U360	F-3	F-4
C414	A-6	B-5	R385	J-2	I-4	U392A	A-3	J-4
C474	B-6	H-5	R387	A-3	I-4	U392B	A-3	J-4
C476	I-1	H-6	R388	A-3	I-4	U408A	F-6	A-6
C480	J-1	I-5	R389	J-1	I-4	U408B	F-6	A-6
C481	J-1	I-5	R390	B-3	J-4	U408C	E-1	A-6
C482	J-2	I-5	R391	B-4	J-4	U420	D-2	C-5
C486	A-6	I-6	R392	C-3	J-4	U428	A-2	C-5
C520	B-6	C-7 ^a	R393	B-4	J-4	U436	F-4	D-5
C571	I-2	H-6	R394	A-3	J-4	U438A	H-4	D-6
C574	B-4	H-7	R430	E-4	D-6	U438B	H-3	D-6
C642	B-6	E-6 ^a	R436	E-4	D-6	U446	E-5	E-5
C658	B-6	F-6 ^a	R476	I-1	H-6	U448	G-6	E-6
C664	B-6	G-5 ^a	R478	I-1	H-6	U452	E-4	F-5
C706	B-6	A-4 ^a	R483	J-2	I-5	U454	F-6	F-6
C722	B-6	C-5 ^a	R532	E-4	D-6	U460	I-3	F-5
C728	B-6	D-4 ^a	R534	F-4	D-7	U462	I-6	F-6
C738	B-6	D-3 ^a	R538	F-4	D-7	U464	C-3	G-6
C756	B-6	F-5 ^a	R562	J-4	G-7	U474	I-1	H-6
C816	B-6	B-3 ^a	R570	I-2	H-6	U476A	J-2	H-5
C822	B-6	C-2 ^a	R574	B-4	H-7	U476B	J-1	H-5
C858	B-6	F-3 ^a	R576	A-4	H-7	U484A	J-2	I-5
C906	B-6	A-1 ^a	R578	A-4	H-7	U484D	J-2	I-5
C946	B-6	E-2 ^a	TP574	B-4	H-6	U484E	J-3	I-5
C956	B-6	F-2 ^a	U154D	C-6	F-1	U488	C-5	I-6
CR410	F-4	B-6	U228D	I-2	C-3	U494	A-5	J-5
CR438	E-4	D-6	U234	I-4	D-3	U506	F-1	A-7
CR536	F-4	D-7	U236	D-5	D-3	U520	B-1	C-6
J550	D-6	F-7	U242	D-4	E-3	U524	A-1	C-6
L496	A-5	J-5	U244A	G-5	E-2	U526	D-1	C-7
L498	A-6	J-6	U244B	H-5	E-2	U566A	D-4	G-7
P9	A-3	J-7	U244C	G-3	E-2	U566B	B-5	G-7
Q532	F-4	D-6	U246	D-4	E-3	U566C	B-5	G-7
R180	A-3	I-1	U256	C-1	F-3	U566D	B-4	G-7
						U574	A-4	H-7

^a These components are located on the back of the circuit board.

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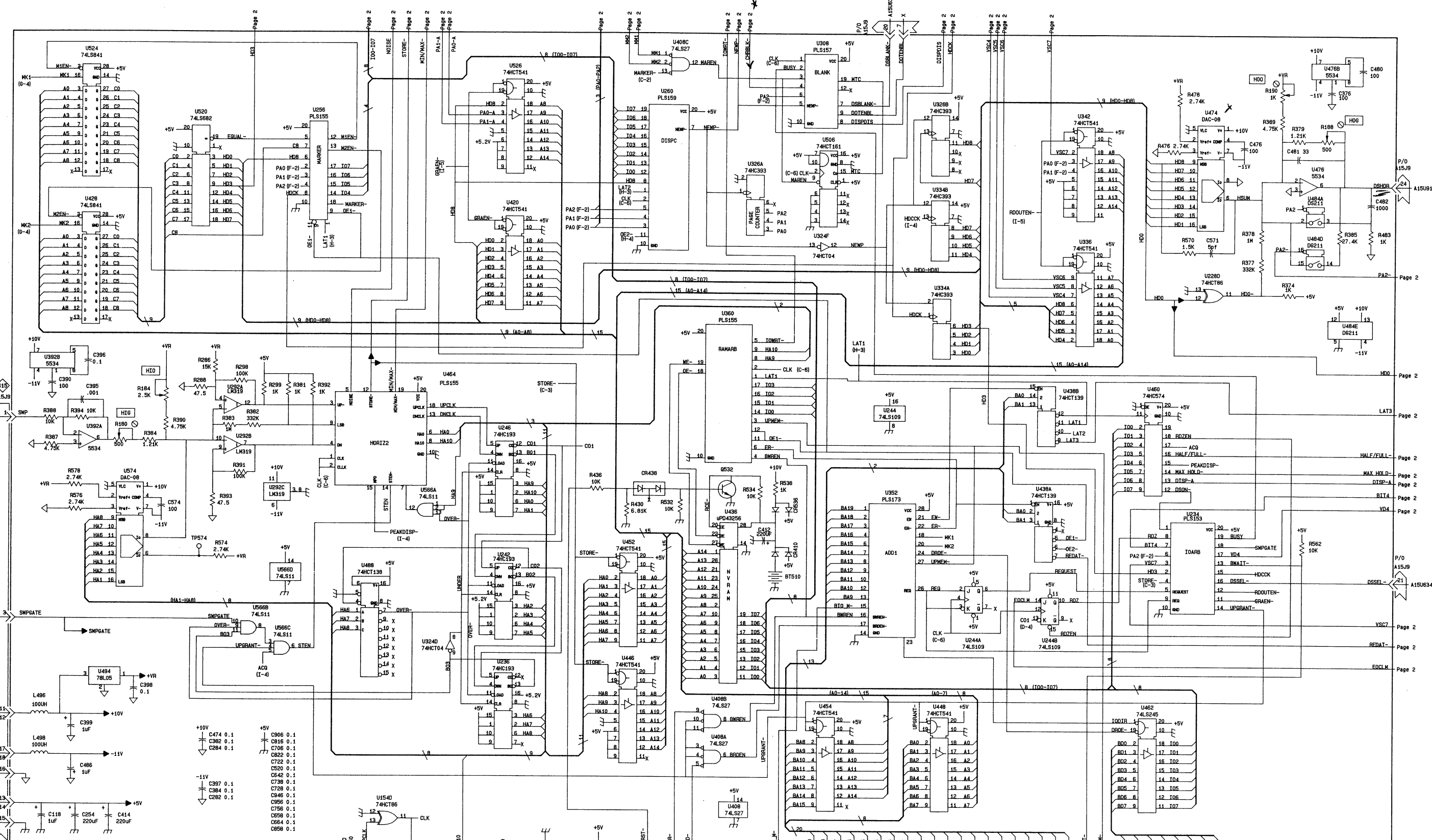
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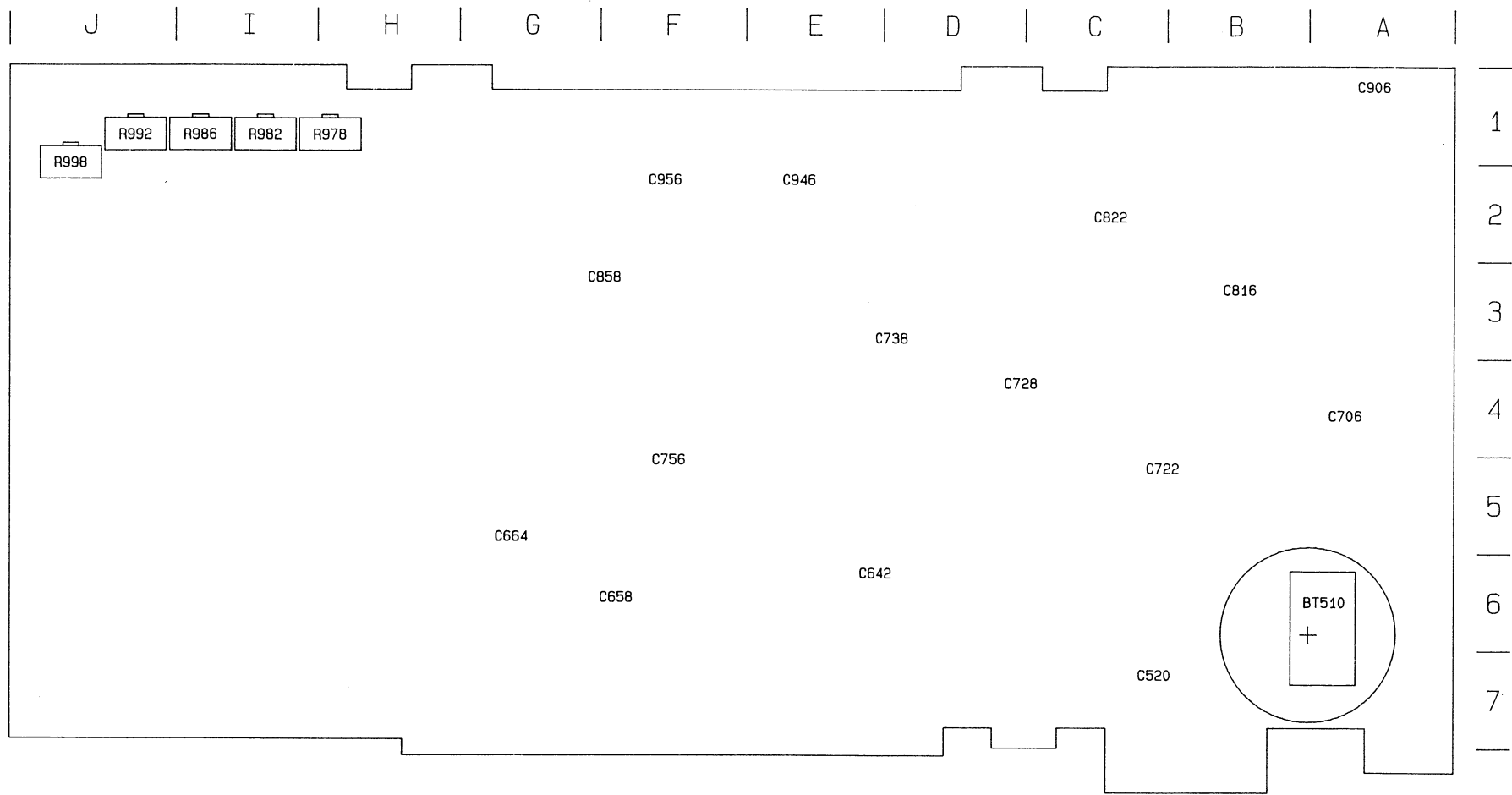
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A9
 DISPLAY STORAGE
 670-9468-
 PAGE 1 OF 2
 9-15-87 Version E

DISPLAY STORAGE
 (8010152 and up)



A9—Display Storage (Rear)
(B010001 to B010151)

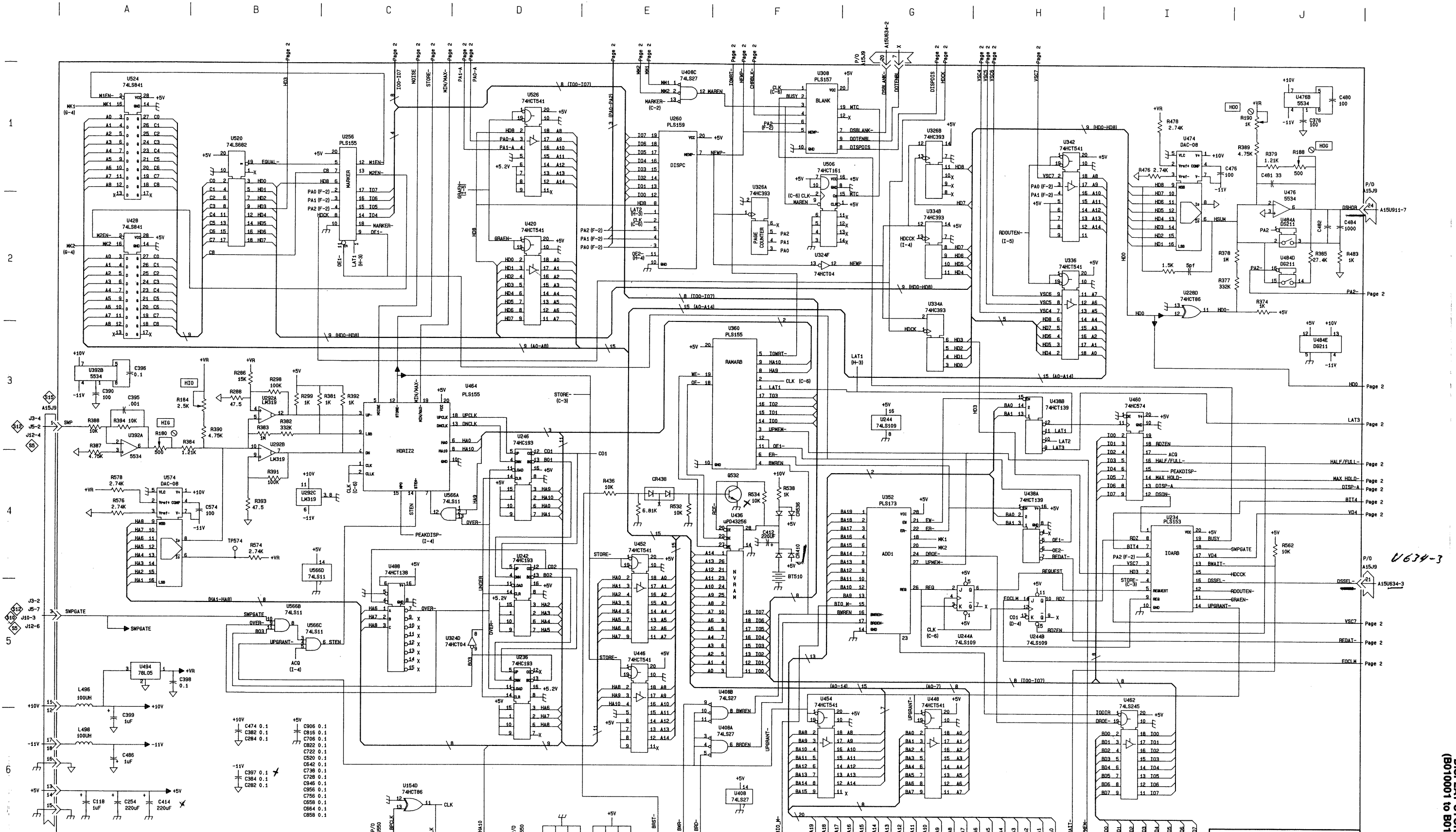
A9—Display Storage (Rear)
(B010001 to B010151)
A9—Display Storage (Front)
(B010001 to B010151)

A9 DISPLAY STORAGE
B010001 to B010151



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	CHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	CHEMATIC LOCATION	BOARD LOCATION
BT510	F-4	B-6 ^a	R180	A-3	BI-1	U292A	B-3	BJ-3
C118	A-6	B-1	R184	B-3	I-1	U292B	B-3	J-3
C254	A-6	F-2	R188	J-1	I-1	U292C	B-4	J-3
C282	B-6	I-2	R190	J-1	J-1	U308	F-1	A-5
C284	B-6	I-3	R286	B-3	I-3	U324D	D-5	C-4
C376	J-1	H-5	R288	B-3	I-3	U324F	F-2	C-4
C382	B-6	I-4	R298	B-3	J-3	U326A	F-2	C-4
C384	B-6	I-4	R299	B-3	J-3	U326B	G-1	C-4
C390	A-3	J-4	R374	J-2	H-4	U334A	G-2	D-4
C395	A-3	J-4	R377	J-2	H-4	U334B	G-2	D-4
C396	A-3	J-4	R378	J-2	H-4	U336	H-2	D-4
C397	B-6	J-4	R379	J-1	H-4	U342	H-1	E-4
C398	A-5	J-4	R381	C-3	I-4	U352	G-4	F-4
C399	A-6	J-5	R382	B-3	I-4	U360	F-3	F-4
C412	F-4	B-5	R383	B-3	I-4	U392A	A-3	J-4
C414	A-6	B-5	R384	B-3	I-4	U392B	A-3	J-4
C474	B-6	H-5	R385	J-2	I-4	U408A	F-6	A-6
C476	I-1	H-6	R387	A-3	I-4	U408B	F-6	A-6
C480	J-1	I-5	R388	A-3	I-4	U408C	E-1	A-6
C481	J-1	I-5	R389	J-1	I-4	U420	D-2	C-5
C482	J-2	I-5	R390	B-3	J-4	U428	A-2	C-5
C484	J-2	I-5	R391	B-4	J-4	U436	F-4	D-5
C486	A-6	I-6	R392	C-3	J-4	U438A	F-4	D-6
C520	B-6	C-7 ^a	R393	B-4	J-4	U438B	H-3	D-6
C574	B-4	H-7	R394	A-3	J-4	U446	E-5	E-5
C642	B-6	E-6 ^a	R436	E-4	D-6	U448	G-6	E-6
C658	B-6	F-6 ^a	R476	I-1	H-6	U452	E-4	F-5
C664	B-6	G-6 ^a	R478	I-1	H-6	U454	F-6	F-6
C706	B-6	A-4 ^a	R483	J-2	I-5	U460	I-3	F-5
C722	B-6	C-5 ^a	R532	E-4	D-6	U462	I-6	F-6
C728	B-6	D-4 ^a	R534	F-4	D-7	U464	C-3	G-6
C738	B-6	D-3 ^a	R538	F-4	D-7	U474	I-1	H-6
C756	B-6	F-5 ^a	R562	J-4	G-7	U476A	J-2	H-5
C816	B-6	B-3 ^a	R574	B-4	H-7	U476B	J-1	H-5
C822	B-6	C-2 ^a	R576	A-4	H-7	U484A	J-2	I-5
C858	B-6	F-3 ^a	R578	A-4	H-7	U484D	J-2	I-5
C906	B-6	A-1 ^a	TP574	B-4	H-6	U484E	J-3	I-5
C946	B-6	E-2 ^a	U154D	C-6	F-1	U488	C-5	I-6
C956	B-6	F-2 ^a	U228D	I-2	C-3	U494	A-5	J-5
C970	B-6	H-1 ^a	U234	I-4	D-3	U506	F-1	A-7
CR410	F-4	B-6	U236	D-5	D-3	U520	B-1	C-6
CR438	E-4	D-6	U242	D-4	E-3	U524	A-1	C-6
CR536	F-4	D-7	U244A	G-5	E-2	U526	D-1	C-7
J550	D-6	F-7	U244B	H-5	E-2	U566A	D-4	G-7
L496	A-5	J-5	U244C	G-3	E-2	U566B	B-5	G-7
L498	A-6	J-6	U246	D-4	E-3	U566C	B-5	G-7
P9	A-3	J-7	U256	C-1	F-3	U566D	B-4	G-7
Q532	F-4	D-6	U260	E-1	F-3	U574	A-4	H-7

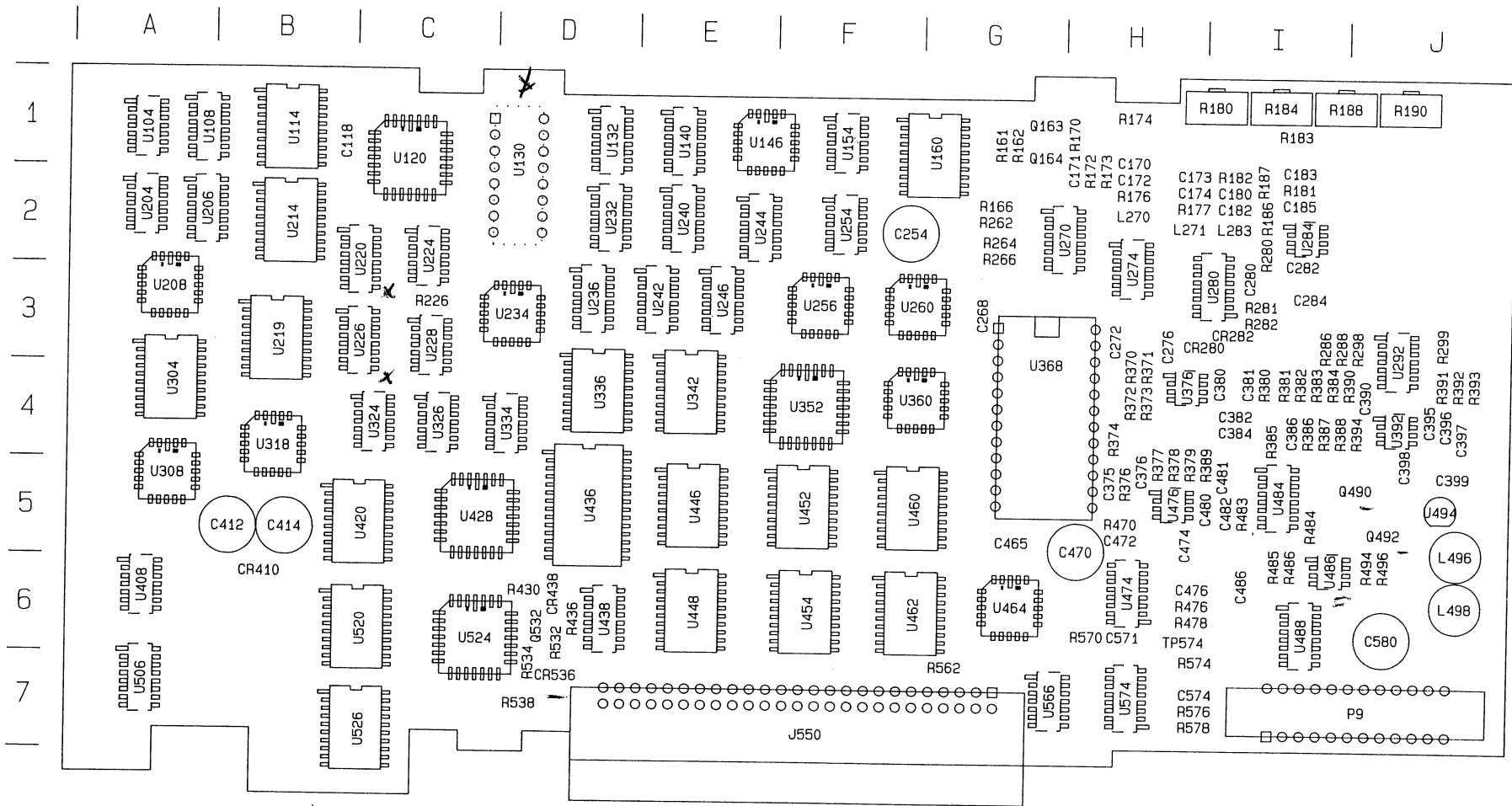
^a These components are located on the back of the circuit board.



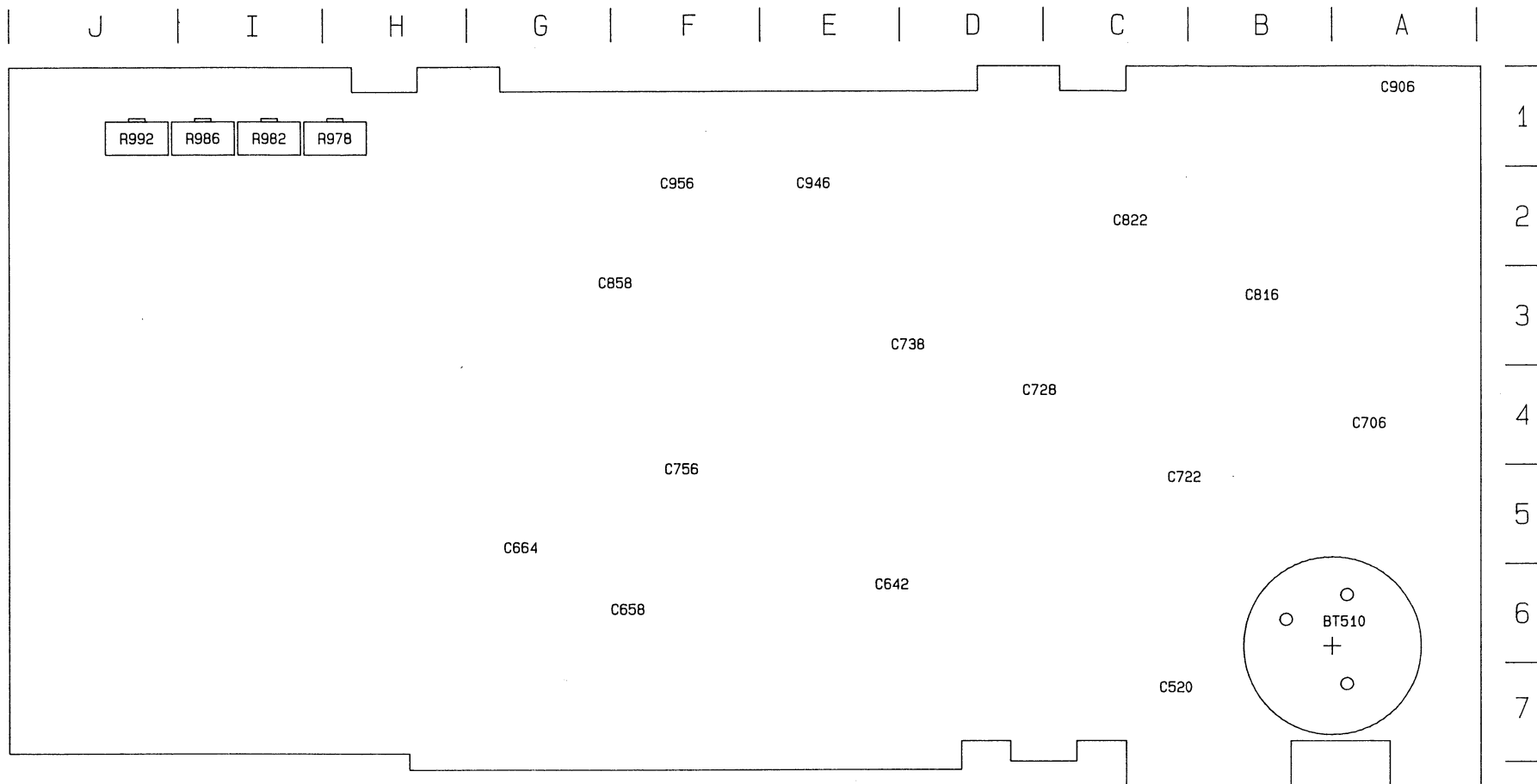
A9
 DISPLAY STORAGE
 670-9468-00
 PAGE 1 OF 2
 8-25-87 Version C.1

DISP/STOR (B010001 to B010151)

U634-3



**A9—Display Storage (Front)
(B010152 and Up)**



**A9—Display Storage (Rear)
(B010152 and Up)**

**A9—Display Storage (Rear)
(B010152 and Up)**
**A9—Display Storage (Front)
(B010152 and Up)**

A9 DISPLAY STORAGE
B010152 and up



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C170	I-3	H-1	R181	J-1	I-2	U154B	G-2	F-1
C171	H-3	H-1	R182	J-2	I-2	U154C	G-2	F-1
C172	I-3	H-2	R183	I-1	I-1	U160	G-1	G-1
C173	J-3	H-1	R186	J-2	I-2	U204A	I-4	A-2
C174	I-3	H-2	R187	I-2	I-2	U204B	H-5	A-2
C180	J-2	I-2	R226	J-4	C-3	U204C	I-5	A-2
C182	J-3	I-2	R262	H-1	G-2	U206	D-4	A-2
C183	J-2	I-1	R264	G-1	G-2	U208	G-3	A-3
C185	J-1	I-2	R266	G-1	G-2	U214	F-5	B-2
C268	B-5	G-3	R280	I-1	I-2	U219	F-6	B-3
C272	B-4	H-3	R281	I-1	I-3	U220	F-5	C-2
C276	A-3	H-3	R282	I-1	I-3	U224A	J-6	C-2
C280	I-1	I-3	R370	A-4	H-3	U224B	J-6	C-2
C375	B-4	H-5	R371	A-4	H-3	U226	F-6	C-3
C380	A-3	I-4	R372	A-4	H-4	U228A	J-6	C-3
C381	B-4	I-4	R373	A-4	H-4	U228B	C-1	C-3
C386	J-2	I-4	R376	B-4	H-5	U228C	C-6	C-3
C465	B-4	G-5	R380	B-4	I-4	U232	E-1	D-2
C470	B-4	H-5	R386	J-1	I-4	U240	F-1	E-2
C472	B-3	H-5	R470	C-3	H-5	U254	G-5	F-2
C580	B-4	J-6	R484	J-1	I-5	U270	H-1	G-2
CR280	B-3	I-3	R485	A-1	I-5	U274A	B-5	H-2
CR282	B-3	I-3	R486	A-1	I-5	U274B	B-5	H-2
L270	I-3	H-2	R494	A-1	J-5	U274C	B-5	H-2
L271	I-3	H-2	R496	A-1	J-5	U274F	H-3	H-2
L283	J-3	I-2	R978	B-4	H-1 ^a	U280	I-1	I-3
P9	A-2	J-7	R982	A-3	I-1 ^a	U284A	J-2	I-2
Q163	H-3	G-1	R986	J-1	I-1 ^a	U284B	J-1	I-2
Q164	H-3	G-1	R992	I-1	J-1 ^a	U304	E-5	A-4
Q490	B-1	J-5	U104A	I-4	A-1	U318	B-5	B-4
Q492	B-1	J-5	U104B	G-6	A-1	U324A	H-5	C-4
R161	H-3	G-1	U104C	I-5	A-1	U324B	I-5	C-4
R162	H-3	G-1	U108	D-5	A-1	U324C	J-4	C-4
R166	H-1	G-2	U114	E-4	B-1	U324E	H-1	C-4
R170	I-3	H-1	U120	C-1	C-1	U368	C-4	G-4
R172	I-3	H-1	U130	J-5	D-1	U376A	A-4	H-4
R173	I-3	H-1	U132	E-2	D-1	U376B	A-3	H-4
R174	I-2	H-1	U140	F-2	E-1	U484C	J-1	I-5
R176	I-2	H-2	U146	H-5	E-1	U486A	A-1	I-6
R177	I-2	H-2	U154A	G-2	F-1	U486B	A-1	I-6

^a These components are located on the back of the circuit board.

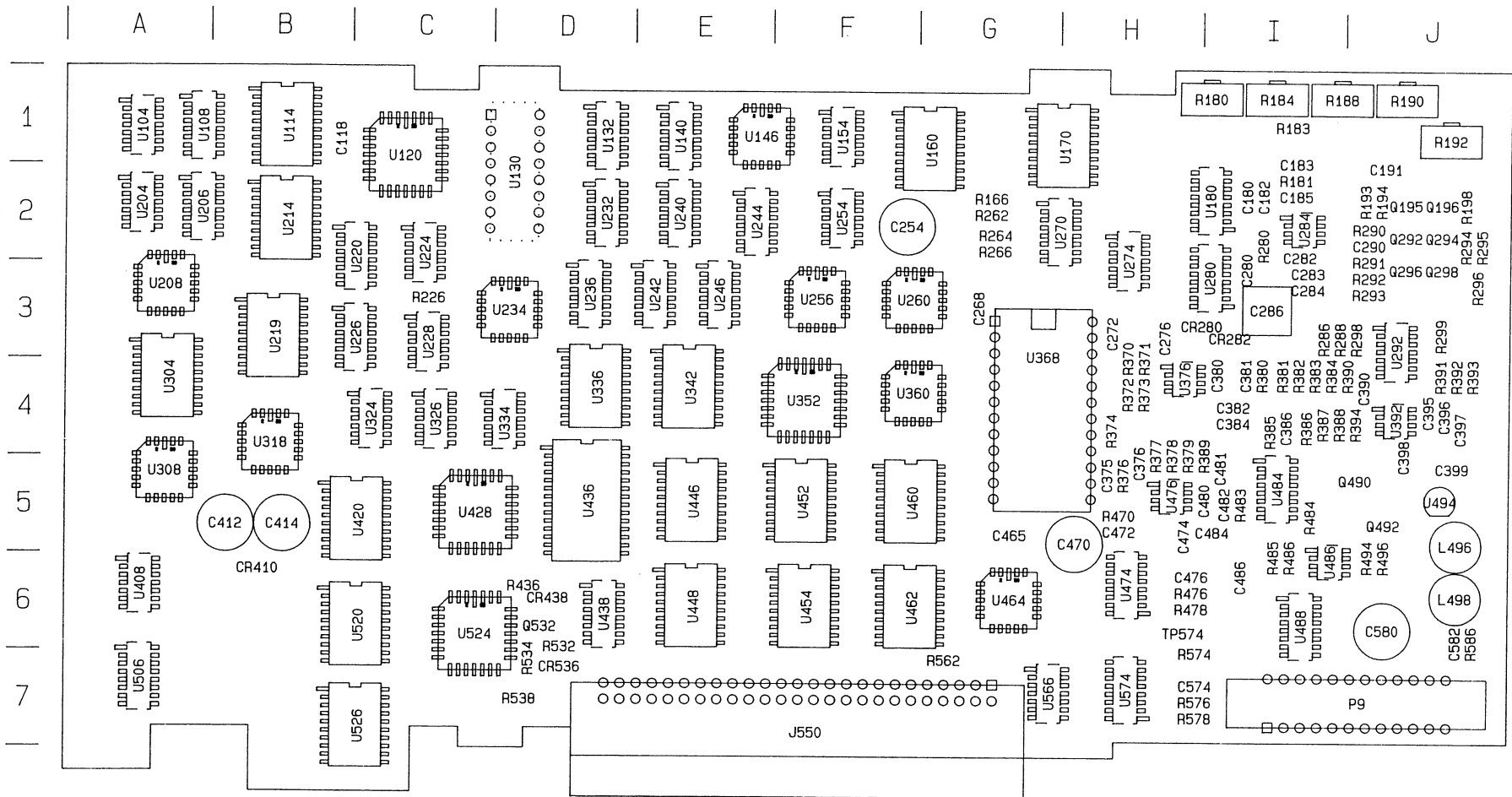
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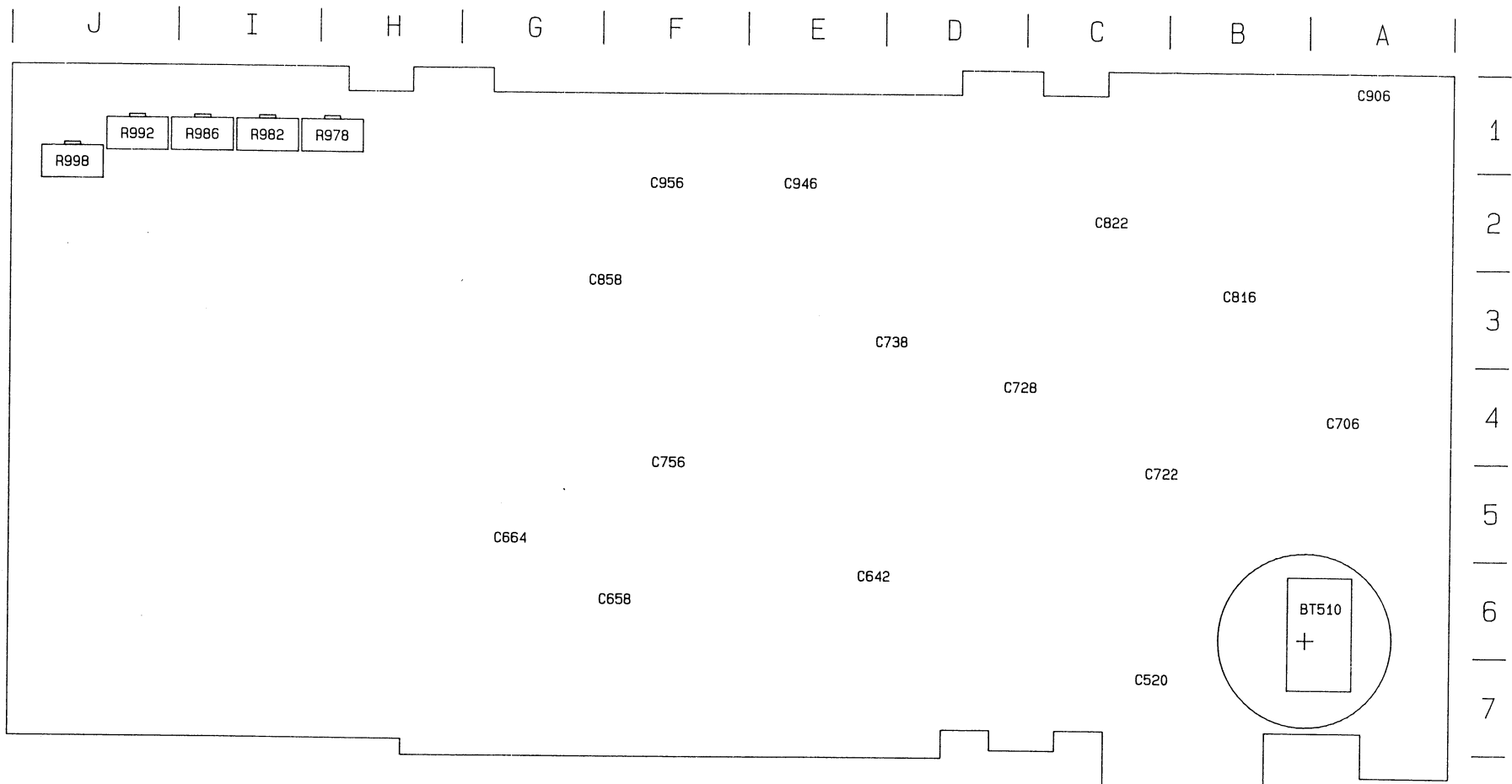
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A9—Display Storage (Front)
(B010001 to B010151)

A9—Display Storage (Rear)
(B010001 to B010151)
A9—Display Storage (Front)
(B010001 to B010151)



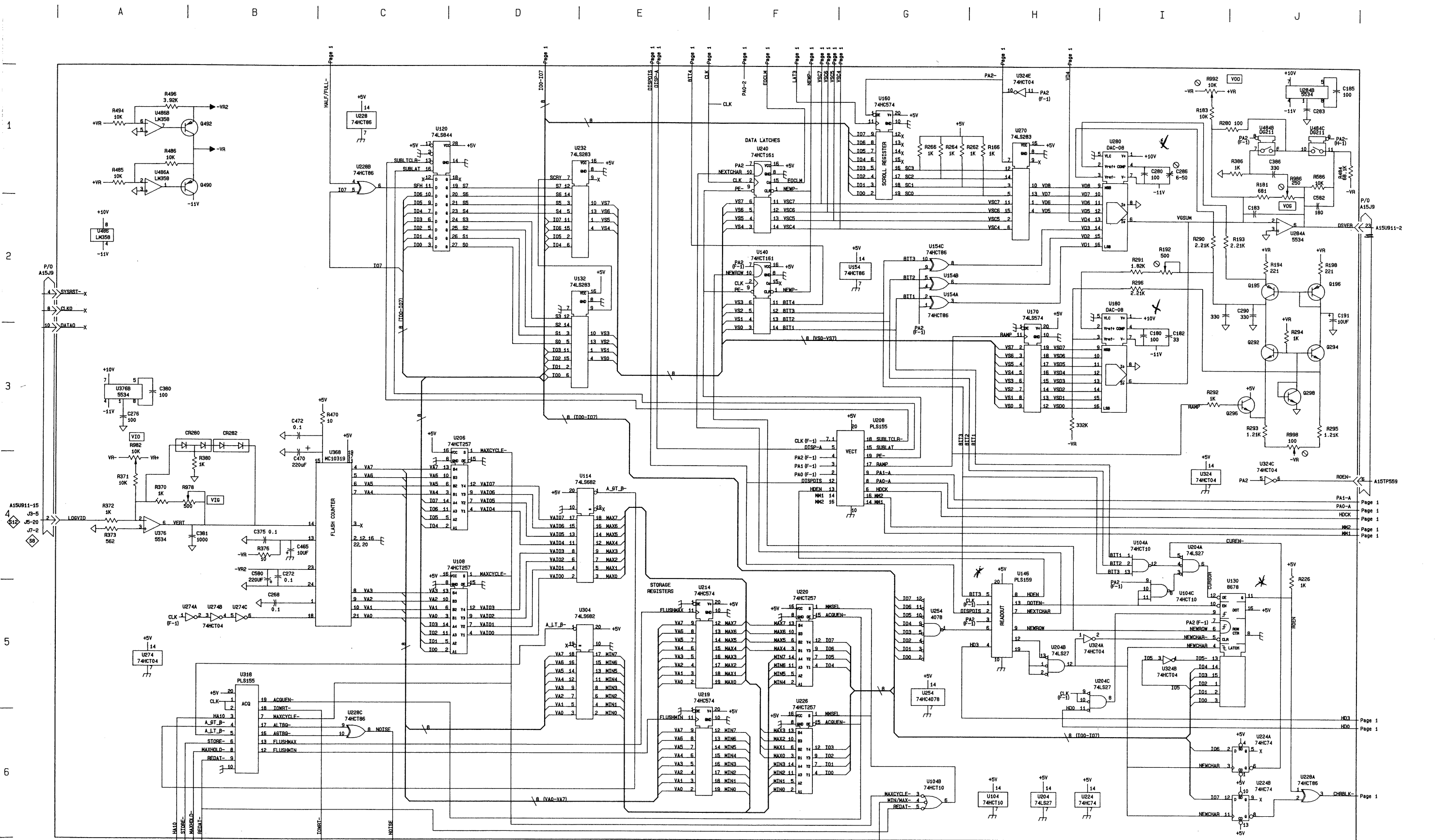
A9—Display Storage (Rear)
(B010001 to B010151)

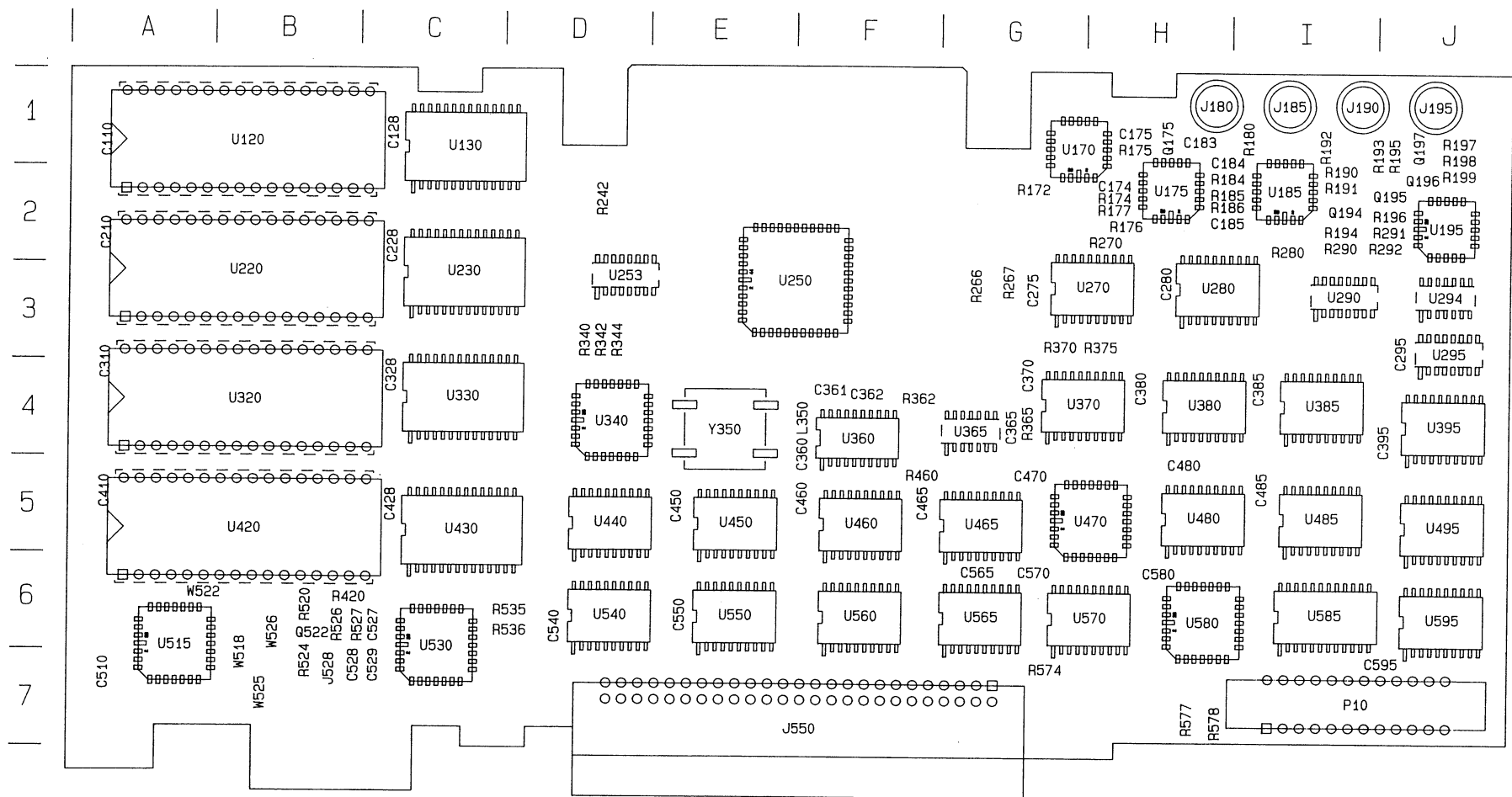
A9 DISPLAY STORAGE
B010001 to B010151



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C180	I-3	I-2	R264	G-1	G-2	U154C	G-2	F-1
C182	I-3	I-2	R266	G-1	G-2	U160	G-1	G-1
C183	J-2	I-1	R280	I-1	I-2	U170	H-3	H-1
C185	J-1	I-2	R290	I-2	J-2	U180	I-3	I-2
C191	J-2	J-1	R291	I-2	J-2	U204A	I-4	A-2
C268	B-5	G-3	R292	I-3	J-3	U204B	H-5	A-2
C272	B-4	H-3	R293	J-3	J-3	U204C	I-5	A-2
C276	A-3	H-3	R294	J-3	J-2	U206	D-4	A-2
C280	I-1	I-3	R295	J-3	J-2	U208	G-3	A-3
C283	J-1	I-2	R296	I-2	J-3	U214	F-5	B-2
C286	I-1	I-3	R370	A-4	H-3	U219	F-6	B-3
C290	J-2	J-2	R371	A-4	H-3	U220	F-5	C-2
C375	B-4	H-5	R372	A-4	H-4	U224A	J-6	C-2
C380	A-3	I-4	R373	A-4	H-4	U224B	J-6	C-2
C381	B-4	I-4	R376	B-4	H-5	U226	F-6	C-3
C386	J-2	I-4	R380	B-4	I-4	U228A	J-6	C-3
C465	B-4	G-5	R386	J-1	I-4	U228B	C-1	C-3
C470	B-4	H-5	R470	C-3	H-5	U228C	C-6	C-3
C472	B-3	H-5	R484	J-1	I-5	U232	E-1	D-2
C580	B-4	J-6	R485	A-1	I-5	U240	F-1	E-2
C582	J-2	J-6	R486	A-1	I-5	U254	G-5	F-2
CR280	B-3	I-3	R494	A-1	J-5	U270	H-1	G-2
CR282	B-3	I-3	R496	A-1	J-5	U274A	B-5	H-2
P9	A-2	J-7	R586	J-1	J-6	U274B	B-5	H-2
Q195	J-2	J-2	R978	B-4	H-1 ^a	U274C	B-5	H-2
Q196	J-2	J-2	R982	A-3	I-1 ^a	U274F	H-3	H-2
Q292	J-3	J-2	R986	J-1	I-1 ^a	U280	I-1	I-3
Q294	J-3	J-2	R992	I-1	J-1 ^a	U284A	J-2	I-2
Q296	J-3	J-3	R998	J-3	J-1 ^a	U284B	J-1	I-2
Q298	J-3	J-3	U104A	I-4	A-1	U304	E-5	A-4
Q490	B-1	J-5	U104B	G-6	A-1	U318	B-5	B-4
Q492	B-1	J-5	U104C	I-5	A-1	U324A	H-5	C-4
R166	H-1	G-2	U108	D-5	A-1	U324B	I-5	C-4
R181	J-1	I-2	U114	E-4	B-1	U324C	J-4	C-4
R183	I-1	I-1	U120	C-1	C-1	U324E	H-1	C-4
R192	I-2	J-1	U130	J-5	D-1	U368	C-4	G-4
R193	I-2	J-2	U132	E-2	D-1	U376A	A-4	H-4
R194	J-2	J-2	U140	F-2	E-1	U376B	A-3	H-4
R198	J-2	J-2	U146	H-5	E-1	U484C	J-1	I-5
R226	J-4	C-3	U154A	G-2	F-1	U486A	A-1	I-6
R262	H-1	G-2	U154B	G-2	F-1	U486B	A-1	I-6

^a These components are located on the back of the circuit board.





A10—Microprocessor (Front)

MICROPROCESSOR

The Microprocessor board contains the following major circuitry:

Microprocessor (CPU)

Clock Generator

Interrupt Controller

Input/Output (I/O) Subsystem Interface

Memory (ROM & RAM)

Software Option Jumpers

Programmable Interval Timer

Counter System

Microprocessor (CPU)

The Microprocessor is centered around a 16-Bit CPU. Input/output (I/O) is provided by an Interrupt Controller. System memory includes four each read-only-memory (ROM) and random-access-memory (RAM) chips. See Figure S10-1. The ROM contains all the executable code (instrument operating system and other firmware). All temporary codes such as front-panel control settings are stored in RAM. The CPU communicates with the memory and I/O ports via buffers.

The Microcomputer system receives inputs from the front-panel controls and the instrument circuits, and sends control codes to the instrument hardware to set it for desired operation.

The CPU processes data, generates addresses and control signals, and generally controls the operation of the instrument. Whenever an interrupt occurs, the CPU broadcasts data to all the circuit boards that are capable of receiving it, but only the one board that initiated the interrupt is allowed to receive the data. The data is transmitted serially and the enables in parallel. See Figure S10-2.

The CPU has an 8-bit bi-directional data bus and a 20-bit address bus. Parallel data communication from the CPU to the microprocessor's system is through the bus.

Clock Generator

The Clock Generator consists of a 14.7456 MHz oscillator and a clock pulse generator chip. The generator provides a 4.9152 MHz (1/3 the crystal frequency) clock signal, a

14.7456 MHz signal (crystal frequency), and a Reset and Ready signals for the CPU.

The 14.7456 MHz signal goes through a divide-by-six circuit to provide a 2.4576 MHz clock signal. The clock signal is then buffered before it is routed to the Display Storage board.

A system reset is initiated by a signal from the Power Supply. This signal's level rises slower than the +5 V supply when power is turned on, and falls faster than the +5 V supply when power is turned off. This assures that power is up when the Microprocessor starts executing code, and conversely, the Microprocessor stops executing before power is completely off.

Interrupt Controller

The Interrupt Controller receives interrupts from various parts of the instrument. If a board is attempting to send data to the Microprocessor board, an interrupt will be generated if the Interrupt Enable was set and the Microprocessor interrupts are enabled.

I/O Subsystem Interface

The I/O Subsystem Interface allows the Microprocessor board to communicate with other boards in the instrument via a serial I/O port. The I/O Subsystem Interface uses seven I/O addresses.

The CPU controls other circuitry (not residing on the Microprocessor board) by reading and writing control information at addressable registers residing on other circuit boards. These addressable registers are part of the I/O Subsystem.

Control information transmitted to other circuit boards is broadcast serially to registers on all the boards capable of receiving it, but only those boards that initiated an interrupt are enabled.

Memory

The Microprocessor board contains four programmable-read-only-memory (PROM) chips for executable code and text storage, and four random-access-memory (RAM) chips for general memory use. A programmable logic array (PLA) provides the chip selects for the RAM and ROM.

The PROMs may be 64k bytes or 32k bytes components. A jumper is moved to select the proper component to be

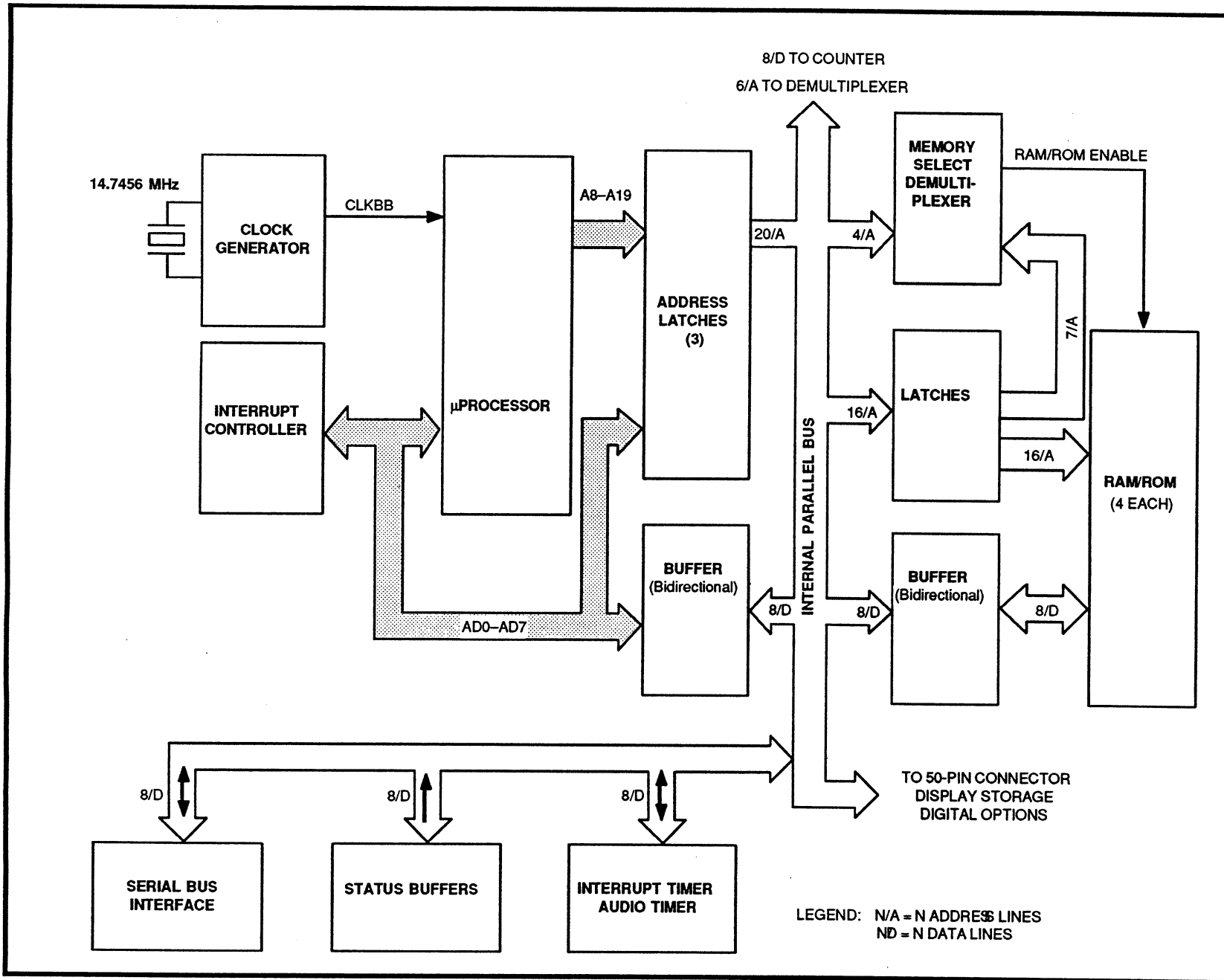


Figure S10-1. μProcessor Kernel.

installed. Also the address demultiplexer (RAM/ROM selector), a PLA, must be programmed for the specific PROM types to be installed.

The RAMs may be 32k byte or 8k byte components. Again, a jumper must be moved to select the appropriate address range for the components installed.

Software Option Jumpers

Jumpers may be used to set various software options. The Microprocessor can then determine the setting of these jumpers.

Interrupt Timer/Audio Timer

The Programmable Interval Timer contains three 16-bit timers. One of its outputs, UPAUD, is used by the μ Processor to acknowledge that a button has been pushed (audio beep).

The rest of the outputs including UPAUD are used for housekeeping such as verifying data paths in I/O Subsystem during power-up.

Counter System

The Counter System is used for making accurate frequency measurements and for counting events. The counter accurately counts to approximately 40 MHz. The

amplitude of the input signals must be within the range of -10 dB to +10 dB.

The Counter System consists of three counter chains: a 28-Bit Presettable Events Counter, a 24-Bit Presettable IF Counter, and a 29-Bit Presettable Reference Counter.

The 28-bits long Event Counter Chain counts input cycles or events. Its input is selected from one of the following:

1. Center Frequency Control Board
2. Output of the Video and FM Detectors
3. Optional Input

The 24-bits long IF Counter chain also counts input cycles or events and is dedicated to the 10 MHz IF. Its input is picked off after the Noise Filter on the Log board.

The 29-bits long Reference Counter chain counts cycles from the 100 MHz Reference Oscillator.

The first counter chain that reaches its maximum count stops all the counter chains. The length of the counter determines the resolution of the count. Also, the length of time required to make a measurement is affected by the resolution of the counter.

Because of the method used to stop the event counter when the period counter reaches its maximum count, the period counter may over-count by one or more counts.

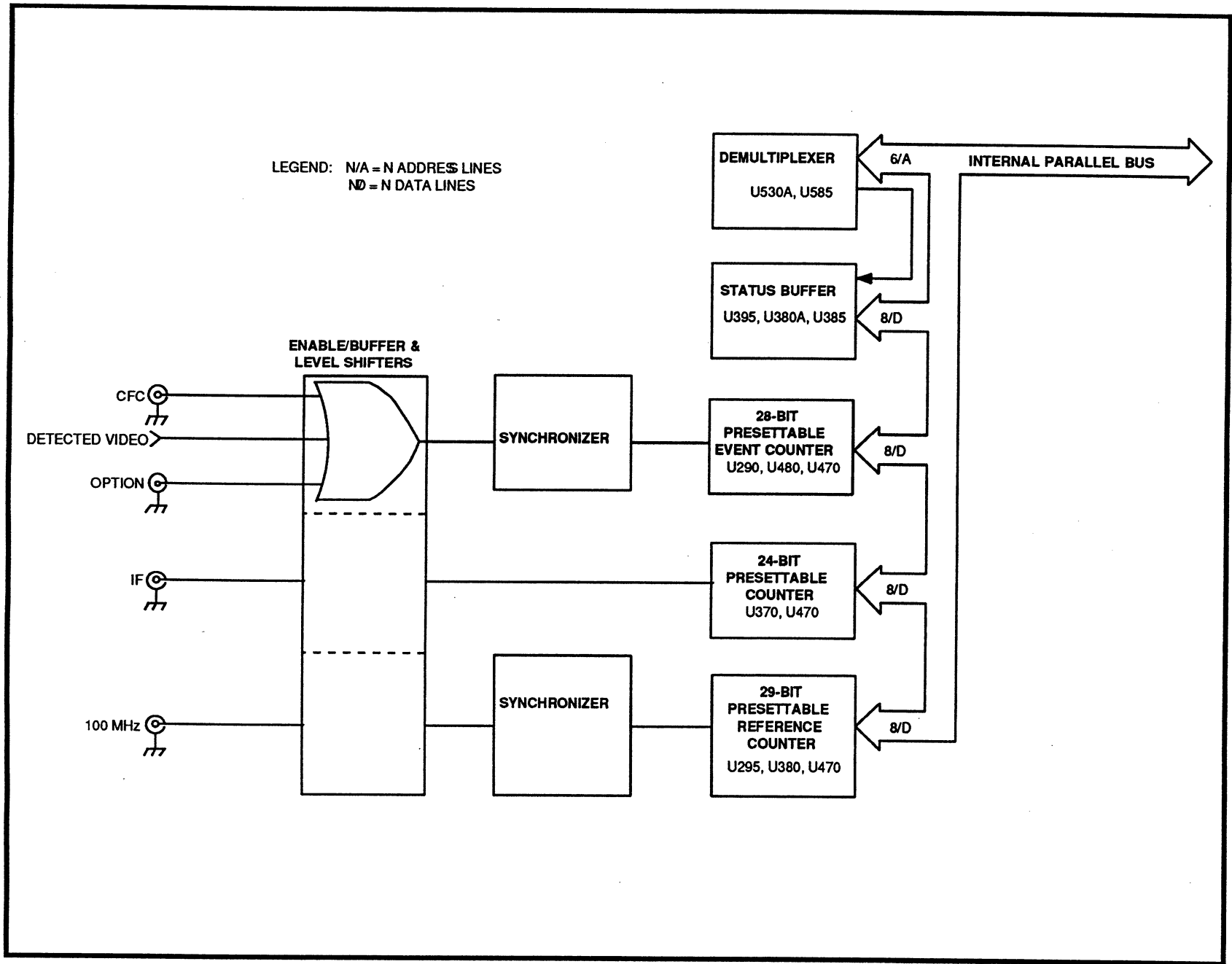


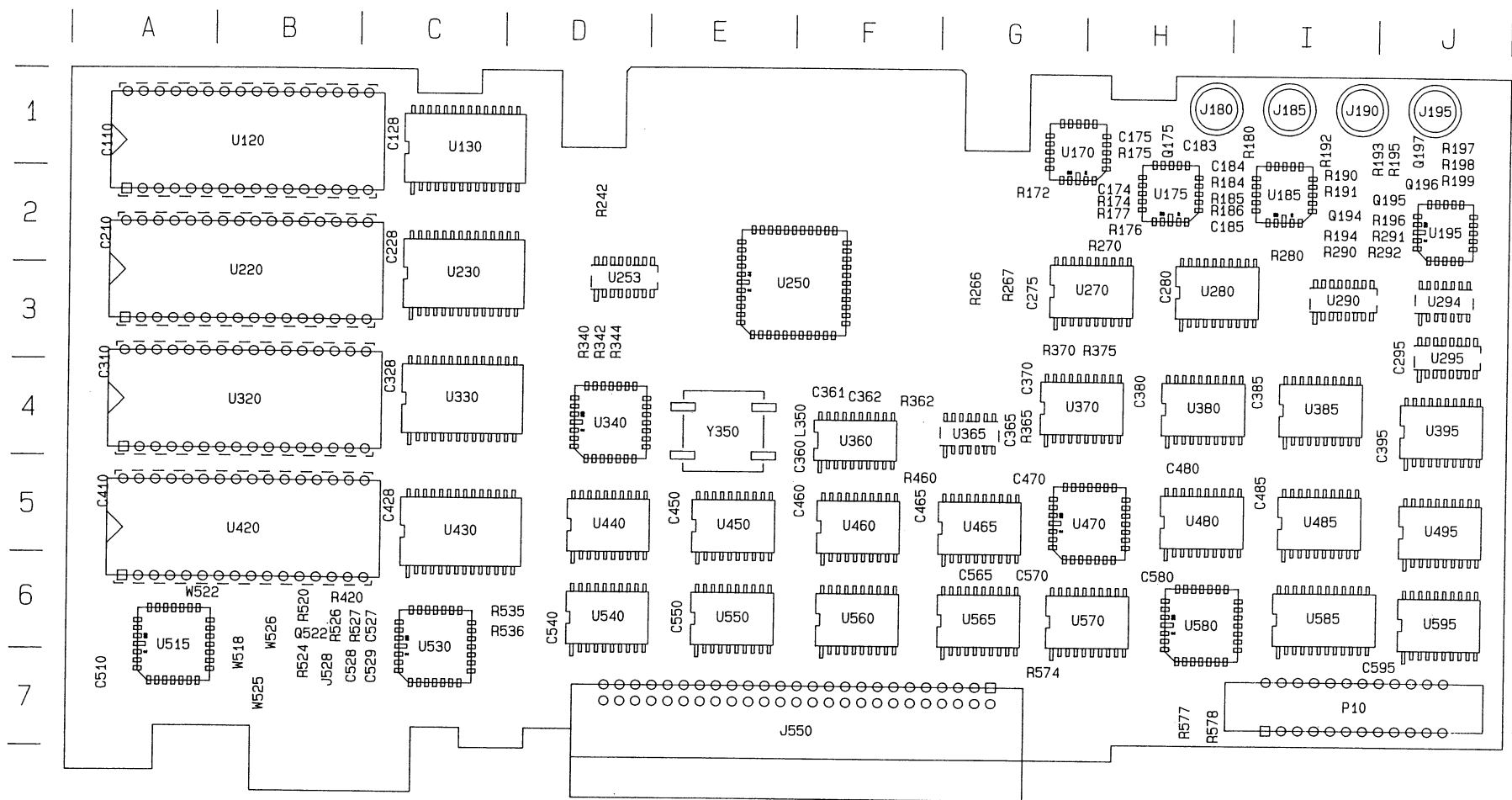
Figure S10-2. μ Processor counter system.

A10 MICROPROCESSOR



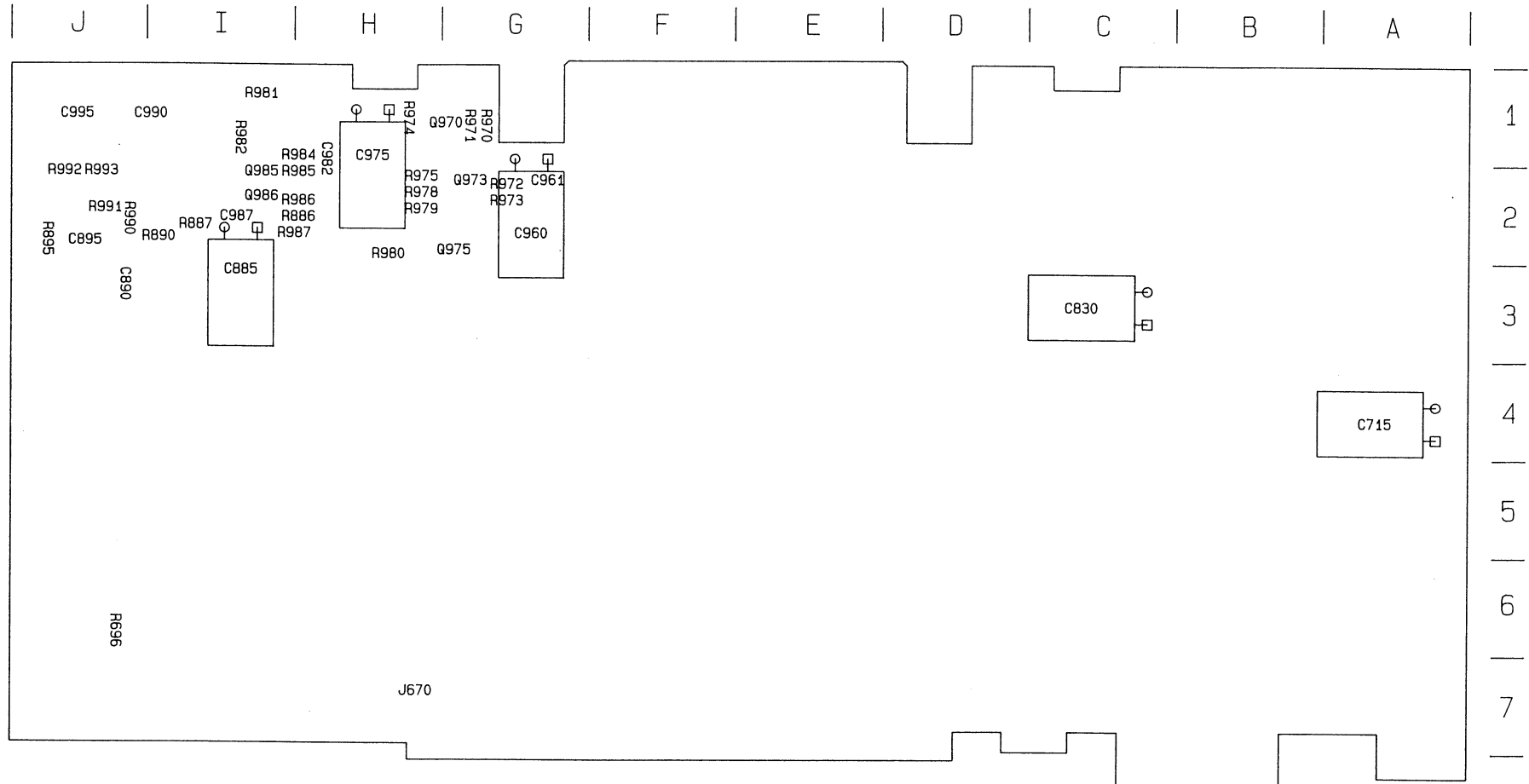
CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C110	J-4	A-1	J528	JG-4	B-7	U253	JB-6	D-3
C128	I-5	C-1	J550	A-6	E-7	U270A	A-2	H-3
C210	I-4	A-2	J670	A-3	H-7 ^a	U270C	C-5	H-3
C228	I-5	C-2	L350	A-3	F-4	U270D	E-4	H-3
C275	I-5	G-3	P10	A-2	I-7	U270E	A-3	H-3
C280	I-5	H-3	Q522	G-5	B-6	U270H	C-1	H-3
C295	I-5	J-3	R242	B-1	D-2	U280B	C-2	H-3
C310	I-4	A-4	R266	B-2	G-3	U280C	B-5	H-3
C328	I-5	C-4	R267	C-1	G-3	U280D	A-3	H-3
C360	I-5	F-4	R340	D-1	D-3	U280E	A-1	H-3
C361	A-3	F-4	R342	D-1	D-3	U320	I-2	B-4
C362	A-3	F-4	R344	D-1	D-3	U330	G-2	C-4
C365	I-5	G-4	R362	C-5	F-4	U340	A-2	D-4
C370	I-5	G-4	R365	A-3	G-4	U360	B-3	F-4
C380	I-5	H-4	R370	A-2	G-3	U420	I-2	B-5
C385	I-5	I-4	R375	E-4	H-3	U430	G-2	C-5
C395	I-5	J-4	R420	G-5	B-6	U440	D-3	D-5
C410	H-4	A-5	R460	B-4	F-5	U450	D-2	E-5
C428	I-5	C-5	R520	G-5	B-6	U460	D-4	F-5
C450	I-5	E-5	R524	G-4	B-7	U465	D-1	G-5
C460	D-4	F-5	R526	G-5	B-6	U485A	E-1	I-5
C465	I-5	F-5	R527	G-5	B-6	U485B	E-1	I-5
C470	I-5	G-5	R535	B-4	D-6	U515	F-1	A-6
C480	I-5	H-5	R536	A-4	D-6	U530B	F-5	C-6
C510	I-5	A-7	R574	A-3	G-7	U530C	C-4	C-6
C527	G-5	C-6	R980	A-3	H-2	U540	F-3	D-6
C528	H-5	B-7	R?	A-4	XXX	U550	F-2	E-6
C540	I-5	D-6	TP360	B-3	F-4	U560	F-4	F-6
C550	I-5	E-6	U120	J-2	B-1	U565	D-5	G-6
C565	I-5	G-6	U130	G-2	C-1	W518	H-2	B-6
C715	H-5	A-4 ^a	U220	J-2	B-3	W522	H-4	A-6
C830	H-5	C-3 ^a	U230	G-2	C-3	W525	H-4	B-7
C890	I-5	J-3 ^a	U250	B-1	E-3	W526	E-2	B-6
						Y350	A-3	E-4

^a These components are located on the back of the circuit board.



A10—Microprocessor (Front)

A10—Microprocessor (Rear)
A10—Microprocessor (Front)



A10—Microprocessor (Rear)

A10 MICROPROCESSOR



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C174	A-4	H-2	R190	B-6	I-2	U170B	A-5	G-1
C175	F-6	H-1	R191	C-6	I-1	U170C	A-5	G-1
C183	F-6	H-1	R192	B-6	J-1	U170D	A-4	H-2
C184	A-6	H-1	R193	A-6	I-2	U175A	D-5	H-2
C185	A-6	H-2	R194	I-5	J-1	U175B	A-6	H-2
C485	D-2	I-5	R195	A-6	J-2	U175C	D-5	H-2
C529	B-2	C-7	R196	I-5	J-1	U175D	F-5	I-2
C570	A-3	G-6	R197	A-6	J-1	U185A	C-6	I-2
C580	B-3	H-6	R198	A-6	J-2	U185B	B-6	I-2
C595	D-4	J-6	R199	B-6	H-2	U185C	F-5	I-2
C885	C-6	I-3 ^a	R270	B-5	I-2	U185D	A-6	J-2
C895	H-6	J-2 ^a	R280	C-6	I-2	U195A	H-5	J-2
C960	A-4	G-2 ^a	R290	I-6	J-2	U195B	H-5	J-2
C961	A-4	G-2 ^a	R291	I-5	J-2	U195C	H-6	H-3
C975	F-6	H-1 ^a	R292	H-6	H-7	U270C	D-3	H-3
C982	E-5	H-1 ^a	R577	E-4	H-7	U270F	F-4	H-3
C987	C-6	I-2 ^a	R578	E-4	J-6 ^a	U270G	J-5	H-3
C990	A-6	I-1 ^a	R696	E-3	H-2 ^a	U280A	I-1	I-3
C995	A-6	J-1 ^a	R886	D-6	I-2 ^a	U290	J-4	J-3
J180	A-5	H-1	R887	C-6	I-2 ^a	U294A	I-6	J-3
J185	A-5	I-1	R890	B-6	J-2 ^a	U294B	G-4	J-3
J190	A-6	I-1	R895	H-6	G-1 ^a	U294C	G-3	J-3
J195	A-6	J-1	R970	A-5	G-1 ^a	U294D	E-5	J-3
Q175	F-5	H-1	R971	A-5	G-2 ^a	U294E	E-6	J-3
Q194	I-6	I-2	R972	B-5	G-2 ^a	U294F	I-5	J-3
Q195	I-5	J-2	R973	B-5	H-1 ^a	U295	J-3	G-4
Q196	B-6	J-2	R974	A-5	H-2 ^a	U365A	G-1	G-4
Q197	B-6	J-1	R975	B-5	H-2 ^a	U365B	G-1	G-4
Q970	B-5	G-1	R978	A-5	H-2 ^a	U365C	G-2	G-4
Q973	B-5	G-2	R979	A-5	I-1 ^a	U365D	I-5	G-4
xQ975	B-5	G-2	R981	A-5	I-1 ^a	U370	H-1	H-4
Q985	D-5	I-2	R982	D-5	H-1 ^a	U380	H-2	I-4
Q986	D-6	I-2	R984	D-5	H-2 ^a	U385	F-4	J-4
R172	A-5	G-2	R985	D-5	H-2 ^a	U395	H-4	H-5
R174	C-5	H-2	R986	D-6	H-2 ^a	U470	F-1	H-5
R175	F-6	H-1	R987	F-5	J-2 ^a	U480	F-2	H-5
R176	C-5	H-2	R990	H-5	J-2 ^a	U485	D-2	I-5
R177	D-5	H-2	R991	H-5	J-2 ^a	U495	D-3	J-5
R180	A-6	I-1	R992	G-5	J-2 ^a	U530A	A-1	C-6
R184	C-6	H-2	R993	G-5	I-3	U570	A-3	H-6
R185	D-6	H-2	TP380	I-3	G-1	U580	B-3	H-6
R186	D-6	H-2	U170A	A-5	G-1	U585	B-1	I-6
						U595	D-4	J-6

^a These components are located on the back of the circuit board.

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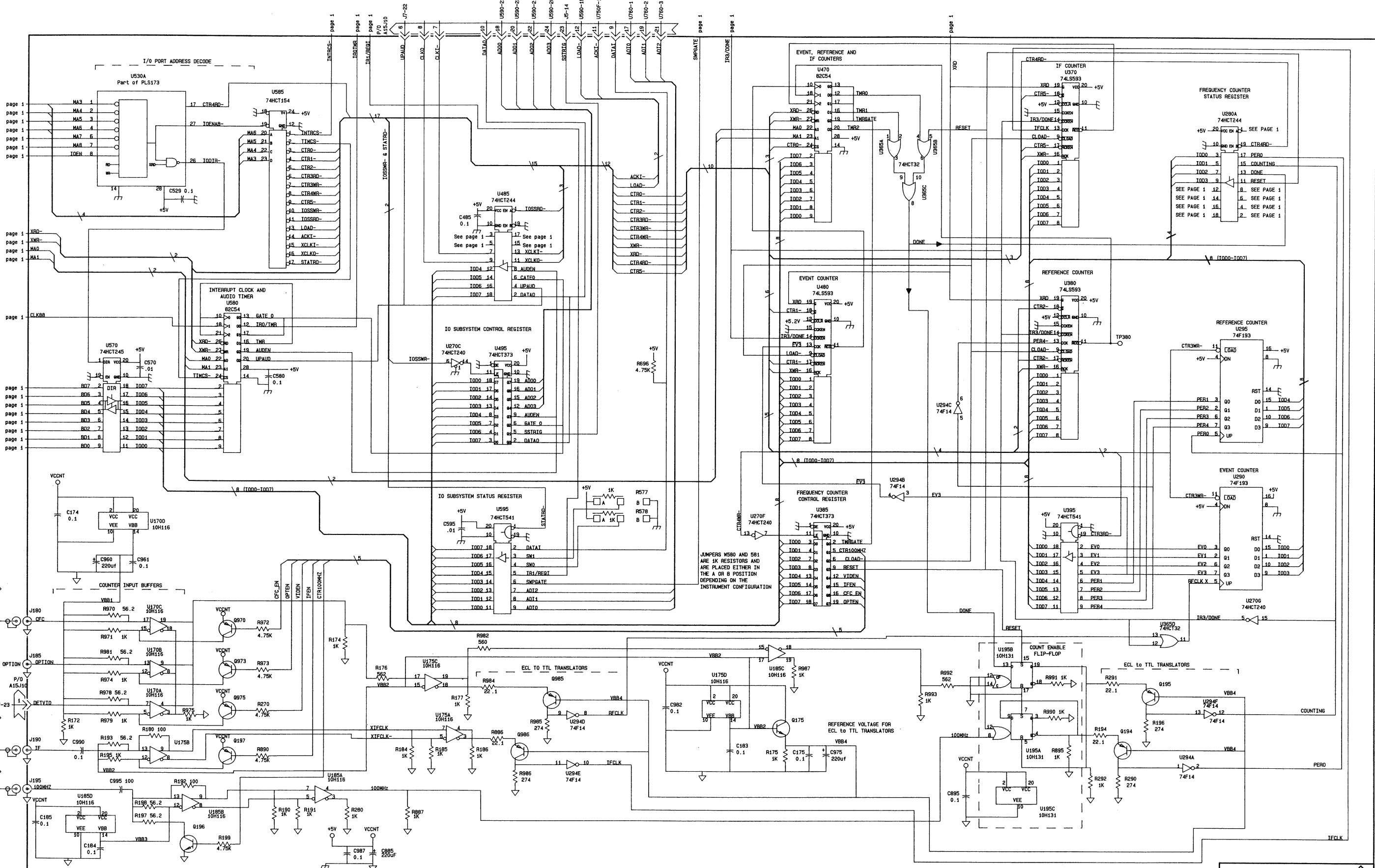
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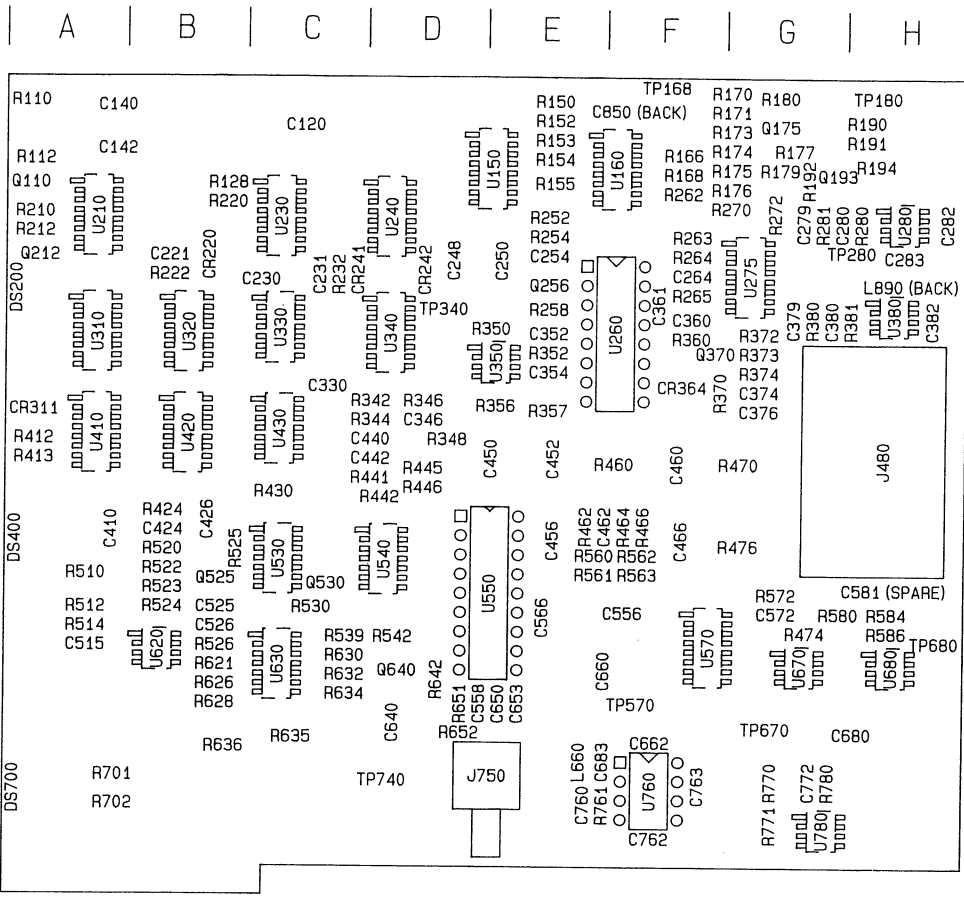
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A5—Sweep

SWEEP

The Sweep board contains a μ Processor Interface, Trigger/Sweep Generator circuitry, Video Monitor Mode [Vertical Scan (Raster Scan) circuitry], Video Line Triggering, and Graticule Illumination.

μ Processor Interface

This board receives messages from the μ Processor regarding its operation, but cannot send messages back to the μ Processor. The interface consists of a shift register (4 chips) that is serial and parallel out. The second half of the shift register becomes part of a Selective Line Trigger Counter circuit.

Trigger/Sweep Generator

The available trigger modes are Free Run, Internal, Line, External, TV Field, and TV Line. Three address lines at the trigger selector chip are used to select the trigger mode.

For internal triggers, the detected video signal from the Log Amplifier is routed to a trigger selector chip, a multiplexer, via an inverting amplifier composed of a non-inverting amplifier and an inverting follower. Trigger selection is done via the μ Processor Interface. The output of the multiplexer is fed to a trigger/sweep generator chip, where the signal drives a Schmitt trigger generator.

Two external multiplexers are added for sweep speed selections, selecting various combinations of resistors and capacitors (RC combinations). Again, these RC combinations are selected via the μ Processor. Two analog switches are enabled for setting the trigger level and sweeping the display manually.

Video Monitor Mode

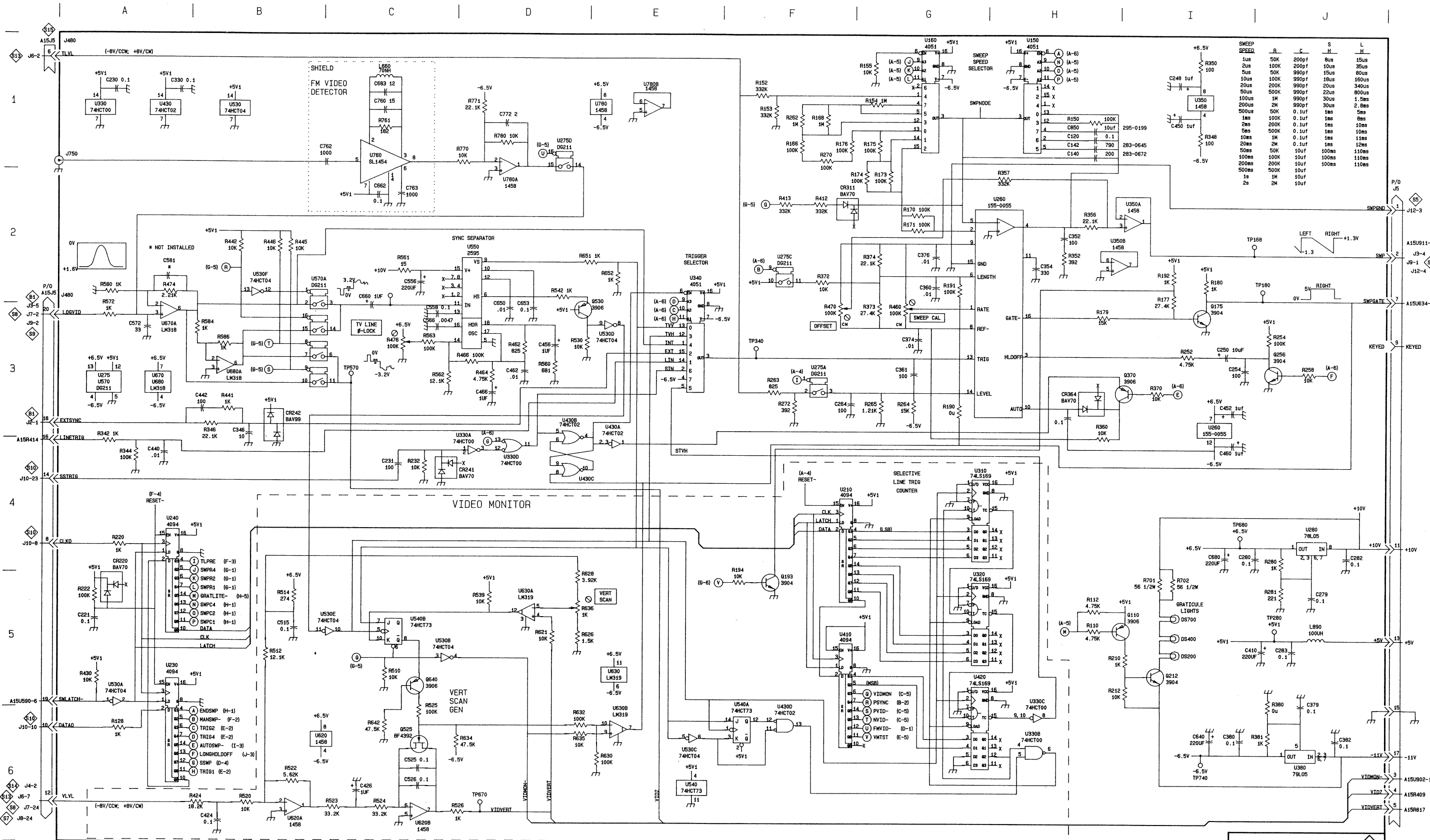
When the video monitor mode is selected (Option 10 installed), the readout, display storage, and video filter are turned off; the resolution bandwidth is set to 5 MHz; the Vertical display mode defaults to Lin; the span setting defaults to Zero Span; and the sweep rate defaults to 5 μ s. The video monitor mode can be aborted by deselecting via the trigger menu or by selecting another trigger mode.

The detected video signal from the Log Amplifier or the FM Detector on the Sweep board is routed to both the trigger selector chip and a sync separator. A pair of analog switches, controlled by the μ Processor, enable either normal detected video or inverted video depending on the video source. The two possible sources are the video detector on the Log board and the FM detector on the Sweep board. Another pair of analog switches enable either normal (Log-detected) video or FM video to the Display System on the Power Supply board.

The sync stripper regenerates vertical sync and routes it to the Vertical Scan Generator. The regenerated sync controls a switching FET in a vertical rate ramp generator. The output of the Vertical Scan Generator is compared with a manually variable level to set the K-input of a J-K Flip-Flop that controls the switching FET; this output is also routed to the Display System on the Power supply board.

Graticule Lights

A pair of switching transistors is turned on to enable the graticule lights, with brightness preset by a pair 56 ohm resistors.



SWEEP SPEED	R	C	S	L
1us	50K	200pF	8us	15us
2us	100K	200pF	10us	35us
5us	50K	500pF	15us	80us
10us	100K	990pF	20us	160us
20us	200K	990pF	20us	340us
50us	500K	990pF	22us	800us
100us	1M	990pF	30us	1.5ms
200us	2M	990pF	30us	2.5ms
500us	5M	0.1uF	1ms	5ms
1ms	10K	0.1uF	1ms	8ms
2ms	20K	0.1uF	1ms	10ms
5ms	50K	0.1uF	1ms	10ms
10ms	1M	0.1uF	1ms	11ms
20ms	2M	0.1uF	1ms	12ms
50ms	5K	50K	10uF	110ms
100ms	10K	10uF	100ms	110ms
200ms	20K	10uF	100ms	110ms
500ms	50K	10uF	100ms	110ms
1s	1M	10uF	100ms	110ms
2s	2M	10uF	100ms	110ms

A5 SWEEP 670-9417-00
10-5-87 VERSION F

SWEEP

S12

A | B | C | D | E | F | G | H | I | J

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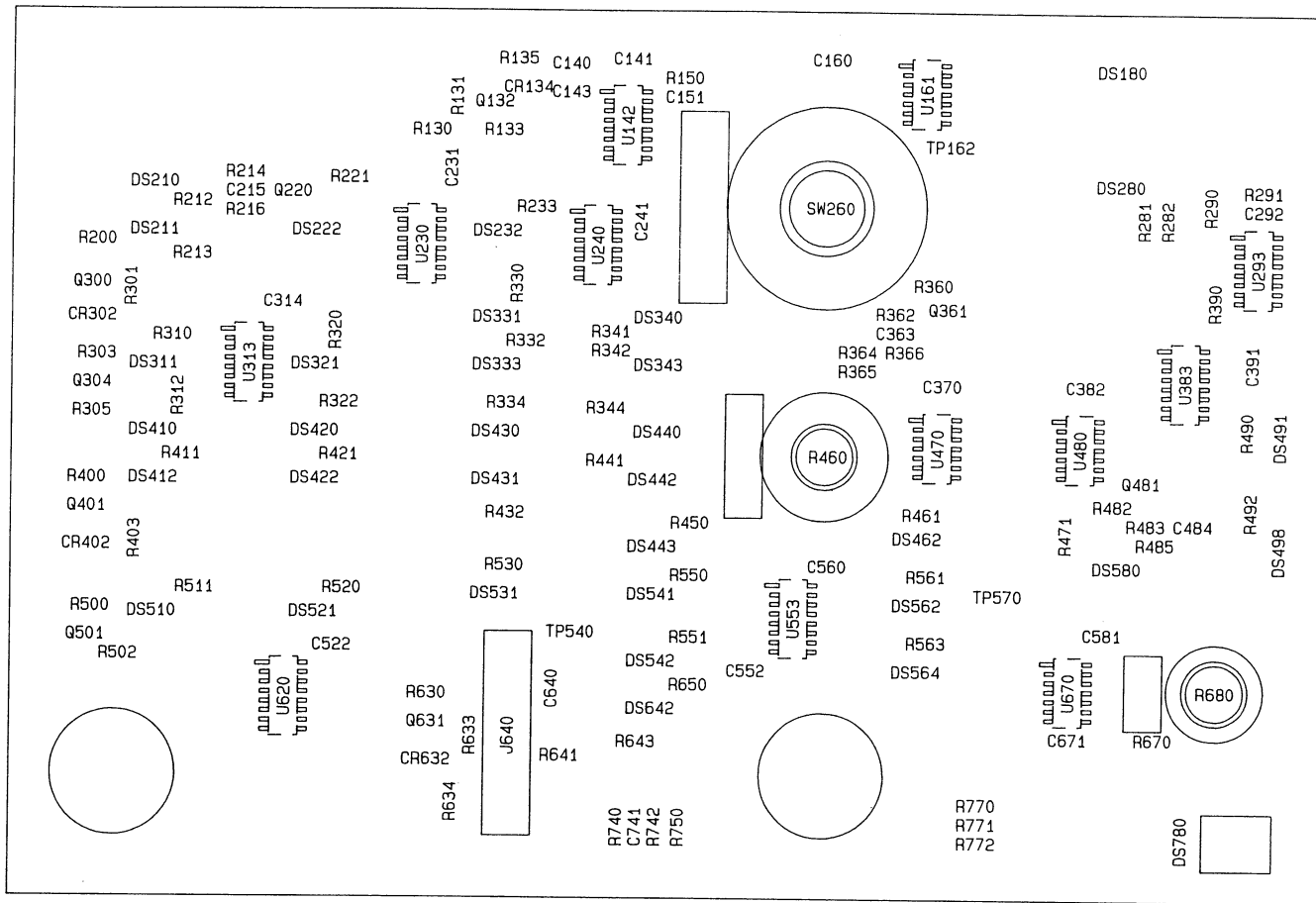
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A6 Front Panel

FRONT PANEL

The Front Panel assembly (A6) consists of a Input Shift Register, Switch Matrix, Output Shift Register, FREQ/MARKERS Control, and timing and handshake circuitry.

The assembly acts as an interface between the user and the instrument. These circuits translate operator actions on front-panel controls, into data for the μ Processor to read and execute. The μ Processor outputs data showing current operating modes to the user via LEDs (light emitting diodes) and crt readout.

Input Shift Register

This is a 48-bit shift register consisting of five chips wired in series. Data is loaded in serially and shifted out in parallel. The main purpose of the Input Shift Register is light up the proper LEDs when front-panel switches are pushed.

A secondary use is for self-diagnostics at power-up. At that time, the μ Processor performs a checksum type of operation where it writes a number into the Input Shift Register, shifts it out to the Output Shift Register, then reads it out using CLK0. That number is then compared to the number that was originally written into the Input Shift Register to verify that the path works.

Switch Matrix

The front-panel switches are arranged in a matrix of rows and columns. When a key or switch is pressed, data (a high) is loaded in both the row and column portions of the Output Shift Register. At the same time, a timing circuit sends a service request to the μ Processor via the handshake circuit, and an RC time constant in conjunction with normal propagation delay through the

handshake circuit locks out any more front-panel switching until the timing circuit has timed out. The timing circuit times out in approximately 400 ms.

Before anything happens, the μ Processor writes the correct word to the Input Register to light up a LED, acknowledging that a front-panel button has been pushed.

When the μ Processor acknowledges that it has received an interrupt (FPACK goes low), data in the output shift register is serially clocked out and enabled to the μ Processor. At the same time, the Handshake circuit times out and disables the service request and gets armed for the sequence to start all over again. The sequence may be started by either the Switch Matrix or the FREQ/MARKER control on the front panel.

Output Shift Register

This is a 16-bit shift register consisting of two chips wired in series. Data is loaded in parallel and shifted out serially. The main purpose of the Output Shift Register is to store and shift out onto the μ Processor serial i/O port all front-panel switch and FREQ/MARKERS control settings.

FREQ/MARKERS Control

Each clockwise and counter clockwise click of the FREQ/MARKERS control causes data to be loaded into the Output Register, and initiates a service request. Another timing circuit locks out the FREQ/MARKERS control for approximately 1 ms. That is, for any number of clicks within 1 ms, the frequency is incremented or decremented once, depending on whether they were clockwise or counterclockwise clicks.

A6 FRONT PANEL

S13

CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEM LOCATION	CIRCUIT NUMBER
C140	H-3	E-1	CDS564	B-5	G-5	CR471	J-4	H-4
C141	H-3	E-1	DS580	B-6	I-4	R482	G-4	I-4
C143	H-3	E-1	DS642	B-5	E-5	R483	G-4	I-4
C151	H-4	F-1	DS780	A-5	I-6	R485	B-6	I-4
C160	G-5	G-1	J640	A-1	D-6	R490	B-6	J-3
C215	G-3	B-2	Q132	E-3	D-1	R492	B-6	J-4
C231	B-2	D-2	Q220	H-3	C-2	R500	E-2	A-5
C241	B-3	E-2	Q300	E-3	A-2	R502	E-2	A-5
C292	I-1	J-2	Q304	E-6	A-3	R511	B-2	B-5
C314	B-1	C-3	Q361	G-3	G-3	R520	B-3	C-5
C363	G-3	G-3	Q401	E-5	A-4	R530	B-3	D-4
C370	J-3	G-3	Q481	G-4	I-4	R550	B-5	F-4
C382	G-5	I-3	Q501	E-2	A-5	R551	B-5	F-5
C391	B-6	J-3	Q631	E-4	D-5	R561	B-5	G-4
C484	G-4	I-4	R130	H-2	D-1	R563	B-5	G-5
C522	I-6	C-5	R131	E-3	D-1	R630	E-4	D-5
C552	J-6	F-5	R133	E-3	D-1	R633	E-4	D-6
C560	B-5	G-4	R135	H-2	D-1	R634	J-1	D-6
C581	I-3	I-5	R150	H-4	F-1	R641	J-1	E-6
C640	J-5	E-5	R200	E-3	A-2	R643	H-1	E-6
C671	I-4	I-6	R212	B-2	B-2	R650	B-5	F-5
C741	J-2	E-6	R213	B-2	B-2	R670	I-4	I-6
CR134	E-3	D-1	R214	G-3	B-2	R680	J-2	J-5
CR302A	E-4	A-3	R216	G-3	B-2	R740	J-1	E-6
CR302B	E-6	A-3	R221	B-3	C-2	R742	D-6	E-6
CR402A	E-2	A-4	R233	B-4	D-2	R750	C-6	F-6
CR402B	E-5	A-4	R281	B-6	I-2	R770	I-2	H-6
CR632	E-4	D-6	R282	B-6	I-2	R771	I-5	H-6
DS180	B-6	I-1	R290	C-6	J-2	R772	A-5	H-6
DS210	B-2	B-2	R291	C-6	J-2	SW260	F-3	G-2
DS211	B-2	B-2	R301	E-4	A-2	TP162	I-4	G-1
DS222	B-3	C-2	R303	E-6	A-3	TP540	J-5	E-5
DS232	B-4	D-2	R305	E-6	A-3	TP570	J-2	H-5
DS280	B-6	I-2	R310	B-2	B-3	U142A	H-2	E-1
DS311	B-2	B-3	R312	B-2	B-3	U142B	H-4	E-1
DS321	B-3	C-3	R320	B-3	C-3	U161A	G-5	G-1
DS331	B-4	D-3	R322	B-3	C-3	U161B	G-5	G-1
DS333	B-4	D-3	R330	B-4	D-2	U161C	H-4	G-1
DS340	B-4	E-3	R332	B-4	D-3	U161D	G-4	G-1
DS343	B-4	E-3	R334	B-3	D-3	U230	A-3	D-2
DS410	B-2	B-3	R341	B-4	E-3	U240	A-4	E-2
DS412	B-2	B-4	R342	B-4	E-3	U293	I-1	J-2
DS420	B-3	C-3	R344	B-4	E-3	U313	A-2	B-3
DS422	B-3	C-4	R360	G-3	G-2	U363	A-6	I-3
DS430	B-3	D-3	R362	G-3	G-3	U470A	NOT USED	G-4
DS431	B-3	D-4	R364	D-6	G-3	U470B	I-5	G-4
DS440	B-4	E-3	R365	D-6	G-3	U470C	J-2	G-4
DS442	B-4	E-4	R366	J-4	G-3	U470D	J-5	G-4
DS443	B-5	E-4	R390	E-1	J-3	U480A	A-6	I-4
DS462	B-5	G-4	R400	E-5	A-4	U480B	A-2	I-4
DS491	B-6	J-3	R403	E-5	A-4	U480C	J-5	I-4
DS498	B-6	J-4	R411	B-2	B-4	U480D	G-4	I-4
DS510	B-2	B-5	R421	B-3	C-4	U480E	G-3	I-4
DS521	B-3	C-5	R432	B-3	D-4	U553	A-5	F-5
DS531	B-3	D-5	R441	B-4	E-4	U620	I-6	C-5
DS541	B-5	E-5	R450	B-5	F-4	U670A	I-4	H-5
DS542	B-5	E-5	R460	J-1	G-4	U670B	I-5	H-5
DS562	B-5	G-5	R461	B-5	G-4			

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TP191

R211

R241

R210 R103 R104 R105 R106 R107
R203 R207
R208
R209

RP292

R340

R224
R225
R336

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TP293

R322 R324

R340
R332 R331
Q341 U330
R342
R343

CR323

R318
R319
R320
R317

R386

R280

R364
C365
CR366

R356

CR325

C415
R414
R418VR392 C391
Q393 R390

CR420

R394 R396 C382 R385 R387
R395 C385 R383 Q380
R490 R494 R384 C388 CR381
Q491 C495 C499 R484 R389 C380
R492 R497 C497 R485 R481 R480 U480
R493 R498 R486 C482 R482
R487 R483 C480C380
U480R351 CR350
R353 R352

CR421

C320 R316 R315
R321

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R463

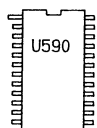
R431
R432Q314 R417 Q307 R306
R420 R416 C406 R407 Q308
CR415 R408 C301
R409
C414 TP418

R440

R430

CR524

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U590

R560
R561 CR562
C563

Q565 Q564

R566
R660

CR661

R662

C663

TP559

R635

CR522 CR521 CR520

R526

R504

R501

R506

R503

R502

R527

R529

C601

C602

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R790
R791
R792
R793
R794

R681

R785
R784
R783

U780

R781
R782

U771

U761

U760

U750

C732 R730
R731R720
R721 R714C702 R702
R710 R703

Q711 CR707 Q704

R705

Q712 Q708 Q706

Q732

Q722

R723

Q724

R733

Q834

C725

R830

R820

R810 R800

R811 R801

C831

R825

C821

R812 CR806 R803

R813 R804

R832

C826

R822

Q823

C815

C816

R814

Q833

R828

R824

R817

R912

C914

R920

R918

TP925

U914

U911

U902

R901

R834

R931

C932

U933

R741
Q740

R740

C741

R935

R936

R937

C938

R939

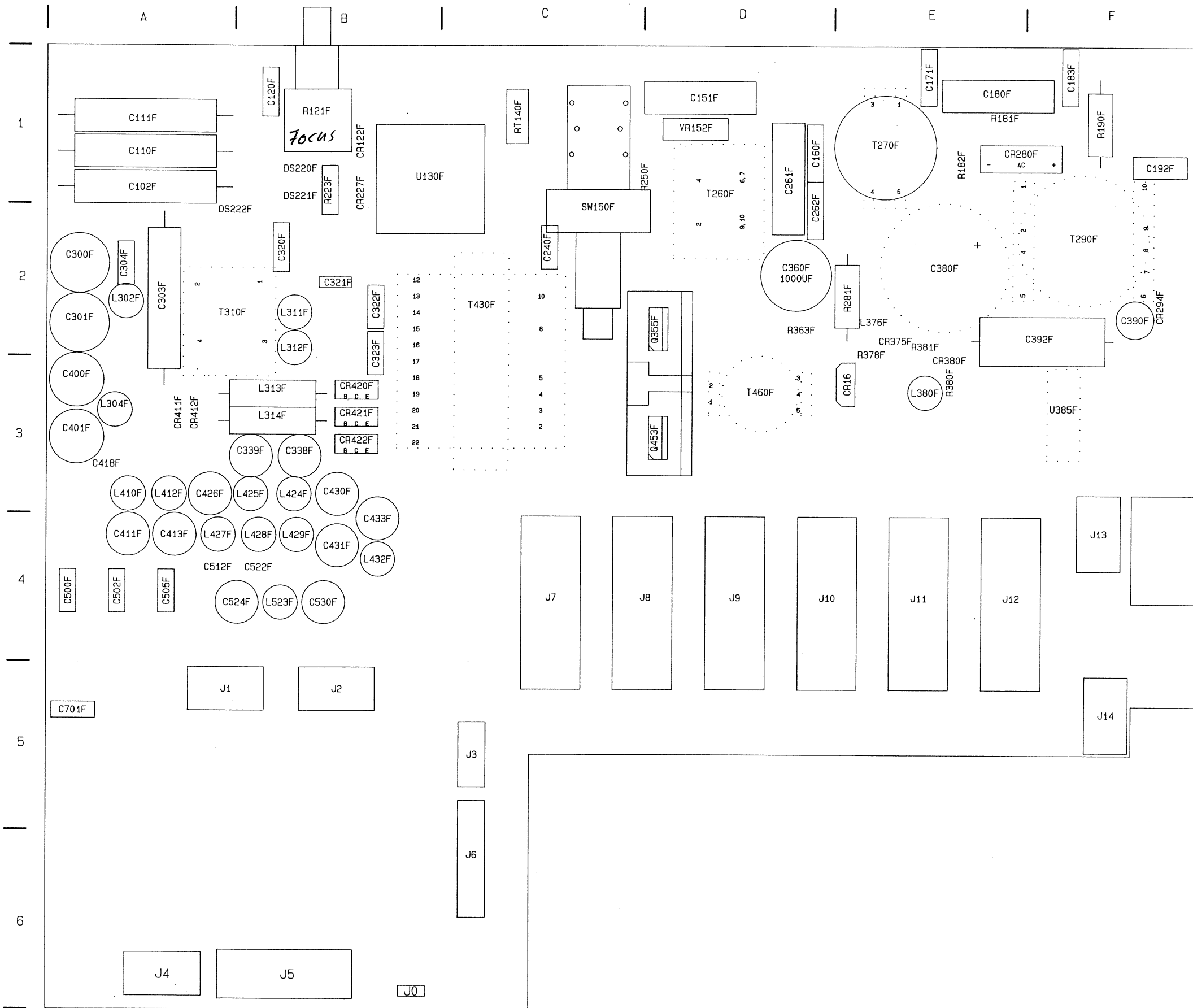
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Q934

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A15—Power Supply (Rear)



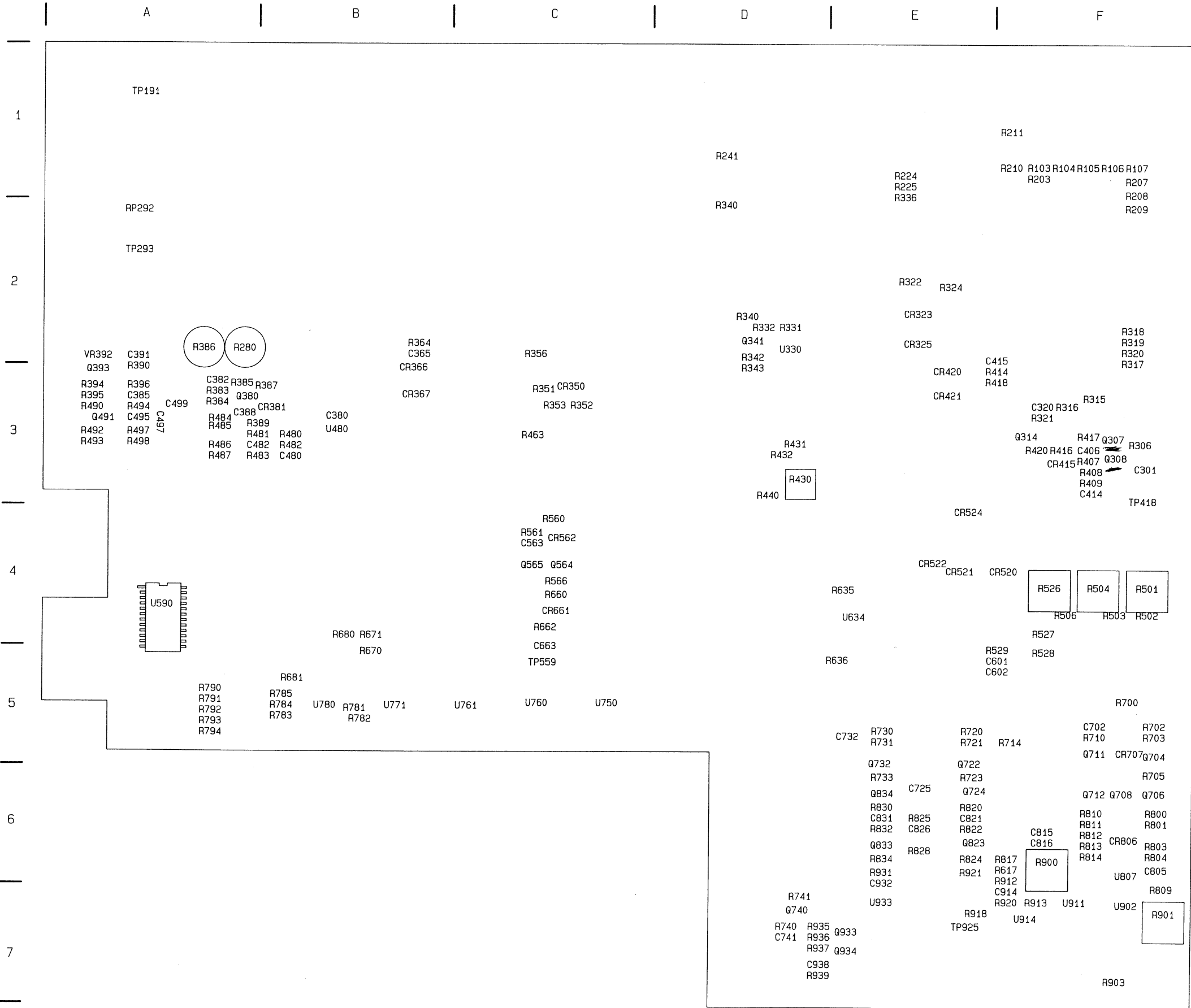
A15—Power Supply (Front)

A15 POWER SUPPLY



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C151F	C-1	D-1	R352	E-5	C-3
C160F	D-1	D-1	R353	E-6	C-3
C171F	E-1	E-1	R356	E-7	C-2
C180F	E-1	E-1	R363F	D-6	D-2
C183F	E-1	F-1	R364	E-7	B-2
C192F	D-3	F-1	R378F	E-5	E-3
C261F	D-1	D-1	R380F	D-4	E-3
C262F	D-2	D-2	R381F	D-4	E-2
C360F	F-7	D-2	R383	A-5	A-3
C365	E-7	B-2	R384	A-5	A-3
C380	A-6	B-3	R385	B-4	A-3
C380F	F-2	E-2	R386	A-5	A-2
C382	A-5	A-3	R387	D-4	B-3
C385	B-4	A-3	R389	C-5	B-3
C388	C-5	A-3	R390	C-4	A-2
C390F	B-3	F-2	R394	B-3	A-3
C391	C-4	A-2	R395	B-2	A-3
C392F	E-3	F-2	R396	B-4	A-3
C415	D-1	E-3	R414	D-1	E-3
C480	B-6	B-3	R418	D-1	E-3
C482	B-5	B-3	R463	E-6	C-3
C495	B-4	A-3	R480	B-6	B-3
C497	B-4	A-3	R481	B-5	B-3
C499	C-3	A-3	R482	B-6	B-3
CR160F	E-5	E-3	R483	B-5	B-3
CR280F	E-1	E-1	R484	A-4	A-3
CR294F	C-2	F-2	R485	A-5	A-3
CR350	E-5	C-3	R486	A-4	A-3
CR366	D-7	B-3	R487	A-5	A-3
CR367	D-7	B-3	R490	B-3	A-3
CR375F	E-5	E-2	R492	B-3	A-3
CR380F	D-4	E-3	R493	B-2	A-3
CR381	C-4	B-3	R494	B-4	A-3
L376F	E-5	E-2	R498	B-4	A-3
L380F	D-4	E-3	RT140F	C-1	C-1
Q15	E-4	CHASSIS	SW150F	B-1	C-2
Q355F	E-7	D-2	T260F	C-1	D-1
Q380	D-4	A-3	T270F	D-1	E-1
Q393	B-3	A-3	T290F	E-3	F-2
Q453F	E-6	D-3	T310F	C-1	B-2
Q491	C-2	A-3	T430F	F-3	C-3
R181F	E-1	E-1	T460F	E-6	D-3
R182F	D-1	E-1	TP191	F-1	A-1
R190F	B-2	F-1	TP292F	E-2	A-2
R240	C-1	D-1	TP293	D-6	A-2
R241	C-1	D-1	U385F	C-3	F-3
R250F	C-2	C-1	U480	C-6	B-3
R280	B-4	A-2	U480A	A-6	B-3
R281F	D-5	E-2	VR152F	C-1	D-1
R351	D-6	C-3	VR392	B-3	A-2

NOTE: The letter F following a circuit number indicates that the component is located on the front of the board.



A15—Power Supply (Rear)

A15 POWER SUPPLY



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION	CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
C102F	D-2	A-1	DS222F	E-3	B-2	R431	C-1	D-3
C110F	D-2	A-1	L302F	E-4	A-2	R432	C-1	D-3
C111F	D-2	A-1	L304F	E-4	A-3	R440	D-1	D-3
C120F	D-2	B-1	L311F	E-4	B-2	R501	E-3	F-4
C240F	B-1	C-2	L312F	E-4	B-2	R502	D-3	F-4
C300F	E-4	A-2	L313F	E-6	B-3	R503	F-3	F-4
C301	A-3	F-3	L314F	E-6	B-3	R504	G-3	F-4
C301F	F-4	A-2	L410F	E-5	A-3	R506	H-2	F-4
C303F	D-2	A-2	L412F	E-5	A-3	R526	H-2	F-4
C304F	C-2	A-2	L424F	E-5	B-3	R527	G-2	F-5
C320	B-2	F-3	L425F	E-5	B-3	R528	F-3	F-5
C320F	E-3	B-2	L427F	E-4	A-4	R529	G-2	E-5
C321F	D-3	B-2	L428F	E-5	B-4	R560	D-6	C-4
C322F	D-4	B-2	L429F	F-5	B-4	R566	F-6	C-4
C323F	E-3	B-2	L432F	G-5	B-4	R635	A-2	D-4
C338F	E-6	B-3	L523F	F-4	B-4	R636	A-2	D-5
C339F	E-6	B-3	Q307	C-2	F-3	R660	F-6	C-4
C400F	E-4	A-3	Q308	C-3	F-3	R662	G-6	C-4
C401F	F-4	A-3	Q314	B-2	F-3	R670	F-6	B-5
C406	C-3	F-3	Q341	C-1	D-2	R671	D-6	B-4
C411F	F-5	A-4	Q564	F-6	C-4	R680	D-6	B-4
C413F	F-5	A-4	Q565	F-6	C-4	R681	A-5	B-5
C414	B-3	F-3	Q704	H-2	F-6	R700	I-1	F-5
C418F	C-2	A-3	Q706	H-2	F-6	R702	H-1	F-5
C426F	E-5	A-3	Q708	H-2	F-6	R703	H-1	F-5
C430F	E-5	B-3	Q711	I-2	F-6	R705	I-2	F-6
C431F	F-5	B-4	Q712	I-2	F-6	R710	I-1	F-5
C433F	G-5	B-4	Q722	I-4	E-6	R714	H-3	E-5
C500F	D-3	A-4	Q724	I-5	E-6	R720	I-4	E-5
C502F	F-3	A-4	Q732	H-4	E-6	R721	I-4	E-5
C505F	G-2	A-4	Q740	A-1	D-7	R723	H-4	E-6
C512F	E-4	A-4	Q823	I-5	E-6	R730	H-4	E-5
C522F	E-5	B-4	Q833	G-5	E-6	R731	I-4	E-5
C524F	F-4	B-4	Q834	H-4	E-6	R733	H-4	E-6
C530F	F-4	B-4	Q933	G-1	D-7	R740	A-1	D-7
C563	D-6	C-4	Q934	G-1	D-7	R741	A-1	D-7
C601	G-2	E-5	R103	D-2	F-1	R781	B-3	B-5
C602	F-3	E-5	R104	D-2	F-1	R782	B-3	B-5
C663	G-6	C-5	R105	D-1	F-1	R783	B-3	B-5
C701F	I-1	A-5	R106	D-1	F-1	R784	B-3	B-5
C702	H-1	F-5	R107	D-1	F-1	R785	B-3	B-5
C725	H-4	E-6	R121F	D-2	B-1	R790	A-4	A-5
C732	H-3	D-5	R203	D-2	F-1	R791	A-4	A-5
C805	I-3	F-6	R207	D-1	F-1	R792	A-4	A-5
C815	J-5	F-6	R208	D-1	F-1	R793	A-4	A-5
C816	J-6	F-6	R209	D-1	F-1	R794	A-4	A-5
C821	I-5	E-6	R210	D-2	E-1	R800	H-2	F-6
C826	H-5	E-6	R211	D-2	E-1	R801	H-2	F-6
C831	H-5	E-6	R223	D-2	B-1	R803	I-4	F-6
C914	J-5	E-7	R224	E-2	E-1	R804	H-3	F-6
C932	H-5	E-7	R225	E-3	E-1	R809	J-2	F-7
C938	G-1	D-7	R226	E-4	E-1	R810	I-2	F-6
CR122F	E-2	B-1	R306	C-2	F-3	R811	I-2	F-6
CR227F	E-2	B-1	R315	C-2	F-3	R812	J-2	F-6
CR323	E-4	E-2	R316	B-2	F-3	R813	I-2	F-6
CR325	D-4	E-2	R317	C-2	F-3	R814	I-2	F-6
CR411F	D-3	A-3	R318	C-2	F-2	R817	J-5	E-6
CR412F	D-3	A-3	R319	C-2	F-2	R820	I-5	E-6
CR415	B-3	F-3	R320	B-2	F-2	R822	I-4	E-6
CR420	D-4	E-3	R321	B-2	F-3	R824	I-5	E-6
CR420F	E-6	B-3	R322	D-3	E-2	R825	H-5	E-6
CR421	D-3	E-3	R324	D-3	E-2	R828	H-5	E-6
CR421F	E-5	B-3	R331	C-1	D-2	R830	H-5	E-6
CR422F	D-5	B-3	R332	C-1	D-2	R832	H-4	E-6
CR520	E-4	E-4	R340	C-1	D-2	R834	G-5	E-6
CR521	E-5	E-4	R342	C-1	D-2	R900	J-4	F-6
CR522	F-4	E-4	R343	C-1	D-3	R901	J-2	F-7
CR524	F-5	E-4	R407	C-3	F-3	R903	I-4	F-7
CR562	D-5	C-4	R408	B-2	F-3	R912	J-5	F-7
CR661	G-6	C-4	R409	B-3	F-3	R913	J-5	F-7
CR707	I-1	F-6	R416	B-2	F-3	R917	J-5	E-6
CR806	I-2	F-6	R417	C-2	F-3	R920	J-5	E-7
DS220F	E-2	B-1	R420	B-2	F-3	R921	I-5	E-6
DS221F	E-2	B-1	R430	D-1	D-3	R931	H-5	E-6

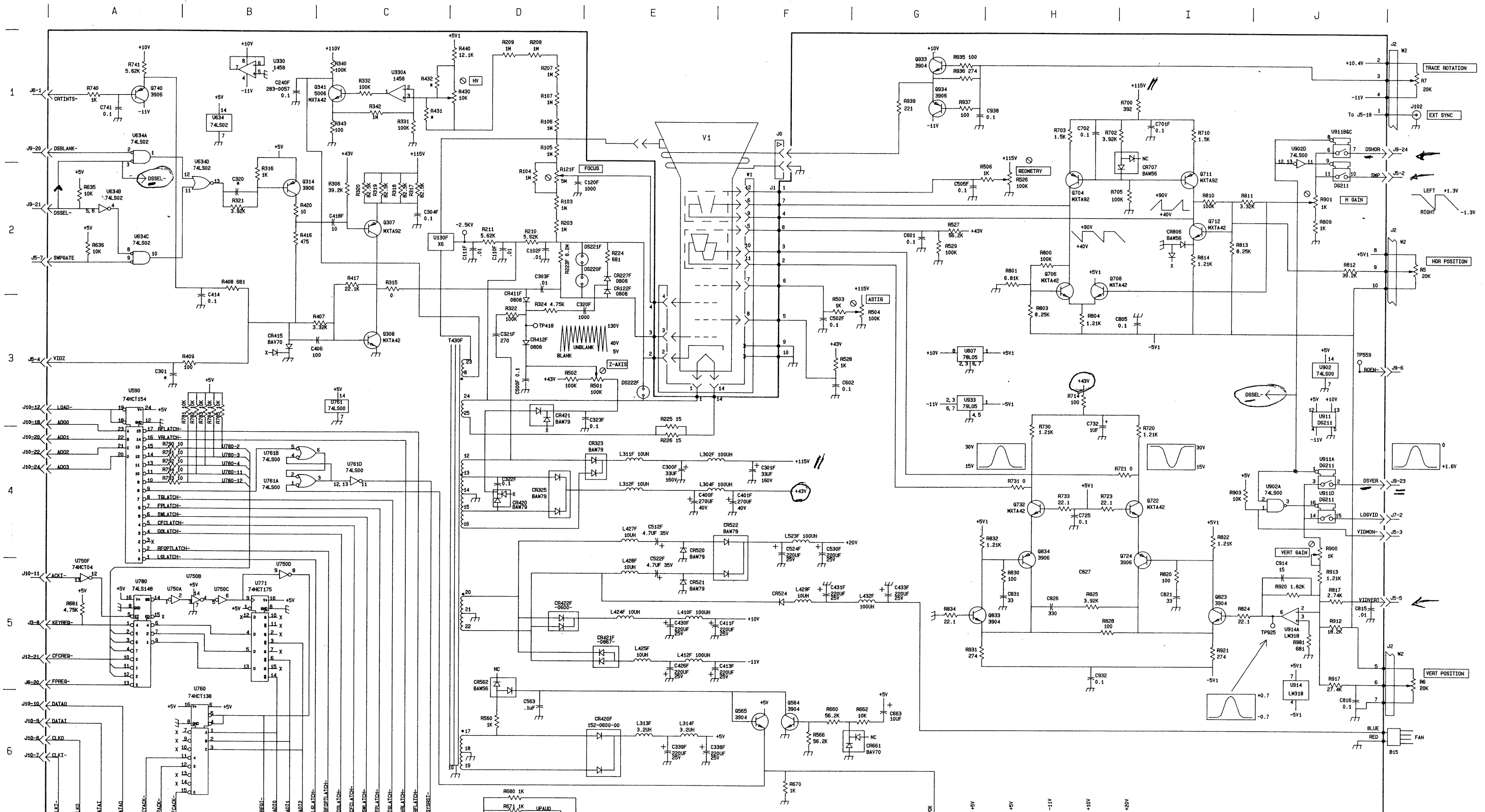
NOTE: The letter F following a circuit number indicates that the component is located on the front of the board.

A15 POWER SUPPLY
(Continued)



CIRCUIT NUMBER	SCHEMATIC LOCATION	BOARD LOCATION
R935	G-1	D-7
R936	G-1	D-7
R937	G-1	D-7
R939	G-1	D-7
T430F	D-3	C-2
TP418	D-3	F-3
TP559	J-3	C-5
TP925	J-5	E-7
U130F	C-2	B-1
U330	B-1	D-2
U330A	C-1	D-2
U590	A-5	A-4
U634	B-1	E-4
U634A	A-1	E-4
U634B	A-2	E-4
U634C	A-2	E-4
U634C	A-2	E-4
U634D	B-2	E-4
U750A	A-5	C-5
U750B	B-5	C-5
U750C	B-5	C-5
U750D	B-5	C-5
U750F	A-5	C-5
U760	B-6	C-5
U761	C-3	C-5
U761A	B-4	C-5
U761B	B-4	C-5
U761D	C-4	C-5
U761D	C-4	C-5
U771	B-5	B-5
U780	A-5	B-5
U807	G-3	F-7
U902	J-3	F-7
U902A	J-4	F-7
U902D	J-1	F-7
U911	J-3	F-7
U911A	J-4	F-7
U911B&C	J-1	F-7
U911D	J-4	F-7
U914	J-5	F-7
U914A	J-5	F-7
U933	G-3	E-7

NOTE: The letter F following a circuit number indicates that the component is located on the front of the board.



POWER SUPPLY (SECONDARIES)
S14 b

A15
POWER SUPPLY (SECONDARIES)
670-9414-00
Page 2 of 2
10-13-87 VERSION G

50ms
24
20 24
10 90
13 23
27 DSSEL

- J10-4 J9-5
- J9-13, 14 J10-13, 14
- J11-13, 14 J12-13, 14
- J4-7 J5-13
- J6-14 J7-13, 14
- J8-13, 14 J9-13, 14
- J12-17, 18 J11-17, 18
- J12-17, 18 J12-11, 12
- J13-9 J14-9
- J4-9 J5-17
- J6-12 J7-17, 18
- J8-17, 18 J9-17, 18
- J11-17, 18 J11-11, 12
- J12-17, 18 J12-11, 12
- J13-6 J14-6
- J10-11 J9-11
- J10-12 J9-12
- J10-18 J9-18
- J10-20 J9-20
- J10-22 J9-22
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- J12-21 J9-21
- J6-20 J9-20
- J10-10 J9-10
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REPLACEABLE MECHANICAL PARTS

PARTS ORDERING INFORMATION

Replacement parts are available from or through your local Tektronix, Inc. Field Office or representative.

Changes to Tektronix instruments are sometimes made to accommodate improved components as they become available, and to give you the benefit of the latest circuit improvements developed in our engineering department. It is therefore important, when ordering parts, to include the following information in your order: Part number, instrument type or number, serial number, and modification number if applicable.

If a part you have ordered has been replaced with a new or improved part, your local Tektronix, Inc. 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.

ITEM NAME

In the Parts List, an Item Name is separated from the description by a colon (:). Because of space limitations, an Item Name may sometimes appear as incomplete. For further Item Name identification, the U.S. Federal Cataloging Handbook H6-1 can be utilized where possible.

FIGURE AND INDEX NUMBERS

Items in this section are referenced by figure and index numbers to the illustrations.

INDENTATION SYSTEM

This mechanical parts list is indented to indicate item relationships. Following is an example of the indentation system used in the description column.

```

1 2 3 4 5           Name & Description
Assembly and/or Component
Attaching parts for Assembly and/or Component
      **** END ATTACHING PARTS ****
Detail Part of Assembly and/or Component
Attaching parts for Detail Part
      **** END ATTACHING PARTS ****
Parts of Detail Part
Attaching parts for Parts of Detail Part
      **** END ATTACHING PARTS ****

```

Attaching Parts always appear in the same indentation as the item it mounts, while the detail parts are indented to the right. Indented items are part of, and included with, the next higher indentation. The separation symbol --- * --- indicates the end of attaching parts.

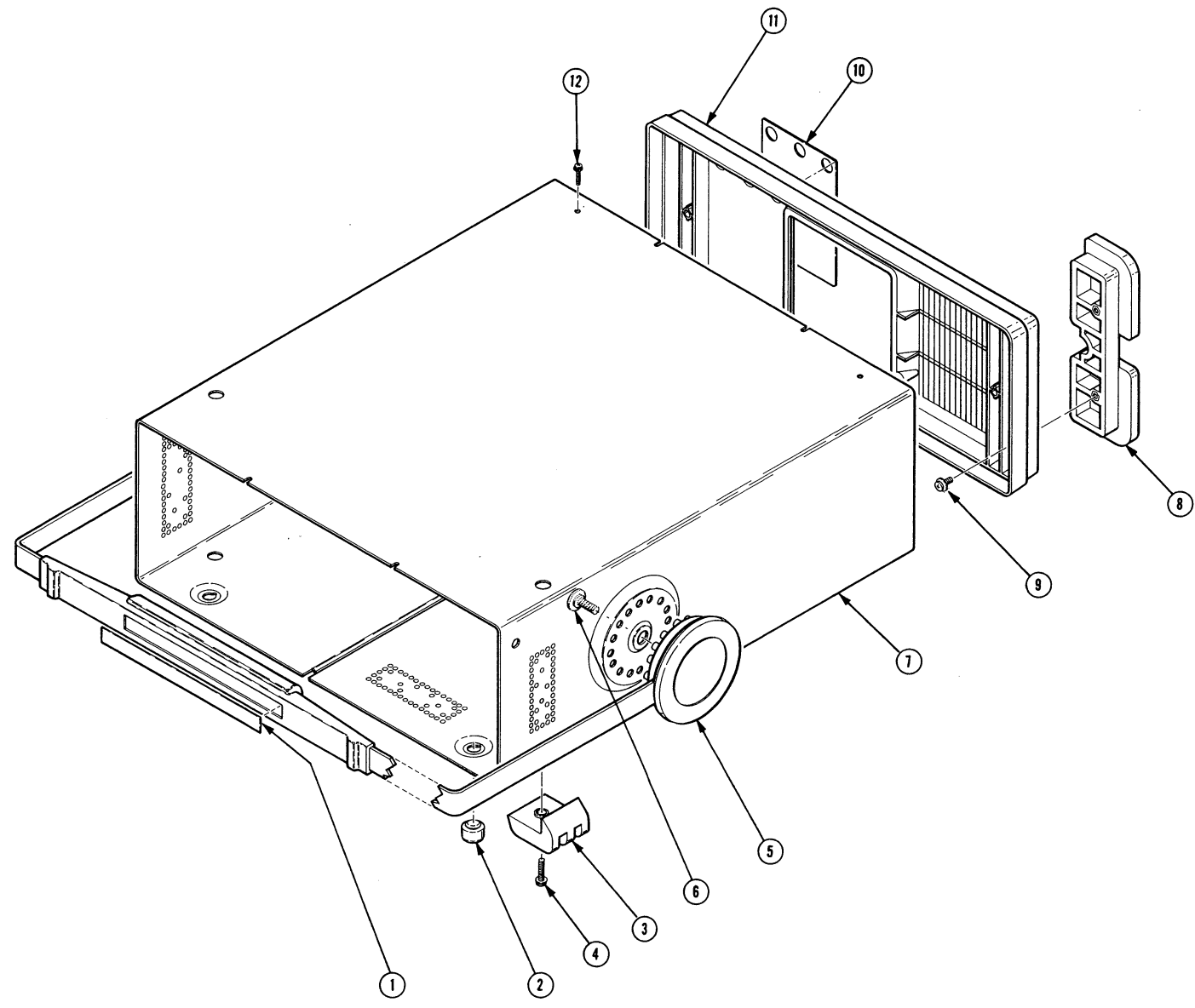
ABBREVIATIONS

INCH	ELCTRN	ELECTRON	IN	INCH	SE	SINGLE END
NUMBER SIZE	ELEC	ELECTRICAL	INCAND	INCANDESCENT	SECT	SECTION
ACTR	ELCTLT	ELECTROLYTIC	INSUL	INSULATOR	SEMICON	SEMICONDUCTOR
ADPTR	ELEM	ELEMENT	INTL	INTERNAL	SHLD	SHIELD
ALIGN	EPL	ELECTRICAL PARTS LIST	LPHLDR	LAMPHOLDER	SHLDR	SHOULDERED
AL	EQPT	EQUIPMENT	MACH	MACHINE	SKT	SOCKET
ASSEM	EXT	EXTERNAL	MECH	MECHANICAL	SL	SLIDE
ASSY	FIL	FILLISTER HEAD	MTG	MOUNTING	SLFLKG	SELF-LOCKING
ATTEN	FLEX	FLEXIBLE	NIP	NIPPLE	SLVG	SLEEVING
AWG	FLH	FLAT HEAD	NON WIRE	NOT WIRE WOUND	SPR	SPRING
BD	FLTR	FILTER	OBD	ORDER BY DESCRIPTION	SQ	SQUARE
BRKT	FR	FRAME or FRONT	OD	OUTSIDE DIAMETER	SST	STAINLESS STEEL
BRS	FSTNR	FASTENER	OVH	OVAL HEAD	STL	STEEL
BRZ	FT	FOOT	PH BRZ	PHOSPHOR BRONZE	SW	SWITCH
BSHG	FXD	FIXED	PL	PLAIN or PLATE	T	TUBE
CAB	GSKT	GASKET	PLSTC	PLASTIC	TERM	TERMINAL
CAP	HDL	HANDLE	PN	PART NUMBER	THD	THREAD
CER	HEX	HEXAGON	PNH	PAN HEAD	THK	THICK
CHASS	HEX HD	HEXAGONAL HEAD	PWR	POWER	TNSN	TENSION
CKT	HEX SOC	HEXAGONAL SOCKET	RCPT	RECEPTACLE	TPG	TAPPING
COMP	HLCPS	HELICAL COMPRESSION	RES	RESISTOR	TRH	TRUSS HEAD
CONN	HLEXT	HELICAL EXTENSION	RGD	RIGID	V	VOLTAGE
COV	HV	HIGH VOLTAGE	RLF	RELIEF	VAR	VARIABLE
CPLG	IC	INTEGRATED CIRCUIT	RTNR	RETAINER	W/	WITH
CRT	ID	INSIDE DIAMETER	SCH	SOCKET HEAD	WSHR	WASHER
DEG	IDNT	IDENTIFICATION	SCOPE	OSCILLOSCOPE	XFMR	TRANSFORMER
DWR	IMPLR	IMPELLER	SCR	SCREW	XSTR	TRANSISTOR

CROSS INDEX - MFR. CODE NUMBER TO MANUFACTURER

Mfr. Code	Manufacturer	Address	City, State, Zip Code
01536	TEXTRON INC CAMCAR DIV SEMS PRODUCTS UNIT	1818 CHRISTINA ST	ROCKFORD IL 61108
02768	ILLINOIS TOOL WORKS INC FASTEX DIVISION	195 ALGONQUIN ROAD	DES PLAINES IL 60016-6103
06383	PANDUIT CORP	17301 RIDGELAND	TINLEY PARK IL 07094-2917
06915	RICHCO PLASTIC CO	5825 N TRIPP AVE	CHICAGO IL 60646-6013
09772	WEST COAST LOCKWASHER CO INC	16730 E JOHNSON DRIVE P O BOX 3588	CITY OF INDUSTRY CA 91744
12327	FREEWAY CORP	9301 ALLEN DR	CLEVELAND OH 44125-4632
12360	ALBANY FASTENERS PAWTUCKET FASTENER DIV	327 PINE ST PO BOX 879	PAWTUCKET RI 02862
13511	AMPHENOL CADRE DIV BUNKER RAMO CORP		LOS GATOS CA
16428	COOPER BELDEN ELECTRONIC WIRE AND CA SUB OF COOPER INDUSTRIES INC	NW N ST	RICHMOND IN 47374
23740	AMUNEAL MFG CORP	4737 DARRAH	PHILADELPHIA PA 19124-2705
24931	SPECIALTY CONNECTOR CO INC	2100 EARLYWOOD DR PO BOX 547	FRANKLIN IN 46131
70903	COOPER BELDEN ELECTRONICS WIRE AND C SUB OF COOPER INDUSTRIES INC	2000 S BATAVIA AVE	GENEVA IL 60134-3325
71279	MIDLAND-ROSS CORP CAMBION DIV	ONE ALEWIFE PLACE	CAMBRIDGE MA 02138-2310
71838	SPS TECHNOLOGIES INC AEROSPACE & INDUSTRIAL PRODUCTS DIV	4444 LEE RD	CLEVELAND OH 44128-2902
73743	FISCHER SPECIAL MFG CO	111 INDUSTRIAL RD	COLD SPRING KY 41076-9749
77900	SHAKEPROOF DIV OF ILLINOIS TOOL WORKS	SAINT CHARLES RD	ELGIN IL 60120
78189	ILLINOIS TOOL WORKS INC SHAKEPROOF DIV	ST CHARLES ROAD	ELGIN IL 60120
80009	TEKTRONIX INC	14150 SW KARL BRAUM DR PO BOX 500 MS 53-111	BEAVERTON OR 97077
80112	G. C. ELECTRONICS COMPANY, A DIVISIO N OF HYDROMETALS, INC.	3225 EXPOSITION PLACE	LOS ANGELES, CA 90018
83385	MICRODOT MFG INC GREER-CENTRAL DIV	3221 W BIG BEAVER RD	TROY MI 48098
86113	MICRODOT MFG INC CENTRAL SCREW-KEENE DIV	149 EMERALD ST	KEENE NH 03431-3628
86928	SEASTROM MFG CO INC	701 SONORA AVE	GLENDALE CA 91201-2431
93907	TEXTRON INC CAMCAR DIV	600 18TH AVE	ROCKFORD IL 61101
95987	WECKESSER CO INC	4444 WEST IRVING PARK RD	CHICAGO IL 60641
S3109	FELLER ASA ADOLF AG C/O PANEL COMPONENTS CORP	355 TESCONI CIRCLE	SANTA ROSA CA 95401
S3629	SCHURTER AG H C/O PANEL COMPONENTS CORP	2015 SECOND STREET	BERKELEY CA 94170
TK0174	BADGLEY MFG CO	1620 NE ARGYLE	PORTLAND OR 97211
TK0435	LEWIS SCREW CO	4300 S RACINE AVE	CHICAGO IL 60609-3320
TK0861	H SCHURTER AG DIST PANEL COMPONENTS	2015 SECOND STREET	BERKELEY CA 94170
TK1154	COMPLEX TOOLING INC	4635 NAUTILUS COURT SOUTH	BOULDER CO 80301
TK1326	NORTHWEST FOURSIDE INC	18224 SW 100TH CT	TUALATIN OR 97062
TK1336	PARSONS MFG CORP	1055 OBRIEN	MENLO PARK CA 94025
TK1373	PATELEC-CEM (ITALY)	10156 TORINO	VAICENTALLO 62/45S ITALY
TK1452	SHELLY-RAGON INC	8219 SW CIRRRUS	BEAVERTON OR 97005
TK2165	TRI-QUEST CORP	3000 LEWIS AND CLARK HWY	VANCOUVER WA 98661-2999

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Dscont			Code	Mfr. Part No.
1-1	334-6524-00			1	OVERLAY, FR PNL:POLYCARBONATE	80009	334-6524-00
-2	348-0659-00			2	FOOT,CABINET:BLACK POLYURETHANE	80009	348-0659-00
-3	348-0991-00			4	FOOT,CABINET:FRONT,MOLDED BLACK POLYURETHEN E (ATTACHING PARTS)	80009	348-0991-00
-4	211-0691-00			4	SCREW,MACHINE:6-32 X 0.625,PNH,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR
-5	367-0289-00			1	HANDLE,CARRYING:13.855,SST (ATTACHING PARTS)	80009	367-0289-00
-6	212-0144-00			2	SCR,TPG,TF:8-16 X 0.562 L,PLASTITE,SPCL HD (END ATTACHING PARTS)	93907	225-38131-012
-7	390-0982-00			1	CAB.,WRAPAROUND:ALUMINUM	80009	390-0982-00
-8	348-0990-00			2	FOOT,CABINET:REAR,MOLDED BLACK POLYURETHENE (ATTACHING PARTS)	80009	348-0990-00
-9	211-0658-00			4	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	551-060545-0X
-10	200-2538-00			1	COVER,REAR:PLASTIC	80009	200-2538-00
-11	334-6639-00			1	MARKER,IDENT:BLANK	80009	334-6639-00
-12	211-0121-00			2	SCR,ASSEM WSHR:4-40 X 0.438,PNH,BRS	TK0435	ORDER BY DESCR



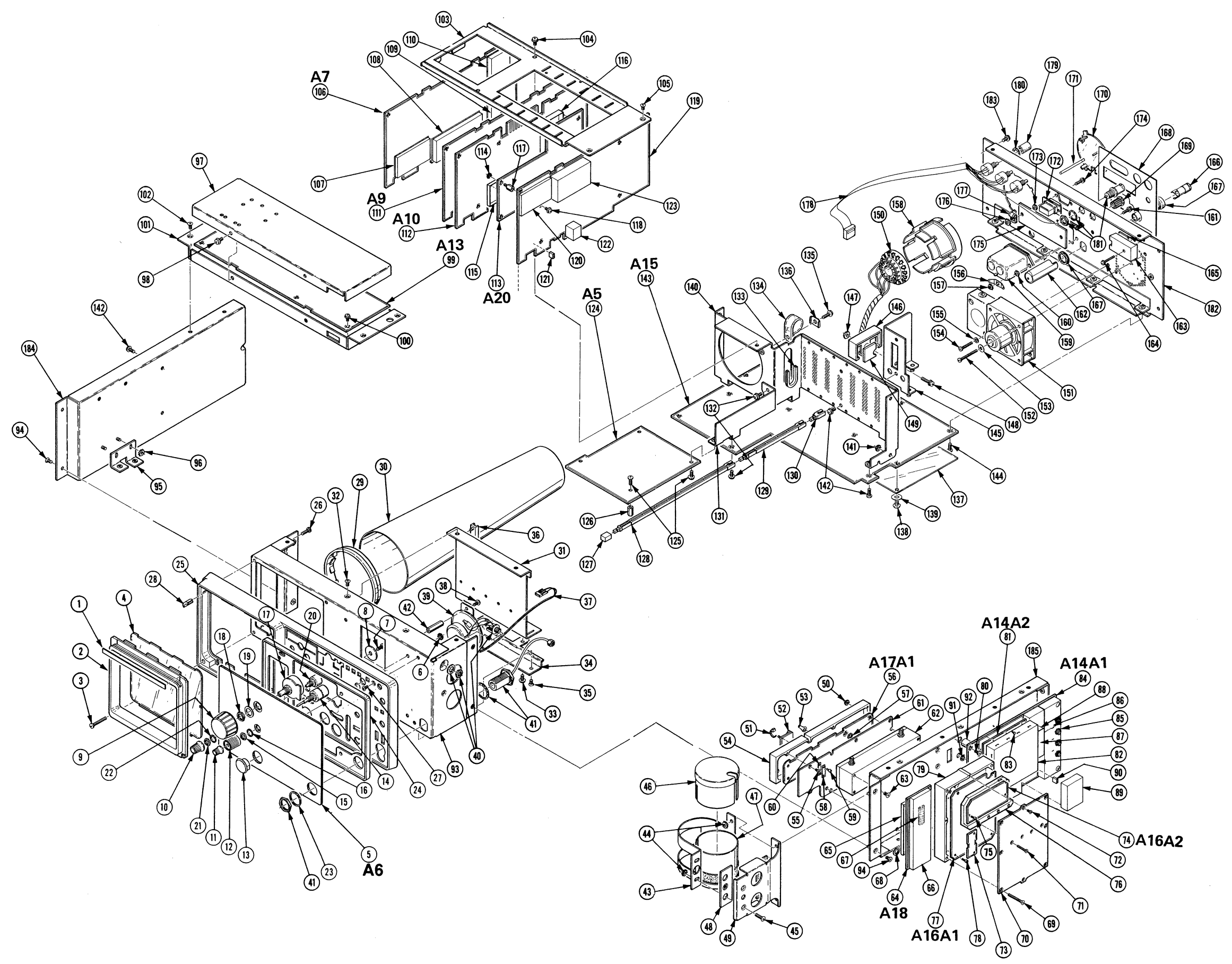


Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345	Name & Description	Mfr.	
		Effective	Discnt				Code	Mfr. Part No.
2-1	334-6928-00			1		MARKER, IDENT:BLANK	80009	334-6928-00
-2	426-1765-02			1		FRAME, CRT:POLYCARBONATE,GRAY (ATTACHING PARTS)	80009	426-1765-02
-3	211-0690-01			2		SCREW,MACHINE:6-32 X 0.875 PNH,SST (END ATTACHING PARTS)	86113	ORDER BY DESCR
-4	337-2775-00			1		SHLD,IMPLOSION:FILTER,BLUE	80009	337-2775-00
-5	-----			1		CKT BOARD ASSY:FRONT PANEL(SEE A6 REPL) (ATTACHING PARTS)		
-6	210-0457-00			4		NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL	78189	511-061800-00
-7	211-0658-00			1		SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ	78189	S51-060545-0X
-8	210-0993-00			1		WASHER,FLAT:0.143 ID X 0.75 OD X 0.051,BRS (END ATTACHING PARTS)	86928	ORDER BY DESCR
-9	366-1782-02			1		.SHELL,KNOB:MOLDED PLASTIC	80009	366-1782-02
-10	366-1708-00			1		.KNOB:SIL GY,0.127 ID X 0.5 OD X 0.531 H	80009	366-1708-00
-11	366-1696-01			1		.KNOB:GRAY,0.82 ID X 0.588 OD X 0.6 H	80009	366-1696-01
-12	366-1326-01			1		.KNOB:GRAY,0.127 ID X 0.588 OD X 0.6 H	80009	366-1326-01
-13	200-3416-00			1		.COVER,TG PORT:PLASTIC	80009	200-3416-00
-14	-----			1		.RESISTOR,VAR:(SEE A6R460 REPL) (ATTACHING PARTS)		
-15	210-0583-00			1		.NUT,PLAIN,HEX:0.25-32 X 0.312,BRS CD PL	73743	2X-20319-402
-16	210-0046-00			1		.WASHER,LOCK:0.261 ID,INTL,0.018 THK,STL (END ATTACHING PARTS)	77900	1214-05-00-0541C
-17	-----			1		.ENCODER,DIGITAL:(SEE SW260 REPL) (ATTACHING PARTS)		
-18	210-0590-00			1		.NUT,PLAIN,HEX:0.375-32 X 0.438 BRS CD PL	73743	28269-402
-19	210-0994-00			1		.WASHER,FLAT:0.125 ID X 0.25 OD X 0.022,STL (END ATTACHING PARTS)	86928	A371-283-20
-20	-----			1		.RESISTOR,VAR:(SEE A6R680 REPL) (ATTACHING PARTS)		
-21	210-0583-00			1		.NUT,PLAIN,HEX:0.25-32 X 0.312,BRS CD PL	73743	2X-20319-402
-22	210-0046-00			1		.WASHER,LOCK:0.261 ID,INTL,0.018 THK,STL (END ATTACHING PARTS)	77900	1214-05-00-0541C
-23	210-1010-00			1		WASHER,FLAT:0.643 ID X 0.875 OD X 0.02,BRS	83385	ORDER BY DESCR
-24	101-0112-00			1		TRIM,CRT SCALE:POLYCARBONATE	80009	101-0112-00
-25	386-5387-00			1		SUBPANEL,FRONT:POLYCARBONATE (ATTACHING PARTS)	80009	386-5387-00
-26	213-0882-00			2		SCREW,TPG,TR:6-32 X 0.437 TAPTITE,PNH,STL	83385	ORDER BY DESCR
-27	211-0541-00			2		SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS) FRONT SUBPANEL INCLUDES:	TK0435	ORDER BY DESCR
-28	348-0660-00			4		.CUSHION,CRT:POLYURETHANE	80009	348-0660-00
-29	386-4443-00			1		SUPPORT,SHIELD:CRT,FRONT,PLASTIC	80009	386-4443-00
-30	337-2774-00			1		SHIELD,ELEC:CRT,STEEL	23740	C-2059
-31	441-1707-00			1		CHAS,INTER FR:ALUMINUM (ATTACHING PARTS)	80009	441-1707-00
-32	211-0541-00			2		SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL	TK0435	ORDER BY DESCR
-33	211-0658-00			2		SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X
-34	407-3511-00			1		BRACKET,MTG:FRONT INTERCONNECT (ATTACHING PARTS)	80009	407-3511-00
-35	211-0541-00			2		SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-36	351-0303-00			12		GUIDE,CKT BOARD:T4002A,POLYCARBONATE,SILVER GRAY	80009	351-0303-00
-37	-----			1		CA ASSY,SP,ELEC:(SEE W25 REPL) (ATTACHING PARTS)		
-38	211-0121-00			2		SCR,ASSEM WSHR:4-40 X 0.438,PNH,BRS (END ATTACHING PARTS) CABLE ASSY INCLUDES:	TK0435	ORDER BY DESCR
-39	-----			1		.LOUDSPEAKER,PM:(SEE LS103 REPL)		
-40	-----			1		.JACK,TELEPHONE:(SEE J102 REPL)		
-41	174-0199-00			1		CA ASSY,SP,ELEC:SEMI-RIGID	80009	174-0199-00
-42	129-0744-00			2		SPACER,POST:0.875 L,4-40 BOTH ENDS,AL,0.25 OD	80009	129-0744-00
-43	343-1260-00			1		CLAMP,YIG:SST (ATTACHING PARTS)	80009	343-1260-00
-44	210-0457-00			4		NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL	78189	511-061800-00
-45	211-0512-00			2		SCREW,MACHINE:6-32 X 0.5,FLH,100 DEG,STL	TK0435	ORDER BY DESCR

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Discount			Code	Mfr. Part No.
2-					(END ATTACHING PARTS)		
-46	337-3436-00			1	SHIELD,ELEC:YIG, TOP	80009	337-3436-00
-47	333-3437-00			1	PANEL,REAR:11K REGULATOR MTG PANEL	80009	333-3437-00
-48	386-5565-00			1	SUBPANEL, FRONT:	80009	386-5565-00
-49	352-0797-00			1	HOLDER, YIG: SST	80009	352-0797-00
	-----			1	YIG BUFFER ASSY: (SEE A17 REPL) (ATTACHING PARTS)		
-50	210-0586-00			2	NUT, PL, ASSEM WA: 4-40 X 0.25, STL CD PL (END ATTACHING PARTS)	78189	211-041800-00
					YIG BUFFER ASSY INCLUDES:		
-51	343-0549-00	B010000	B010037	2	.STRAP, TIEDOWN, E: 0.091 W X 4.0 L, ZYTEL	06383	PLT1M
	343-0549-00	B010038		1	.STRAP, TIEDOWN, E: 0.091 W X 4.0 L, ZYTEL	06383	PLT1M
-52	352-0482-00			2	.HOLDER, CA TIE: 0.75 SQ, STICKY BACK, PLASTIC	06383	ABMM-AT-D
-53	210-0206-00			1	.TERMINAL, LUG: 0.2 ID, LOCKING, BRZ TINNED	86928	A373-147-1
-54	380-0811-00			1	.HSG, YIG BUFFER: ALUMINUM (ATTACHING PARTS)	80009	380-0811-00
-55	211-0087-01			7	.SCREW, MACHINE: 2-56 X 0.188, FLH, 82 DEG, STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-56	-----			1	.CKT BOARD ASSY: YIG BUFFER (SEE A17A1 REPL)		
-57	210-1002-00			3	.WASHER, FLAT: 0.125 ID X 0.25 OD X 0.022	86928	5714-147-20N
-58	343-0578-00			2	.RETAINER, XSTR: ABS SIL GRAY (ATTACHING PARTS)	80009	343-0578-00
-59	211-0650-00			4	.SCREW, CAP: 0-80 X 0.187, SCH, SST PSVT, HEX REC (END ATTACHING PARTS)	71838	20098-90F-3
-60	361-1385-00			2	.SHIM: CHEM MILLED BRASS	80009	361-1385-00
-61	200-3421-00			1	.COVER, CKT BD: ALUMINUM, 2710	80009	200-3421-00
-62	-----			1	1ST IF FILTER: (SEE FL17 REPL) (ATTACHING PARTS)		
-63	211-0541-00			4	SCREW, MACHINE: 6-32 X 0.25, FLH, 100 DEG, STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-64	-----			1	CKT BOARD ASSY: ATTENUATOR (SEE A18 REPL)		
-65	337-3311-00			1	.SHIELD, ELEC: CIRCUIT BD	80009	337-3311-00
-66	337-3383-00			1	.SHIELD, ELEC: CIRCUIT BOARD	80009	337-3383-00
-67	348-0235-00			1	.SHLD GSKT, ELEK: FINGER TYPE, 4.734 L	80009	348-0235-00
-68	210-0890-00			4	WASHER, FLAT: #10S, STEEL CD PL	80009	210-0890-00
	-----			1	1ST CONVERTER ASSY: (SEE A16 REPL) (ATTACHING PARTS)		
-69	211-0031-00			4	SCREW, MACHINE: 4-40 X 1.0, FLH, 100 DEG, STL (END ATTACHING PARTS)	83385	ORDER BY DESCR
					1ST CONVERTER ASSY INCLUDES:		
-70	200-3411-00	B010000	B010034	1	.COVER, 1ST CONN: ALUMINUM	80009	200-3411-00
	200-3411-01	B010035		1	.COVER CONV: 1ST, ALUMINUM (ATTACHING PARTS)	80009	200-3411-01
-71	213-0202-00			4	.SCREW, MACHINE: 2-56 X 0.625, FLH 100 DEG	83385	ORDER BY DESCR
-72	211-0087-00			4	.SCREW, MACHINE: 2-56 X 0.188, FLH, 82 DEG (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-73	388-9483-00			2	.CIRCUIT BOARD: COUPLER FOR FIRST CONVERTER	80009	388-9483-00
-74	-----			1	.CKT BOARD ASSY: RF INPUT (SEE A16A2 REPL) (ATTACHING PARTS)		
-75	211-0265-00			2	.SCREW, CAP: 2-56 X 0.375, SCH, SST (END ATTACHING PARTS)	83385	ORDER BY DESCR
-76	386-5560-00			1	.SUPPORT, CKT BD:	80009	386-5560-00
-77	-----			1	.CKT BOARD ASSY: 1ST CONV MOTHER (SEE A16A1 REPL) (ATTACHING PARTS)		
-78	211-0265-00			4	.SCREW, CAP: 2-56 X 0.375, SCH, SST (END ATTACHING PARTS)	83385	ORDER BY DESCR
-79	380-0841-00	B010000	B010034	1	.HSG, 1ST CONV:	80009	380-0841-00
	380-0841-01	B010035		1	.HOUSING, CONV: 1ST	80009	380-0841-01
	-----			1	CKT BOARD ASSY: RF ASSY (SEE A14 REPL) (ATTACHING PARTS)		
-80	211-0661-00			4	SCR, ASSEM WSHR: 4-40 X 0.25, PNH, STL, POZ (END ATTACHING PARTS)	01536	821-01655-024
					CKT BOARD ASSY INCLUDES:		
-81	-----			1	.CKT BOARD ASSY: 2ND CONV (SEE A14A2 REPL)		
-82	337-3382-00			1	.SHIELD, ELEC: CIRCUIT BOARD	80009	337-3382-00
-83	136-0388-00			6	.SOCKET, PIN TERM: U/W 0.04 DIA PINS	71279	4503704010300
-84	-----			1	.CKT BOARD ASSY: R.F. MOTHER (SEE A14A1 REPL)		

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Dscont			Code	Mfr. Part No.
2-85	337-3378-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3378-00
-86	337-3430-00			3	.SHIELD,ELEC:DIVIDER	80009	337-3430-00
-87	337-3380-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3380-00
-88	337-3381-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3381-00
-89	337-3379-00			2	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3379-00
-90	131-3618-00			2	.LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
-91	210-0805-00			1	WASHER,FLAT:0.204 ID X 0.438 OD X 0.032,STL	12327	ORDER BY DESCR
-92	129-1202-00			1	SPACER,POST:0.370 L,ALUMINUM	80009	129-1202-00
-93	441-1706-00			1	CHASSIS,FRONT:ALUMINUM (ATTACHING PARTS)	80009	441-1706-00
-94	211-0541-00			6	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-95	407-3462-00			1	BRACKET,MTG:ALUMINUM (ATTACHING PARTS)	80009	407-3462-00
-96	210-0457-00			2	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL (END ATTACHING PARTS)	78189	511-061800-00
-97	200-3158-00			1	COVER,CHASSIS:VR,ALUMINUM (ATTACHING PARTS)	80009	200-3158-00
-98	211-0658-00			4	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X
-99	-----			1	CKT BOARD ASSY:VR FILTER(SEE A13 REPL) (ATTACHING PARTS)		
-100	211-0661-00			3	SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS)	01536	821-01655-024
-101	441-1711-00			1	CHASSIS,VR:ALUMINUM (ATTACHING PARTS)	80009	441-1711-00
-102	211-0541-00			4	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-103	343-1224-00			1	RETAINER,CKT BD:ALUMINUM (ATTACHING PARTS)	80009	343-1224-00
-104	211-0658-00			3	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ	78189	S51-060545-0X
-105	211-0541-00			2	SCREW,MACHINE:6-32 X 0.25,FLH,100 DEG,STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR
-106	-----			1	CKT BOARD ASSY:LOG AMP(SEE A7 REPL)		
-107	337-3265-00			1	.SHIELD,CKT BD:BRASS	80009	337-3265-00
-108	337-3433-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3433-00
-109	337-3265-00			1	.SHIELD,CKT BD:BRASS	80009	337-3265-00
-110	337-3434-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3434-00
-111	-----			1	CKT BOARD ASSY:DISPLAY STORAGE (SEE A9 REPL)		
-112	-----			1	CKT BOARD ASSY:MICRO PROCESSOR (SEE A10 REPL)		
-113	-----			1	CKT BOARD ASSY:COUNTER AMP(SEE A20 REPL) (ATTACHING PARTS)		
-114	210-0586-00			4	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL (END ATTACHING PARTS)	78189	211-041800-00
-115	337-3458-00			1	.SHIELD,ELEC:COUNTER AMP INPUT	80009	337-3458-00
-116	-----			1	.PART NUMBER NOT AVAILABLE AT THIS PRINT		
-117	129-1200-00			4	SPCR,SHLDR SCR:5.75 L,W 4-40 INT ONE END, 4 -40 EXT INE END,0.188 HEX AL (ATTACHING PARTS)	80009	129-1200-00
-118	211-0661-00			4	SCR,ASSEM WSHR:4-40 X 0.25,PNH,STL,POZ (END ATTACHING PARTS)	01536	821-01655-024
-119	-----			1	CKT BOARD ASSY:CENTER FREQ CONTROL (SEE A12 REPL)		
-120	337-3313-00			1	.SHIELD,ELEC:CIRCUIT BD	80009	337-3313-00
-121	131-3618-00			2	.LINK,TERM CONN:LOW PROFILE JUMPER	80009	131-3618-00
-122	337-3314-00			1	.SHIELD,ELEC:CIRCUIT BD	80009	337-3314-00
-123	337-3429-00			1	.SHIELD,ELEC:CIRCUIT BOARD	80009	337-3429-00
-124	-----			1	CKT BOARD ASSY:SWEEP(SEE A5 REPL) (ATTACHING PARTS)		
-125	211-0658-00			4	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X
-126	358-0080-00			2	BSHG,MACH THD:0.375-32 X 0.5 HEX,BRS CD PL, 0.5 L	80009	358-0080-00
-127	366-1480-03			1	PUSH BUTTON:BLACK,OFF	80009	366-1480-03
-128	384-1058-00			1	EXTENSION SHAFT:8.157 L	80009	384-1058-00
-129	384-1061-00			1	EXTENSION SHAFT:4.357 L	80009	384-1061-00

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.	
		Effective	Discont					
2-130	384-1136-00			1	EXTENSION SHAFT:0.95 INCH LONG	80009	384-1136-00	
-131	407-3512-00			1	BRACKET,MTG:REAR INTERCONNECT (ATTACHING PARTS)	80009	407-3512-00	
-132	211-0658-00			3	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X	
-133	348-0145-00			2	GROMMET,PLASTIC:GRAY,U SHAPE,0.48 ID	80009	348-0145-00	
-134	343-0007-00			1	CLAMP,LOOP:0.625 ID,PLASTIC (ATTACHING PARTS)	06915	E10 CLEAR ROUND	
-135	211-0658-00			1	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ	78189	S51-060545-0X	
-136	210-0863-00			1	WSHR,LOOP CLAMP:0.187 ID U/W 0.5 W CLP (END ATTACHING PARTS)	95987	C191	
-137	337-3345-00			1	SHIELD,ELEC:PWR SPLY,PLASTIC (ATTACHING PARTS)	80009	337-3345-00	
-138	214-3012-00			1	FSTNR,SNAP-IN:0.437 L X 0.3 DIA,ROUND HD	02768	254-090601-01	
-139	210-0091-00			2	WASHER,LOCK:#4,0.005 THK (END ATTACHING PARTS)	80009	210-0091-00	
-140	441-1208-00			1	CHASSIS,TERM:FLOPPY DISK (ATTACHING PARTS)	80009	441-1208-00	
-141	210-0457-00			2	NUT,PL,ASSEM WA:6-32 X 0.312,STL CD PL	78189	511-061800-00	
-142	211-0658-00			11	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X	
-143	-----			1	CKT BOARD ASSY:POWER SUPPLY(SEE A15 REPL) (ATTACHING PARTS)			
-144	211-0658-00			7	SCR,ASSEM WSHR:6-32 X 0.312,PNH,STL,POZ (END ATTACHING PARTS)	78189	S51-060545-0X	
-145	407-3372-00			1	.BRKT,HEAT SINK:ALUMINUM	80009	407-3372-00	
-146	343-0969-00			1	.RETAINER,XSTR: (ATTACHING PARTS)	80009	343-0969-00	
-147	210-0408-00			1	.NUT,PLAIN,HEX:6-32 X 0.312,BRS CD PL	73743	3040-402	
-148	211-0691-00			1	.SCREW,MACHINE:6-32 X 0.625,PNH,STL (END ATTACHING PARTS)	93907	ORDER BY DESCR	
-149	342-0555-00			1	.INSULATOR,PLATE:HEAT SINK,ALUMINA	80009	342-0555-00	
-150	-----			1	CA ASSY,SP,ELEC:(SEE A15W1 REPL)			
-151	-----			1	FAN,TUBEAXIAL:(SEE B15 REPL) (ATTACHING PARTS)			
-152	211-0020-00			1	SCREW,MACHINE:4-40 X 1.125,PNH,STL	TK0435	ORDER BY DESCR	
-153	210-1001-00			1	WASHER,FLAT:0.119 ID X 0.375 OD X 0.021	12360	ORDER BY DESCR	
-154	211-0017-00			1	SCREW,MACHINE:4-40 X 0.75,PNH,STL	93907	ORDER BY DESCR	
-155	210-0994-00			1	WASHER,FLAT:0.125 ID X 0.25 OD X 0.022,STL (END ATTACHING PARTS)	86928	A371-283-20	
-156	210-0204-00			1	TERMINAL,LUG:0.142 ID,LOCKING,BRZ TINNED (ATTACHING PARTS)	86928	A373-175	
-157	210-0586-00			1	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL (END ATTACHING PARTS)	78189	211-041800-00	
-158	426-1766-00			1	MOUNT,RESILIENT:CRT,REAR	80009	426-1766-00	
-159	-----			1	FILTER,RFI:(SEE FL15 REPL) (ATTACHING PARTS)			
-160	210-0586-00			2	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL	78189	211-041800-00	
-161	211-0116-00			2	SCR,ASSEM WSHR:4-40 X 0.312,PNH,BRS,NP,POZ (END ATTACHING PARTS)	77900	ORDER BY DESCR	
-162	200-1388-03			1	COVER,FUSE LEAD:POLYURETHANE	80009	200-1388-03	
-163	343-1025-00			1	RETAINER,XSTR: (ATTACHING PARTS)	TK1154	ORDER BY DESCR	
-164	211-0302-00			1	SCR,ASSEM WSHR:4-40 X 0.75,PNH,STL,TORX DR (END ATTACHING PARTS)	01536	ORDER BY DESCR	
-165	342-0582-00			1	INSULATOR,PLATE:TRANSISTOR,CERAMIC	80009	342-0582-00	
-166	200-2264-00			1	CAP,FUSEHOLDER:3AG FUSES	S3629	FEK 031 1666	
-167	204-0832-00			1	BODY,FUSEHOLDER:3AG & 5 X 20MM FUSES	TK0861	031 1673	
-168	334-6923-00			1	INSERT,BINDER:USERS MANUAL VAX/VMS & MICROV AX/MICROVMS	80009	334-6923-00	
-169	134-0026-00			1	BUTTON,PLUG:U/W 0.375 HOLE	80112	1711-M	
-170	200-2519-00			1	CAP,CRT SOCKET:NATURAL LEXAN	80009	200-2519-00	
-171	214-1061-05			1	SPRING,GROUND:PLATED	TKJ326	ORDER BY DESCR	
-172	-----			1	CABLE ASSY,RF:(SEE W3 REPL) (ATTACHING PARTS)			
-173	210-0586-00			2	NUT,PL,ASSEM WA:4-40 X 0.25,STL CD PL	78189	211-041800-00	
-174	211-0021-00			2	SCREW,MACHINE:4-40 X 1.25,PNH,STL (END ATTACHING PARTS)	TK0435	ORDER BY DESCR	

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No.		Qty	12345 Name & Description	Mfr.	
		Effective	Dscnt			Code	Mfr. Part No.
2-175	200-3432-00			1	COVER, PLATE: (ATTACHING PARTS)	80009	200-3432-00
-176	210-0586-00			2	NUT, PL, ASSEM WA: 4-40 X 0.25, STL CD PL	78189	211-041800-00
-177	343-0144-00			1	CLAMP, LOOP: 0.125 ID, NYLON (END ATTACHING PARTS)	TK1452	ORDER BY DESCR
-178	-----			1	CABLE ASSY, RF: (SEE W2 REPL) (ATTACHING PARTS)		
-179	358-0251-00			3	BUSHING, VAR RES: 0.25-32 X 0.424 L, BRS NP	80009	358-0251-00
-180	210-0011-00			3	WASHER, LOCK: 0.25 ID, INTL, 0.025 THK, STL (END ATTACHING PARTS) CABLE ASSY INCLUDES: .CONN, RCPT, ELEC: BNC, FEMALE	09772	1214-00-00-0541C
-181	131-0955-00			1	CHASSIS, REAR: ALUMINUM (ATTACHING PARTS)	13511	31-279
-182	441-1709-00			1	SCR, ASSEM WSHR: 6-32 X 0.312, PNH, STL, POZ (END ATTACHING PARTS)	80009	441-1709-00
-183	211-0658-00			4	CHASSIS, TG: ALUMINUM	78189	S51-060545-0X
-184	441-1749-00			1	CHASSIS, RF: ALUMINUM	80009	441-1749-00
-185	441-1710-00			1		80009	441-1710-00

Replaceable Mechanical Parts - 2710

Fig. & Index No.	Tektronix Part No.	Serial/Assembly No. Effective	Discont	Qty	12345 Name & Description	Mfr. Code	Mfr. Part No.
3-1	161-0104-00			1	CABLE ASSY,PWR,:3 WIRE,98.0 L,W/RTANG CONN SAFETY CONTROLLED	16428	CH8352, FH-8352
-2	161-0132-00			1	CABLE ASSY,PWR,:3,0.75MM SQ,220V,3.05M L (EUROPEAN OPTION A1 ONLY)	TK1373	A30BF-RA
-3	161-0133-00			1	CABLE ASSY,PWR,:3,0.75MM SQ,240V,3.05M L (UNITED KINGDOM OPTION A2 ONLY)	TK1373	A30UK-RA
-4	161-0135-00			1	CABLE ASSY,PWR,:3,0.75MM SQ,240V,3.05M L (AUSTRALIAN OPTION A3 ONLY)	S3109	SAA/3-0D3CCFC3X0
-5	161-0134-00			1	CABLE ASSY,PWR,:3,18 AWG,240V,120.0 L (NORTH AMERICAN OPTION A4 ONLY)	70903	ORDER BY DESCR
-6	161-0167-00			1	CABLE ASSY,PWR,:3.0 X 0.75,6A,240V,2.5M L (SWISS OPTION A5 ONLY)	S3109	ORDER BY DESCR
-7	200-2520-00			1	COVER,SCOPE:FRONT,ABS	TK2165	ORDER BY DESCR
-8	103-0045-00			1	ADAPTER,CONN:N MALE TO BNC FEMALE	24931	29 JP104-3
	070-6022-00			1	MANUAL,TECH:OPERATORS	80009	070-6022-00
					OPTIONAL ACCESSORIES		
	-----			1	CAMERA,SCOPE:CSC (OPTION 02 ONLY)		
	-----			1	K212:CART PORTABLE INSTRUMENT		
	012-0057-01			1	CABLE ASSY,RF:50 OHM COAX,43.0 L	80009	012-0057-01
	012-0074-00			1	CABLE ASSY,RF:75 OHM COAX,42.0 L	80009	012-0074-00
	012-0076-00			1	CABLE ASSY,RF:50 OHM COAX,20.0 L	80009	012-0076-00
	016-0566-00			1	VISOR,CRT:	TK2165	ORDER BY DESCR
	016-0677-02			1	POUCH,ACCESSORY:	TK0174	016-0677-02
	016-0792-01			1	CASE,CARRYING:24.5 X 16.5 X 11.5	TK1336	ORDER BY DESCR
	016-0848-00			1	COVER,PROT:WATERPROOF VINYL	80009	016-0848-00
	070-6024-00			1	MANUAL,TECH:SERVICE	80009	070-6024-00
	103-0273-00			1	ADAPTER,CONN:N FEMALE TO 75 OHM BNC MALE	80009	103-0273-00
	337-2775-01			1	SHLD,IMPLOSION:	80009	337-2775-01
	337-2775-02			1	SHLD,IMPLOSION:	80009	337-2775-02
	346-0199-00			1	STRAP,CARRYING:MKD TEKTRONIX	80009	346-0199-00
	606-0110-00			1	TEST KIT:SERVICE CABLES & EXTENDER BD	80009	606-0110-00
	174-0804-00			1	.CA ASSY,SP,ELEC:10,28 AWG,12.0 L,RIBBON	80009	174-0804-00
	175-2902-00			1	.CABLE ASSY,RF:50 OHM COAX,12.0 L,CLEAR	80009	175-2902-00
	671-0149-00			1	.CIRCUIT BD ASSY:EXTENDER	80009	671-0149-00

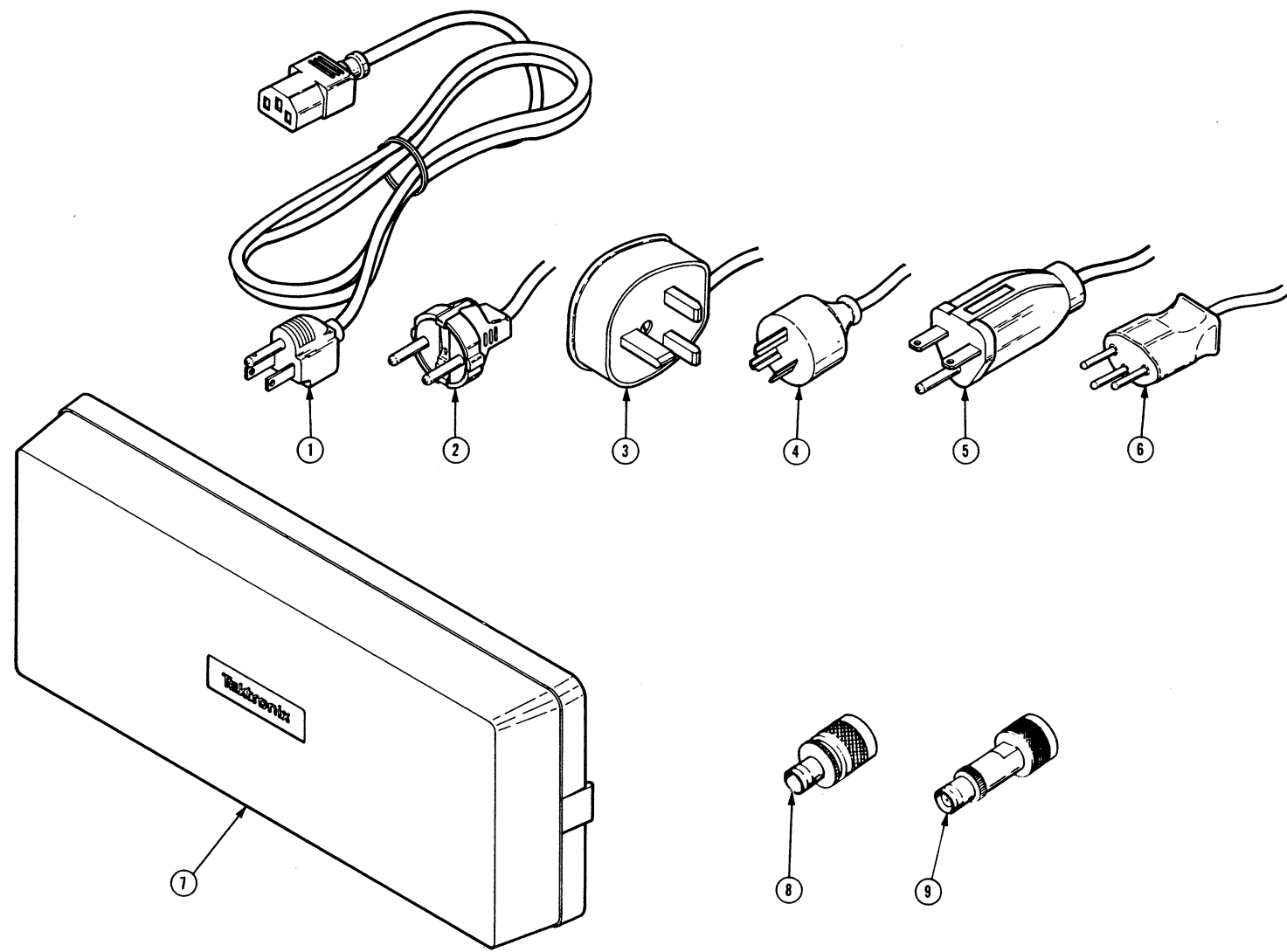


FIG. 3 ACCESSORIES

MANUAL CHANGE INFORMATION

At Tektronix, we continually strive to keep up with latest electronic developments by adding circuit and component improvements to our instruments as soon as they are developed and tested.

Sometimes, due to printing and shipping requirements, we can't get these changes immediately into printed manuals. Hence, your manual may contain new change information on following pages.

A single change may affect several sections. Since the change information sheets are carried in the manual until all changes are permanently entered, some duplication may occur. If no such change pages appear following this page, your manual is correct as printed.