

Technical Service Manual

ISA™ Series

- ▲ ISA280
- ▲ ISA300T
- ▲ ISA300Ti
- ▲ ISA450
- ▲ ISA500T
- ▲ ISA500Ti
- ▲ ISA750
- ▲ ISA800T
- ▲ ISA800Ti
- ▲ ISA1350



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TD-000163-00
Rev. A

ISA Series

Technical Service Manual

ISA280

ISA450

ISA750

ISA1350

ISA300T & ISA300Ti

ISA500T & ISA500Ti

ISA800T & ISA800Ti



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ISA amplifier, rear view

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ISA Series Performance Specifications

	ISA280 & ISA300Ti	ISA450 & ISA500Ti	ISA750 & ISA800Ti	ISA1350
OUTPUT POWER in watts				
<i>FTC: 20 Hz–20 kHz @ 0.1% THD, both channels driven, direct outputs</i>				
8W per channel	185	260	450	800
4W per channel	280	400	650	1300
<i>FTC: 50 Hz–16 kHz @ 0.5% THD, both channels driven, transformer outputs</i>				
70V or 100V (per channel)	300 (ISA 300Ti)	500 (ISA 500Ti)	800 (ISA 800Ti)	
25V (per channel)	240 (ISA 300Ti)	400 (ISA 500Ti)	640 (ISA 800Ti)	
<i>FTC: 20 Hz–20 kHz @ 0.5% THD, both channels driven, direct outputs</i>				
70V (per channel)				1500
<i>EIA: 1 kHz @ 0.1% THD, both channels driven</i>				
8Ω per channel	200	280	500	850
4Ω per channel	300	450	750	1400
<i>1 kHz @ 1% THD, typical, both channels driven</i>				
2Ω per channel	430	700	1200	2000
<i>Bridge Mono:</i>				
8Ω, 20 Hz–20 kHz, 0.1% THD	530	800	1300	2600
8Ω, 1 kHz, 0.1% THD	600	900	1500	2800
4Ω, 1 kHz, 1% THD, typical	830	1400	2400	4000
140V or 200V, 50 Hz–16 kHz, 0.5% THD	600 (ISA 300Ti)	1000 (ISA 500Ti)	1600 (ISA 800Ti)	
140V, 20 Hz–20 kHz, 0.5% THD (direct outputs)				3000
50V, 50 Hz–16 kHz, 0.5% THD	480 (ISA 300Ti)	800 (ISA 500Ti)	1280 (ISA 800Ti)	
DYNAMIC HEADROOM	2 dB @ 4Ω	2 dB @ 4Ω	2 dB @ 4Ω	2 dB @ 4Ω
DISTORTION				
SMPTE-IM	< 0.01%	< 0.01%	< 0.02%	< 0.02%
FREQUENCY RESPONSE				
(at 10 dB below rated output power)	20 Hz–20 kHz, +0/-1 dB			
	-3 dB points: 5 Hz and 50 kHz			
DAMPING FACTOR	> 300 @ 8Ω	> 300 @ 8Ω	> 300 @ 8Ω	> 250 @ 8Ω
NOISE (unweighted 20 Hz to 20 kHz, below rated output)	100 dB	100 dB	100 dB	100 dB
VOLTAGE GAIN	31.6× (30 dB)	40× (32 dB)	50× (34 dB)	64× (36 dB)
INPUT SENSITIVITY, V RMS				
full rated power @ 8Ω	1.15v (+3.4 dBu)	1.15v (+3.4 dBu)	1.23v (+4.0 dBu)	1.24v (+4.1 dBu)

continued

ISA Series Performance Specifications (continued)

	ISA 280 & ISA 300Ti	ISA 450 & ISA 500Ti	ISA 750 & ISA 800Ti	ISA 1350
INPUT IMPEDANCE	10 k Ω unbalanced 20 k Ω balanced			
CONTROLS	Front: AC switch, Ch. 1 and Ch. 2 gain Rear: 10-position DIP switch			
INDICATORS	POWER: Green LED SIGNAL: Yellow LED, 1 per channel		CLIP: Red LED, 1 per channel	
CONNECTORS	Input: Active balanced; XLR (pin 2 +) and detachable Euro-style terminal blocks Output: Screw terminals with safety shroud DataPort V2: HD-15 female			
COOLING	Continuously variable speed fan, back-to-front air flow			
AMPLIFIER PROTECTION	Full short circuit, open circuit, thermal, ultrasonic, and RF protection Stable into reactive or mismatched loads			
LOAD PROTECTION	Turn-on/turn-off muting, AC coupling, triac crowbar (on each channel)			
OUTPUT CIRCUIT TYPE	AB	AB	H (2-tier)	H (3-tier)
	AB: Class AB+B complementary linear output H: Class AB+B complementary linear output with Class H 2- or 3-tier high efficiency circuit			
DIMENSIONS	19.0" (48.3 cm) wide, 5.25" (13.3 cm) tall (3 rack spaces) 15.9" (40 cm) deep (rack mounting to rear support ears)			
WEIGHT Shipping:	ISA 280: 42 lb (19.1 kg) ISA 300Ti: 50 lb (22.7 kg)	ISA 450: 46 lb (20.9 kg) ISA 500Ti: 55 lb (25 kg)	ISA 750: 50.5 lb (23 kg) ISA 800Ti: 63 lb (28.6 kg)	68 lb (30.8 kg)
Net:	ISA 280: 35 lb (15.9 kg) ISA 300Ti: 44 lb (20 kg)	ISA 450: 40 lb (18.2 kg) ISA 500Ti: 49 lb (22.3 kg)	ISA 750: 44.5 lb (20.2 kg) ISA 800Ti: 57 lb (26 kg)	77 lb (34.4 kg)
	Available for 120 or 220–240 VAC, 50/60 Hz			

POWER REQUIREMENTS
POWER CONSUMPTION @ 120 VAC
(both channels driven)

Multiply currents by 0.5 for 230V units

	Typical ¹	Full ²	Max ³		Typical ¹	Full ²	Max ³		Typical ¹	Full ²	Max ³		Typical ¹	Full ²	Max ³
<i>Idle</i>	0.5 A				0.5 A				0.6 A				1.2 A		
8Ω	3 A	4.1 A	7.4 A		3.7 A	5.4 A	10 A		4 A	9.7 A	16.4 A		6.4 A	12.5 A	25.5 A
4Ω	4.5 A	6.6 A	11.5 A		6 A	9.6 A	16 A		6.3 A	15.6 A	27 A		10 A	20 A	42 A
2Ω	6.5 A	9.5 A*	17 A*		9.3 A	14.7 A*	25 A*		9.2 A	23 A*	41 A*		14.5 A	31 A*	66 A*

US patents pending

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

1. Introduction

1.1 Restriction of Hazardous Substances Directive (RoHS)

Beginning in June 2006 (serial number date code 0606xxxx), all ISA Series amplifiers are manufactured to conform to the European Union's RoHS Directive, which reduces the amount of hazardous substances allowed in products for sale within its member nations. In electronic equipment such as audio power amplifiers, this applies primarily to certain toxic heavy metals, such as lead, which may be present in electronic components, solder, and other parts.

RoHS-compliant materials

When servicing RoHS-compliant amplifiers, it is important for the service technician to use only RoHS-compliant components and solder (lead-free). All replacement parts provided by QSC for RoHS-compliant products are certified as RoHS compliant.

RoHS-compliant tools

Soldering irons and desoldering apparatus used on RoHS-compliant products must also not be contaminated by hazardous substances, such as lead. Therefore, you cannot use the same soldering and desoldering tools for RoHS-compliant products and solder as you do for non-compliant products and solder. You must either use separate soldering irons, desoldering tools and braid, etc., or at the very least designate separate tips and braids and use only the appropriate ones. If you contaminate a tip or braid, even inadvertently, by using it on a non-compliant product or solder, you can no longer use it with RoHS-compliant products or solder.

1.2 Service bulletins

Contact QSC Technical Services to make sure you have the most up-to-date service bulletins for ISA Series amplifiers. Service bulletins may be distributed in hard copy, via fax, and electronically (Adobe Acrobat PDF) via CD-ROMs, FTP from the QSC web site (www.qscaudio.com), and e-mail.

One service bulletin has been issued for the ISA Series at the time this manual was printed: **ISA0001**, "ISA Turn-on Hangup" (ISA450, ISA500T, ISA750 and ISA800T)

1.3 The well-equipped service bench

To properly service ISA amplifiers, a technician needs the right tools. The technician's service bench should have the following equipment:

- Digital multimeter with RMS AC voltage and current
- Digital clamp-on ammeter
- Dual-trace oscilloscope
- Audio distortion analyzer
- Non-inductive load resistors, configurable as 8 ohms (min. 500 watts capacity), as 4 ohms (min. 750 watts capacity), and 2 ohms (min. 1200 watts capacity)
- Variable AC voltage source, such as a Variac or Powerstat variable transformer, with a rated current capacity of up to 25A (for 120V models) or 12A (for 230V models)
- Low-distortion audio sine wave generator
- Philips and flat screwdrivers
- Soldering iron with a fine tip (25–60W recommended)
- Rosin-core solder (RoHS-compliant solder, or 60/40 or 63/37 for non-RoHS product only)
- Long-nose pliers
- Diagonal cutters
- Wire strippers

Automated test equipment, such as an Audio Precision workstation, is very useful for servicing ISA amplifiers. Contact QSC Technical Services to obtain applicable AP test files.

1.4 Working with surface-mount components

ISA amplifiers, like many modern electronic products, use surface-mount technology (SMT) components where appropriate in order to make high-density circuitry that is reliable and economical to manufacture.

SMT components in the ISA amps are used in the small-signal and control circuits, so they do not handle significant amounts of power; therefore, they are subject to very little stress and should seldom fail. Sometimes they do fail, or they require replacement for a performance upgrade or modification. Thus, it is important to know how to work with SMT components.

Specialized tools and equipment exist for soldering, unsoldering, and removing SMT components quickly and efficiently, but they are often expensive. Most SMT repairs, though, can be handled reasonably well with common tools and equipment, such as tweezers, solder braid, and fine-tip soldering irons. The original factory components are tacked to the board with a spot of glue, so you might have to apply some force to break the adhesive.

Two-terminal components (resistors, capacitors, diodes, etc.)

Removal

- 1 Use two soldering irons, preferably about 25 to 40 watts, with fine tips.
- 2 With a soldering iron in each hand, hold one tip on the solder at one end of the component and the other tip on the other end (Figure 1.1).
- 3 Once the solder melts on both ends, grip the component between the two tips and lift it from the circuit board.
- 4 Use solder braid and a soldering iron to remove the solder from the two pads (Figure 1.2).

Insertion

- 1 With a soldering iron and appropriate solder, melt just enough solder onto one pad to create a small mound (Figure 1.3).
- 2 Grasp the component in the middle with tweezers. Melt the small mound of solder with the iron and place the component across the two pads (in the correct orientation, if the component is sensitive to direction) and press it flat against the circuit board, with one end of the component immersed in the melted solder (Figure 1.4).
- 3 Hold the component in place and take the soldering iron away. Let the solder harden to tack the component in place.
- 4 Fully solder the other end of the component to its pad. Let the solder harden (Figure 1.5).
- 5 Fully solder the tacked end of the component to its pad (Figure 1.6).



Figure 1.1.

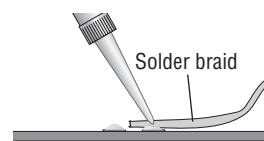


Figure 1.2.

Three-terminal components (transistors, etc.)

Removal

- 1 With a soldering iron and solder braid, remove as much solder as possible from the middle terminal of the component.
- 2 With a soldering iron in each hand, hold one tip on the solder at the terminal at one end of the component and the other tip on the terminal at the other end.
- 3 When the solder on both ends melts, grip the component between the two tips and lift it from the circuit board. You might need to quickly touch the pad on the middle terminal with a soldering iron to melt any remaining solder that might be holding the component down.
- 4 Use solder braid and a soldering iron to remove the solder from the three pads.

Insertion

- 1 With a soldering iron and appropriate solder, melt just enough solder onto one pad to create a small mound of solder.
- 2 Grasp the component with tweezers. Melt the small mound of solder with the iron and place the component in the correct orientation across the three pads and press it flat against the circuit board, with one terminal of the component pressed into the melted solder.
- 3 Hold the component in place and take the soldering iron away. Let the solder harden to tack the component in place.
- 4 Fully solder the other terminals of the component to their pads. Let the solder harden.
- 5 Fully solder the tacked terminal of the component to its pad.

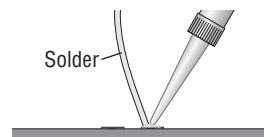


Figure 1.3.



Figure 1.4.

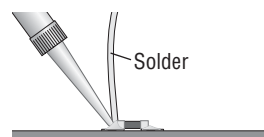


Figure 1.5.



Figure 1.6.

Multi-pin components (ICs, etc.)

Removal

Removing a multi-pin SMT component is a delicate procedure. Ideally, you should use a soldering iron with an attachment that allows you to heat all the pins simultaneously.

If such a soldering device is not available, use this procedure:

- 1 Use a soldering iron and solder braid to remove as much solder as possible from the pins of the component.
- 2 With fine tweezers, carefully try to lift each pin to see if it's free. If it's not, touch it with the tip of the soldering iron and if necessary, use the solder braid to remove the remaining solder.
- 3 Repeat the process until all the pins are free and you can remove the component.

Insertion

- 1 With a soldering iron and appropriate solder, melt just enough solder onto one pad to create a small mound of solder. It is usually easiest to use a pad that corresponds to one of the end or corner pins of the component.
- 2 Grasp the component with tweezers. Melt the small mound of solder with the iron and place the component in the correct orientation upon its pads and gently press it flat against the circuit board, with the appropriate terminal of the component pressed into the melted solder.
- 3 Hold the component in place and take the soldering iron away. Let the solder harden to tack the component in place.
- 4 Fully solder the other terminals of the component to their pads. Let the solder harden.
- 5 Fully solder the tacked terminal of the component to its pad.

1.5 Series description

QSC's ISA Series amplifiers are entry-level professional audio products for installed sound systems, designed for good, basic performance and reliability at low price. The series comprises seven current models—the ISA280, ISA300Ti, ISA450, ISA500Ti, ISA750, ISA800Ti, and ISA1350—and three discontinued ones—the ISA300T, ISA500T, and ISA800T.

Outputs for distributed lines

While all ISA models can drive low-impedance speaker loads as low as 2 ohms per channel, the three ending in "Ti" also have isolated transformer-coupled outputs for driving 25-, 70-, or 100-volt lines. The "T" models preceded the "Ti" ones and had non-isolated autoformer-coupled outputs; other than this distinction, they are the same as the "Ti" models. **Note: For the sake of brevity, information that pertains to both versions will be combined in descriptions of the "Ti" models, except where otherwise noted.**

Each model has two audio channels and is three rack spaces tall. See page 2 for complete specifications.

The ISA280, ISA300Ti, ISA450, and ISA500Ti have single-sided printed circuit boards. The ISA750, ISA800Ti, and ISA1350 use double-sided boards.

1.6 Technical descriptions and theory of operation

Note: Some of these descriptions concern circuitry that is duplicated in the amplifier's two channels. For the sake of simplicity, the descriptions are of Channel 1 only. Components in Channel 1 have a 3-digit designation with "1" as the first digit; their equivalents in Channel 2 have a "2" as the first digit, followed by the same two numerals. For example, R122 and R222 have identical functions in their respective channels.

Power supplies

Unlike other recent QSC amplifiers, the ISA line uses strictly conventional power supplies, with large transformers that operate at the 50 or 60 Hz frequency of the AC line. The electrical current in the secondary circuitry is converted to DC through a full-wave bridge rectifier. The resulting 100 or 120 Hz ripple is filtered out by large capacitors that also serve as current reservoirs for short-term, transient demands.

The supply provides a bipolar set of supply rails for each channel, with equal quiescent positive and negative voltages, as shown in Figure 1.7. Note that unlike many bipolar supplies for complementary transistor arrangements, the secondary windings are not connected to ground at the center.

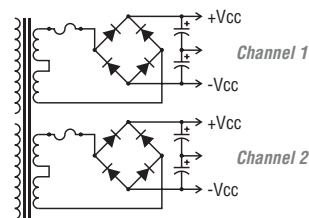


Figure 1.7

This is because the output transistors are directly mounted to the heat sink, metal-to-metal, to maximize heat transfer; this grounds the collectors, requiring somewhat different output and power supply arrangements. The grounded-collector concept is described later in this chapter.

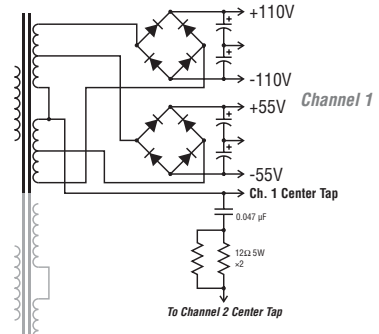


Figure 1.8

In the ISA 750 and ISA 800T, the secondaries are tapped to provide an intermediate set of bipolar rails for the Class H output circuitry. Figure 1.8 shows one channel. Class H operation is described later in this chapter.

The 24-volt cooling fan is driven by a separate DC supply that is powered by a 20-volt tap on the transformer primary. To minimize fan noise, the fan speed is controlled by varying its actual DC voltage in response to the amplifier's heat sink temperatures. An optocoupler isolates the fan control circuitry from the thermal sensors.

Audio circuitry

The audio inputs are balanced to offer a reasonably high amount of common-mode noise rejection. The input balancing is done using a single op amp (one half of an NE5532 dual op amp) arranged as a differential amplifier. The degree of common-mode rejection is dependent on a close match between the input resistors (R100 and R101 in Figure 1.9) and between the feedback resistor and the shunt resistor (R105 and R106). The circuitry uses 1% precision resistors to ensure at least 40 dB of common-mode rejection.

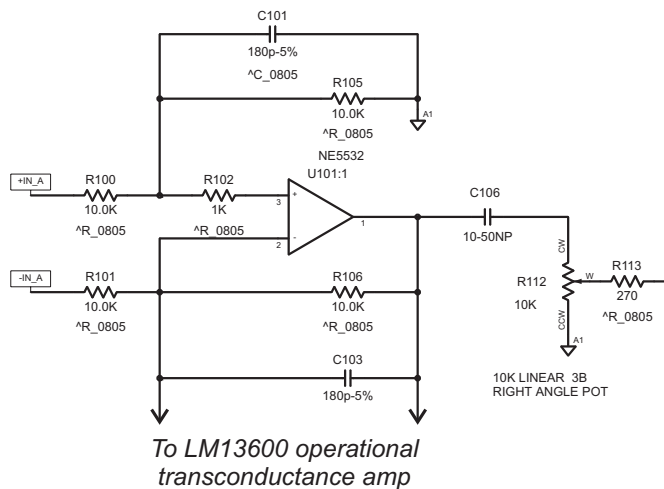


Figure 1.9

The feedback and shunt capacitors, C101 and C103, add a first-order high-frequency roll-off, down 3 dB at 88.4 kHz (over two

octaves above the high end of the audio spectrum). This makes the amplifier less susceptible to RF interference, high-frequency oscillations, etc.

Also in this stage, the feedback loop contains one half of a 13600 dual operational transconductance amplifier (Figure 1.10). The OTA is part of the clip limiter circuitry; when the clip limiter is activated, a control voltage increases the transconductance of the OTA, which essentially decreases the impedance of the feedback loop and reduces the gain of the stage in order to reduce the amount of clipping.

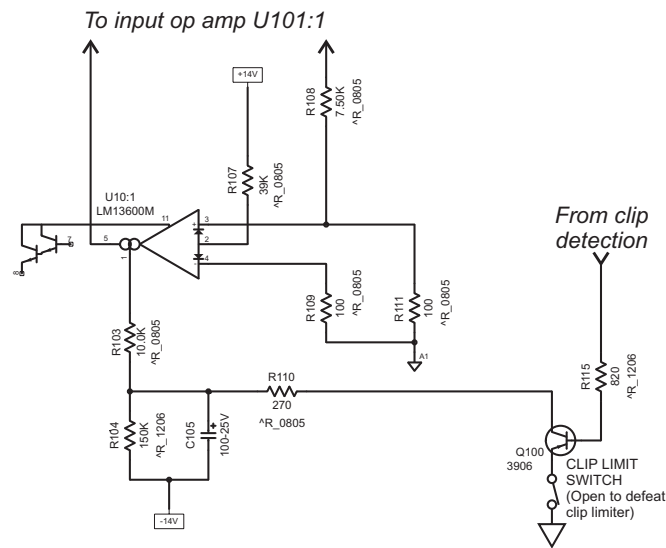


Figure 1.10

The gain control uses a linear potentiometer, but the impedances loading the wiper to ground make the pot approximate an audio taper over most of its rotation. After the wiper, RC networks roll off the low end, if the LF filter is set for that channel, at either 30 or 50 Hz, depending on the DIP switch setting on the rear panel.

The next active device is another 5532 op amp, U101:2. Its output drives the driver transistors, which in turn drive the output transistors. The output section has a Class AB+B configuration; the drivers (a complementary pair, Q105 and Q106, comprising an NPN MJE15032 and a PNP MJE 15033) are class AB. A series network of two diodes and a 100-ohm trimpot provide the small amount of forward bias on the transistor pair to keep crossover distortion minimal. In parallel with the trimpot is a 50-ohm thermistor with a negative temperature coefficient; as the circuitry warms, its resistance decreases. This reduces V_{BE} on both Q105 and Q106, decreasing the bias current to reduce the threat of thermal runaway. The base of each driver transistor is tied to ground through a diode and a 2.2K trimpot in series; these set the current limiting threshold for their respective signal polarities.

The collector of each driver transistor directly drives the bases of its output transistors, which are the main power-handling signal devices. If you're not familiar with the grounded-collector scheme, the arrangement of the output transistors might look somewhat

strange: the positive voltage swings are handled by PNP transistors, while the negative swings are handled by NPN devices. The collectors all connect to ground, which allows them to be mounted directly to the heat sink—metal-to-metal, without insulators in between—for the best possible transfer of heat away from the transistors. The emitters of the PNP and NPN transistors are coupled through resistors to the positive and negative supply rails, respectively, forming banks of common-emitter circuits driving the supply rails. Consequently, the devices drive the rails with the audio signal, which rides atop the DC. The output to the speaker load is taken from the point between the positive and negative reservoir capacitors; this is also where the negative feedback is taken from. The nature of this arrangement, with audio signal riding on the supply rails, is why the power supply has no ground reference.

Another unusual characteristic of the grounded-collector output section is that the signal at the output to the speaker is actually opposite in polarity to the signal at the op amp output. This is why the negative feedback resistor, R122, connects to the op amp's non-inverting input instead of the inverting input.

The output point of the circuit couples to the output connector through an RLC network (R160, R161, R162, L100, and C124) that serves as a high-frequency snubber and also helps keep the amp circuitry stable when driving capacitive loads.

Clip detection

The output of the op amp also drives a group of four diodes (D102, D103, D105, and D106) arranged as a full-wave rectifier. Normally, the op amp's output signal level is about 1 volt or less, which is all it takes to drive the driver transistors.

But because this point is within the overall feedback loop, when clipping occurs, the op amp puts out a much higher signal voltage to try to make the output signal track the input. The four diodes rectify the voltage to drive the clip indicator LED, LD100. The current exiting the full-wave rectifier passes to ground through R127 and also drives the base of transistor Q100 through R115. If the clip limiter is switched on, Q100's emitter is grounded, and when the voltage across R127 goes sufficiently negative to forward-bias Q100, which sends current through R111 and R103 into the amplifier bias input of the operational transconductance amplifier (OTA), U10:1. The OTA is in the negative feedback loop of U101:1, and increasing its transconductance essentially reduces the impedance of the feedback loop, which reduces the gain of the op amp stage. This reduces the signal level until the amount of clipping is minimal. When the clipping stops, Q100 is no longer forward-biased, and the gain returns to normal.

DC protection

The ISA750 and ISA800T have a crowbar circuit, based on a triac and two silicon controlled rectifiers, on each output to protect against DC faults. If an amp channel puts out a DC voltage, which could be the result of a component or circuit failure, it will first trigger either D119 or D120, depending on the polarity of the

voltage. The triggered SCR will in turn trigger triac Q113, shorting the output to ground through fuse F100. The fuse will blow, safeguarding the speaker load from the DC fault.

The output sections of the ISA280, ISA300T, ISA450, and ISA500T are AC coupled.

Class H

The ISA750 and ISA800Ti utilize a two-tier Class H output section. It is essentially a Class AB+B circuit but with two sets of bipolar supply rails. On both the positive and the negative sets of rails, a comparator circuit, called a “step driver,” compares the audio signal to the lower rail voltage. When necessary to fully reproduce the signal’s voltage swing—just before the signal voltage reaches the lower rail voltage—the step driver turns on a TMOS power FET to pull the output transistors’ supply rail up from the lower voltage to the higher one, and then back down again when the signal allows. By keeping the transistors’ supply rails low whenever possible, the devices dissipate less unused power and generate less waste heat, making the amplifier more efficient than a straight class AB amplifier with the same power points.

The comparators are 311-type ICs: U170 on the positive step and U171 on the negative. Each one drives a high-gain complementary transistor pair (2N3904 + 2N3906), which drive the gate of their respective MOSFET.

The ISA 1350 has a three-tier Class H output section. It works in much the same way as the two-tier arrangement, but the additional step further increases the amplifier’s electrical efficiency.

Bridged mono operation and protection

When the amplifier is operated in bridged mono, its two channels work in tandem to produce up to twice the voltage swing that a single channel is capable of. To do this, Channel 2 produces a signal identical to Channel 1’s, but opposite in polarity—in other words, a mirror image.

Channel 2’s signal feed (bus BR_MONO_FEED) is an attenuated version of the signal on Channel 1’s speaker bus. Closing DIP switch #6 (set to “BRIDGE MONO ON”), connects the BR_MONO_FEED bus on Channel 1 to the BR_RET bus on Channel 2. The BR_RET bus drives the non-inverting input of op amp U201:2 directly.

With two channels operating as one, but each having its own feedback and protection circuitry, it is vital to keep both running as mirror images. A protection circuit monitors the balance between Channel 1’s and Channel 2’s signals. Resistors R22 and R23 (R22A, R22B, R23A, and R23B in the ISA 750 and ISA 800T) are equal in value and form a voltage divider between the two channel outputs. If the output signals are mirror images, the voltage at the junction of the resistors (bus BR_BAL) will be zero. If the signals are not mirror images—for example, one channel is defunct, distorting, or reduced in gain—a voltage will appear on BR_BAL. Through DIP switch 7, the BR_BAL bus becomes bus BR_CUT and feeds the

bases of transistors Q8 and Q6, which are part of a 4-transistor circuit across the +15V and -15V rails that supply the op amps and the input circuitry. If the voltage on BR_CUT goes positive enough to forward-bias Q8, the transistor’s collector will collapse the +15V rail. At the same time, the emitter current from Q8 will flow through R25 and into the emitter of Q7, forward-biasing it, too. The collector of Q7 will then collapse the -15V rail.

Similarly, if BR_BAL goes sufficiently negative, it will forward-bias Q6, in turn forward-biasing Q9, and these will collapse the ±15V rails.

With the rails collapsed, the op amp and the input circuitry will not function, which will mute the audio.

Output transformers and autoformers

The amplifiers whose model numbers end in “T” have a tapped autoformer on each channel output. The autoformer allows a channel to drive distributed speaker lines by converting the output voltage to an appropriate level. For example, either channel of the

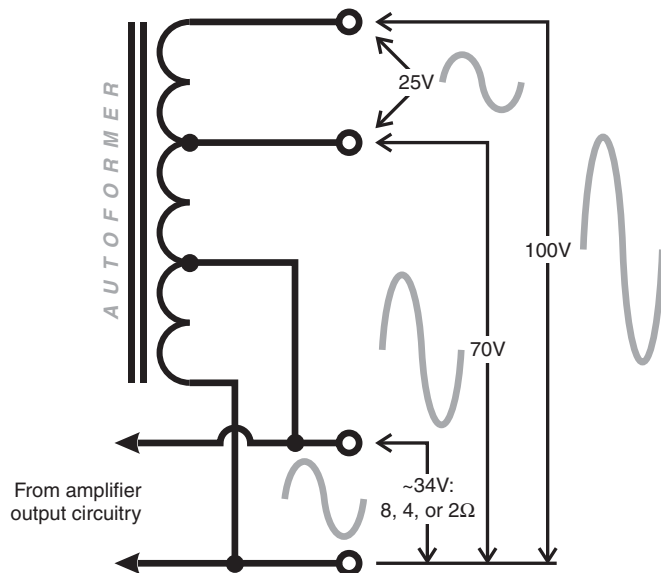


Figure 1.11

ISA300T (Figure 1.11) can put out a maximum signal level of about 34 volts rms at its low-impedance output terminals, but the autoformer steps it up to about 70 volts (between the 0 and 70 terminals) or 100 volts (between the 0 and 100 terminals) for driving lines of those respective voltages. Also, the channel can drive a 25-volt line connected across the 70 and 100 terminals. Note that one side of the output is at chassis ground potential.

The “T” models were replaced by the “Ti” ones, which use transformers to develop the 25-, 70-, and 100-volt outputs (Figure 1.12). The main benefit is the full electrical isolation between the primary (the amplifier’s internal circuitry) and the secondary (the distributed loudspeaker line), which some electrical and safety codes may require.

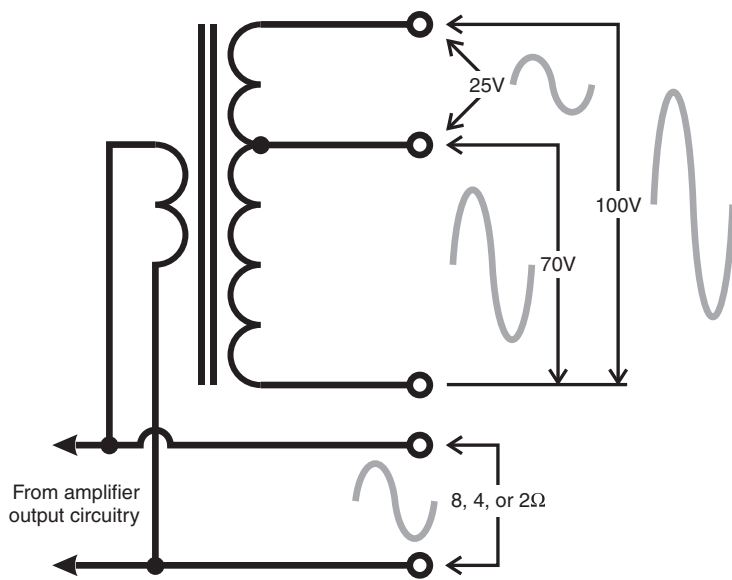


Figure 1.12

1.7 ISA1350 circuitry

Compared to the utter simplicity of the lower power ISA models like the ISA280, the ISA1350's circuitry might seem so complex that it should belong to another family of power amps. This added complexity primarily concerns two particular areas of the amplifier—the class H power supply rail steps and the bias circuitry—and provides these benefits:

- **Three-tier class H output section**—the additional tier further exploits the dynamic nature of audio to improve the amplifier's electrical efficiency to as much as 55% better than a class AB amplifier of a comparable power rating. Despite the added circuitry and complexity, this allows substantial savings in components and materials costs by scaling down power transformers, using fewer output devices, and removing less waste heat.
- **Improved thermal bias tracking and better fault protection muting**—instead of using a simple bias network based on a series diode pair, the ISA1350 features an "active" bias network that uses current sources to set bias. An NTC thermistor mounted to the heat sink tracks the operating temperature of the output devices and directs the current sources to compensate for optimal bias; the thermal tracking circuitry is thus isolated from the audio signal, so it can perform with great precision. The protection circuits for faults, overcurrent, etc., are also tied into the bias network, so they can shut off the bias if a serious problem occurs. Shutting off the bias then shuts off current in the output transistors. This is a highly effective and inherently balanced approach to fault protection, which is especially important in a very high power amplifier. This is also how the turn-on and turn-off muting is handled.

Class H step drivers

The step driver circuitry in the ISA1350's three-tier class H system is very similar to the one used in the two-tier system of the ISA750 and ISA800Ti. Since the normal voltage limit for 1206-type surface-mount resistors is 200 volts and the voltages that the step driver's voltage sensing resistors see may reach 300 volts, the ISA1350 uses 100 k Ω 1206 resistors in series pairs instead of single 200 k Ω components.

Bias circuitry

The new circuitry (see Figure 1.13) for the bias network features transistors Q108 and Q109, with surrounding resistors, forming 8 mA current sources, with less loading of the op amp output than the resistors used on older RMX and ISA models. These currents forward bias diodes D106 and D107, which are in contact with the heat sink. Trimmer R171 adjusts the bias voltage.

The bias currents are controlled by signals +BIAS and -BIAS, which come from a current source Q142, Q143, and R250. The single voltage across R250 determines the voltage across both R161 and R166, which sets the bias currents equally for the PNP and NPN drivers.

The voltage on R250 is controlled by the voltage at the collector of Q132, which forms a V_{be} multiplier controlled by R226 and R227. The collector voltage is a multiple of the base voltage, with a nominal value of 5.45 times the base voltage. A typical 25°C base voltage is 0.68 V, resulting in a collector voltage of 4.4 V. The current thru R233 subtracts about 1 V from this, and stabilizes the voltage against changes in supply voltage. As the amplifier heats up, the base voltage declines somewhat, and therefore, the BIAS signals are reduced, which adds more thermal compensation.

The thermal sensor R239 is a 10 k Ω NTC resistor (not a PTC as used in the other models); its resistance decreases with rising temperature. This increases voltage across R240, and thus reduces voltage between Q142 and Q143, which reduces bias currents. The voltage on R240 ranges from almost zero when cold, to about 0.6 V at maximum temperature.

Muting via the bias network

Muting occurs when the emitter current for Q141 is removed, thus shutting down Q142 and Q143 and removing all bias from the output section. The emitter current for Q141, through R238, is controlled by the voltage on C131.

- When the amp is turned on, C131 ramps up from zero, using a small current from R220. When the voltage on C131 exceeds the voltage on the collector of Q132 (the bias reference voltage), Q141 is turned on, and the bias circuit is enabled.
- When the amp is turned off, circuitry on the AC board pulls down on D119 and quickly discharges C131, thus muting the amplifier.
- When the amplifier reaches full temperature, circuitry on the AC board senses the voltage on the FAN-SP line, from D122, and triggers the discharge circuit for D119, thus muting the amplifier.

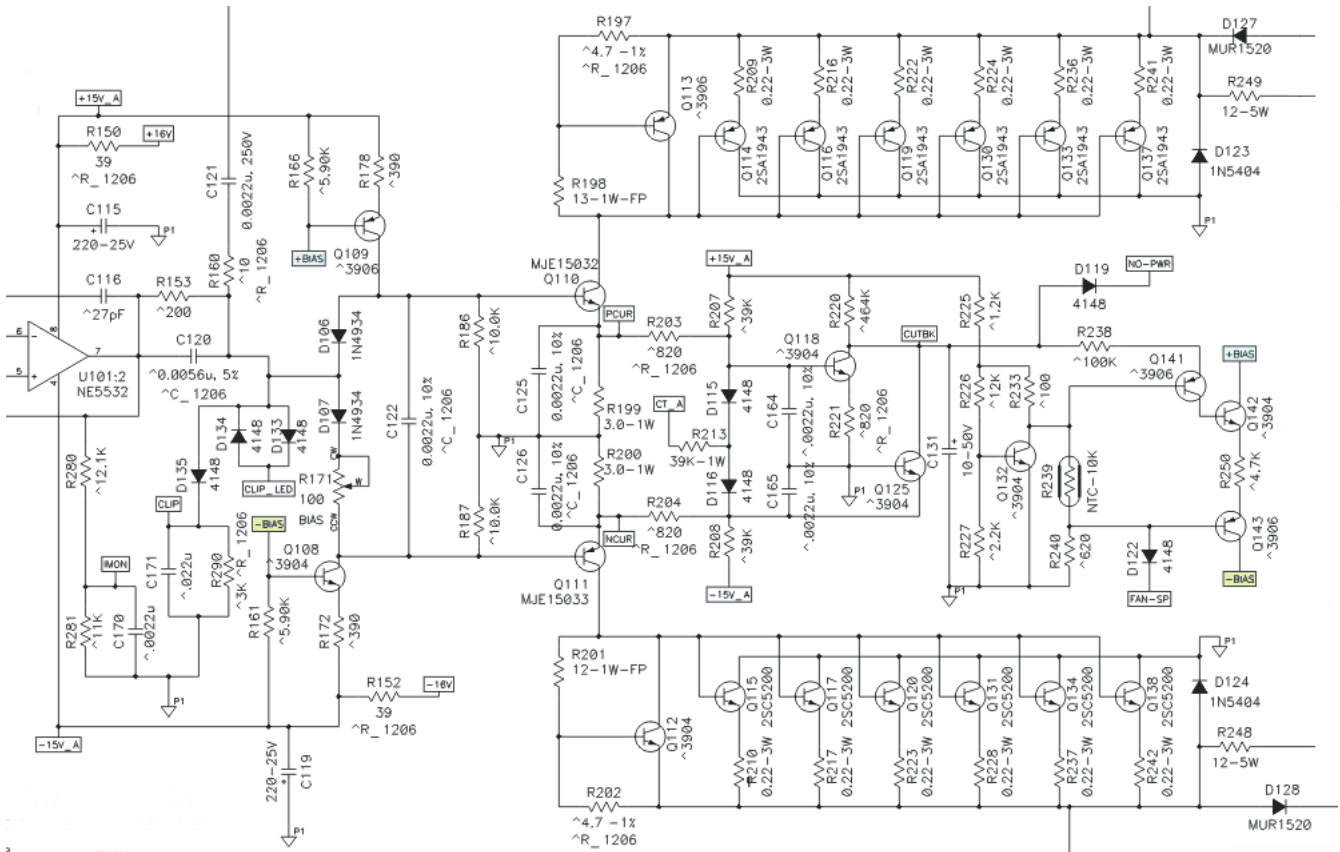


Figure 1.13

DC fault protection

The ISA1350 uses a DC crowbar circuit, similar to that used on the ISA750 and ISA800Ti, on each channel output.

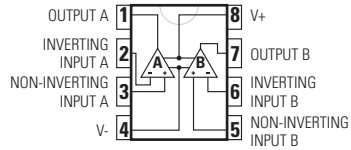
1.8 Revisions made during production

ISA750 and ISA800T

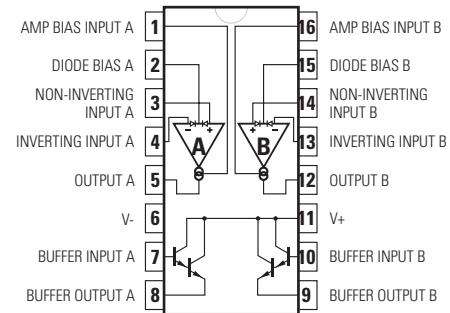
April 2002—Zener diodes D107, D110, D207, and D210 changed from 5.6V to 4.7V. This is to eliminate the tendency of either channel to hang up when the amplifier is turned on. Channel 1 was most susceptible, and various circumstances tended to aggravate the problem, such as having the low-frequency filters engaged, having an accessory powered by the DataPort, etc. For amps made before the change went into effect, use service bulletin ISA0001 to correct related hang-up problems.

2. Component identification and pinout

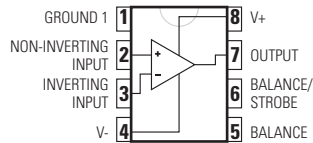
NE5532AN Dual operational amplifier



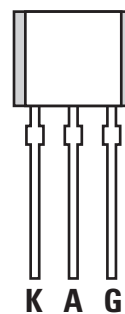
LM13600 Dual operational transconductance amplifier



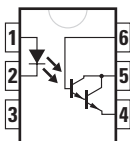
LM311 Voltage comparator



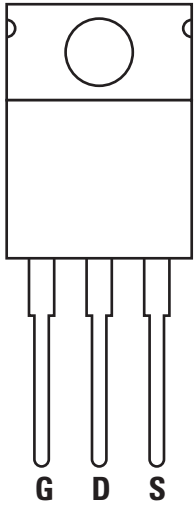
2N5064 Sensitive gate thyristor



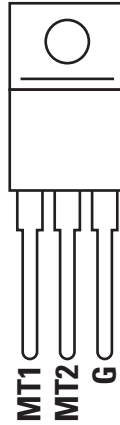
4N29 Opto-isolator



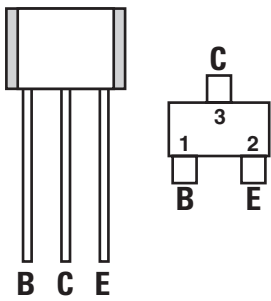
IRFZ44 TMOS power field effect transistor



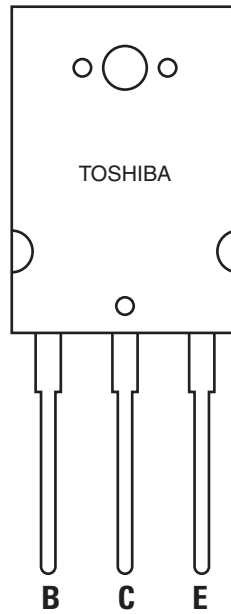
MAC224 Triac



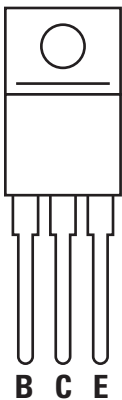
2N3904 (NPN) and 2N3906 (PNP) Small-signal transistors



2SC5200 (PNP) and 2SA1943 (NPN) Power transistors



MJE15032 (NPN) and MJE15033 (PNP) Driver transistors



3. Troubleshooting: Symptoms, causes, & remedies

When first checking the operation of an amplifier on the bench, always turn your variable transformer down to zero before plugging the amplifier in. After you turn the amplifier on, gradually turn up the AC voltage as you observe the amplifier's behavior and its current draw; this will help you determine what, if anything, is wrong with it. If you see or smell smoke, flames, or any other signs of short circuits or excessive current draw, quickly turn the AC back down to zero. If no such problems occur, it is usually safe to turn the AC up to the amplifier's full operating voltage for further testing.

3.1 Excessive current draw

The customer complains of blowing circuit breakers or fuses, or burning smell or smoke.

Symptoms covered:

- Fuses blow immediately
- The amplifier quickly gets very hot
- Line circuit breakers trip at turn-on
- The amplifier hums loudly and the chassis vibrates
- The amplifier emits smoke
- The amplifier gives off a burning smell

If the symptoms indicate a possible problem in the channel circuits or output sections, you can isolate either channel module from the power supply by pulling its fuses from the AC board.

Possible situations:

Excessive current with no signal present

If the amplifier seems to run hot and draws higher-than-normal current when idling at full AC voltage, the cause could be bias misadjustments in the output circuitry of one or both channels. See the calibration procedures in the next section.

Fast increase in current draw (current increases rapidly at only a few volts AC)

- The main bridge rectifiers BR100 and/or BR200 (all models) and BR101 and/or BR201 (ISA750 and ISA800Ti) is reversed or shorted.
- Supply clamp diode pairs D117 and D118 and/or D217 and D218 is reversed or shorted.
- The drivers and/or power transistors is shorted on both polarities (NPN and PNP) on one or both channels.

Moderate increase in current draw (current increases slowly, doesn't become excessive until about ¼ of the amplifier's full AC operating voltage)

- One polarity's drivers and/or power transistors (NPN or PNP) is shorted, on one or both channels.
- Individual supply clamp diodes D117, D118, D217, or D218 is reversed or shorted.
- Bias diodes D108, D109, D208, or D209 or bias trim pots R131 or R231 is open.

Slow increase in current draw (current doesn't become excessive until about half of the amplifier's full AC operating voltage; amplifier may pass signal)

- The bias is severely misadjusted, or bias diodes D108, D109, D208, or D209 is defective.
- An oscillation is causing excessive current demand.

Runaway current draw (current increases sharply at about 25 to 33% of the amplifier's full AC operating voltage)

One or more reservoir capacitors is reversed. **CAUTION: the gas buildup in a reversed electrolytic capacitor can cause it to vent explosively.** Immediately turn off power and let the capacitor cool down before replacing it.

3.2 Protection, muting, and turn-on/turn-off delay problems

The customer complains of amplifier locking up, or not turning on and off correctly.

Symptoms covered:

- Both channels do not come out of protect
- Amplifier will not thermally shut down when it should
- Power LED doesn't light
- Too little or too much muting delay
- No clip limiting
- Fan doesn't run, or runs always at high speed

Possible situations:

Both channels stay in protect after turn-on

- Q4 or Q5 is shorted base-to-emitter.
- Voltage across D8 should be 14 to 15 volts DC. If it is low, check D8 and R10; also, C7 and C8 is leaky.
- D9, R4, and/or R7 is open.

The amplifier will not thermally shut down when it overheats

Check for shorted D9, R4, or R7; check also for open LD1 ("POWER" LED), R2, or R5.

Too much or too little muting delay

- Excessive delay at turn-on: check for open LD1, R2, or R5; check for incorrect R10 or R15; check for shorted D9; also see service bulletin RMX0002.
- Too short at turn-on (amplifier unmutes before the circuits stabilize, causing a thump): check for incorrect or bad C7, C8, or R10.
- Amplifier doesn't stay muted at turn-off: see service bulletin RMX0003

Power LED doesn't light

Check for open or shorted LD1; check R2.

No clip limiting

- U10 is defective.
- DIP switches SW1:1 or SW1:10 is defective.

Fan doesn't run

- The fan is defective.
- Check the fan connection to the AC board.
- Check R1 and BR1 on the AC board.

Fan runs always on high speed

- Q3 and/or U2 are shorted.
- Check PTC thermistors R4 and R7.

3.3 Faults with signal present

The customer complains that the amplifier passes a signal but doesn't run correctly.

Symptoms covered:

- The output signal breaks up or is distorted
- "Ringing" sound in loudspeaker when no audio signal is present
- The output signal collapses when driving a normal speaker load
- Supply rails OK with no signal, but collapse when a signal passes
- The amplifier gets too hot
- One channel clips prematurely
- Excessive hum in loudspeaker when no audio signal is present

Possible situations:

The output signal breaks up or is distorted

- (ISA280, ISA300Ti, ISA450, and ISA500Ti) Check the hum-null resistors R118, R119, R218, and R219.
- Check the ground traces for continuity among speaker ground, input ground, and AC ground.

"Ringing" sound in loudspeaker when no audio signal is present

- Check C114, C124, C214 and C224.
- Check or replace dual op amp U101 or U201.

The output signal collapses when driving a normal speaker load

- R139, R140, R239, and/or R240 is misadjusted.
- Check R118, R119, R218, and R219.

The supply rails are OK with no signal but collapse with a signal

- C112, C113, C212, and/or C213 is leaky.
- Check C114, C124, C214, and C224.

The amplifier gets too hot with no load

- Bias trim pots R131 or R231 are misadjusted, burned, or open.
- Bias diodes D108, D109, D208 and/or D209 are incorrect (should be 1N4934).
- If the amplifier is producing high-frequency oscillations, check C114, C124, C214, and C224.
- Check resistors R136, R137, R236, and R237.
- Op amp U101 or U201 is unstable.

One channel clips prematurely

- R146 or R147 (Channel 1) or R246 or R247 (Channel 2) are open.
- R139 or R140 (Channel 1) or R239 or R240 (Channel 2) are misadjusted.
- Check R157, R158, R198 (ISA750 and ISA800Ti only), D115, and D116 (Channel 1) or R157, R258, R298 (ISA750 and ISA800Ti only), D215, and D216 (Channel 2).
- (ISA280, ISA300Ti, ISA450, and ISA500Ti) Check R118 and R119 (Channel 1) or R218 and R219 (Channel 2).
- R130 or R132 (Channel 1) or R230 or R232 (Channel 2) is open.

Excessive hum in loudspeaker when no signal is present (ISA280, ISA300Ti, ISA450, and ISA500Ti)

Check R118, R119, R218, and R219.

Excessive current draw with signal present (ISA750 and ISA800Ti)

- Check triacs Q113 and Q213.
- Check D119, D120, D219 and D220.

3.4 Instability

The customer complains of gain problems, spurious noises, or oscillations.

Symptoms covered:

- General output distortion
- “Ringing” sound in loudspeaker trailing an audio signal
- Excessive crossover distortion
- The output waveform appears fuzzy on an oscilloscope

Distinguish among the different symptoms of fuzziness (instability), ringing (momentary instability after a transition), crossover distortion (often causing ringing), or general distortion.

Possible situations:

General distortion in the output signal

- Severe distortion, at any load, often with abnormally high current draw: check the slew rate capacitors C114, C115, and C116 (Channel 1) or C214, C215, and C216 (Channel 2).
- Moderate distortion, especially with light loading: stability capacitors C124 and C126 (Channel 1) or C224 and C226 is too high in capacitance; also check the slew rate capacitors C114, C115, and C116 (Channel 1) or C214, C215, and C216 (Channel 2), and the output filter resistors R161, R162, R154, and R155 (Channel 1) or R261, R262, R254, or R255 (Channel 2).
- Distortion with low gain: check the feedback shunt components R120, R138, and C125 (Channel 1) or R220, R238, or C225 (Channel 2); also check for broken circuit traces around the components; U101 (Channel 1) or U201 (Channel 2) is defective or its socket is contaminated.

Ringing sound trailing the audio signal

- This usually indicates marginal instability and is usually triggered by the signal passing through zero volts (the crossover point). Check the stability components and output filters.
- With a sine wave test signal, use an oscilloscope to check for excessive crossover notch at the output signal's zero crossings.

Excessive crossover distortion (unbalanced, asymmetrical, or excessively large crossover notch)

- Severe crossover discontinuity: bias diodes D108 or D109 (Channel 1) or D208 or D209 (Channel 2) are shorted.
- Moderate discontinuity: bias diodes D108 or D109 (Channel 1) or D208 or D209 (Channel 2) are out of spec.
- R131 (Channel 1) or R231 (Channel 2) is defective.
- Base resistors R136 or R137 (Channel 1) or R236 or R237 (Channel 2) are open. Also check the NTC thermistors R134 (Channel 1) or R234 (Channel 2).

3.5 Power supply & rail balancing problems

Symptoms covered:

- Insufficient or excessive current limiting into a shorted load
- Op amp rails too high with a shorted load
- Uneven voltages on supply rails

A channel's output current should remain unaffected when driving resistive loads as low as 2 ohms per channel. When driving a short circuit, the current limiting circuit should collapse the output to a lower current. This is done by dropping the op amp's supply rails from a normal ± 14 –15 volts down to about ± 5 –6 volts. Normally, the output signal helps replenish the op amp supply rails through D115 and D116 (Channel 1) and D215 and D216 (Channel 2), but a short circuit or excessively low load impedance prevents the replenishment, and the op amp rails collapse because they can't supply enough current to let the op amp drive both the clip LED and the driver transistors. The current limit trimpots R139, R140, R239, and R240 permit adjustment of the current limit thresholds. See the RMX calibration section of this manual for adjustment procedures.

Possible situations:

Excessive current into short (insufficient limiting)

- If the op amp rails are dropping to ± 5 to 6 volts as they should: the 5.6V zener diodes D107 and/or D110 (Channel 1) or D207 and/or D210 (Channel 2) are reversed or shorted.
- If high crossover distortion is present: bias diodes D108 or D109 (Channel 1) or D208 or D209 (Channel 2) are shorted.

Excessive current into short (op amp rails are not dropping)

- The op amp U101 (Channel 1) or U201 (Channel 2) is defective, with insufficient output current.
- Clip LED LD100 (Channel 1) or LD200 (Channel 2) and/or its rectifying diodes (Channel 1: D102, D103, D105, D106; Channel 2: D202, D203, D205, D206) are open.
- When driving a short circuit, the output section's positive and negative supply rail voltages should be equal, within 3 volts. If they aren't, check D107, D110, R146, and R147 (Channel 1) or D207, D210, R246, and R247 (Channel 2).

Weak current into 2Ω or short (excessive or premature limiting)

- Bias resistors R130 and R132 (Channel 1) or R230 and R232 (Channel 2) are too high.
- Driver transistors (Channel 1: Q105, Q106; Channel 2: Q205, Q206) have very low gain.
- One or more emitter resistors in the output section are open.

Current OK at 2Ω , weak into short

- LD100, D102, D103, D105, or D106 (Channel 1), or LD200, D202, D203, D205, or D206 (Channel 2), are shorted.
- Zener voltage of diodes D107 or D110 (Channel 1), or D207 or D210 (Channel 2), is too high.

Current limits properly into short, but current is weak at 2Ω

- If the op amp rails are low (< 14–15 volts) when driving a 2-ohm load *without* clipping, check the resistors R157 and R158 (Channel 1, all models), R198 (Channel 1, ISA750 and ISA800T only) and diodes D115 and D116 (Channel 1, all models), or R257 and R258 (Channel 2, all models), R298 (Channel 2, ISA750 and ISA800T only) and diodes D215 and D216 (Channel 2, all models).
- If the op amp rails are normal (14–15 volts) when driving a 2-ohm load *without* clipping, usually the output section gain is too low: weak driver transistors, open output transistors, or open emitter resistors. Check the value of the driver transistors' emitter resistors, too: R146 and R147 (Channel 1) or R246 and R247 (Channel 2).

Rail voltages unequal

The balance between the positive and negative rail voltages is set by a voltage divider comprising resistors R118 and R119 (Channel 1) and R218 and R219 (Channel 2). If the amplifier channel passes a signal but clips unevenly due to unequal rail voltages, this voltage divider is the likely culprit.

Table 1: Bias and current limit adjustments

Calibrations	Adjust	ISA280 ISA300T ISA300Ti	ISA450 ISA500T ISA500Ti	ISA750 ISA800T ISA800Ti	ISA 1350
Channel 1 bias: DC voltage across R147 (ISA1350: across R199 of upper module)	R131 (ISA1350: R171 of upper module)	0.14 V	0.12 V	0.07 V	0.09 V
Channel 2 bias: DC voltage across R247 (ISA1350: across R199 of lower module)	R231 (ISA1350: R171 of lower module)	0.14 V	0.12 V	0.07 V	0.09 V
Output current into shorted load	Channel 1: R139 & R140* Channel 2: R239 & R240*	4–4.5 A	4–5 A	8.5–9 A	4.6–5 A
AC current when driving shorted load**	Channel 1: R139 & R140* Channel 2: R239 & R240*	3.75–4.5 A	4.5–5.5 A	5.5–6.5 A	3–3.3 A
Clipping voltage into 2 ohms (RMS)	Channel 1: Adjust R139 for symmetry* Channel 2: Adjust R239 for symmetry*	26–29 V	33.5–37.5 V	44–49 V	57–63 V
Clipping voltage into 2 ohms (peak)	Channel 1: Adjust R139 for symmetry* Channel 2: Adjust R239 for symmetry*	36.8–41 V	47.4–53 V	62.2–69.3 V	80.6–89 V
Idle AC demand** (at ambient room temperature; higher when hot)		0.4 A, ±10%	0.4 A, ±10%	0.6 A, ±10%	0.6 A, ±10%

* **NOTE:** Except ISA1350

** Figures shown are for 120V amplifiers; multiply current by 0.5 for 230V or by 1.2 for 100V models.

4. ISA calibration procedures

4.1 Setting bias

Always set the bias

- after replacing any output or driver transistor.
- after replacing any diode or resistor in the driver/output circuitry.
- if the amplifier seems to run too hot at idle.
- if the amplifier exhibits crossover distortion.

The bias network sets the quiescent base current in the NPN and PNP driver transistors, which in turn sets the quiescent current in the output transistors. The driver transistors should both be slightly “on” at idle so that the transitions of the signal voltage between positive and negative are smooth and free of gaps or glitches. Too much bias current will cause the amplifier to run hotter than it should, especially at idle, while too little will cause noticeable crossover distortion, especially at low signal levels.

The amplifier circuitry must be cool, or at least within a couple degrees of ambient air temperature, and the top cover must be removed. If the driver and output transistors are significantly warmer than the ambient air, leave the amplifier off and let it cool before proceeding.

Before turning the amplifier on to set bias on one or both channels, familiarize yourself with the locations of the trimpots (R131 and R231, or R171 of the ISA1350) and the voltage measuring points so you can work quickly but thoroughly (in all models except the ISA1350, the trimpots for the lower module are located on a small auxiliary circuit board). If the amplifier warms up before you finish setting the bias, you will need to shut the amplifier off and let it cool down before you resume.

To set bias on the ISA1350, first remove the screws holding the channel module/heat sink assembly to the chassis. Lift the assembly up from the chassis standoffs and set it down inside the chassis resting on the heat sinks. Do not disconnect any wires. This gives you equal access to both channels’ adjustments and measurement points.

Tools and resources you will need:

- Small flat screwdriver (non-conductive) for adjusting trimpots
- DC voltmeter
- AC power

Procedure

1. Turn the amplifier’s gain controls all the way down. No test signal is needed.
2. Plug the amplifier into an appropriate AC source. Turn the amplifier on.
3. Channel 1: Locate resistor R147 (except ISA1350: R199 on the upper module) and trimpot R131 (except ISA1350: R171 on the upper module). While measuring the DC voltage across

resistor, adjust the trimpot to obtain the voltage listed in Table 1.

4. Channel 2: Locate resistor R247 (except ISA1350: R199 on the lower module) and trimpot R231 (except ISA1350: R171 on the lower module). While measuring the DC voltage across resistor, adjust the trimpot to obtain the voltage listed in Table 1.

After setting the bias in any model except the ISA1350, calibrate the positive and negative current limiting; instructions for the procedure follow in part 4.2.

4.2 Setting positive and negative current limits

All models except the ISA1350 have adjustable positive and negative current limiting thresholds. To provide better access, the adjustment trimpots for the lower module are located on a small auxiliary circuit board. Current limiting in the ISA1350 is not adjustable.

Tools and resources you will need

- Oscilloscope
- 2-ohm resistive load (rated for at least 1200 watts)
- Shorting connector for amplifier output
- Variable AC transformer (e.g., Variac, Powerstat, etc.) rated for 25A (120V) or 12A (230V). Make sure the AC supply is appropriate for the amplifier.
- 1 kHz audio sine wave generator
- Digital multimeter
- Clamp-on digital current meter (e.g., Fluke 30 Clamp Meter)
- Small flat screwdriver (non-conductive) for adjusting trimpots

Procedure

1. Set the audio sine generator to 1 kHz at 1 volt RMS and connect it to Channel 1’s input. Connect a 2-ohm load and the oscilloscope probe across Channel 1’s output.
2. Turn up Channel 1’s gain control partway. On the oscilloscope you should see the amplitude of the sine wave increase accordingly.
3. Turn the gain control back down and apply a short circuit across the output terminals of Channel 1. Clamp a current probe either onto one of the brown wires running to the AC switch or onto the gray output wire from channel 1’s module.
4. Turn the gain control all the way up. Adjust trimpots R139 and R140 equally until the current measured falls within the range shown in Table 1.
5. Turn the gain control all the way down and remove the short circuit so the channel drives the 2-ohm load. Turn the gain control

back up until the output clips. The voltage at which the signal starts to clip should fall within the range shown in Table 1. If the clipping is asymmetrical, that is, the signal clips on either the positive or negative side first, adjust R139 to make it symmetrical.

- 6.** Turn the gain control down. If the amp has begun to warm up shut it off and let it cool a few minutes before proceeding with Channel 2.
- 7.** Repeat steps 1 through 5 for Channel 2. Use trimpots R239 and R240 to adjust the current limiting in steps 11 and 12.
- 8.** Turn both channels' gain controls all the way down. Clamp the ammeter onto one of the amp's AC wires and check the amp's idle current. If the amplifier is still at about room temperature, the idle current should match the value shown in Table 1.

5. Servicing ISA amplifiers

5.1 Mechanical disassembly and re-assembly

Replacing components will usually require removing the channel modules and/or AC board from the amplifier chassis, especially on the ISA280, ISA300T, ISA300Ti, ISA450, ISA500T, and ISA500Ti, which have single-side printed circuit boards. The ISA750, ISA800T, ISA800Ti, and ISA1350 have double-side boards; many of the through-hole components on the upper side of the board can be unsoldered and soldered from the top side of the board, so removing modules or boards is not always necessary.

See the fold-out assembly guides in Chapter 7 of this manual for assistance.

NOTE: The upper channel module is Channel 1 and the lower is Channel 2 except in the ISA 750 and ISA 800T; their lower module is Channel 1, and their upper is Channel 2.

Removing the channel modules

1. Disconnect the amplifier from AC power and allow at least 10 minutes for internal voltages to bleed down.
2. Using a Philips screwdriver, remove the screws that fasten the top cover to the chassis. Also remove the top cover's four recessed screws that fasten it to the heat sinks. As you remove screws, set them aside, but also make note of where each type is used so you can properly re-assemble the amplifier.
3. Lift the top cover up at the rear and carefully pull it toward the back, removing the five hooks on the front edge from their slots in the chassis.
4. Tip the amplifier up on its side and remove the four screws that fasten the heat sink to the chassis.
5. Set the amplifier back down and remove the three screws that mount the channel module assembly to the chassis standoffs.
6. Disconnect the wire and cable connections to the channel modules. All of the connections are either detachable headers or ¼-inch quick-connect tabs that are disconnected by pulling them straight up. No unsoldering is necessary.
7. Lift the channel module assembly out from the chassis. If you need access to the underside of the circuit boards, unscrew the transistors and the clamps from the heat sink, then unscrew the circuit boards from the mounting plate.
8. Before reassembling the channel module assembly, lightly apply fresh heat sink compound over the old coating on the side of the semiconductors that mount to the heat sink. Re-assembly is the opposite of disassembly.

Removing the AC board

The AC board provides AC voltage selection, rectification of the transformer secondary current, and a regulated DC supply for the cooling fan. It seldom needs to be replaced unless it is physically damaged itself. Most failures involving the AC board can be repaired through replacement of individual components.

WARNING: Regulatory and safety agencies require that **any operating voltage conversions from 120 volts to any other voltage be done only by QSC's factory service.** Any other operating voltage conversions may be done only by a QSC-authorized service center or international distributor.

1. Disconnect the amplifier from AC power and allow at least 10 minutes for internal voltages to bleed down.
2. Remove the four screws that fasten the fan, fan shroud, and fan guard to the chassis. Lift the fan shroud out from the chassis.
3. Disconnect the wires that connect to the channel modules. All of the large single wires attach to the channel modules with ¼-inch quick-connect tabs that are detached by pulling them straight up. The remaining three black wires disconnect at the left channel module with a detachable header.

If you are planning to replace the AC board with another, carefully cut each of the transformer wires connecting to the board just above its solder tab. You must leave enough slack to allow connection to the new AC board. Remove the old heat shrink tubing from the wires and strip the wire ends about 0.25 inch or 6.3 mm.

4. Remove the five screws that attach the AC board to the chassis standoffs. Lift the board out from the chassis.
5. Re-assembly is the opposite of disassembly. If you're using a new AC board, slide new pieces of heat shrink tubing over the transformer wires before you solder them to the appropriate tabs on the board; after soldering, cover the joints with the tubing and use a heat gun or other heat source to shrink them tightly.

6. Replacement parts

6.1 ISA280 parts and assemblies

ISA280 Power Amplifier

120V: QSC part # FG-002800-00

230V: QSC part # FG-002800-02

220V Korea: QSC part # FG-002800-03

240V UK: QSC part # FG-002800-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		
TS-000004-WR	3 YEARS WARRANTY	3		Except UK
WC-000181-GP	AC CORD 15A ISA	1		100V and 120V only
WC-000213-GP	AC CORD	1		230V only except UK
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1		UK only
WP-002800-00	ISA 280 CHASSIS ASSY (120V)	1	Before May 2006	100V and 120V only
WP-002800-02	ISA 280 CHASSIS ASSY (230V)	1	Before May 2006	230V only including UK
WP-002800-03	ISA 280 CHAS ASSY (220V 60HZ)	1	Before May 2006	220V Korea only
WP-002803-00	ISA 280 CHASSIS ASSY (120V)	1	Beginning May 2006	100V and 120V only
WP-002803-02	ISA 280 CHASSIS ASSY (230V)	1	Beginning May 2006	230V only including UK
WP-002803-03	ISA 280 CHAS ASSY (220V 60HZ)	1	Beginning May 2006	220V Korea only

Chassis Assembly ISA280 (beginning June 2006)

120V: QSC part # WP-002803-00

230V: QSC part # WP-002803-02

220V Korea: QSC part # WP-002803-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000178-GP	PROTECT COVER	1		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	1		
LB-000355-GP	LABEL, GROUND	1		
LB-000410-GP	LABEL "UL LISTED"	1		
LB-000448-GP	LABEL, REAR, ISA (NEW)	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000129-GP	FUSE T10A/125V/250V	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
SC-000019-GP	BOLT, M8 X 80MM, , , WHT ZINC,	1		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		

Chassis Assembly ISA280 (beginning June 2006) continued

QSC Part #	Description	Qty.	Reference	Comments
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	8		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000086-GP	CIRCUIT BRKR 10AMP	1		100V and 120V only
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000093-GP	CIRCUIT BREAKER, 5 AMP, ,	1		230V including UK and Korea only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-002801-00	MAIN PCB ASSY, ISA 280	1		Panelized assembly; see WP-002801-00 list for individual channel modules
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only; Panelized assembly; see WP-004502-00 list for individual channel modules
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V including UK and Korea only; Panelized assembly; see WP-004502-02 list for individual channel modules
XF-000193-GP	PWR XFMR ISA 280/300T	1		

Chassis Assembly ISA280 (before June 2006)

120V: QSC part # WP-002800-00

230V: QSC part # WP-002800-02

220V Korea: QSC part # WP-002800-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000178-GP	PROTECT COVER	1		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	1		
LB-000355-GP	LABEL, GROUND	1		
LB-000410-GP	LABEL "UL LISTED"	1		
LB-000448-GP	LABEL, REAR, ISA (NEW)	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000129-GP	FUSE T10A/125V/250V	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030000-GP	SPRING WASHER M3 X 0.9 X 5.5	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		

Chassis Assembly ISA280 (before May 2006) continued

QSC Part #	Description	Qty.	Reference	Comments
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	4		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040007-GP	PHILLIPS, SERRATED M4X20L BLK	4		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000086-GP	CIRCUIT BRKR 10AMP	1		100V and 120V only
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000093-GP	CIRCUIT BREAKER, 5 AMP, ,	1		230V only including UK and Korea only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000076-00	SRV - XFMR MOUNTING ASSY	1		
WP-002801-00	MAIN PCB ASSY, ISA 280	1		Panelized assembly; see WP-002801-00 list for individual channel modules
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only; Panelized assembly; see WP-004502-00 list for individual channel modules
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V including Korea and UK only; Panelized assembly; see WP-004502-02 list for individual channel modules
XF-000193-GP	PWR XFMR ISA 280/300T	1		

Main PCB Assembly ISA280

QSC part # WP-002801-00

This assembly is a panelized construction comprising the two channel modules, built on a common perforated circuit board. For the channel 1 module (the one on top), order **PCB-QZ040C-PWR1**; for the channel 2 module (the one underneath), order **PCB-QZ040C-PWR2**.

QSC Part #	Description	Qty.	Reference	Comments
CA-056001-GP	CC 50V 56PF 10% 0805	2	C110, C210	
CA-056002-GP	CTC 200V 56PF 5% 1206	2	C111, C211	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-122005-GP	CC 50V 220PF 5% 0805	4	C20-C23	
CA-210011-GP	0.001UF 5% 100V CER X7R 1206	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C126, C215, C226	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C117, C118, C217, C218	
CA-310009-GP	CC 50V .01UF 20% 0805	1	C5	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C125, C225	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	2	C124, C224	
CA-382001-GP	0.082U, 5%, 63V, CM, , RBT, 7.5	2	C109, C209	
CA-410013-GP	CER 2 1206 10% 50V .1UF	3	C100, C102, C104	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	1	C11	
CA-415004-GP	0.15U, 5%, 63V, CM, , RBT, 7.5X	2	C108, C208	
CA-422006-GP	CM 50V .22UF 5% RL	2	C107, C207	

Main PCB Assembly ISA280 continued

QSC Part #	Description	Qty.	Reference	Comments
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-647006-GP	CE 16NP 47UF 20% RL	2	C106, C206	
CA-710009-GP	CE 25V 100UF 20% RL	2	C105, C205	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-847001-GP	CE 80V 4700UF 20% RL 25X	4	C120, C121, C220, C221	
CH-000164-GP	HEATSINK ISA280/450	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		
CH-000168-GP	VR BRACKET ISA	2		
CH-000171-GP	BRACKET, RT ANGLE HD15	1		
CH-000172-GP	CLAMP TRANSISTOR	1		
CO-000205-GP	HEADER 6-PIN RT ANGLE	1	J421	
CO-000209-GP	HEADER 3-PIN RIGHT ANGLE	2	J401, J402	
CO-000210-GP	HEADER 4-PIN RIGHT ANGLE	2	J422, J423	
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J337, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	3	J157, J309, J310	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	2	J345, J348	
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J297, J424	
CO-000217-GP	CONN 13 PIN STRAIGHT WAFER	2	J104, J204	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	14	E9-E12, E100, E101, E112, E200, E201, E212, E226-E229	
CO-000222-GP	8-PIN IC SOCKET	2	U101, U201	
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
PC-004501-00	SRV - MAIN PCB, ISA 3 SPACE	1		
PL-000150-GP	LED HOLDER	3	REF: LD1A, LD100A, LD200A	
PL-000154-GP	INSULATION SHEET IC ISA	5		
PL-000156-GP	RUBBER FEET	1		
PL-000162-GP	INSULATION BUSHING	5		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	35	D2-D7, D9, D14, D16-18, D102-D106, D111-D116, D119, D202-D206, D211-D216, D219	
QD-000202-GP	DIODE 1N4004 AL	9	D1, D10-D13, D117, D118, D217, D218	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	9	Q5, Q8, Q9, Q11, Q12, Q101, Q102, Q201, Q202	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	6	Q4, Q6, Q7, Q100, Q200, Q13	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	4	D108, D109, D208, D209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	6	Q103, Q107, Q109, Q203, Q207, Q209	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	6	Q108, Q110, Q112, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000252-GP	DIODE ZENER .25W 4.7V	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FILM	12	R142, R148, R149, R152, R153, R159, R242, R248, R249, R252, R253, R259	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-.68001-GP	RMF 1W 6.8 OHM 5%	5	R20, R146, R147, R246, R247	
RE-000003-GP	RMG 1/10W 0 OHM 5% 0805	2	R265, R266	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	R53	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	4	R161, R162, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	3	R25, R124, R224	
RE-004753-GP	RMG 1/10W 47.5 OHM 1% 0805	1	R51	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	2	R127, R227	
RE-010002-30	100, 1 PCNT, 1/10W, THICK FILM, 0805, 100V	1	R211	

Main PCB Assembly ISA280 continued

QSC Part #	Description	Qty.	Reference	Comments
RE-010006-GP	RMG 1/10W 100 5%	3	R109, R110, R209	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R131	
RE-027003-GP	RMG 1/10W 270 OHM 5%	4	R111, R113, R210, R213	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	6	R115, R130, R132, R215, R230, R232	
RE-082005-GP	RMF 5W 820 OHM 5% AL METAL	4	R157, R158, R257, R258	
RE-082501-GP	RMG 1/8W 825 OHM 5% 1206	2	R144, R244	
RE-088701-GP	RMG 1/10W 887 OHM 1% 0805	1	R50	
RE-110011-GP	RMF 5W 1K 5%	1	R32	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	3	R19, R114A, R214A	
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120004-GP	RMG 1/10W 2K 1% 0805	3	R8, R11, R16	
RE-120007-GP	RMF 5W 2K 5% AL METAL	4	R133, R135, R233, R235	
RE-122006-GP	SVR 2.2K H3 7X7	4	R139, R140, R239, R240	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R163, R263	
RE-133007-GP	RMG 1/10W 3.3K 5% 0805	3	R24, R164, R264	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-190903-GP	RMF 1/2W 9.09K 1% AT	1	R123	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	17	R28-R31, R53, R100, R101, R103, R105, R106, R128, R200, R201, R203, R205, R206, R228	
RE-210010-GP	RMF 1/2W 10.0K 1% AT	2	R122, R222	
RE-213304-GP	RMF 1/2W 13.3K 1% AT	2	R145, R245	
RE-215006-GP	RMF 2W 15K 5% AL METAL	2	R2, R5	
RE-220005-GP	RMG 1/10W 20K 1% 0805	5	R52, R150, R151, R250, R251	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	5	R19, R117, R121, R217, R221	
RE-233001-GP	RMG 1/8W 33K 1% 1206	2	R22, R23	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-268002-GP	RMG 1/8W 68K 5% 1206	1	R33	
RE-315003-GP	RMG 1/8W 150K 5% 1206	3	R10, R104, R204	
RE-315004-GP	RMG 1/8W 150K 1% 1206	4	R118, R119, R218, R219	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R27	
RE-322002-GP	RMG 1/10W 220K 5% 0805	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R18	
RE-347002-GP	RMF 1/8W 470K 5% ATS	1	R15	
RE-352301-GP	523K, 1 PCNT, 1/4W, RMG, 1206,	2	R116, R216	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	9		
SC-030010-GP	SCREW M3X0.5X12MM, B/H, BLK ZN	8		
WC-000209-GP	CABLE ASSY, 5 PIN	1		
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA280, 300Ti, 300T, 450, 500Ti, & 500T

120V: QSC part # WP-004502-00

230V: QSC part # WP-004502-02

This assembly is a panelized construction comprising the AC, input, and channel 2 bias adjust board assemblies, built on a common perforated circuit board. For the AC board assembly, order **PCB-QZ040C-PSU**; for the input board, order **PCB-QZ040C-INP**; and for the channel 2 bias adjust module, order **PCB-QZ040C-BIAS**.

QSC Part #	Description	Qty.	Reference	Comments
CA-122005-GP	CC 50V 220PF 5% 0805	4	C1-C4	
CA-422005-GP	CM 250V .22UF 10% RL	2	C127, C227	
CA-810006-GP	1000UF 35V 20% ELECTROLYTIC	1	C6	
CH-000170-GP	BRACKET AC PCB MTG	2		
CO-000204-GP	CONN XLR F VERT PLASTIC	2	J101, J201	
CO-000212-GP	TERMINAL WRAP	16	E1-E8, J2A-J9A	
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	1	J18	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	1	J21	
CO-000224-GP	CONN 6 PIN ST. WAFER	1	J400	

PCB Assembly, AC/Input ISA continued

QSC Part #	Description	Qty.	Reference	Comments
CO-000225-GP	CONN 5-PIN WAFER P2.5	1	J430	
CO-000314-GP	CONN 26 PIN DUAL ROW W/LCK EAR	1		
HW-000020-GP	FUSE HOLDER 6.3MM	2	F100, F200	
IC-000213-GP	IC 4N29	1	U2	
MS-000125-GP	HEATSINK FOR RECTIFIER	2	BR100, BR200	
MS-000126-GP	HEATSINK, BRIDGE RECTIFIER	1	REF: Q3	
NW-030000-GP	SPRING WASHER M3 X 0.9 X 5.5	1		
NW-030001-GP	WASHER M3.0 X 0.4 X 8 BZ	1		
NW-032000-GP	WASHER NYLON ID 3.2MM	1		
PC-004502-00	SRV - PCB, AC/INPUT/TRIMMER ISA SER	1		
QD-000200-GP	DIODE RECT 1A 200V DB103	1	BR1	
QD-000214-GP	TR TIP31C SAMSUNG	1	Q3	
QD-000227-GP	BRIDGE RECT 400V 25A	2	BR100, BR200	
RE-000005-GP	POLYSWITCH 1.1A 0.15 OHM 1.5W	1	R1	
RE-000270-GP	NTC 30A 1 OHM	1	R21	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R231	
RE-012003-GP	RMF 3W 120 OHM 5% AL METAL	1	R17	
RE-120003-GP	RCF 1/8W 2K 5% ATS	1	R13	
RE-122006-GP	SVR 2.2K H3 7X7	2	R239, R240	
RE-168002-GP	RCF 1/8W 6.8K 5% ATS	2	R9, R14	
RE-347002-GP	RMF 1/8W 470K 5% ATS	1	R12	
SC-030006-GP	M3 X 14MM BZ CR BH	1		
SC-030007-GP	M3 X 6MM B-TITE BLK ZN	1		
SW-000089-GP	10 POLE DIP SWITCH	1	SW1	
WC-000176-GP	UL1015 #16 2P BLK L=300	2	E14, E16	
WC-000178-GP	CONN ASSY RED W/TRND	2	E13, E15	
WC-000185-GP	WIRE 1015 BLUE #14	1	JP10	
WC-000186-GP	WIRE 1015 BROWN #14	1	JP12	
WC-000328-GP	CABLE ASSY, 26 PIN RIBBON HDR	1		

6.2 ISA300T parts and assemblies

ISA 300T Power Amplifier

120V: QSC part # FG-000305-00

230V: QSC part # FG-000305-02

220V Korea: QSC part # FG-000305-03

240V UK: QSC part # FG-000305-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		
TS-000004-WR	3 YEARS WARRANTY	3		
WC-000181-GP	AC CORD 15A ISA	1		
WC-000213-GP	AC CORD	1		
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1		
WP-000305-00	ISA 300T CHASSIS ASSY (120V)	1		
WP-000305-02	ISA 300T CHASSIS ASSY (230V)	1		
WP-000305-03	ISA 300T CHAS ASSY (220V 60HZ)	1		

Chassis Assembly ISA300T

120V: QSC part # WP-000305-00

230V: QSC part # WP-000305-02

220V Korea: QSC part # WP-000305-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000174-GP	COVER, XFMR, STEEL, SMALL, ISA	2		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	2		
LB-000355-GP	LABEL, GROUND	1		
LB-000371-GP	LABEL, CE, , ,	1		
LB-000410-GP	LABEL "UL LISTED"	1		
LB-000448-GP	LABEL, REAR, ISA (NEW)	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000129-GP	FUSE T10A/125V/250V	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
PL-000158-GP	XFMR RUBBER PAD (SMALL)	4		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	8		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000086-GP	CIRCUIT BRKR 10AMP	1		100V and 120V only

Chassis Assembly ISA300T continued

QSC Part #	Description	Qty.	Reference	Comments
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000093-GP	CIRCUIT BREAKER, 5 AMP, ,	1		230V only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000069-00	SRV - XFMR MNTG ASSY ISA300/500/800T	2		
WP-000076-00	SRV - XFMR MOUNTING ASSY	1		
WP-000306-00	MAIN PCB ASSY, ISA 300T	1		
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V only
XF-000191-GP	LINE XFMR ISA 300T	2		
XF-000193-GP	PWR XFMR ISA 280/300T	1		

Main PCB Assembly ISA300T

QSC part # WP-000306-00

This assembly is a panelized construction comprising the two channel modules, built on a common perforated circuit board. For the channel 1 module (the one on top), order **PCB-QZ070C-PWR1**; for the channel 2 module (the one underneath), order **PCB-QZ070C-PWR2**.

QSC Part #	Description	Qty.	Reference	Comments
CA-056001-GP	CC 50V 56PF 10% 0805	2	C110, C210	
CA-056002-GP	CTC 200V 56PF 5% 1206	2	C111, C211	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-122005-GP	CC 50V 220PF 5% 0805	4	C20-C23	
CA-210011-GP	0.001UF 5% 100V CER X7R 1206	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C126, C215, C226	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C117, C118, C217, C218	
CA-310009-GP	CC 50V .01UF 20% 0805	1	C5	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C125, C225	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	2	C124, C224	
CA-410013-GP	CER 2 1206 10% 50V .1UF	3	C100, C102, C104	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	1	C11	
CA-410015-GP	CM 50V .1UF 5% RL	6	C107-C109, C207-C209	
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-647006-GP	CE 16NP 47UF 20% RL	2	C106, C206	
CA-710009-GP	CE 25V 100UF 20% RL	2	C105, C205	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-847001-GP	CE 80V 4700UF 20% RL 25X	4	C120, C121, C220, C221	
CH-000164-GP	HEATSINK ISA280/450	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		
CH-000168-GP	VR BRACKET ISA	2		
CH-000171-GP	BRACKET, RT ANGLE HD15	1		
CH-000172-GP	CLAMP TRANSISTOR	1		
CO-000205-GP	HEADER 6-PIN RT ANGLE	1	J421	
CO-000209-GP	HEADER 3-PIN RIGHT ANGLE	2	J401, J402	
CO-000210-GP	HEADER 4-PIN RIGHT ANGLE	2	J422, J423	
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J337, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	3	J157, J309, J310	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	2	J345, J348	

Main PCB Assembly ISA300T continued

QSC Part #	Description	Qty.	Reference	Comments
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J297, J424	
CO-000217-GP	CONN 13 PIN STRAIGHT WAFER	2	J104, J204	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	10	E9-E12, E100, E101, E112, E200, E201, E212	
CO-000222-GP	8-PIN IC SOCKET	2	U101, U201	
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
PC-004501-00	SRV - MAIN PCB, ISA 3 SPACE	1		
PL-000150-GP	LED HOLDER	3	LD1A, LD100A, LD200A	
PL-000154-GP	INSULATION SHEET IC ISA	5		
PL-000156-GP	RUBBER FEET	1		
PL-000162-GP	INSULATION BUSHING	5		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	36	D2-D7, D9, D14, D16-D18, D20, D102-D106, D111-D116, D119, D202-D206, D211-D216, D219	
QD-000202-GP	DIODE 1N4004 AL	9	D1, D10-D13, D117, D118, D217, D218	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	9	Q5, Q8, Q9, Q11, Q12, Q101, Q102, Q201, Q202	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	6	Q4, Q5, Q7, Q13, Q100, Q200	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	4	D108, D109, D208, D209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	6	Q103, Q107, Q109, Q203, Q207, Q209	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	6	Q108, Q110, Q112, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000252-GP	DIODE ZENER .25W 4.7V	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FLM	12	R142, R148, R149, R152, R153, R159, R242, R248, R249, R252, R253, R259	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-.68001-GP	RMF 1W 6.8 OHM 5%	5	R20, R146, R147, R246, R247	
RE-000003-GP	RMG 1/10W 0 OHM 5% 0805	2	R265, R266	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	R53	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	4	R161, R162, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	3	R25, R124, R224	
RE-004753-GP	RMG 1/10W 47.5 OHM 1% 0805	1	R51	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	2	R127, R227	
RE-010002-30	100, 1 PCNT, 1/10W, THICK FILM, 0805, 100V	1	R211	
RE-010006-GP	RMG 1/10W 100 5%	3	R109, R110, R209	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R131	
RE-027003-GP	RMG 1/10W 270 OHM 5%	4	R111, R113, R210, R213	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	6	R115, R130, R132, R215, R230, R232	
RE-082005-GP	RMF 5W 820 OHM 5% AL METAL	4	R157, R158, R257, R258	
RE-082501-GP	RMG 1/8W 825 OHM 5% 1206	2	R144, R244	
RE-088701-GP	RMG 1/10W 887 OHM 1% 0805	1	R50	
RE-110011-GP	RMF 5W 1K 5%	1	R32	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	3	R19, R114A, R214A	
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120004-GP	RMG 1/10W 2K 1% 0805	3	R8, R11, R16	
RE-120007-GP	RMF 5W 2K 5% AL METAL	4	R133, R135, R233, R235	
RE-122006-GP	SVR 2.2K H3 7X7	4	R139, R140, R239, R240	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R163, R263	

Main PCB Assembly ISA300T continued

QSC Part #	Description	Qty.	Reference	Comments
RE-133007-GP	RMG 1/10W 3.3K 5% 0805	3	R24, R164, R264	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-190903-GP	RMF 1/2W 9.09K 1% AT	1	R123	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	17	R28-R31, R53, R100, R101, R103, R105, R106, R128, R200, R201, R203, R205, R206, R228	
RE-210010-GP	RMF 1/2W 10.0K 1% AT	2	R122, R222	
RE-213304-GP	RMF 1/2W 13.3K 1% AT	2	R145, R245	
RE-215006-GP	RMF 2W 15K 5% AL METAL	2	R2, R5	
RE-220005-GP	RMG 1/10W 20K 1% 0805	5	R52, R150, R151, R250, R251	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	5	R19, R117, R121, R217, R221	
RE-233001-GP	RMG 1/8W 33K 1% 1206	2	R22, R23	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-268002-GP	RMG 1/8W 68K 5% 1206	1	R33	
RE-315003-GP	RMG 1/8W 150K 5% 1206	3	R10, R104, R204	
RE-315004-GP	RMG 1/8W 150K 1% 1206	4	R118, R119, R218, R219	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R27	
RE-322002-GP	RMG 1/10W 220K 5% 0805	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R18	
RE-347002-GP	RMF 1/8W 470K 5% ATS	1	R15	
RE-352001-GP	RMG 1/8W 520K 1% 1206	2	R116, R216	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	9		
SC-030010-GP	SCREW M3X0.5X12MM, B/H, BLK ZN	8		
WC-000209-GP	CABLE ASSY, 5 PIN	1		
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA280 300Ti, 300T, 450, 500Ti, & 500T

120V: QSC part # WP-004502-00

230V: QSC part # WP-004502-02

See parts listing on pages 28 and 28.

6.3 ISA300Ti parts and assemblies

ISA300Ti Power Amplifier

120V: QSC part # FG-000325-00

230V: QSC part # FG-000325-02

220V Korea: QSC part # FG-000325-03

240V UK: QSC part # FG-000325-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		100V and 120V only
TS-000004-WR	3 YEARS WARRANTY	3		
WC-000181-GP	AC CORD 15A ISA	1		100V and 120V only
WC-000213-GP	AC CORD	1		230V only except UK
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1		UK only
WP-000325-00	ISA 300TI CHASSIS ASSY (120V)	1		100V and 120V only
WP-000325-02	ISA 300TI CHASSIS ASSY (230V)	1		230V only except Korea
WP-000325-03	ISA 300TI CHAS ASSY (220V 60HZ)	1		Korea only

Chassis Assembly ISA300Ti (beginning June 2006)

120V: QSC part # WP-000325-00

230V: QSC part # WP-000325-02

220V Korea: QSC part # WP-000325-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000174-GP	COVER, XFMR, STEEL, SMALL, ISA	2		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	2		
LB-000355-GP	LABEL, GROUND	1		
LB-000371-GP	LABEL, CE, , ,	1		230V only
LB-000410-GP	LABEL "UL LISTED"	1		100V and 120V only
LB-000449-GP	LABEL, REAR, , ISATI,	0		
LB-000450-GP	LABEL, FRONT, , ISA 300TI,	0		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000129-GP	FUSE T10A/125V/250V	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-000036-GP	NUT, HEX M6, , ,	2		
NW-000037-GP	WASHER, LOCK M6, , ,	2		
NW-030000-GP	SPRING WASHER M3 X 0.9 X 5.5	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
NW-080003-GP	NUT M8X13MM 6.5MM THK STL WHT	1		
NW-080004-GP	LOCK WASHER M8 SPLIT ID 8.5MM	1		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
PL-000158-GP	XFMR RUBBER PAD (SMALL)	4		
SC-000019-GP	BOLT, M8 X 80MM, , , WHT ZINC,	1		

Chassis Assembly ISA300Ti (beginning June 2006) continued

QSC Part #	Description	Qty.	Reference	Comments
SC-000021-GP	BOLT, M6 X 55MM, , , WHT ZINC,	2		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	4		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040007-GP	PHILLIPS, SERRATED M4X20L BLK	4		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000086-GP	CIRCUIT BRKR 10AMP	1		
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000093-GP	CIRCUIT BREAKER, 5 AMP, ,	1		
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	0.12		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000326-00	MAIN PCB ASSY, ISA 300TI	1		
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V only
XF-000193-GP	PWR XFMR ISA 280/300T	1		
XF-000268-GP	LINE ISA XFMR ISA 300TI	2		

Chassis Assembly ISA300Ti (before June 2006)

120V: QSC part # WP-000325-00

230V: QSC part # WP-000325-02

220V Korea: QSC part # WP-000325-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000174-GP	COVER, XFMR, STEEL, SMALL, ISA	2		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	2		
LB-000355-GP	LABEL, GROUND	1		
LB-000410-GP	LABEL "UL LISTED"	1		100V and 120V only
LB-000371-GP	LABEL, CE, , ,	1		230V only
LB-000449-GP	LABEL, REAR, , ISATI,	0		
LB-000450-GP	LABEL, FRONT, , ISA 300TI,	0		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000129-GP	FUSE T10A/125V/250V	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-000036-GP	NUT, HEX M6, , ,	2		
NW-000037-GP	WASHER, LOCK M6, , ,	2		
NW-030000-GP	SPRING WASHER M3 X 0.9 X 5.5	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
NW-080003-GP	NUT M8X13MM 6.5MM THK STL WHT	1		
NW-080004-GP	LOCK WASHER M8 SPLIT ID 8.5MM	1		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
PL-000158-GP	XFMR RUBBER PAD (SMALL)	4		

Chassis Assembly ISA300Ti (beginning June 2006) continued

QSC Part #	Description	Qty.	Reference	Comments
SC-000019-GP	BOLT, M8 X 80MM, , , WHT ZINC,	1		
SC-000021-GP	BOLT, M6 X 55MM, , , WHT ZINC,	2		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	4		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040007-GP	PHILLIPS, SERRATED M4X20L BLK	4		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000086-GP	CIRCUIT BRKR 10AMP	1		100V and 120V only
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000093-GP	CIRCUIT BREAKER, 5 AMP, ,	1		230V only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	0.12		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000326-00	MAIN PCB ASSY, ISA 300TI	1		
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V only
XF-000193-GP	PWR XFMR ISA 280/300T	1		
XF-000268-GP	LINE ISA XFMR ISA 300TI	2		

Main PCB Assembly ISA300Ti

QSC part # WP-000326-00

This assembly is a panelized construction comprising the two channel modules, built on a common perforated circuit board. For the channel 1 module (the one on top), order **PCB-QZ070C-PWR1**; for the channel 2 module (the one underneath), order **PCB-QZ070C-PWR2**.

QSC Part #	Description	Qty.	Reference	Comments
CA-056001-GP	CC 50V 56PF 10% 0805	2	C210, C110	
CA-056002-GP	CTC 200V 56PF 5% 1206	2	C111, C211	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-122005-GP	CC 50V 220PF 5% 0805	4	C20-C23	
CA-210011-GP	0.001UF 5% 100V CER X7R 1206	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C126, C215, C226	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C117, C118, C217, C218	
CA-310009-GP	CC 50V .01UF 20% 0805	1	C5	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C125, C225	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	2	C124, C224	
CA-410013-GP	CER 2 1206 10% 50V .1UF	3	C100, C102, C104	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	1	C11	
CA-410015-GP	CM 50V .1UF 5% RL	6	C107-C109, C207-C209	
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-647006-GP	CE 16NP 47UF 20% RL	2	C106, C206	
CA-710009-GP	CE 25V 100UF 20% RL	2	C105, C205	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-847001-GP	CE 80V 4700UF 20% RL 25X	4	C120, C121, C220, C221	
CH-000164-GP	HEATSINK ISA280/450	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		
CH-000168-GP	VR BRACKET ISA	2		

Main PCB Assembly ISA300Ti continued

QSC Part #	Description	Qty.	Reference	Comments
CH-000171-GP	BRACKET, RT ANGLE HD15	1		
CH-000172-GP	CLAMP TRANSISTOR	1		
CO-000205-GP	HEADER 6-PIN RT ANGLE	1	J421	
CO-000209-GP	HEADER 3-PIN RIGHT ANGLE	2	J401, J402	
CO-000210-GP	HEADER 4-PIN RIGHT ANGLE	2	J422, J423	
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J337, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	3	J157, J309, J310	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	2	J345, J348	
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J297, J424	
CO-000217-GP	CONN 13 PIN STRAIGHT WAFER	2	J104, J204	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	10	E9-E12, E100, E101, E112, E200, E201, E212	
CO-000222-GP	8-PIN IC SOCKET	2	REF: U101,201	
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
PC-004501-00	SRV - MAIN PCB, ISA 3 SPACE	1		
PL-000150-GP	LED HOLDER	3	REF: LD1A, LD100A, LD200A	
PL-000154-GP	INSULATION SHEET IC ISA	5		
PL-000156-GP	RUBBER FEET	1		
PL-000162-GP	INSULATION BUSHING	5		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	36	D2-D7, D9, D14, D16, D17, D18, D20, D102-D106, D111-D116, D119, D202-D206, D211-D216, D219	
QD-000202-GP	DIODE 1N4004 AL	9	D1, D10-D13, D117, D118, D217, D218	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	9	Q5, Q8, Q9, Q11, Q12, Q101, Q102, Q201, Q202	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	6	Q4, Q5, Q7, Q13, Q100, Q200	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	4	D108, D109, D208, D209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	6	Q103, Q107, Q109, Q203, Q207, Q209	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	6	Q108, Q110, Q112, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000252-GP	DIODE ZENER .25W 4.7V	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FLM	12	R142, R148, R149, R152, R153, R159, R242, R248, R249, R252, R253, R259	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-.68001-GP	RMF 1W 6.8 OHM 5%	5	R20, R146, R147, R246, R247	
RE-000003-GP	RMG 1/10W 0 OHM 5% 0805	2	R265, R266	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	R53	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	4	R161, R162, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	3	R25, R124, R224	
RE-004753-GP	RMG 1/10W 47.5 OHM 1% 0805	1	R51	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	2	R127, R227	
RE-010002-30	100, 1 PCNT, 1/10W, THICK FILM, 0805, 100V	1	R211	
RE-010006-GP	RMG 1/10W 100 5%	3	R109, R110, R209	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R131	
RE-027003-GP	RMG 1/10W 270 OHM 5%	4	R111, R113, R210, R213	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	6	R115, R130, R132, R215, R230, R232	
RE-082005-GP	RMF 5W 820 OHM 5% AL METAL	4	R157, R158, R257, R258	
RE-082501-GP	RMG 1/8W 825 OHM 5% 1206	2	R144, R244	
RE-088701-GP	RMG 1/10W 887 OHM 1% 0805	1	R50	

Main PCB Assembly ISA300Ti continued

QSC Part #	Description	Qty.	Reference	Comments
RE-110011-GP	RMF 5W 1K 5%	1	R32	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	3	R19, R114A, R214A	
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120004-GP	RMG 1/10W 2K 1% 0805	3	R8, R11, R16	
RE-120007-GP	RMF 5W 2K 5% AL METAL	4	R133, R135, R233, R235	
RE-122006-GP	SVR 2.2K H3 7X7	4	R139, R140, R239, R240	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R163, R263	
RE-133007-GP	RMG 1/10W 3.3K 5% 0805	3	R24, R164, R264	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-190903-GP	RMF 1/2W 9.09K 1% AT	1	R123	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	17	R28, R29, R30, R31, R53, R100, R101, R103, R105, R106, R128, R200, R201, R205, R206, R203, R228	
RE-210010-GP	RMF 1/2W 10.0K 1% AT	2	R122, R222	
RE-213304-GP	RMF 1/2W 13.3K 1% AT	2	R145, R245	
RE-215006-GP	RMF 2W 15K 5% AL METAL	2	R2, R5	
RE-220005-GP	RMG 1/10W 20K 1% 0805	5	R52, R150, R151, R250, R251	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	5	R19, R117, R121, R217, R221	
RE-233001-GP	RMG 1/8W 33K 1% 1206	2	R22, R23	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-268002-GP	RMG 1/8W 68K 5% 1206	1	R33	
RE-315003-GP	RMG 1/8W 150K 5% 1206	3	R10, R104, R204	
RE-315004-GP	RMG 1/8W 150K 1% 1206	4	R118, R119, R218, R219	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R27	
RE-322002-GP	RMG 1/10W 220K 5% 0805	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R18	
RE-347002-GP	RMF 1/8W 470K 5% ATS	1	R15	
RE-352301-GP	523K, 1 PCNT, 1/4W, RMG, 1206,	2	R116, R216	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	9		
SC-030010-GP	SCREW M3X0.5X12MM, B/H, BLK ZN	8		
WC-000209-GP	CABLE ASSY, 5 PIN	1		
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA280, 300Ti, 300T, 450, 500Ti, & 500T

120V: QSC part # WP-004502-00

230V: QSC part # WP-004502-02

See parts listing on pages 28 and 29.

6.4 ISA450 parts and assemblies

ISA450 Power Amplifier

120V: QSC part # FG-004500-00

230V: QSC part # FG-004500-02

220V Korea: QSC part # FG-004500-03

240V UK: QSC part # FG-004500-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N: SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		120V only
TS-000004-WR	3 YEARS WARRANTY	3		
WC-000181-GP	AC CORD 15A ISA	1		100V and 120V only
WC-000213-GP	AC CORD	1		230V only
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1		240V UK only
WP-004500-00	ISA 450 CHASSIS ASSY (120V)	1	Before May 2006	100V and 120V only
WP-004500-02	ISA 450 CHASSIS ASSY (230V)	1	Before May 2006	230V only
WP-004500-03	ISA 450 CHAS ASSY (220V 60HZ)	1	Before May 2006	220V Korea only
WP-004503-00	ISA 450 CHASSIS ASSY (120V)	1	Beginning May 2006	100V and 120V only
WP-004503-02	ISA 450 CHASSIS ASSY (230V)	1	Beginning May 2006	230V only
WP-004503-03	ISA 450 CHAS ASSY (220V 60HZ)	1	Beginning May 2006	220V Korea only

Chassis Assembly ISA450 (beginning June 2006)

120V: QSC part # WP-004503-00

230V: QSC part # WP-004503-02

220V Korea: QSC part # WP-004503-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000178-GP	PROTECT COVER	1		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	1		
LB-000355-GP	LABEL, GROUND	1		
LB-000410-GP	LABEL "UL LISTED"	1		
LB-000448-GP	LABEL, REAR, ISA (NEW)	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000124-GP	FUSE 12A 250V 6.3 X 32MM	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
SC-000019-GP	BOLT, M8 X 80MM, , , WHT ZINC,	1		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	8		
SC-030011-GP	M3 X 8 MM NICKEL	2		

Chassis Assembly ISA450 (beginning June 2006) continued

QSC Part #	Description	Qty.	Reference	Comments
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000091-GP	CIRCUIT BREAKER 15A	1		100V and 120V only
SW-000094-GP	CIRCUIT BREAKER 8A	1		230V including UK and Korea only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-004501-00	MAIN PCB ASSY, ISA 450	1		
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V including UK and Korea only
XF-000189-GP	PWR XFMR ISA450/500T	1		

Chassis Assembly ISA450 (before May 2006)

120V: QSC part # WP-004500-00

230V: QSC part # WP-004500-02

220V Korea: QSC part # WP-004500-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000178-GP	PROTECT COVER	1		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	1		
LB-000355-GP	LABEL, GROUND	1		
LB-000410-GP	LABEL "UL LISTED"	1		
LB-000448-GP	LABEL, REAR, ISA (NEW)	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000124-GP	FUSE 12A 250V 6.3 X 32MM	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030000-GP	SPRING WASHER M3 X 0.9 X 5.5	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	4		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040007-GP	PHILLIPS, SERRATED M4X20L BLK	4		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000091-GP	CIRCUIT BREAKER 15A	1		
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		

Chassis Assembly ISA450 (before June 2006) continued

QSC Part #	Description	Qty.	Reference	Comments
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000076-00	SRV - XFMR MOUNTING ASSY	1		
WP-004501-00	MAIN PCB ASSY, ISA 450	1		
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V including UK and Korea only
XF-000189-GP	PWR XFMR ISA450/500T	1		

Main PCB Assembly ISA450

QSC part # WP-004501-00

This assembly is a panelized construction comprising the two channel modules, built on a common perforated circuit board. For the channel 1 module (the one on top), order **PCB-QZ050C-PWR1**; for the channel 2 module (the one underneath), order **PCB-QZ050C-PWR2**.

QSC Part #	Description	Qty.	Reference	Comments
CA-056001-GP	CC 50V 56PF 10% 0805	2	C110, C210	
CA-056002-GP	CTC 200V 56PF 5% 1206	2	C111, C211	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-122005-GP	CC 50V 220PF 5% 0805	4	C20-C23	
CA-210011-GP	0.001UF 5% 100V CER X7R 1206	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C126, C215, C226	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C117, C118, C217, C218	
CA-310009-GP	CC 50V .01UF 20% 0805	1	C5	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C125, C225	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	2	C124, C224	
CA-410013-GP	CER 2 1206 10% 50V .1UF	3	C100, C102, C104	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	1	C11	
CA-410023-GP	0.1UF, 5%, 63V, CM, , RBT, 7.5X6	1	C130	
CA-415004-GP	0.15U, 5%, 63V, CM, , RBT, 7.5X	4	C108, C109, C208, C209	
CA-422006-GP	CM 50V .22UF 5% RL	2	C107, C207	
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-647006-GP	CE 16NP 47UF 20% RL	2	C106, C206	
CA-710009-GP	CE 25V 100UF 20% RL	2	C105, C205	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-833002-GP	3300UF 20% 100V ELECT RAD	8	C120-C123, C220-C223	
CH-000164-GP	HEATSINK ISA280/450	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		
CH-000168-GP	VR BRACKET ISA	2		
CH-000171-GP	BRACKET, RT ANGLE HD15	1		
CH-000172-GP	CLAMP TRANSISTOR	1		
CO-000205-GP	HEADER 6-PIN RT ANGLE	1	J421	
CO-000209-GP	HEADER 3-PIN RIGHT ANGLE	2	J401, J402	
CO-000210-GP	HEADER 4-PIN RIGHT ANGLE	2	J422, J423	
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J337, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	3	J157, J309, J310	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	2	J345, J348	
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J297, J424	
CO-000217-GP	CONN 13 PIN STRAIGHT WAFER	2	J104, J204	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	14	E9-E12, E100, E101, E112, E200, E201, E212, E226-E229	
CO-000222-GP	8-PIN IC SOCKET	2	U101, U201	

Main PCB Assembly ISA450 continued

QSC Part #	Description	Qty.	Reference	Comments
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
PC-004501-00	SRV - MAIN PCB, ISA 3 SPACE	1		
PL-000150-GP	LED HOLDER	3	REF: LD1A, LD100A, LD200A	
PL-000154-GP	INSULATION SHEET IC ISA	5		
PL-000156-GP	RUBBER FEET	1		
PL-000162-GP	INSULATION BUSHING	5		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	35	D2-D7, D9, D14, D16-D18, D102-D106, D111-D116, D119, D202-D206, D211-D216, D219	
QD-000202-GP	DIODE 1N4004 AL	9	D1, D10-D13, D117, D118, D217, D218	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	9	Q5, Q8, Q9, Q11, Q12, Q101, Q102, Q201, Q202	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	6	Q4, Q6, Q7, Q13, Q100, Q200	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	4	D108, D109, D208, D209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	8	Q103, Q107, Q109, Q111, Q203, Q207, Q209, Q211	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	8	Q104, Q108, Q110, Q112, Q204, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000252-GP	DIODE ZENER .25W 4.7V	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FLM	16	R142, R143, R148, R149, R152, R153, R156, R159, R242, R243, R248, R249, R252, R253, R256, R259	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-.68001-GP	RMF 1W 6.8 OHM 5%	5	R20, R146, R147, R246, R247	
RE-000003-GP	RMG 1/10W 0 OHM 5% 0805	2	R265, R266	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	R53	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	4	R161, R162, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	3	R25, R124, R224	
RE-004753-GP	RMG 1/10W 47.5 OHM 1% 0805	1	R51	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	2	R127, R227	
RE-010002-30	100, 1 PCNT, 1/10W, THICK FILM, 0805, 100V	1	R211	
RE-010006-GP	RMG 1/10W 100 5%	3	R109, R110, R209	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R131	
RE-027003-GP	RMG 1/10W 270 OHM 5%	4	R111, R113, R210, R213	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	6	R115, R130, R132, R215, R230, R232	
RE-082501-GP	RMG 1/8W 825 OHM 5% 1206	2	R144, R244	
RE-097601-GP	RMG 1/10W 976 OHM 1% 0805	1	R50	
RE-110011-GP	RMF 5W 1K 5%	5	R32, R157, R158, R257, R258	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	3	R19, R114A, R214A	
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120004-GP	RMG 1/10W 2K 1% 0805	3	R8, R11, R16	
RE-122006-GP	SVR 2.2K H3 7X7	4	R139, R140, R239, R240	
RE-130003-GP	RMF 5W 3K 5% METAL	4	R133, R135, R233, R235	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R163, R263	
RE-133007-GP	RMG 1/10W 3.3K 5% 0805	3	R24, R164, R264	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	17	R28-R31, R53, R100, R101, R103, R105, R106, R128, R200, R201, R203, R205, R206, R228	
RE-211304-GP	RMF 1/2W 11.3K 1% AT	1	R123	
RE-213304-GP	RMF 1/2W 13.3K 1% AT	4	R122, R145, R222, R245	
RE-215006-GP	RMF 2W 15K 5% AL METAL	2	R2, R5	

Main PCB Assembly ISA450 continued

QSC Part #	Description	Qty.	Reference	Comments
RE-220005-GP	RMG 1/10W 20K 1% 0805	5	R52, R150, R151, R250, R251	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	5	R19, R117, R121, R217, R221	
RE-233001-GP	RMG 1/8W 33K 1% 1206	2	R22, R23	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-268002-GP	RMG 1/8W 68K 5% 1206	1	R33	
RE-315003-GP	RMG 1/8W 150K 5% 1206	3	R10, R104, R204	
RE-315004-GP	RMG 1/8W 150K 1% 1206	4	R118, R119, R218, R219	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R27	
RE-322002-GP	RMG 1/10W 220K 5% 0805	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R18	
RE-347002-GP	RMF 1/8W 470K 5% ATS	1	R15	
RE-368001-GP	RMG 1/8W 680K 1% 1206	2	R116, R216	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	9		
SC-030010-GP	SCREW M3X0.5X12MM, B/H, BLK ZN	8		
WC-000209-GP	CABLE ASSY, 5 PIN	1		
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA280, 300Ti, 300T, 450, 500Ti, & 500T

120V: QSC part # WP-004502-00

230V: QSC part # WP-004502-02

See parts listing on pages 28 and 29.

6.5 ISA500T parts and assemblies

ISA 500T Power Amplifier

120V: QSC part # FG-000505-00

230V: QSC part # FG-000505-02

220V Korea: QSC part # FG-000505-03

240V UK: QSC part # FG-000505-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N: SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		
TS-000004-WR	3 YEARS WARRANTY	3		
WC-000181-GP	AC CORD 15A ISA	1		
WC-000213-GP	AC CORD	1		
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1		
WP-000505-00	ISA 500T CHASSIS ASSY (120V)	1		
WP-000505-02	ISA 500T CHASSIS ASSY (230V)	1		
WP-000505-03	ISA 500T CHAS ASSY (220V 60HZ)	1		

Chassis Assembly ISA 500T

120V: QSC part # WP-000505-00

230V: QSC part # WP-000505-02

220V Korea: QSC part # WP-000505-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000174-GP	COVER, XFMR, STEEL, SMALL, ISA	2		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	2		
LB-000355-GP	LABEL, GROUND	1		
LB-000371-GP	LABEL, CE, , ,	1		230V only
LB-000410-GP	LABEL "UL LISTED"	1		100V and 120V only
LB-000448-GP	LABEL, REAR, ISA (NEW)	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000124-GP	FUSE 12A 250V 6.3 X 32MM	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
PL-000158-GP	XFMR RUBBER PAD (SMALL)	4		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	8		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000088-GP	ROCKER POWER SWITCH	1		

Chassis Assembly ISA500T continued

QSC Part #	Description	Qty.	Reference	Comments
SW-000091-GP	CIRCUIT BREAKER 15A	1		100V and 120V only
SW-000094-GP	CIRCUIT BREAKER 8A	1		230V only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000069-00	SRV - XFMR MNTG ASSY ISA300/500/800T	2		
WP-000076-00	SRV - XFMR MOUNTING ASSY	1		
WP-000506-00	MAIN PCB ASSY, ISA 500T	1		
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V only
XF-000189-GP	PWR XFMR ISA450/500T	1		
XF-000225-GP	LINE XFMR ISA 500T	2		

Main PCB Assembly ISA 500T

QSC part # WP-004501-00

This assembly is a panelized construction comprising the two channel modules, built on a common perforated circuit board. For the channel 1 module (the one on top), order **PCB-QZ050C-PWR1**; for the channel 2 module (the one underneath), order **PCB-QZ050C-PWR2**.

QSC Part #	Description	Qty.	Reference	Comments
CA-056001-GP	CC 50V 56PF 10% 0805	2	C110, C210	
CA-056002-GP	CTC 200V 56PF 5% 1206	2	C111, C211	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-122005-GP	CC 50V 220PF 5% 0805	4	C20-C23	
CA-210011-GP	0.001UF 5% 100V CER X7R 1206	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C126, C215, C226	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C117, C118, C217, C218	
CA-310009-GP	CC 50V .01UF 20% 0805	1	C5	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C125, C225	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	2	C124, C224	
CA-410013-GP	CER 2 1206 10% 50V .1UF	3	C100, C102, C104	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	1	C11	
CA-410015-GP	CM 50V .1UF 5% RL	6	C107-109, C207-C209	
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-647006-GP	CE 16NP 47UF 20% RL	2	C106, C206	
CA-710009-GP	CE 25V 100UF 20% RL	2	C105, C205	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-833002-GP	3300UF 20% 100V ELECT RAD	8	C120-C123, C220-C223	
CH-000164-GP	HEATSINK ISA280/450	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		
CH-000168-GP	VR BRACKET ISA	2		
CH-000171-GP	BRACKET, RT ANGLE HD15	1		
CH-000172-GP	CLAMP TRANSISTOR	1		
CO-000205-GP	HEADER 6-PIN RT ANGLE	1	J421	
CO-000209-GP	HEADER 3-PIN RIGHT ANGLE	2	J401, J402	
CO-000210-GP	HEADER 4-PIN RIGHT ANGLE	2	J422, J423	
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J337, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	3	J157, J309, J310	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	2	J345, J348	

Main PCB Assembly ISA500T continued

QSC Part #	Description	Qty.	Reference	Comments
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J297, J424	
CO-000217-GP	CONN 13 PIN STRAIGHT WAFER	2	J104, J204	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	14	E9-E12, E100, E101, E112, E200, E201, E212, E226-E229	
CO-000222-GP	8-PIN IC SOCKET	2	U101, U201	
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
PC-004501-00	SRV - MAIN PCB, ISA 3 SPACE	1		
PL-000150-GP	LED HOLDER	3	LD1A, LD100A, LD200A	
PL-000154-GP	INSULATION SHEET IC ISA	5		
PL-000156-GP	RUBBER FEET	1		
PL-000162-GP	INSULATION BUSHING	5		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	36	D104, D111, D112, D113, D114, D115, D116, D14, D16, D17, D18, D2, D3, D4, D5, D6, D7, D9, D102, D103, D105, D106, D119, D202, D203, D204, D205, D206, D211, D212, D213, D214, D215, D216, D219, D20	
QD-000202-GP	DIODE 1N4004 AL	9	D1, D10-D13, D117, D118, D217, D218	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	9	Q5, Q8, Q9, Q11, Q12, Q101, Q102, Q201, Q202	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	6	Q4, Q6, Q7, Q13, Q100, Q200	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	4	D108, D109, D208, D209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	8	Q103, Q107, Q109, Q111, Q203, Q207, Q209, Q211	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	8	Q104, Q108, Q110, Q112, Q204, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000252-GP	DIODE ZENER .25W 4.7V	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FLM	16	R142, R143, R148, R149, R152, R153, R156, R159, R242, R243, R248, R249, R252, R253, R256, R259	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-.68001-GP	RMF 1W 6.8 OHM 5%	5	R20, R146, R147, R246, R247	
RE-000003-GP	RMG 1/10W 0 OHM 5% 0805	2	R265, R266	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	R53	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	4	R161, R162, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	3	R25, R124, R224	
RE-004753-GP	RMG 1/10W 47.5 OHM 1% 0805	1	R51	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	2	R127, R227	
RE-010002-30	100, 1 PCNT, 1/10W, THICK FILM, 0805, 100V	1	R211	
RE-010006-GP	RMG 1/10W 100 5%	3	R109, R110, R209	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R131	
RE-027003-GP	RMG 1/10W 270 OHM 5%	4	R111, R113, R210, R213	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	6	R130, R132, R115, R215, R230, R232	
RE-082501-GP	RMG 1/8W 825 OHM 5% 1206	2	R144, R244	
RE-097601-GP	RMG 1/10W 976 OHM 1% 0805	1	R50	
RE-110011-GP	RMF 5W 1K 5%	5	R32, R157, R158, R257, R258	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	3	R19, R114A, R214A	
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120004-GP	RMG 1/10W 2K 1% 0805	3	R8, R11, R16	
RE-122006-GP	SVR 2.2K H3 7X7	4	R139, R140, R239, R240	
RE-130003-GP	RMF 5W 3K 5% METAL	4	R133, R135, R233, R235	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R163, R263	

Main PCB Assembly ISA500T continued

QSC Part #	Description	Qty.	Reference	Comments
RE-133007-GP	RMG 1/10W 3.3K 5% 0805	3	R24, R164, R264	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	17	R28-R31, R53, R100, R101, R103, R105, R106, R128, R200, R201, R203, R205, R206, R228	
RE-211304-GP	RMF 1/2W 11.3K 1% AT	1	R123	
RE-213304-GP	RMF 1/2W 13.3K 1% AT	4	R122, R145, R222, R245	
RE-215006-GP	RMF 2W 15K 5% AL METAL	2	R2, R5	
RE-220005-GP	RMG 1/10W 20K 1% 0805	5	R52, R150, R151, R250, R251	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	5	R19, R117, R121, R217, R221	
RE-233001-GP	RMG 1/8W 33K 1% 1206	2	R22, R23	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-268002-GP	RMG 1/8W 68K 5% 1206	1	R33	
RE-315003-GP	RMG 1/8W 150K 5% 1206	3	R10, R104, R204	
RE-315004-GP	RMG 1/8W 150K 1% 1206	4	R118, R119, R218, R219	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R27	
RE-322002-GP	RMG 1/10W 220K 5% 0805	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R18	
RE-347002-GP	RMF 1/8W 470K 5% ATS	1	R15	
RE-368001-GP	RMG 1/8W 680K 1% 1206	2	R116, R216	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	9		
SC-030010-GP	SCREW M3X0.5X12MM, B/H, BLK ZN	8		
WC-000209-GP	CABLE ASSY, 5 PIN	1		
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA280, 300Ti, 300T, 450, 500Ti, & 500T

120V: QSC part # WP-004502-00

230V: QSC part # WP-004502-02

See parts listing on pages 28 and 29.

6.6 ISA500Ti parts and assemblies

ISA500Ti Power Amplifier

120V: QSC part # FG-000525-00

230V: QSC part # FG-000525-02

220V Korea: QSC part # FG-000525-03

240V UK: QSC part # FG-000525-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N: SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		
TS-000004-WR	3 YEARS WARRANTY	3		
WC-000181-GP	AC CORD 15A ISA	1		
WC-000213-GP	AC CORD	1		
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1		
WP-000525-00	ISA 500TI CHASSIS ASSY (120V)	1		
WP-000525-02	ISA 500TI CHASSIS ASSY (230V)	1	?	
WP-000525-03	ISA 500TI CHAS ASSY (220V 60HZ)	1	?	

Chassis Assembly ISA500Ti

120V: QSC part # WP-000525-00

230V: QSC part # WP-000525-02

220V Korea: QSC part # WP-000525-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000174-GP	COVER, XFMR, STEEL, SMALL, ISA	2		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	2		
LB-000355-GP	LABEL, GROUND	1		
LB-000410-GP	LABEL "UL LISTED"	1		
LB-000371-GP	LABEL, CE, , ,	1		
LB-000449-GP	LABEL, REAR, , ISATI,	0		
LB-000451-GP	LABEL, FRONT, , ISA 500TI,	0		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000124-GP	FUSE 12A 250V 6.3 X 32MM	2		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-000036-GP	NUT, HEX M6, , ,	2		
NW-000037-GP	WASHER, LOCK M6, , ,	2		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
NW-080003-GP	NUT M8X13MM 6.5MM THK STL WHT	1		
NW-080004-GP	LOCK WASHER M8 SPLIT ID 8.5MM	1		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
PL-000158-GP	XFMR RUBBER PAD (SMALL)	4		
SC-000019-GP	BOLT, M8 X 80MM, , , WHT ZINC,	1		
SC-000021-GP	BOLT, M6 X 55MM, , , WHT ZINC,	2		

Chassis Assembly ISA500Ti continued

QSC Part #	Description	Qty.	Reference	Comments
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	8		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000091-GP	CIRCUIT BREAKER 15A	1		100V and 120V only
SW-000094-GP	CIRCUIT BREAKER 8A	1		230V only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	0.12		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000526-00	MAIN PCB ASSY, ISA 500TI	1		
WP-004502-00	PCB ASSY, AC/INPUT ISA (120V)	1		100V and 120V only
WP-004502-02	PCB ASSY, AC/INPUT, ISA, 230V,	1		230V only
XF-000189-GP	PWR XFMR ISA450/500T	1		
XF-000269-GP	LINE ISA XFMR ISA 500TI	2		

Main PCB Assembly ISA500Ti

QSC part # WP-000526-00

This assembly is a panelized construction comprising the two channel modules, built on a common perforated circuit board. For the channel 1 module (the one on top), order **PCB-QZ050C-PWR1**; for the channel 2 module (the one underneath), order **PCB-QZ050C-PWR2**.

QSC Part #	Description	Qty.	Reference	Comments
CA-056001-GP	CC 50V 56PF 10% 0805	2	C110, C210	
CA-056002-GP	CTC 200V 56PF 5% 1206	2	C111, C211	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-122005-GP	CC 50V 220PF 5% 0805	4	C20-C23	
CA-210011-GP	0.001UF 5% 100V CER X7R 1206	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C126, C215, C226	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C117, C118, C217, C218	
CA-310009-GP	CC 50V .01UF 20% 0805	1	C5	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C125, C225	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	2	C124, C224	
CA-410013-GP	CER 2 1206 10% 50V .1UF	3	C100, C102, C104	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	1	C11	
CA-410015-GP	CM 50V .1UF 5% RL	6	C107-C109, C207-C209	
CA-410023-GP	0.1UF, 5%, 63V, CM, , RBT, 7.5X6	1	C130	
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-647006-GP	CE 16NP 47UF 20% RL	2	C106, C206	
CA-710009-GP	CE 25V 100UF 20% RL	2	C105, C205	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-833002-GP	3300UF 20% 100V ELECT RAD	8	C120-C123, C220-C223	
CH-000164-GP	HEATSINK ISA280/450	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		
CH-000168-GP	VR BRACKET ISA	2		
CH-000171-GP	BRACKET, RT ANGLE HD15	1		
CH-000172-GP	CLAMP TRANSISTOR	1		

Main PCB Assembly ISA500Ti continued

QSC Part #	Description	Qty.	Reference	Comments
CO-000205-GP	HEADER 6-PIN RT ANGLE	1	J421	
CO-000209-GP	HEADER 3-PIN RIGHT ANGLE	2	J401, J402	
CO-000210-GP	HEADER 4-PIN RIGHT ANGLE	2	J422, J423	
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J337, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	3	J157, J309, J310	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	2	J345, J348	
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J297, J424	
CO-000217-GP	CONN 13 PIN STRAIGHT WAFER	2	J104, J204	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	14	E9-E12, E100, E101, E112, E200, E201, E212, E226-E229	
CO-000222-GP	8-PIN IC SOCKET	2	REF: U101,201	
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
PC-004501-00	SRV - MAIN PCB, ISA 3 SPACE	1		
PL-000150-GP	LED HOLDER	3	REF: LD100A,200A,1A	
PL-000154-GP	INSULATION SHEET IC ISA	5		
PL-000156-GP	RUBBER FEET	1		
PL-000162-GP	INSULATION BUSHING	5		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	36	D2-D7, D9, D14, D16-D18, D20, D102-D106, D111-D116, D119, D202-D206, D211-D216, D219	
QD-000202-GP	DIODE 1N4004 AL	9	D1, D10-D13, D117, D118, D217, D218	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	9	Q5, Q8, Q9, Q11, Q12, Q101, Q102, Q201, Q202	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	6	Q4, Q6, Q7, Q13, Q100, Q200	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	4	D108, D109, D208, D209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	8	Q103, Q107, Q109, Q111, Q203, Q207, Q209, Q211	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	8	Q104, Q108, Q110, Q112, Q204, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000252-GP	DIODE ZENER .25W 4.7V	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FLM	16	R142, R143, R148, R149, R152, R153, R156, R159, R242, R243, R248, R249, R252, R253, R256, R259	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-.68001-GP	RMF 1W 6.8 OHM 5%	5	R20, R146, R147, R246, R247	
RE-000003-GP	RMG 1/10W 0 OHM 5% 0805	2	R265, R266	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	R53	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	4	R161, R162, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	3	R25, R124, R224	
RE-004753-GP	RMG 1/10W 47.5 OHM 1% 0805	1	R51	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	2	R127, R227	
RE-010002-30	100, 1 PCNT, 1/10W, THICK FILM, 0805, 100V	1	R211	
RE-010006-GP	RMG 1/10W 100 5%	3	R109, R110, R209	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R131	
RE-027003-GP	RMG 1/10W 270 OHM 5%	4	R111, R113, R210, R213	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	6	R115, R130, R132, R215, R230, R232	
RE-082501-GP	RMG 1/8W 825 OHM 5% 1206	2	R144, R244	
RE-097601-GP	RMG 1/10W 976 OHM 1% 0805	1	R50	
RE-110011-GP	RMF 5W 1K 5%	5	R32, R157, R158, R257, R258	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	3	R19, R114A, R214A	

Main PCB Assembly ISA500Ti continued

QSC Part #	Description	Qty.	Reference	Comments
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120004-GP	RMG 1/10W 2K 1% 0805	3	R8, R11, R16	
RE-122006-GP	SVR 2.2K H3 7X7	4	R139, R140, R239, R240	
RE-130003-GP	RMF 5W 3K 5% METAL	4	R133, R135, R233, R235	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R163, R263	
RE-133007-GP	RMG 1/10W 3.3K 5% 0805	3	R24, R164, R264	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	17	R28-R31, R53, R100, R101, R103, R105, R106, R128, R200, R201, R203, R205, R206, R228	
RE-211304-GP	RMF 1/2W 11.3K 1% AT	1	R123	
RE-213304-GP	RMF 1/2W 13.3K 1% AT	4	R122, R145, R222, R245	
RE-215006-GP	RMF 2W 15K 5% AL METAL	2	R2, R5	
RE-220005-GP	RMG 1/10W 20K 1% 0805	5	R52, R150, R151, R250, R251	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	5	R19, R117, R121, R217, R221	
RE-233001-GP	RMG 1/8W 33K 1% 1206	2	R22, R23	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-268002-GP	RMG 1/8W 68K 5% 1206	1	R33	
RE-315003-GP	RMG 1/8W 150K 5% 1206	3	R10, R104, R204	
RE-315004-GP	RMG 1/8W 150K 1% 1206	4	R118, R119, R218, R219	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R27	
RE-322002-GP	RMG 1/10W 220K 5% 0805	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R18	
RE-347002-GP	RMF 1/8W 470K 5% ATS	1	R15	
RE-368001-GP	RMG 1/8W 680K 1% 1206	2	R116, R216	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	9		
SC-030010-GP	SCREW M3X0.5X12MM, B/H, BLK ZN	8		
WC-000209-GP	CABLE ASSY, 5 PIN	1		
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA280, 300Ti, 300T, 450, 500Ti, & 500T

120V: QSC part # WP-004502-00

230V: QSC part # WP-004502-02

See parts listing on pages 28 and 29.

6.7 ISA750 parts and assemblies

ISA750 Power Amplifier

120V: QSC part # FG-007500-00

230V: QSC part # FG-007500-02

220V Korea: QSC part # FG-007500-03

240V UK: QSC part # FG-007500-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N: SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		100V and 120V only
TS-000004-WR	3 YEARS WARRANTY	3		
WC-000181-GP	AC CORD 15A ISA	1		100V and 120V only
WC-000213-GP	AC CORD	1		230V only except UK
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1		UK only
WP-007500-00	ISA 750 CHASSIS ASSY (120V)	1		100V and 120V only
WP-007500-02	ISA 750 CHASSIS ASSY (230V)	1		230V only including UK
WP-007500-03	ISA 750 CHAS ASSY (220V 60HZ)	1		220V Korea only
WP-007503-00	ISA 750 CHASSIS ASSY (120V)	1		100V and 120V only
WP-007503-02	ISA 750 CHASSIS ASSY (230V)	1		230V only including UK
WP-007503-03	ISA 750 CHAS ASSY (220V 60HZ)	1		220V Korea only

Chassis Assembly ISA750 (beginning May 2006)

120V: QSC part # WP-007503-00

230V: QSC part # WP-007503-02

220V Korea: QSC part # WP-007503-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000178-GP	PROTECT COVER	1		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	1		
LB-000355-GP	LABEL, GROUND	1		
LB-000410-GP	LABEL "UL LISTED"	1		
LB-000448-GP	LABEL, REAR, ISA (NEW)	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
SC-000018-GP	BOLT, PHILLIPS, , , ,	1		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	8		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	

Chassis Assembly ISA750 (beginning May 2006) continued

QSC Part #	Description	Qty.	Reference	Comments
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000091-GP	CIRCUIT BREAKER 15A	1		
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000197-GP	CONN ASSY 4-PIN P=2.5 L=100	1		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-007501-00	PCB ASSY, ISA 750	1		
WP-007502-00	PCB ASSY, AC/INPUT ISA750(120V)	1		
WP-007502-02	PCB ASSY, AC/INPUT, ISA750, 230V,	1		
XF-000192-GP	PWR XFMR ISA800T/750	1		

Chassis Assembly ISA750 (before May 2006)

120V: QSC part # WP-007500-00

230V: QSC part # WP-007500-02

220V Korea: QSC part # WP-007500-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000178-GP	PROTECT COVER	1		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	1		
LB-000355-GP	LABEL, GROUND	1		
LB-000410-GP	LABEL "UL LISTED"	1		
LB-000449-GP	LABEL, REAR, , ISATI,	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030000-GP	SPRING WASHER M3 X 0.9 X 5.5	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	4		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040007-GP	PHILLIPS, SERRATED M4X20L BLK	4		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000091-GP	CIRCUIT BREAKER 15A	1		100V and 120V only
SW-000094-GP	CIRCUIT BREAKER 8A	1		230V including UK and Korea
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		

Chassis Assembly ISA750 (before May 2006) continued

QSC Part #	Description	Qty.	Reference	Comments
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000197-GP	CONN ASSY 4-PIN P=2.5 L=100	1		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000068-00	SRV - XFMR MNTG ASSY ISA SERIES	1		****
WP-007501-00	PCB ASSY, ISA 750	1		
WP-007502-00	PCB ASSY, AC/INPUT ISA750(120V)	1		
WP-007502-02	PCB ASSY, AC/INPUT, ISA750, 230V,	1		
XF-000192-GP	PWR XFMR ISA800T/750	1		

Main PCB Assembly ISA750

QSC part # WP-007501-00

This assembly is a panelized construction comprising the two channel modules, built on a common perforated circuit board. For the channel 1 module (the one underneath, order **PCB-QZ060C-PWR1**; for the channel 2 module (the one on top), order **PCB-QZ060C-PWR2**.

QSC Part #	Description	Qty.	Reference	Comments
CA-027003-GP	CTC 200V 27PF 5% 1206	2	C111, C211	
CA-047005-GP	CC 50V 47PF 5% 0805	6	C170, C176, C177, C270, C276, C277	
CA-056001-GP	CC 50V 56PF 10% 0805	2		C110, C210
CA-110004-GP	CC 50V 100PF 10% 0805	2		C9, C132
CA-110005-GP	CC 50V 100PF 5% 0805 1.2	1	C130	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-210012-GP	CM 100V .001UF 5% RL 5X	2	C131, C231	
CA-215004-GP	CM 250V .0015UF 5% RL	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C117, C215, C217	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C172, C179, C272, C279	
CA-310009-GP	CC 50V .01UF 20% 0805	3	C5, C181, C281	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C133, C233	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	4	C124, C126, C224, C226	
CA-382001-GP	0.082U, 5%, 63V, CM, , RBT, 7.5	2	C109, C209	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	2	C11, C104	
CA-410016-GP	CC 50V .1UF 10% 1206	2	C178, C278	
CA-410018-GP	CM 250V .1UF 5% RL	4	C174, C175, C274, C275	
CA-415004-GP	0.15U, 5%, 63V, CM, , RBT, 7.5X	2	C108, C208	
CA-422006-GP	CM 50V .22UF 5% RL	2	C107, C207	
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-610009-GP	CE 35V 10UF 20% RL 5 X 11	2	C171, C271	
CA-622007-GP	CE 25NP 22UF 20% RL 5X11	2	C129, C229	
CA-647000-GP	47UF 16V 20% ELECTROLYTIC RL	3	C8, C103, C206	
CA-710009-GP	CE 25V 100UF 20% RL	6	C105, C173, C180, C205, C273, C280	
CA-710010-GP	CE 16NP 100UF 20% RL 8X11	2	C125, C225	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-912001-GP	12000UF, 20 PCNT, 63V, RL, ,	8	C120-C123, C220-C223	
CH-000163-GP	HEATSINK ISA 750 3 SP	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		
CH-000168-GP	VR BRACKET ISA	2		
CH-000171-GP	BRACKET, RT ANGLE HD15	2		
CH-000172-GP	CLAMP TRANSISTOR	8		
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J207, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	5	J108, J208, J257, J401, J402	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	6	J105, J106, J205, J206, J422, J423	
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J258, J424	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	18	E100, E100A, E101, E112-E117, E117A, E200, E201, E212-E217	

Main PCB Assembly ISA750 continued

QSC Part #	Description	Qty.	Reference	Comments
CO-000222-GP	8-PIN IC SOCKET	2	U101, U201	
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
CO-000224-GP	CONN 6 PIN ST. WAFER	1	J421	
CO-000226-GP	CONN 13-PIN WAFER 2.0	2	J104, J204	
HW-000020-GP	FUSE HOLDER 6.3MM	4	F100, F200	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
IC-000214-GP	LM311M VOLTAGE	4	U170, U171, U270, U271	
MS-000127-GP	FUSE T20A 125V 6.4 X 32MM	2		
PC-007501-00	SRV - MAIN PCB, ISA 750/800T	1		
PL-000150-GP	LED HOLDER	4	REF: LD1, LD100A, LD200A	
PL-000155-GP	INSULATION SILICON FOR TO-220	2		
PL-000156-GP	RUBBER FEET	1		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	43	D2, D9, D14, D16-D19, D102-D106, D111-D116, D121, D171, D173, D177, D202-D206, D211-D216, D221, D271, D273	
QD-000202-GP	DIODE 1N4004 AL	6	D1, D10-D13	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	17	Q5, Q8, Q9, Q11, Q12, Q16-Q18, Q101, Q102, Q171, Q173, Q201, Q202, Q271, Q273	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	12	Q4, Q6, Q7, Q13-Q15, Q100, Q172, Q175, Q200, Q272, Q275	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	4	Q108, Q109, Q208, Q209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	8	Q103, Q107, Q109, Q111, Q203, Q207, Q209, Q211	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	8	Q104, Q108, Q110, Q112, Q204, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000215-GP	DIODE MUR1520 15A 200V	4	D175, D176, D275, D276	
QD-000216-GP	THYRISTOR 200V 0.1W 2N5064	2	D219, D220	
QD-000217-GP	DIODE, 400V, 3A, IN5404, DO-201AD	4	D117, D118, D217, D218	
QD-000218-GP	DIOD ZNR 3.8-4.0V 1/2 HZ SER	2	D170, D270	
QD-000219-GP	DIODE ZENER 1.3W 10V TEMIC	2	D174, D274	
QD-000220-GP	DIODE ZENER 1W 12V AT TEMIC	2	D178, D278	
QD-000221-GP	TRIAC 600V 40A MAC224 A8	2	Q113, Q213	
QD-000222-GP	TR RFP50N06 N-CH PWR	4	Q170, Q174, Q270, Q274	
QD-000223-GP	TR 2N5064 TRIODE	2	D119, D120	
QD-000269-GP	DIODE ZENER 5.1V 5% .25W DO-35	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FLM	16	R142, R143, R148, R149, R152, R153, R156, R159, R242, R243, R248, R249, R252, R253, R256, R259	
RE-.15003-GP	1.5 OHM 5% 2W THK FLM	4	R181, R182, R281, R282	
RE-.33001-GP	RMF 1W 3.3 OHM 5%	5	R20, R146, R147, R246, R247	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	D-LD1	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001005-GP	RMF 1/4W 10 OHM 5%	2	R163, R263	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	8	R154, R155, R161, R162, R254, R255, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	5	R25, R170, R189, R270, R289	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	4	R124, R127, R224, R227	
RE-010006-GP	RMG 1/10W 100 5%	4	R109, R110, R209, R210	
RE-010007-GP	RMG 1/8W 100 OHM 5% 1206	2	R30, R197	
RE-010008-GP	RMF 1/4W 100 OHM 5%	2	R164, R264	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R231	
RE-012003-GP	RMF 3W 120 OHM 5% AL METAL	1	R17	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R196, R296	
RE-027402-GP	RMG 274 OHM 1/10W 5%	2	R113, R213	
RE-039001-GP	RMG 1/10W 390 OHM 5% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	9	R111, R115, R130, R132, R145, R215, R230, R232, R245	

Main PCB Assembly ISA750 continued

QSC Part #	Description	Qty.	Reference	Comments
RE-082004-GP	RMG 1/10W 820 OHM 5% 1206	1	R211	
RE-110011-GP	RMF 5W 1K 5%	1	R32	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	4	R18, R19, R114A, R214A	
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120003-GP	RCF 1/8W 2K 5% ATS	2	R190, R195	
RE-120004-GP	RMG 1/10W 2K 1% 0805	5	R8, R11, R16, R290, R295	
RE-122006-GP	SVR 2.2K H3 7X7	4	R139, R140, R239, R240	
RE-122007-GP	RMG 1/10W 2.2K 5% 0805	2	R191, R291	
RE-122008-GP	RMF 5W 2.2K 5% METAL	6	R157, R158, R198, R257, R258, R298	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R168, R268	
RE-130005-GP	RMG 1/10W 3K 5% 0805	2	R141, R241	
RE-130103-GP	RMG 1/10W 3.01K 1% 0805	3	R24, R175, R275	
RE-147001-GP	RMG 1/10W 4.7K 5% 0805	10	R138, R174, R179, R187, R193, R238, R274, R279, R287, R293	
RE-151003-GP	RMF 5W 5.1K 5% AL METAL	4	R180, R188, R280, R288	
RE-159003-GP	5.9K 1% 1/10W THK FLM 0805	4	R171, R184, R271, R284	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-182002-GP	RMF 5W 8.2K 5% AL METAL	8	R118, R119, R133, R135, R218, R219, R233, R235	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	20	R22, R23, R31, R34-R38, R100, R101, R103, R105, R106, R128, R200, R201, R203, R205, R206, R228	
RE-212002-GP	RMF 1W 12K 5% AT METAL	4	R177, R194, R277, R294	
RE-215007-GP	RMF 1W 15K 5% METAL	2	R165, R265	
RE-220005-GP	RMG 1/10W 20K 1% 0805	3	R52, R250, R251	
RE-223202-GP	RMF 1/2W 23.2K 1% AT	5	R122, R123, R144, R222, R244	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	6	R18, R19, R117, R121, R217, R221	
RE-233002-GP	RMF 2W 33K 5% METAL	2	R2, R5	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-247005-GP	RMG 1/10W 47K 5% 0805	4	R176, R183, R276, R283	
RE-268002-GP	RMG 1/8W 68K 5% 1206	5	R33, R22A, R22B, R23A, R23B	
RE-315003-GP	RMG 1/8W 150K 5% 1206	11	R10, R104, R173, R178, R186, R192, R204, R273, R278, R286, R292	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R27	
RE-346401-GP	464K 1% 1/8W THK FLM 1206	5	R39, R40, R166, R167, R266	
RE-347003-GP	RMG 1/10W 470K 5% 0805	4	R172, R185, R272, R285	
RE-391001-GP	RMG 1/8W 910K 1% 1206	3	R15, R116, R206	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
WC-000209-GP	CABLE ASSY, 5 PIN	1	R131, R139, R140	
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA750, 800Ti, & 800T

120V: QSC part # WP-007502-00

230V: QSC part # WP-007502-02

This assembly is a panelized construction comprising the AC, input, and channel 2 bias adjust board assemblies, built on a common perforated circuit board. For the AC board assembly, order **PCB-QZ060C-PSU**; for the input board, order **PCB-QZ060C-INP**; and for the channel 2 bias adjust module, order **PCB-QZ060C-BIAS**.

QSC Part #	Description	Qty.	Reference	Comments
CA-122005-GP	CC 50V 220PF 5% 0805	4	C20-C23	
CA-122006-GP	220PF 50V 5% CER X7R 0805	4	C1-C4	
CA-347005-GP	CM 400V .047UF 10% RL	1	C10	
CA-422005-GP	CM 250V .22UF 10% RL	4	C127, C128, C227, C228	
CA-810006-GP	1000UF 35V 20% ELECTROLYTIC	1	C6	
CH-000170-GP	BRACKET AC PCB MTG	2		
CO-000204-GP	CONN XLR F VERT PLASTIC	2	J101, J201	
CO-000212-GP	TERMINAL WRAP	20	E1-E12, J2A-J9A	
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	1	J19	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	1	J21	
CO-000224-GP	CONN 6 PIN ST. WAFER	1	J400	
CO-000225-GP	CONN 5-PIN WAFER P2.5	1	J246	

PCB Assembly, AC/Input ISA750, 800, 800Ti continued

QSC Part #	Description	Qty.	Reference	Comments
CO-000314-GP	CONN 26 PIN DUAL ROW W/LCK EAR	1		
IC-000213-GP	IC 4N29	1	U2	
LB-000360-GP	LABEL, BLANK, 30 X 7MM	10	WIRE	
MS-000126-GP	HEATSINK, BRIDGE RECTIFIER	1	REF: Q3	
NW-030001-GP	WASHER M3.0 X 0.4 X 8 BZ	5		
NW-032000-GP	WASHER NYLON ID 3.2MM	4		
PC-007502-00	SRV - PCB, AC/INPUT/TRIM ISA750/800T	1		
QD-000200-GP	DIODE RECT 1A 200V DB103	1	BR1	
QD-000201-GP	DIODE LL4148 SM	1	D20	
QD-000214-GP	TR TIP31C SAMSUNG	1	Q3	
QD-000227-GP	BRIDGE RECT 400V 25A	4	BR100, BR101, BR200, BR201	
RE-.22001-GP	RMG 1/10W 2.2 OHM 5% 0805	1	R50C	
RE-000005-GP	POLY SWITCH 1.1A 0.15 OHM 1.5W	1	R1	
RE-000270-GP	NTC 30A 1 OHM	1	R21	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	2	R28, R29	
RE-004753-GP	RMG 1/10W 47.5 OHM 1% 0805	1	R51	
RE-006804-GP	RMG 1/10W 68 OHM 5% 0805	1	R50B	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R131	
RE-012003-GP	RMF 3W 120 OHM 5% AL METAL	1	R17	
RE-110013-GP	RMG 1/10W 1K 1% 0805	1	R50A	
RE-120003-GP	RCF 1/8W 2K 5% ATS	1	R13	
RE-122006-GP	SVR 2.2K H3 7X7	2	R139, R140	
RE-168002-GP	RCF 1/8W 6.8K 5% ATS	2	R9, R14	
RE-210006-GP	RMG 1/10W 10K 1% 0805	1	R53	
RE-220005-GP	RMG 1/10W 20K 1% 0805	5	R52, R150, R151, R250, R251	
RE-347002-GP	RMF 1/8W 470K 5% ATS	1	R12	
SC-030006-GP	M3 X 14MM BZ CR BH	4		
SC-030007-GP	M3 X 6MM B-TITE BLK ZN	2		
SC-030008-GP	SCREW M3X6 BLK TAP	2		
SC-030009-GP	BRASS STUD M3 18MM LG	2		
SW-000089-GP	10 POLE DIP SWITCH	1	SW1	
WC-000176-GP	UL1015 #16 2P BLK L=300	4	-110_A, -110_B, -55_A, -55_B	
WC-000178-GP	CONN ASSY RED W/TRND	4	+110_A, +110_B, +55_A, +55_B	
WC-000195-GP	CONN ASSY W/TRNL ISA 750	2	CT_A, CT_B	
WC-000232-GP	CONN WIRE 14AWG BLU W/1 TERM	1	JP10	
WC-000233-GP	CONN WIRE 14AWG BRN W/2 TERM	1	JP12	
WC-000328-GP	CABLE ASSY, 26 PIN RIBBON HDR	1		

6.8 ISA800T parts and assemblies

ISA800T Power Amplifier

120V: QSC part # FG-000805-00

230V: QSC part # FG-000805-02

220V Korea: QSC part # FG-000805-03

240V UK: QSC part # FG-000805-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N: SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		100V and 120V only
TS-000004-WR	3 YEARS WARRANTY	3		
WC-000181-GP	AC CORD 15A ISA	1		100V and 120V only
WC-000213-GP	AC CORD	1		230V except UK
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1		UK only
WP-000805-00	ISA 800T CHASSIS ASSY (120V)	1		100V and 120V only
WP-000805-02	ISA 800T CHASSIS ASSY (230V)	1		230V only except Korea
WP-000805-03	ISA 800T CHASSIS ASSY (220V 60HZ)	1	220V Korea	

Chassis Assembly ISA800T

120V: QSC part # WP-000805-00

230V: QSC part # WP-000805-02

220V Korea: QSC part # WP-000805-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000174-GP	COVER, XFMR, STEEL, SMALL, ISA	2		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	2		
LB-000355-GP	LABEL, GROUND	1		
LB-000371-GP	LABEL, CE, , ,	1		230V only
LB-000410-GP	LABEL "UL LISTED"	1		100V and 120V only
LB-000448-GP	LABEL, REAR, ISA (NEW)	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
PL-000158-GP	XFMR RUBBER PAD (SMALL)	4		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	8		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000091-GP	CIRCUIT BREAKER 15A	1		100V and 120V only

Chassis Assembly ISA800T continued

QSC Part #	Description	Qty.	Reference	Comments
SW-000094-GP	CIRCUIT BREAKER 8A	1		230V only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	1		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000068-00	SRV - XFMR MNTG ASSY ISA SERIES	1		
WP-000069-00	SRV - XFMR MNTG ASSY ISA300/500/800T	2		
WP-000806-00	MAIN PCB ASSY, ISA 800T	1		
WP-007502-00	PCB ASSY, AC/INPUT ISA750(120V)	1		120V only
WP-007502-02	PCB ASSY, AC/INPUT, ISA750, 230V,	1		230V only
XF-000192-GP	PWR XFMR ISA800T/750	1		
XF-000226-GP	LINE XFMR ISA 800T	2		

Main PCB Assembly ISA800T

QSC part # WP-000806-00

QSC Part #	Description	Qty.	Reference	Comments
CA-027003-GP	CTC 200V 27PF 5% 1206	2	C111, C211	
CA-047005-GP	CC 50V 47PF 5% 0805	6	C170, C176, C177, C270, C276, C277	
CA-056001-GP	CC 50V 56PF 10% 0805	2	C110, C210	
CA-110004-GP	CC 50V 100PF 10% 0805	2	C9, C132	
CA-110005-GP	CC 50V 100PF 5% 0805 1.2	1	C130	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-210012-GP	CM 100V .001UF 5% RL 5X	2	C131, C231	
CA-215004-GP	CM 250V .0015UF 5% RL	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C117, C215, C217	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C172, C179, C272, C279	
CA-310009-GP	CC 50V .01UF 20% 0805	3	C5, C181, C281	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C133, C233	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	4	C124, C126, C224, C226	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	2	C11, C104	
CA-410015-GP	CM 50V .1UF 5% RL	6	C107-C109, C207-C209	
CA-410016-GP	CC 50V .1UF 10% 1206	2	C178, C278	
CA-410018-GP	CM 250V .1UF 5% RL	4	C174, C175, C274, C275	
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-610009-GP	CE 35V 10UF 20% RL 5 X 11	2	C171, C271	
CA-622007-GP	CE 25NP 22UF 20% RL 5X11	2	C129, C229	
CA-647000-GP	47UF 16V 20% ELECTROLYTIC RL	3	C8, C106, C206	
CA-710009-GP	CE 25V 100UF 20% RL	6	C105, C173, C180, C205, C273, C280	
CA-710010-GP	CE 16NP 100UF 20% RL 8X11	2	C125, C225	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-912001-GP	12000UF, 20 PCNT, 63V, RL, ,	8	C120-C123, C220-C223	
CH-000163-GP	HEATSINK ISA 750 3 SP	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		
CH-000168-GP	VR BRACKET ISA	2		
CH-000171-GP	BRACKET, RT ANGLE HD15	2		
CH-000172-GP	CLAMP TRANSISTOR	8		
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J207, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	5	J108, J208, J257, J401, J402	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	6	J105, J106, J205, J206, J422, J423	

Main PCB Assembly ISA800T continued

QSC Part #	Description	Qty.	Reference	Comments
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J258, J424	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	18	E100, E100A, E101, E112-E117, E117A, E200, E201, E212-E217	
CO-000222-GP	8-PIN IC SOCKET	2	U101, U201	
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
CO-000224-GP	CONN 6 PIN ST. WAFER	1	J421	
CO-000226-GP	CONN 13-PIN WAFER 2.0	2	J104, J204	
HW-000020-GP	FUSE HOLDER 6.3MM	4	F100, F200	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
IC-000214-GP	LM311M VOLTAGE	4	U170, U171, U270, U271	
MS-000127-GP	FUSE T20A 125V 6.4 X 32MM	2	F100, F200	
PC-007501-00	SRV - MAIN PCB, ISA 750/800T	1		
PL-000150-GP	LED HOLDER	3	REF: LD1A, LD100A, LD200A	
PL-000155-GP	INSULATION SILICON FOR TO-220	2		
PL-000156-GP	RUBBER FEET	1		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	42	D2-D7, D9, D14, D16-D19, D102-D106, D111-D116, D121, D171, D173, D177, D202-D206, D211-D216, D221, D271, D273, D277	
QD-000202-GP	DIODE 1N4004 AL	5	D1, D10-D13	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	16	Q5, Q8, Q9, Q11, Q12, Q16-Q18, Q101, Q102, Q171, Q173, Q201, Q202, Q271, Q273	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	12	Q4, Q6, Q7, Q13-Q15, Q100, Q172, Q175, Q200, Q272, Q275	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	4	D108, D109, D208, D209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	8	Q103, Q107, Q109, Q111, Q203, Q207, Q209, Q211	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	8	Q104, Q108, Q110, Q112, Q204, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000215-GP	DIODE MUR1520 15A 200V	4	Q175, Q176, D275, D276	
QD-000216-GP	THYRISTOR 200V 0.1W 2N5064	2	D219, D220	
QD-000217-GP	DIODE, 400V, 3A, IN5404, DO-201AD	4	D117, D118, D217, D218	
QD-000218-GP	DIOD ZNR 3.8-4.0V 1/2 HZ SER	2	D170, D270	
QD-000219-GP	DIODE ZENER 1.3W 10V TEMIC	2	D174, D274	
QD-000220-GP	DIODE ZENER 1W 12V AT TEMIC	2	D178, D278	
QD-000221-GP	TRIAC 600V 40A MAC224 A8	2	Q113, Q213	
QD-000222-GP	TR RFP50N06 N-CH PWR	4	Q170, Q174, Q270, Q274	
QD-000223-GP	TR 2N5064 TRIODE	2	D119, D120	
QD-000269-GP	DIODE ZENER 5.1V 5% .25W DO-35	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FLM	16	R142, R143, R148, R149, R152, R153, R156, R159, R242, R243, R248, R249, R252, R253, R256, R259	
RE-.15003-GP	1.5 OHM 5% 2W THK FLM	4	R181, R182, R281, R282	
RE-.33001-GP	RMF 1W 3.3 OHM 5%	5	R20, R146, R147, R246, R247	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	D-LD1	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001005-GP	RMF 1/4W 10 OHM 5%	2	R163, R263	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	8	R154, R155, R161, R162, R254, R255, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	5	R25, R170, R189, R270, R289	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	4	R124, R127, R224, R227	
RE-010006-GP	RMG 1/10W 100 5%	4	R109, R110, R209, R210	
RE-010007-GP	RMG 1/8W 100 OHM 5% 1206	2	R30, R197	
RE-010008-GP	RMF 1/4W 100 OHM 5%	2	R164, R264	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R231	

Main PCB Assembly ISA800T continued

QSC Part #	Description	Qty.	Reference	Comments
RE-012003-GP	RMF 3W 120 OHM 5% AL METAL	1	R17	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R196, R296	
RE-027402-GP	RMG 274 OHM 1/10W 5%	2	R113, R213	
RE-039001-GP	RMG 1/10W 390 OHM 5% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	9	R111, R115, R130, R132, R145, R215, R230, R232, R245	
RE-082004-GP	RMG 1/10W 820 OHM 5% 1206	1	R211	
RE-107000-GP	1070 OHM 1%	1	R50	
RE-110011-GP	RMF 5W 1K 5%	1	R32	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	4	R18, R19, R114A, R214A	
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120003-GP	RCF 1/8W 2K 5% ATS	2	R190, R195	
RE-120004-GP	RMG 1/10W 2K 1% 0805	5	R8, R11, R16, R290, R295	
RE-122006-GP	SVR 2.2K H3 7X7	4	R239, R240, R139, R140	
RE-122007-GP	RMG 1/10W 2.2K 5% 0805	2	R191, R291	
RE-122008-GP	RMF 5W 2.2K 5% METAL	6	R157, R158, R198, R257, R258, R298	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R168, R268	
RE-130005-GP	RMG 1/10W 3K 5% 0805	2	R141, R241	
RE-130103-GP	RMG 1/10W 3.01K 1% 0805	3	R24, R175, R275	
RE-147001-GP	RMG 1/10W 4.7K 5% 0805	10	R138, R174, R179, R187, R193, R238, R274, R279, R287, R293	
RE-151003-GP	RMF 5W 5.1K 5% AL METAL	4	R180, R188, R280, R288	
RE-159003-GP	5.9K 1% 1/10W THK FLM 0805	4	R171, R184, R271, R284	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-182002-GP	RMF 5W 8.2K 5% AL METAL	8	R118, R119, R133, R135, R218, R219, R233, R235	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	20	R22, R23, R31, R34-R38, R100, R101, R103, R105, R106, R128, R200, R201, R203, R205, R206, R228	
RE-212001-GP	RMG 1/10W 12K 5% 0805	2	R176, R276	
RE-212002-GP	RMF 1W 12K 5% AT METAL	4	R177, R194, R277, R294	
RE-215007-GP	RMF 1W 15K 5% METAL	2	R165, R265	
RE-220005-GP	RMG 1/10W 20K 1% 0805	3	R52, R250, R251	
RE-223202-GP	RMF 1/2W 23.2K 1% AT	5	R122, R123, R144, R222, R244	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	6	R18, R19, R117, R121, R217, R221	
RE-233002-GP	RMF 2W 33K 5% METAL	2	R2, R5	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-247005-GP	RMG 1/10W 47K 5% 0805	2	R183, R283	
RE-268002-GP	RMG 1/8W 68K 5% 1206	5	R22A, R22B, R23A, R23B, R33	
RE-315003-GP	RMG 1/8W 150K 5% 1206	11	R10, R104, R173, R178, R186, R192, R204, R273, R278, R286, R292	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R27	
RE-346401-GP	464K 1% 1/8W THK FLM 1206	5	R39, R40, R166, R167, R266	
RE-347003-GP	RMG 1/10W 470K 5% 0805	4	R172, R185, R272, R285	
RE-391001-GP	RMG 1/8W 910K 1% 1206	3	R15, R116, R206	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
WC-000209-GP	CABLE ASSY, 5 PIN	1	R131, R139, R140	
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA750, 800Ti, & 800T

120V: QSC part # WP-007502-00

230V: QSC part # WP-007502-02

See parts listing on pages 56 and 57.

6.9 ISA800Ti parts and assemblies

ISA800Ti Power Amplifier

120V: QSC part # FG-000825-00

230V: QSC part # FG-000825-02

220V Korea: QSC part # FG-000825-03

240V UK: QSC part # FG-000825-04

QSC part #	Description	Qty.	Reference	Comments
CH-000155-GP	TOP COVER ISA	1		
CO-000228-GP	EURO 3 PIN CONNECTOR, GRN	2		
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
PL-000156-GP	RUBBER FEET	4		
PL-000164-GP	AC CORD PROTECTOR	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	16	ALT. P/N: SC-040002-GP	
TD-000093-00	OWNERS MANUAL, ISA,	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1	100V and 120V only	
TS-000004-WR	3 YEARS WARRANTY	3		
WC-000181-GP	AC CORD 15A ISA	1	100V and 120V only	
WC-000213-GP	AC CORD	1	230V except UK	
WC-000273-GP	AC CORD 240V UK, FUSE 13A	1	UK only	
WP-000825-00	ISA 800TI CHASSIS ASSY (120V)	1	100V and 120V only	
WP-000825-02	ISA 800TI CHASSIS ASSY (230V)	1	230V only	

Chassis Assembly ISA800Ti

120V: QSC part # WP-000825-00

230V: QSC part # WP-000825-02

220V Korea: QSC part # WP-000825-03

QSC Part #	Description	Qty.	Reference	Comments
CH-000153-GP	CHASSIS FAB ISA	1		
CH-000166-GP	RACK EAR ISA	2		
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000174-GP	COVER, XFMR, STEEL, SMALL, ISA	2		
CO-000211-GP	AC INLET 250V 15A	1		
CO-000218-GP	6 POLE SPEAKER TERMINAL	2		
LB-000355-GP	LABEL, GROUND	1		
LB-000371-GP	LABEL, CE, , ,	1		230V only
LB-000410-GP	LABEL "UL LISTED"	1		120V only
LB-000449-GP	LABEL, REAR, , ISATI,	1		
LB-000452-GP	LABEL, FRONT, , ISA 800TI,	1		
MS-000122-GP	DC FAN, 24V 119X119X38MM	1		
MS-000131-GP	FAN GUARD, BLACK	1		
NW-000036-GP	NUT, HEX M6, , ,	2		
NW-000037-GP	WASHER, LOCK M6, , ,	2		
NW-030000-GP	SPRING WASHER M3 X 0.9 X 5.5	1		
NW-030002-GP	I/T WASHER M3 X 0.5 X 6.4 WZ	1		
NW-040001-GP	NUT KEPS M4	4		
NW-080003-GP	NUT M8X13MM 6.5MM THK STL WHT	1		
NW-080004-GP	LOCK WASHER M8 SPLIT ID 8.5MM	1		
PL-000149-GP	KNOB, VR	2		
PL-000157-GP	XFMR RUBBER PAD (LARGE)	2		
PL-000158-GP	XFMR RUBBER PAD (SMALL)	4		
SC-000020-GP	BOLT, M8 X 100MM, , , WHT ZINC,	1		
SC-000021-GP	BOLT, M6 X 55MM, , , WHT ZINC,	2		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		

Chassis Assembly ISA800Ti continued

QSC Part #	Description	Qty.	Reference	Comments
SC-030002-GP	M3 B-TITE FLAT-CS	2		
SC-030004-GP	M3 X 8 BLK MACHINE	16		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	4		
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040007-GP	PHILLIPS, SERRATED M4X20L BLK	4		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	10	ALT. P/N: SC-040001-GP	
SW-000088-GP	ROCKER POWER SWITCH	1		
SW-000091-GP	CIRCUIT BREAKER 15A	1		100V and 120V only
SW-000094-GP	CIRCUIT BREAKER 8A	1		230V only
WC-000169-GP	CONN ASSY 2PIN ISA	2		
WC-000171-GP	CONN ASSY 3-PIN	1		
WC-000173-GP	CONN ASSY 4P P2.5 L=200 AWG26	2		
WC-000174-GP	CONN ASSY 6-PIN ISA 280	1		
WC-000175-GP	CONN ASSY 8P P2.5 L=460 AWG26	1		
WC-000177-GP	UL1015 #14 2P GRN L=100	1		
WC-000179-GP	UL1015 #16 3P BRN L=360	2		
WC-000180-GP	UL1015 #16 2P OFFWHITE	2		
WC-000182-GP	CONN ASSY 13P P2.0 L=240	1		
WC-000192-GP	UL 2547 3-PIN P2.5 L=250	2		
WC-000198-GP	GROUND WIRE	1		
WC-000199-GP	UL 1015 AWG#14 BROWN	0.12		
WC-000211-GP	WIRE ASSY, FAN GROUND	1		
WP-000826-00	MAIN PCB ASSY, ISA 800TI	1		
WP-007502-00	PCB ASSY, AC/INPUT ISA750(120V)	1		100V and 120V only
WP-007502-02	PCB ASSY, AC/INPUT, ISA750, 230V,	1		230V only
XF-000192-GP	PWR XFMR ISA800T/750	1		
XF-000270-GP	LINE ISA XFMR ISA 800TI	2		

Main PCB Assembly ISA800Ti

QSC part # WP-004501-00

QSC Part #	Description	Qty.	Reference	Comments
CA-027003-GP	CTC 200V 27PF 5% 1206	2	C111, C211	
CA-047005-GP	CC 50V 47PF 5% 0805	6	C170, C176, C177, C270, C276, C277	
CA-056001-GP	CC 50V 56PF 10% 0805	2	C110, C210	
CA-110004-GP	CC 50V 100PF 10% 0805	2	C9, C132	
CA-110005-GP	CC 50V 100PF 5% 0805 1.2	1	C130	
CA-118000-GP	CC 50V 180PF 5% 0805	4	C101, C103, C201, C203	
CA-210012-GP	CM 100V .001UF 5% RL 5X	2	C131, C231	
CA-215004-GP	CM 250V .0015UF 5% RL	2	C114, C214	
CA-222007-GP	50V .0022UF 10% 1206	4	C115, C117, C215, C217	
CA-233004-GP	CM 50V .0033UF 5% RL	4	C172, C179, C272, C279	
CA-310009-GP	CC 50V .01UF 20% 0805	3	C5, C181, C281	
CA-322006-GP	CM 50V .022UF 5% RL	4	C116, C119, C216, C219	
CA-322007-GP	CC 50V .022UF 10% 0805	2	C133, C233	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	4	C124, C126, C224, C226	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	2	C11, C104	
CA-410015-GP	CM 50V .1UF 5% RL	6	C107-C109, C207-C209	
CA-410016-GP	CC 50V .1UF 10% 1206	2	C178, C278	
CA-410018-GP	CM 250V .1UF 5% RL	4	C174, C175, C274, C275	
CA-547008-GP	4.7UF 20% 250V ELECTRO RAD	1	C7	
CA-610009-GP	CE 35V 10UF 20% RL 5 X 11	2	C171, C271	
CA-622007-GP	CE 25NP 22UF 20% RL 5X11	2	C129, C229	
CA-647000-GP	47UF 16V 20% ELECTROLYTIC RL	3	C8, C106, C206	
CA-710009-GP	CE 25V 100UF 20% RL	6	C105, C173, C180, C205, C273, C280	
CA-710010-GP	CE 16NP 100UF 20% RL 8X11	2	C125, C225	
CA-722006-GP	CE 25V 220UF 20% RL	5	C13, C112, C113, C212, C213	
CA-912001-GP	12000UF, 20 PCNT, 63V, RL, ,	8	C120-C123, C220-C223	
CH-000163-GP	HEATSINK ISA 750 3 SP	1		
CH-000165-GP	PCB HOLDER ISA GPE	1		

Main PCB Assembly ISA800Ti continued

QSC Part #	Description	Qty.	Reference	Comments
CH-000168-GP	VR BRACKET ISA	2		
CH-000171-GP	BRACKET, RT ANGLE HD15	2		
CH-000172-GP	CLAMP TRANSISTOR	8		
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	2	J207, J425	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	5	J108, J208, J257, J401, J402	
CO-000215-GP	CONN 4 PIN STRAIGHT WAFER	6	J105, J106, J205, J206, J422, J423	
CO-000216-GP	CONN 8 PIN STRAIGHT WAFER	2	J258, J424	
CO-000219-GP	3 PIN INPUT JACK	2	J102, J202	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	18	E100, E100A, E101, E112-E117, E117A, E200, E201, E212-E217	
CO-000222-GP	8-PIN IC SOCKET	2	REF:U101,201	
CO-000223-GP	26-PIN DUAL ROW IEC	2	J1, J203	
CO-000224-GP	CONN 6 PIN ST. WAFER	1	J421	
CO-000226-GP	CONN 13-PIN WAFER 2.0	2	J104, J204	
HW-000020-GP	FUSE HOLDER 6.3MM	4	REF: F100,200	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U201	
IC-000212-GP	IC NE5517D	1	U10	
IC-000214-GP	LM311M VOLTAGE	4	U170, U171, U270, U271	
MS-000127-GP	FUSE T20A 125V 6.4 X 32MM	2	F100, F200	
PC-007501-00	SRV - MAIN PCB, ISA 750/800T	1		
PL-000150-GP	LED HOLDER	3	REF: LD100A,200A,LD1A	
PL-000155-GP	INSULATION SILICON FOR TO-220	2		
PL-000156-GP	RUBBER FEET	1		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R112, R212	
QD-000197-GP	LED 4.7MM RED W/STAND	2	LD100A, LD200A	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1A, LD101A, LD201A	
QD-000201-GP	DIODE LL4148 SM	42	D2-D7, D9, D14, D16-D19, D102-D106, D111-D116, D121, D171, D173, D177, D202-D206, D211-D216, D221, D271, D273, D277	
QD-000202-GP	DIODE 1N4004 AL	5	D1, D10-D13	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D8, D15, D100, D101, D200, D201	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	16	Q5, Q8, Q9, Q11, Q12, Q16-Q18, Q101, Q102, Q171, Q173, Q201, Q202, Q271, Q273	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	12	Q4, Q6, Q7, Q13-Q15, Q100, Q172, Q175, Q200, Q272, Q275	
QD-000206-GP	DIOD RECT FAST, 1N4934 AT	4	D108, D109, D208, D209	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	3	Q10, Q105, Q205	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	8	Q103, Q107, Q109, Q111, Q203, Q207, Q209, Q211	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	8	Q104, Q108, Q110, Q112, Q204, Q208, Q210, Q212	
QD-000210-GP	XISTOR PNP 250V MJE15033	2	Q106, Q206	
QD-000213-GP	TR KST42	1	Q1	
QD-000215-GP	DIODE MUR1520 15A 200V	4	D175, D176, D275, D276	
QD-000216-GP	THYRISTOR 200V 0.1W 2N5064	2	D219, D220	
QD-000217-GP	DIODE, 400V, 3A, IN5404, DO-201AD	4	D117, D118, D217, D218	
QD-000218-GP	DIOD ZNR 3.8-4.0V 1/2 HZ SER	2	D170, D270	
QD-000219-GP	DIODE ZENER 1.3W 10V TEMIC	2	D174, D274	
QD-000220-GP	DIODE ZENER 1W 12V AT TEMIC	2	D178, D278	
QD-000221-GP	TRIAC 600V 40A MAC224 A8	2	Q113, Q213	
QD-000222-GP	TR RFP50N06 N-CH PWR	4	Q170, Q174, Q270, Q274	
QD-000223-GP	TR 2N5064 TRIODE	2	D119, D120	
QD-000269-GP	DIODE ZENER 5.1V 5% .25W DO-35	4	D107, D110, D207, D210	
RE-.02201-GP	0.22 OHM 5% 3W THK FLM	16	R142, R143, R148, R149, R152, R153, R156, R159, R242, R243, R248, R249, R252, R253, R256, R259	
RE-.15003-GP	1.5 OHM 5% 2W THK FLM	4	R181, R182, R281, R282	
RE-.33001-GP	RMF 1W 3.3 OHM 5%	5	R146, R147, R20, R246, R247	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	2	R160, R260	
RE-000004-GP	RMG 1/8W 0 OHM 5% 1206	1	LD1	
RE-000250-GP	NTC RES 50 OHM	2	R134, R234	
RE-000260-GP	THERMAL PTC 60C 100 OHM	2	R4, R7	
RE-001005-GP	RMF 1/4W 10 OHM 5%	2	R163, R263	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	8	R154, R155, R161, R162, R254, R255, R261, R262	
RE-002202-GP	RMF 1W 22 5% AT FP	4	R136, R137, R236, R237	

Main PCB Assembly ISA800Ti continued

QSC Part #	Description	Qty.	Reference	Comments
RE-004702-GP	RMG 1/10W 47 OHM 5% 0805	5	R25, R170, R189, R270, R289	
RE-007506-GP	RMG 1/10W 75 OHM 5% 0805	4	R124, R224, R127, R227	
RE-010006-GP	RMG 1/10W 100 5%	4	R109, R110, R209, R210	
RE-010007-GP	RMG 1/8W 100 OHM 5% 1206	2	R30, R197	
RE-010008-GP	RMF 1/4W 100 OHM 5%	2	R164, R264	
RE-010009-GP	100 OHM POT PCB MOUNT	1	R231	
RE-012003-GP	RMF 3W 120 OHM 5% AL METAL	1	R17	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	2	R196, R296	
RE-027402-GP	RMG 274 OHM 1/10W 5%	2	R113, R213	
RE-039001-GP	RMG 1/10W 390 OHM 5% 0805	2	R120, R220	
RE-082003-GP	RMG 1/8W 820 OHM 5% 1206	9	R111, R115, R130, R132, R145, R215, R245, R230, R232	
RE-082004-GP	RMG 1/10W 820 OHM 5% 1206	1	R211	
RE-107000-GP	1070 OHM 1%	1	R50	
RE-110011-GP	RMF 5W 1K 5%	1	R32	
RE-110012-GP	RMG 1/10W 1K 5% 0805	3	R102, R126, R202	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	4	R18, R19, R114A, R214A	
RE-115004-GP	RMG 1/10W 1.5K 5% 0805	2	R129, R229	
RE-120003-GP	RCF 1/8W 2K 5% ATS	2	R190, R195	
RE-120004-GP	RMG 1/10W 2K 1% 0805	5	R8, R11, R16, R290, R295	
RE-122006-GP	SVR 2.2K H3 7X7	4	R239, R240, R139, R140	
RE-122007-GP	RMG 1/10W 2.2K 5% 0805	2	R191, R291	
RE-122008-GP	RMF 5W 2.2K 5% METAL	6	R157, R158, R198, R257, R258, R298	
RE-130004-GP	RMG 1/8W 3K 1% 1206	2	R168, R268	
RE-130005-GP	RMG 1/10W 3K 5% 0805	2	R141, R241	
RE-130103-GP	RMG 1/10W 3.01K 1% 0805	3	R24, R175, R275	
RE-147001-GP	RMG 1/10W 4.7K 5% 0805	8	R174, R179, R187, R193, R274, R279, R287, R293	
RE-151003-GP	RMF 5W 5.1K 5% AL METAL	4	R180, R188, R280, R288	
RE-159003-GP	5.9K 1% 1/10W THK FLM 0805	4	R171, R184, R271, R284	
RE-175003-GP	RMG 1/10W 7.5K 5% 0805	2	R108, R208	
RE-182002-GP	RMF 5W 8.2K 5% AL METAL	8	R118, R119, R133, R135, R218, R219, R233, R235	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	20	R22, R23, R31, R34-R38, R100, R101, R103, R105, R106, R128, R200, R201, R203, R205, R206, R228	
RE-212002-GP	RMF 1W 12K 5% AT METAL	4	R177, R194, R277, R294	
RE-215007-GP	RMF 1W 15K 5% METAL	2	R165, R265	
RE-220005-GP	RMG 1/10W 20K 1% 0805	3	R52, R250, R251	
RE-223202-GP	RMF 1/2W 23.2K 1% AT	5	R122, R123, R144, R222, R244	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	6	R18, R19, R117, R121, R217, R221	
RE-233002-GP	RMF 2W 33K 5% METAL	2	R2, R5	
RE-239001-GP	RMG 1/10W 39K 5% 0805	2	R107, R207	
RE-247004-GP	RMG 1/8W 47K 5% 1206	2	R125, R225	
RE-247005-GP	RMG 1/10W 47K 5% 0805	4	R176, R276, R183, R283	
RE-268002-GP	RMG 1/8W 68K 5% 1206	5	R22A, R22B, R23A, R23B, R33	
RE-315003-GP	RMG 1/8W 150K 5% 1206	11	R10, R104, R173, R178, R186, R192, R204, R273, R278, R286, R292	
RE-322001-GP	RMG 1/8W 220K 5% 1206	1	R26	
RE-330001-GP	RMG 1/8W 330K 5% 1206	1	R27	
RE-346401-GP	464K 1% 1/8W THK FLM 1206	5	R39, R40, R166, R167, R266	
RE-347003-GP	RMG 1/10W 470K 5% 0805	4	R172, R185, R272, R285	
RE-391001-GP	RMG 1/8W 910K 1% 1206	3	R15, R116, R206	
RE-410002-GP	RMG 1/8W 1M 5% 1206	2	R3, R6	
WC-000209-GP	CABLE ASSY, 5 PIN	1	REF: R131,139,140	
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	2	L100, L200	

PCB Assembly, AC/Input ISA750, 800Ti, & 800T

120V: QSC part # WP-007502-00

230V: QSC part # WP-007502-02

See parts listing on pages 57 and 58.

6.10 ISA1350 parts and assemblies

ISA1350 Power Amplifier

120V: QSC part # FG-001350-00

230V: QSC part # FG-001350-02

QSC Part #	Description	Qty.	Reference	Comments
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Chassis Assembly ISA1350 (beginning May 2006)

120V: QSC part # WP-013503-00

230V: QSC part # WP-013503-02

220V Korea: QSC part # WP-013503-03

QSC Part #	Description	Qty.	Reference	Comments
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Chassis Assembly ISA1350 (before May 2006)

120V: QSC part # WP-013500-00

230V: QSC part # WP-013500-02

220V Korea: QSC part # WP-013500-03

QSC Part #	Description	Qty.	Reference	Comments
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LB-000410-GP	LABEL "UL LISTED"	1		100V and 120V only
LB-000371-GP	LABEL, CE, , ,	1		230V only
QD-000257-GP	BRDG RECT 400V 35A IN-LINE	6	BR101-BR103, BR201-BR203	
XF-000201-GP	XFMR, PWR, 50/60HZ, TOROID, CH2 RT	1		
XF-000229-GP	XFMR, PWR, 50/60HZ, TOROID, CH1 LT	1		

Main PCB Assembly ISA450

QSC part # WP-013501-00

QSC Part #	Description	Qty.	Reference	Comments
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CA-015004-GP	15PF 5% 200V CERAMIC X7R 0805	1	C113	
CA-027004-GP	27PF 5% 50V COG 0805	1	C116	
CA-047005-GP	CC 50V 47PF 5% 0805	8	C127, C128, C132, C133, C136, C137, C161, C162	
CA-110005-GP	CC 50V 100PF 5% 0805 1.2	2	C101, C103	
CA-122005-GP	CC 50V 220PF 5% 0805	4	C20-C23	
CA-147006-GP	470PF 5% 50V CER NPO	4	C1-C4	
CA-210012-GP	CM 100V .001UF 5% RL 5X	1	C106	
CA-215004-GP	CM 250V .0015UF 5% RL	1	C114	
CA-222007-GP	50V .0022UF 10% 1206	6	C122, C125, C126, C164, C165, C170	
CA-222012-GP	0.0022UF, 5 PONT, 250V, RADIAL, ,	1	C121	
CA-233006-GP	0.0033UF 5% 50V CER X7R 0805	1	C102	All 220-240V only
CA-247003-GP	.0047UF, 5%, 50V, CERAMIC, 0805	1	C102	100V and 120V only
CA-256002-GP	0.0056UF 10% 50V CER X7R 0805	1	C120	
CA-310011-GP	.01UF 5% 250V METALIZED POLY	4	C142-C144, C147	
CA-322007-GP	CC 50V .022UF 10% 0805	1	C171	
CA-368004-GP	0.068UF 5% 250V FILM DIPPED	2	C159, C160	
CA-410014-GP	0.1UF 10% 50V CER X7R 0805	4	C15, C105, C129, C130	
CA-410018-GP	CM 250V .1UF 5% RL	1	C163	
CA-415005-GP	0.15UF 5% 100V MYLAR	2	C109, C112	
CA-422005-GP	CM 250V .22UF 10% RL	3	C5, C7, C9	
CA-422007-GP	0.22UF 5% 100V FILM	1	C108	
CA-447009-GP	0.47UF 20% 50V CER X7R 0805	2	C13, C14	
CA-610020-GP	CE 50V 10UF 20% RLT 5 X 11	4	C110, C131, C134, C135	
CA-622007-GP	CE 25NP 22UF 20% RL 5X11	1	C158	
CA-710010-GP	CE 16NP 100UF 20% RL 8X11	2	C104, C111	
CA-710012-GP	CE 25V 100UF 20% RLT 8X11.5	7	C107, C117, C118, C138, C139, C140, C141	
CA-722006-GP	CE 25V 220UF 20% RL	2	C115, C119	
CA-822001-GP	2200UF 20% 25V ELECTRO RADIAL	2	C11, C12	
CA-915001-GP	15000UF, 20 PONT, 50V, ELECTROLYTIC, ,	12	C145, C146, C148-C157	
CH-000166-GP	RACK EAR ISA	1		
CH-000168-GP	VR BRACKET ISA	1		
CH-000171-GP	BRACKET, RT ANGLE HD15	1		

Main PCB Assembly ISA1350 continued

QSC Part #	Description	Qty.	Reference	Comments
CH-000173-GP	COVER, XFMR, STEEL, LARGE	1		
CH-000231-GP	PCB HOLDER RMX 4050HD	1		
CH-000232-GP	HEATSINK RMX 4050HD	1		
CH-000247-GP	CLAMP TRANSISTER 6 FINGER	1		
CH-000248-GP	CLAMP TRANSISTER 4 FINGER	1		
CH-000308-GP	NTC HOLDER	1		
CH-000389-GP	CHASSIS FAB ISA 1350	1		
CH-000390-GP	TOP COVER ISA 1350	1		
CO-000204-GP	CONN XLR F VERT PLASTIC	2	J151, J251	
CO-000211-GP	AC INLET 250V 15A	1		
CO-000213-GP	CONN 2 PIN STRAIGHT WAFER	1	J19	
CO-000214-GP	CONN 3 PIN STRAIGHT WAFER	5	J8, J9, J18, J20, J102	
CO-000218-GP	6 POLE SPEAKER TERMINAL	1		
CO-000219-GP	3 PIN INPUT JACK	3	J112, J212	
CO-000220-GP	CONN HD15	1	J50	
CO-000221-GP	Z-TAB ISA	35	J13-J15, J21A, J21B, J22A, J22B, J23A, J23B, J24A, J24B, J25A, J25B, J26A, J26B, J27A, J27B, J28A, J28B, J301-J312, E101-E104	
CO-000222-GP	8-PIN IC SOCKET	2	U101, U103	
CO-000278-GP	HDR .1 CNTR 30P(2X15)MALE LOCK	1	J6	
CO-000279-GP	JM2422-3M WAFER	2	J29, J30	
CO-000280-GP	HDR 2.5MM CNTR 7P(1X7)MALE	3	J16, J17, J103	
CO-000281-GP	HDR 6.3MM CNTR 6P(2X3)MALE	1	J104	
CO-000282-GP	HDR, 2.5MM CNTR 14P(2X7)MALE, LK	1	J101	
CO-000316-GP	SOCKET 24PIN DUAL/ROW IEC ANGL	2	J105, J122	
HW-000020-GP	FUSE HOLDER 6.3MM	1	F101	
HW-000075-GP	FUSE HOLDER, , , , ,	1	F201	
IC-000211-GP	IC NE5532 OP AMP	2	U101, U103	
IC-000212-GP	IC NE5517D	1	U102	
IC-000214-GP	LM311M VOLTAGE	4	U106-U109	
LB-000438-GP	LABEL, WARNING, RAIN & MOISTURE	1		
LB-000470-GP	LABEL, ISA 1350 REAR 3RU PLTFM	1		
MS-000126-GP	HEATSINK, BRIDGE RECTIFIER	1	Q6	
MS-000189-GP	30A 250V 6.4MM X 32MM FAST	1	F101	
MS-000190-GP	FAN GUARD WIRE 120MM BLACK	1		
MS-000191-GP	FAN, 24VDC, 119 X 119 X 38MM	1		
MS-000193-GP	HEATSINK, BRIDGE RECTIFIER, 40MM, ,	2	Q110, Q111	
MS-000220-GP	FUSE T1A 250V SEM/UDE 5X20MM	1	F201	
NW-040001-GP	NUT KEPS M4	3		
NW-040002-GP	SPRING WASHER M4 X 7	1		
NW-040003-GP	I/T WASHER M4X0.4X8, YZ	2		
NW-040006-GP	HEX NUT M4 X 0.7 X 7MM	1		
NW-080003-GP	NUT M8X13MM 6.5MM THK STL WHT	1		
NW-080004-GP	LOCK WASHER M8 SPLIT ID 8.5MM	1		
PC-001351-00	PCB, MAIN, ISA 1350	1		
PC-001352-00	PCB, INPUT, ISA 1350	1		
PC-001353-00	PCB, RBN CBL SUPPORT, ISA 1350	1		
PC-001354-00	PCB, CLIP & SIGNAL, ISA 1350	1		
PC-001355-00	PCB, POWER & PROTECT, ISA 1350	1		
PC-001356-00	PCB, DATAPORT & GAIN, ISA 1350	1		
PC-001357-00	PCB, RECTIFIER, ISA 1350	1		
PC-001358-00	PCB, PANELIZED, POWER, ISA 1350	1		
PC-001359-00	PCB, POWER SUPPLY, ISA 1350	1		
PL-000149-GP	KNOB, VR	1		
PL-000150-GP	LED HOLDER	3	LD1, LD3, LD6	
PL-000152-GP	CABLE TIE, ISA	1		
PL-000156-GP	RUBBER FEET	1		
PL-000162-GP	INSULATION BUSHING	2	REF: Q110, Q111	
PL-000246-GP	INSUL, XISTOR, 11.6X19X.23, THERM	2	REF: Q110, Q111	
PL-000253-GP	SLEEVE, RIBBON, 50X120X.4MM, BLK	1		
PL-000327-GP	PAD, XFMR, EPDM 40A, 1/8" THK, BLACK,	1		

Main PCB Assembly ISA1350 continued

QSC Part #	Description	Qty.	Reference	Comments
PL-000328-GP	INSULATOR, TO-220, 4-POS, , ,	1		
PM-000042-GP	SHIPPING CARTON, BOX, ISA 3RU (NEW QSC)	1		
PM-000043-GP	CARTON, INSERT	2		
PM-000048-GP	POLYBAG MANUAL	1		
PM-000049-GP	BAG, PLASTIC, 4" X 6"	1		
PM-000050-GP	BAG, POLY, RMX, 430 X 505 X 360MM	1		
PM-000063-GP	POLYBAG	1		
PT-225000-GP	RES VAR 2.5K RT ANGLE PCB	2	R5, R6	
QD-000197-GP	LED 4.7MM RED W/STAND	1	LD5	
QD-000198-GP	LED 4.7MM GRN W/STAND	3	LD1, LD3, LD6	
QD-000200-GP	DIODE RECT 1A 200V DB103	2	BR7, BR8	
QD-000201-GP	DIODE LL4148 SM	6	D1-D6	
QD-000203-GP	DIOD ZNR 15V 1W SILICON EPIT	6	D103, D104, D109, D111, D125, D126	
QD-000204-GP	XISTOR NPN 60V 200MA 3904 SOT-23	17	Q2, Q5, Q102-Q105, Q107, Q108, Q112, Q118, Q121, Q123, Q125, Q126, Q128, Q132, Q142	
QD-000205-GP	XISTOR PNP 40V 0.2A TR3906 SOT-23	15	Q1, Q3, Q4, Q7, Q101, Q106, Q109, Q113, Q122, Q124, Q127, Q129, Q141, Q143, Q147	
QD-000206-GP	DIOD RECT FAST, IN4934 AT	2	D106, D107	
QD-000207-GP	XISTOR NPN 250V 0.5A MJE15032	1	Q110	
QD-000208-GP	XISTOR PNP 230V 5A 2SA1943	6	Q114, Q116, Q119, Q130, Q133, Q137	
QD-000209-GP	XISTOR NPN 230V 5A 2SC5200	6	Q115, Q117, Q120, Q131, Q138, Q134	
QD-000210-GP	XISTOR PNP 250V MJE15033	1	Q111	
QD-000214-GP	TR TIP31C SAMSUNG	1	Q6	
QD-000215-GP	DIODE MUR1520 15A 200V	4	D127-D130	
QD-000216-GP	THYRISTOR 200V 0.1W 2N5064	2	D131, D132	
QD-000217-GP	DIODE, 400V, 3A, IN5404, DO-201AD	2	D123, D124	
QD-000218-GP	DIOD ZNR 3.8-4.0V 1/2 HZ SER	2	D108, D110	
QD-000255-GP	LED RED 4.7MM AC W/RT ANG&HLDR	2	LD2, LD4	
QD-000256-GP	DIOD ZNR 7.29-7.67V, 1/2W HZ	1	D11	
QD-000260-GP	MOSFET, N-CH, 60V, 52A, 52N06V	4	Q135, Q136, Q139, Q140	
QD-000261-GP	TRIAC 600V 40A BTA41-600B, TOP3	1	Q146	
QD-000262-GP	DIODE 75V 1N4148 DO-35 4NS	16	D101, D102, D113-D122, D133-D135, D203	
QD-000280-GP	DIODE 1N4001 ELE-00002	2	D201, D202	
RE-.02202-GP	0.22 5% 3W THICK FILM	15	R128, R199, R200, R209, R210, R216, R217, R222-R224, R228, R236, R237, R241, R242	
RE-.39001-GP	3.9 5% 5W METAL FILM	6	R243-R246, R266, R268	
RE-.47002-GP	4.7 1% 1/8W METAL FILM 1206	2	R197, R202	
RE-.56006-GP	RMF 2W 5.6 OHM 5%	1	R254	
RE-000005-GP	POLYSWITCH 1.1A 0.15 OHM 1.5W	4	R9-R12	
RE-000231-GP	NTC 10K 1% -3.7% PER C	1	R239	
RE-000270-GP	NTC 30A 1 OHM	2	R7, R8	
RE-001005-GP	RMF 1/4W 10 OHM 5%	1	R260	
RE-001006-GP	10, 1 PCNT, 1/10W, THICK FILM, 0805, 100V	4	R229, R230, R234, R235	
RE-001009-GP	10 1% 1/8W THK FLM 1206	1	R160	
RE-001201-GP	12 5% 5W METAL OXIDE FILM	8	R247-R249, R251, R256-R259	
RE-001204-GP	12 5% 1W METAL FILM	1	R201	
RE-001300-GP	RMF 1W 13 OHM 5% AT MET OX	1	R198	
RE-003901-GP	RMG 1/10W 39 OHM 1% 0805	4	R22, R124, R172, R178	
RE-003902-GP	39 1 PCNT 1/8W THK FLM 1206	2	R150, R152	
RE-004753-GP	RMG 1/10W 47.5 OHM 1% 0805	1	R51	
RE-005001-GP	50 OHM POT PCB MOUNT	1	R171	
RE-010008-GP	RMF 1/4W 100 OHM 5%	1	R261	
RE-010009-GP	100 OHM POT PCB MOUNT	1		
RE-010011-GP	100 1% 1/10W THK FLM 0805 100V	4	R107, R121, R122, R233	
RE-012006-GP	120 5% 5W METAL FILM	1	R25	
RE-020003-GP	200 1% 1/10W THK FLM 0805 100V	1	R153	
RE-027004-GP	RMG 1/10W 270 OHM 1% 0805	1	R117	
RE-027403-GP	274 1% 1/10W THICK FILM 0805	2	R118, R120	
RE-060402-GP	RMG 1/10W 604OHM 1% 0805	1	R271	
RE-062001-GP	620 1% 1/10W THK FLM 0805	1	R240	

Main PCB Assembly ISA1350 continued

QSC Part #	Description	Qty.	Reference	Comments
RE-063404-GP	634 OHMS 1% 1/8W 1206	2	R123, R127	
RE-078702-GP	787 1% 1/10W THICK FILM 0805	1	R135	
RE-082007-GP	820 1% 1/10W THK FLM 0805	2	R3, R4	
RE-082008-GP	820 1% 1/8W THK FLM 1206 200V	4	R141, R203, R204, R221	
RE-111801-GP	1.18K, 1 PCNT, 1/10W, RMG, 0805,	2	R50, R112	
RE-112001-GP	RMG 1/10W 1.2K 1% 0805	1	R111	
RE-115006-GP	1.5K 1% 1/8W THK FLM 1206	3	R23, R26, R27	
RE-115008-GP	1.5K, 1 PCNT, 1/10W, THK FLM, 0805, 100V	1	R211	
RE-116902-GP	1.69K 1% 1/4W AT	1	R19	
RE-122009-GP	RMG 1/10W 2.2K 1% 0805	2	R218, R227	
RE-122010-GP	2.2K 1% 1/10W THK FM 0805 100V	1	R24	
RE-130004-GP	RMG 1/8W 3K 1% 1206	1	R290	
RE-130103-GP	RMG 1/10W 3.01K 1% 0805	10	R125, R126, R131, R132, R137, R138, R139, R205, R212, R215	
RE-147002-GP	4.7K 1% 1/10W THK FLM 0805	10	R129, R174-R177, R188, R189, R191, R192, R250	
RE-159003-GP	5.9K 1% 1/10W THK FLM 0805	5	R16, R161, R166, R206, R214	
RE-164901-GP	6.49K, 1 PCNT, 1/10W, RMG, 0805,	1	R115	
RE-175004-GP	7.5K 1% 1/10W THK FM 0805 100V	3	R119, R140, R144	
RE-190903-GP	RMF 1/2W 9.09K 1% AT	2	R148, R151	
RE-210007-GP	10K 1% 1/10W THK FLM 0805	7	R20, R28, R53, R101, R102, R186, R187	
RE-211001-GP	RMG 1/10W 11K 1% 0805	1	R281	
RE-212003-GP	12K 1% 1/10W THK FLM 0805 100V	8	R1, R2, R145, R146, R219, R225, R226, R231	
RE-212105-GP	12.1K, 1 PCNT, 1/10W, RMG, 0805,	1	R280	
RE-213304-GP	RMF 1/2W 13.3K 1% AT	2	R149, R154	
RE-215007-GP	RMF 1W 15K 5% METAL	1	R255	
RE-215402-GP	15.4K, 1 PCNT, 1/10W, RMG, 0805,	4	R55-R58	
RE-220005-GP	RMG 1/10W 20K 1% 0805	5	R104, R105, R106, R108, R232	
RE-221002-GP	RMG 1/10W 21K 1% 0805	1	R52	
RE-222001-GP	22K 1% 1/10W 0805	1	R30	
RE-223202-GP	RMF 1/2W 23.2K 1% AT	1	R270	
RE-224001-GP	24.0K 1% 1/10W THK FLM 0805	3	R29, R130, R136	
RE-227001-GP	27K 1% 1/10W 0805	1	R143	
RE-239002-GP	39K 5% 1W METAL FILM	1	R213	
RE-239003-GP	39K, 1 PCNT, 1/10W, MET FLM, 0805, 100V	3	R116, R207, R208	
RE-247006-GP	47K 1% 1/10W THK FLM 0805 100V	8	R17, R18, R133, R185, R190, R264, R265, R267	
RE-310007-GP	100K 1% 1/10W THK FLM 0805	2	R103, R238	
RE-310008-GP	100K 1% 1/8W THK FLM 1206	18	R109, R110, R155-R158, R162-R165, R167-R170, R179-R182	
RE-315004-GP	RMG 1/8W 150K 1% 1206	3	R113, R114, R142	
RE-318001-GP	180K 1% 1/4W METAL FILM	1	R14	
RE-318002-GP	180K 1% 1/8W THK FLM 1206	1	R13	
RE-346401-GP	464K 1% 1/8W THK FLM 1206	3	R15, R21, R147	
RE-346402-GP	464K 1% 1/10W THK FLM 0805 50V	5	R193-R196, R220	
RE-349901-GP	499K 1% 1/8W THICK FILM 1206	1	R134	
SC-000018-GP	BOLT, PHILLIPS, , , ,	1		
SC-030001-GP	BH M3 X 10MM BZ CRD, B-TITE	4		
SC-030002-GP	M3 B-TITE FLAT-CS	1		
SC-030004-GP	M3 X 8 BLK MACHINE	8		
SC-030005-GP	M3 X 12MM (BLK/ZINC)	1		
SC-030007-GP	M3 X 6MM B-TITE BLK ZN	3	Q6, Q110, Q111	
SC-030011-GP	M3 X 8 MM NICKEL	2		
SC-040002-GP	SCREW, M4X10(H) BLK, ZN, SERRATED	3		
SC-040007-GP	PHILLIPS, SERRATED M4X20L BLK	1		
SC-040008-GP	P/P, M4, 10MM, BLK, TRIANGULAR TIP	1		
SW-000089-GP	10 POLE DIP SWITCH	1	SW1	
SW-000091-GP	CIRCUIT BREAKER 15A	1		
SW-000097-GP	DPST, 20A, 125VAC	1		
TD-000136-00	SRV - OWNERS MANUAL, ISATI/ISA SERIES(NEW)	1		
TD-000900-AX	WARRANTY CARD, GENERIC,	1		
TS-000004-WR	3 YEARS WARRANTY	3		
WC-0.6023-GP	0.6 JUMPER 23AWG	16	J34-J45, J53-J56	
WC-000181-GP	AC CORD 15A ISA	1		

Main PCB Assembly ISA1350 continued

QSC Part #	Description	Qty.	Reference	Comments
WC-000183-GP	SLEEVE .7086	2	R7, R8	
WC-000184-GP	SLEEVE 1MM	3	R25, D106, D107	
WC-000188-GP	SLEEVE, PVC, 5MM ID, BLK	3		
WC-000189-GP	SHRINKAGE TUBE ID=14MM	1		
WC-000284-GP	WIRE ASSY W/2T L=600MM	1		
WC-000285-GP	WIRE CONN ASSY W/6 SINGLE	1		
WC-000287-GP	GND WIRE UL 10015 #14	1		
WC-000288-GP	WIRE ASSY, 14AWG, 210MM, L, BRN	1		
WC-000289-GP	WIRE ASSY, 14AWG, 600MM L, BLU	1		
WC-000290-GP	WIRE ASSY, 28AWG, 7COND, 140MM L.	1		
WC-000292-GP	CABLE ASSY RIBBON 28PIN	1		
WC-000295-GP	WIRE ASSY, GRAY 60MM	1		
WC-000329-GP	SHRINKAGE TUBE ID=12 UL/CSA	1		
WC-000330-GP	WIRE ASSY W/2T L-600MM #14 BRN	1		
WC-000331-GP	WIRE ASSY W/3T L=490/100 #14	1		
WC-000332-GP	WIRE ASSY W/3T L-560/100 #14	1		
WC-000333-GP	WIRE ASSY W/2T L=260 #14 BRN	1		
WC-000334-GP	WIRE ASSY W/2T L-220 #14 BRN	1		
WC-000335-GP	WIRE ASSY W/2T L-520 #14 GRY	1		
WC-000336-GP	CABLE ASSY RIBBON 24PIN IEC	1		
WC-000337-GP	CONN ASSY 3P P2.5 L-160 26AWG	1		
XF-000190-GP	SPRING COIL 2UH (14GA WIRE)	1	L101	

PCB Assembly, AC/Input ISA

120V: QSC part # WP-*****2-00

230V: QSC part # WP-*****2-02

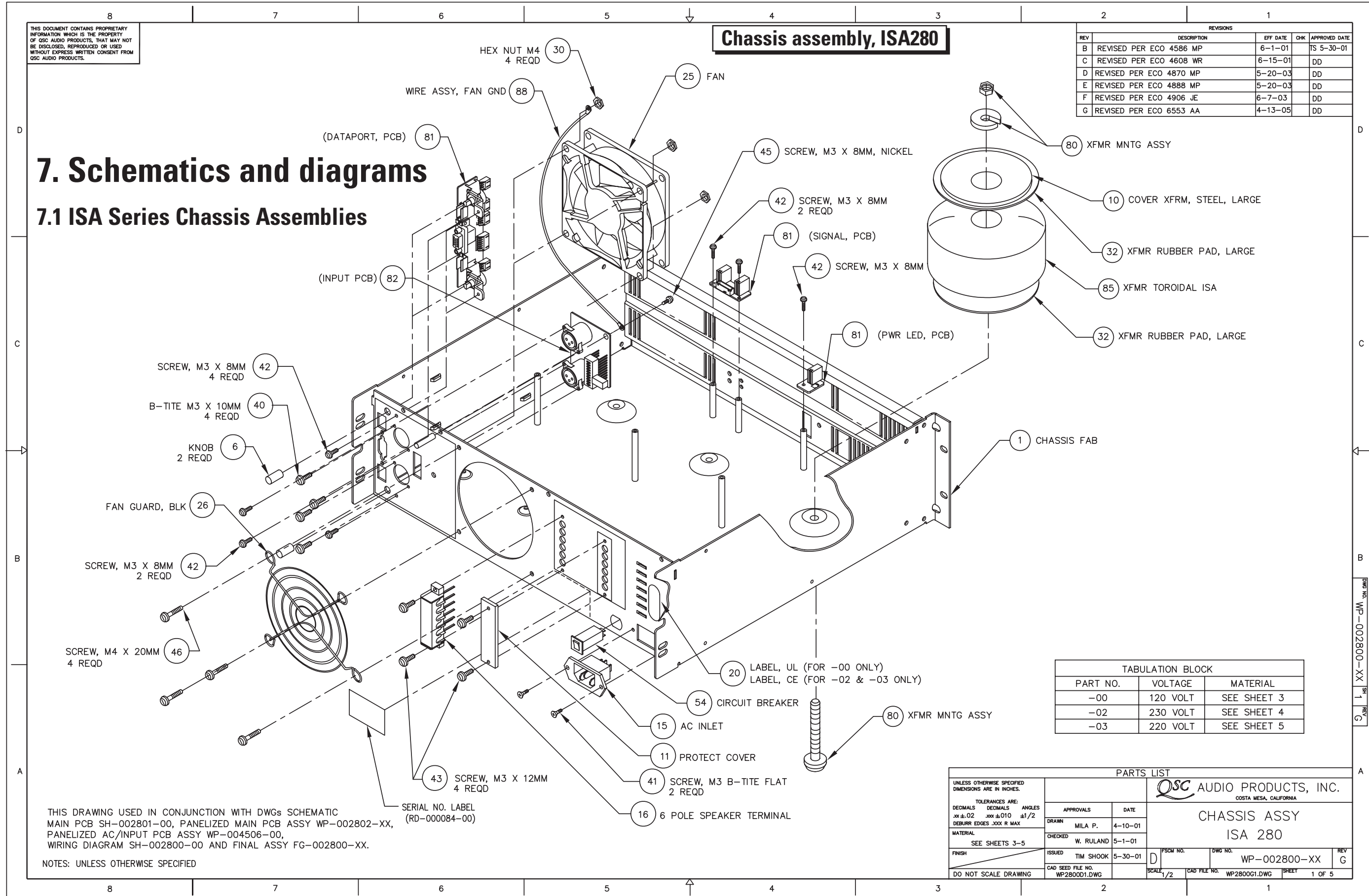
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Chassis assembly, ISA280

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
B	REVISED PER ECO 4586 MP	6-1-01	TS	5-30-01
C	REVISED PER ECO 4608 WR	6-15-01	DD	
D	REVISED PER ECO 4870 MP	5-20-03	DD	
E	REVISED PER ECO 4888 MP	5-20-03	DD	
F	REVISED PER ECO 4906 JE	6-7-03	DD	
G	REVISED PER ECO 6553 AA	4-13-05	DD	

7. Schematics and diagrams

7.1 ISA Series Chassis Assemblies



THIS DRAWING USED IN CONJUNCTION WITH DWGS SCHEMATIC MAIN PCB SH-002801-00, PANELIZED MAIN PCB ASSY WP-002802-XX, PANELIZED AC/INPUT PCB ASSY WP-004506-00, WIRING DIAGRAM SH-002800-00 AND FINAL ASSY FG-002800-XX.

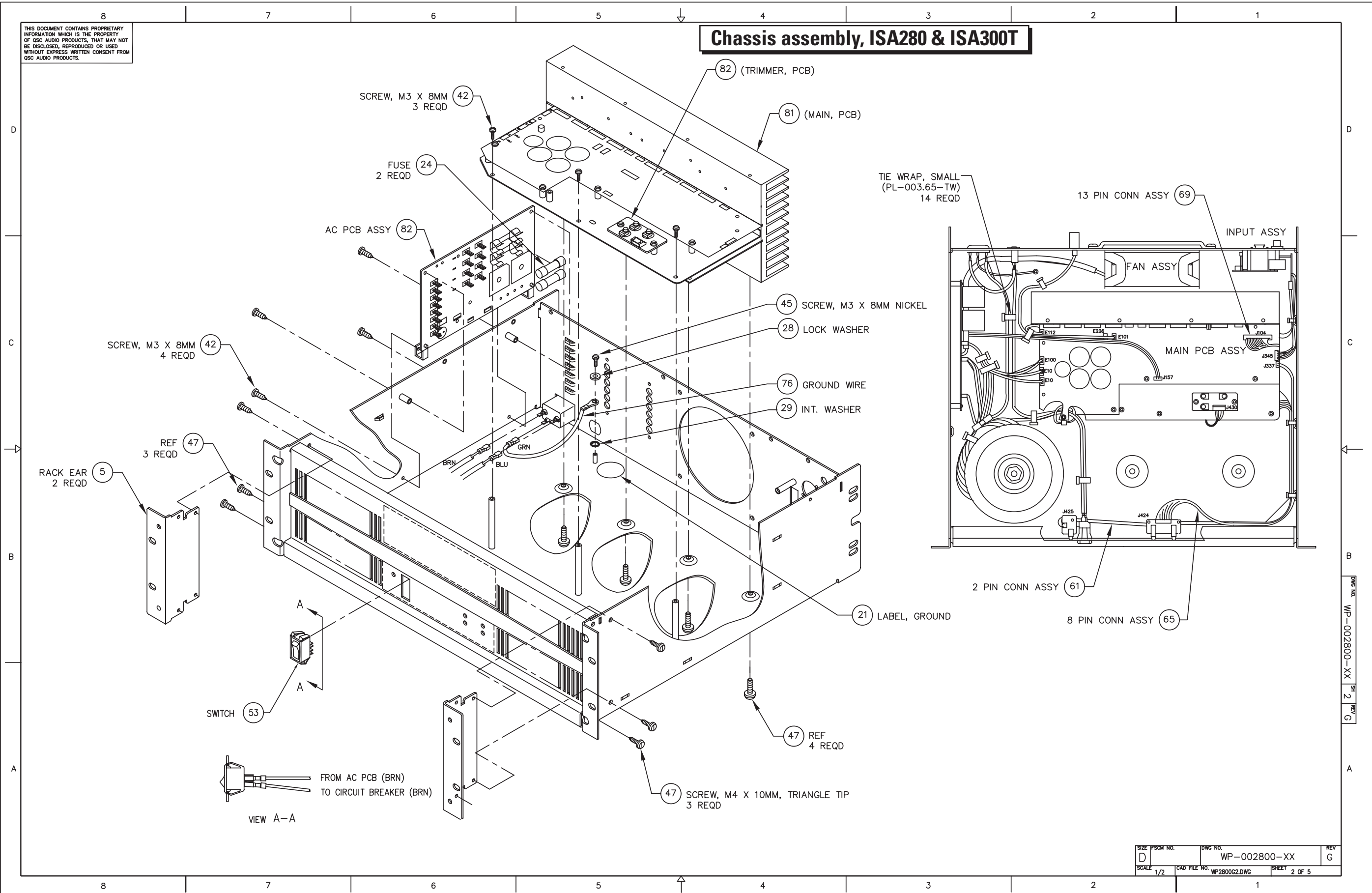
NOTES: UNLESS OTHERWISE SPECIFIED

TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEET 3
-02	230 VOLT	SEE SHEET 4
-03	220 VOLT	SEE SHEET 5

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE:	APPROVALS	DATE	CHASSIS ASSY ISA 280	
DECIMALS DECIMALS ANGLES	DRAWN			
.XX ±.02 .XXX ±.010 ±1/2	DEBURR EDGES .XXX R MAX			
MATERIAL	CHECKED			
SEE SHEETS 3-5	ISSUED		D FSCM NO. _____ DWG NO. WP-002800-XX REV G	
FINISH	CAD SEED FILE NO.	SCALE 1/2	CAD FILE NO. WP2800G1.DWG	SHEET 1 OF 5
DO NOT SCALE DRAWING	WP2800D1.DWG			

Chassis assembly, ISA280 & ISA300T

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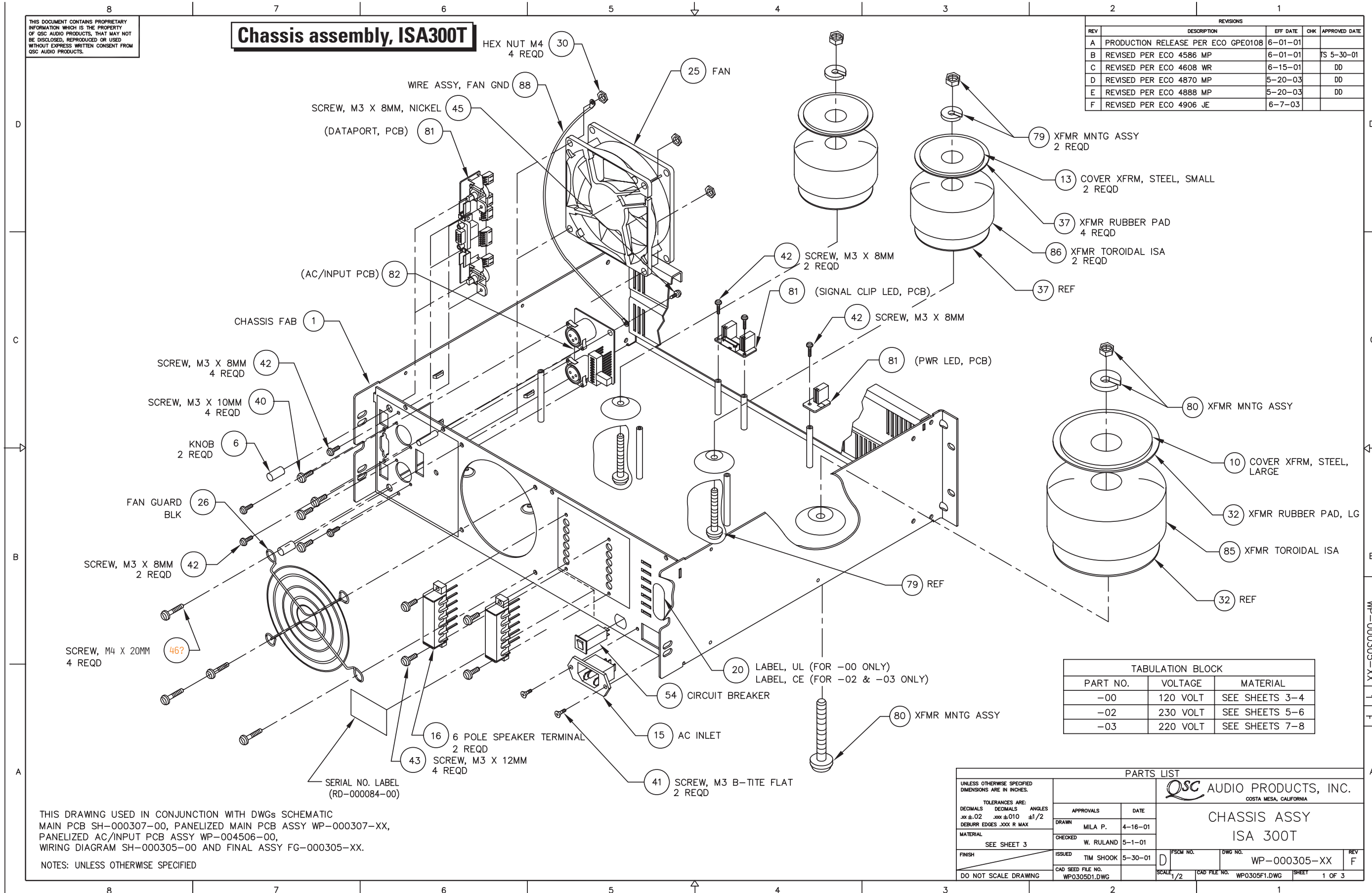
SIZE	D	PSCM NO.		DWG NO.	WP-002800-XX	REV	G
SCALE	1/2	CAD FILE NO.	WP2800G2.DWG	SHEET	2 OF 5		

DWG NO. WP-002800-XX SRV 2 REV G

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Chassis assembly, ISA300T

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
A	PRODUCTION RELEASE PER ECO GPE0108	6-01-01		
B	REVISED PER ECO 4586 MP	6-01-01		TS 5-30-01
C	REVISED PER ECO 4608 WR	6-15-01		DD
D	REVISED PER ECO 4870 MP	5-20-03		DD
E	REVISED PER ECO 4888 MP	5-20-03		DD
F	REVISED PER ECO 4906 JE	6-7-03		



THIS DRAWING USED IN CONJUNCTION WITH DWGs SCHEMATIC MAIN PCB SH-000307-00, PANELIZED MAIN PCB ASSY WP-000307-XX, PANELIZED AC/INPUT PCB ASSY WP-004506-00, WIRING DIAGRAM SH-000305-00 AND FINAL ASSY FG-000305-XX.
 NOTES: UNLESS OTHERWISE SPECIFIED

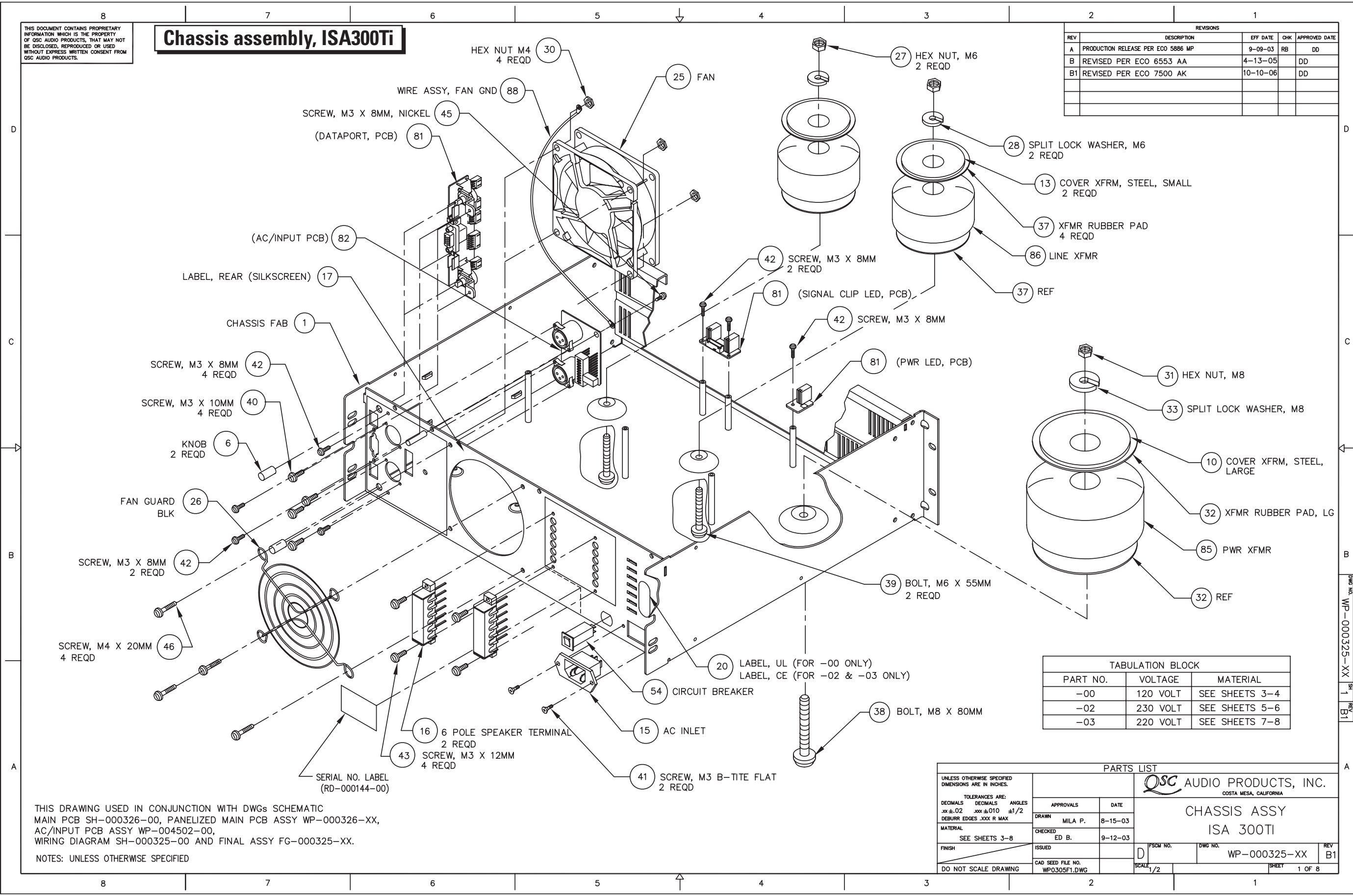
TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEETS 3-4
-02	230 VOLT	SEE SHEETS 5-6
-03	220 VOLT	SEE SHEETS 7-8

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE: DECIMALS .02 DECIMALS .001 ANGLES ±1/2 DEBURR EDGES .XXX R MAX		APPROVALS	DATE	CHASSIS ASSY ISA 300T
MATERIAL SEE SHEET 3		DRAWN MILA P.	4-16-01	
FINISH		CHECKED W. RULAND	5-1-01	
DO NOT SCALE DRAWING		ISSUED TIM SHOOK	5-30-01	
		CAD SEED FILE NO. WP0305D1.DWG	SCALE 1/2	
		PSCM NO. _____ DWG NO. WP-000305-XX REV F		
		CAD FILE NO. WP0305F1.DWG SHEET 1 OF 3		

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Chassis assembly, ISA300Ti

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
A	PRODUCTION RELEASE PER ECO 5886 MP	9-09-03	RB	DD
B	REVISED PER ECO 6553 AA	4-13-05	DD	
B1	REVISED PER ECO 7500 AK	10-10-06	DD	



TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEETS 3-4
-02	230 VOLT	SEE SHEETS 5-6
-03	220 VOLT	SEE SHEETS 7-8

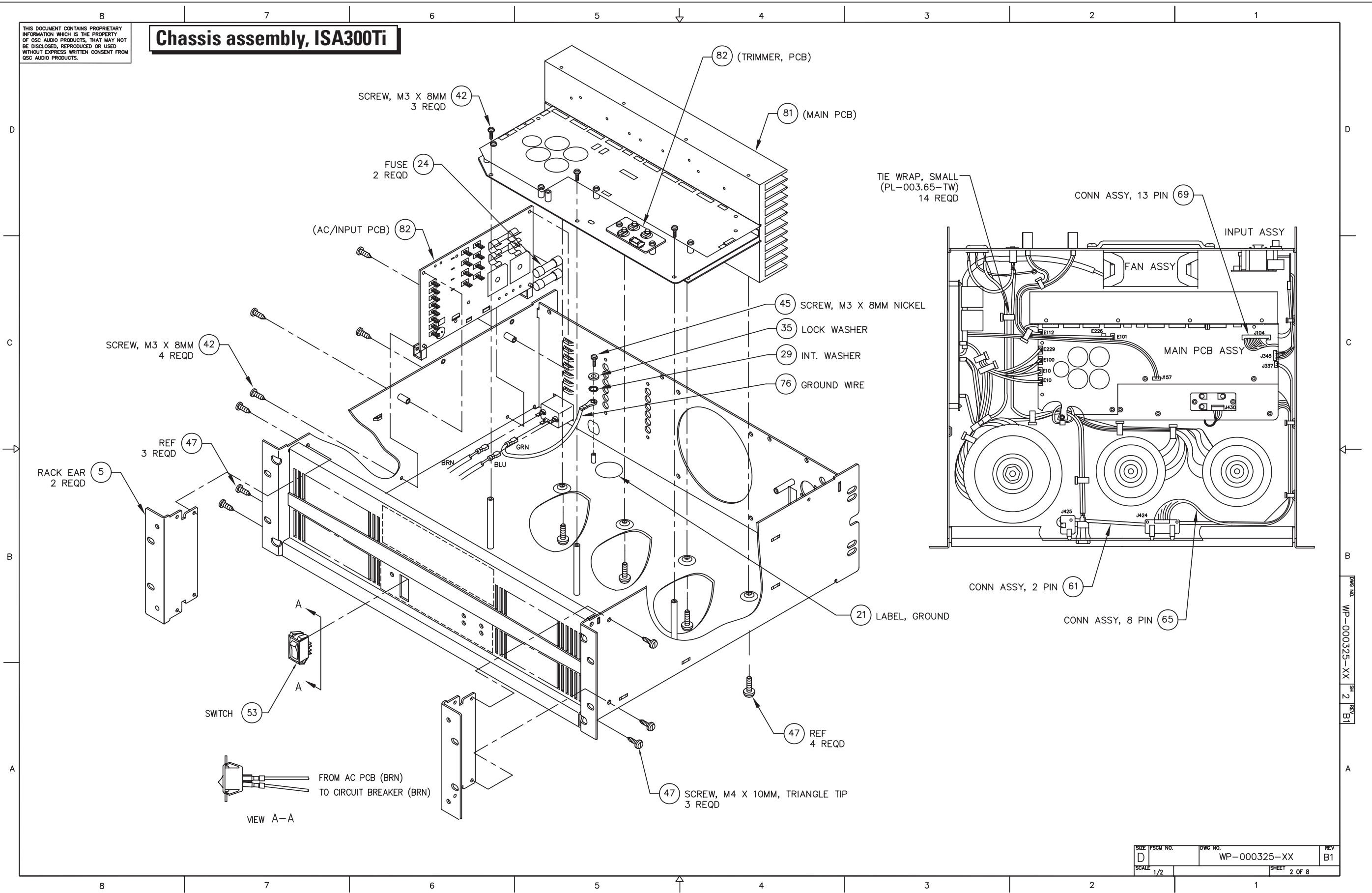
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE: DECIMALS DECIMALS ANGLES .xxx ±.02 .xxx ±.010 ±1/2 DEBURR EDGES .XXX R MAX				
APPROVALS		DATE		
DRAWN MILA P.		8-15-03		
CHECKED ED B.		9-12-03		
ISSUED				
CAD SEED FILE NO. WFO305F1.DWG		SCALE 1/2		
DO NOT SCALE DRAWING		SHEET 1 OF 8		
QSC AUDIO PRODUCTS, INC. COSTA MESA, CALIFORNIA CHASSIS ASSY ISA 300Ti				
FINISH		PFCM NO.		REV
		D		B1
		DWG NO. WP-000325-XX		

THIS DRAWING USED IN CONJUNCTION WITH DWGS SCHEMATIC
 MAIN PCB SH-000326-00, PANELIZED MAIN PCB ASSY WP-000326-XX,
 AC/INPUT PCB ASSY WP-004502-00,
 WIRING DIAGRAM SH-000325-00 AND FINAL ASSY FG-000325-XX.

NOTES: UNLESS OTHERWISE SPECIFIED

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Chassis assembly, ISA300Ti

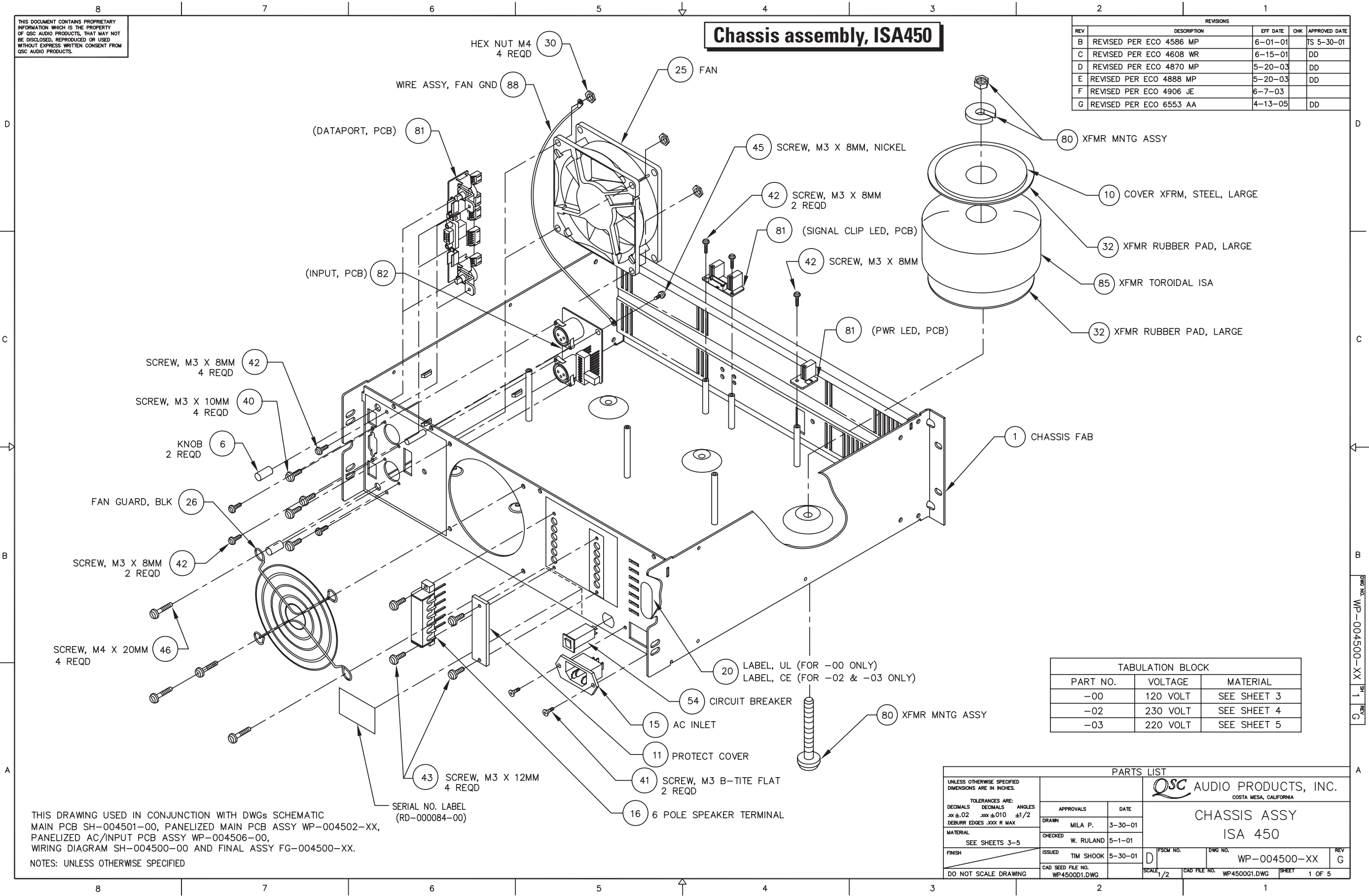


SIZE	DWG NO.	REV
D	WP-000325-XX	B1
SCALE	SHEET	2 OF 8
1/2		

Chassis assembly, ISA450

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REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
B	REVISED PER ECO 4586 MP	6-01-01	TS	5-30-01
C	REVISED PER ECO 4608 WR	6-15-01	DD	
D	REVISED PER ECO 4870 MP	5-20-03	DD	
E	REVISED PER ECO 4888 MP	5-20-03	DD	
F	REVISED PER ECO 4906 JE	6-7-03		
G	REVISED PER ECO 6553 AA	4-13-05	DD	



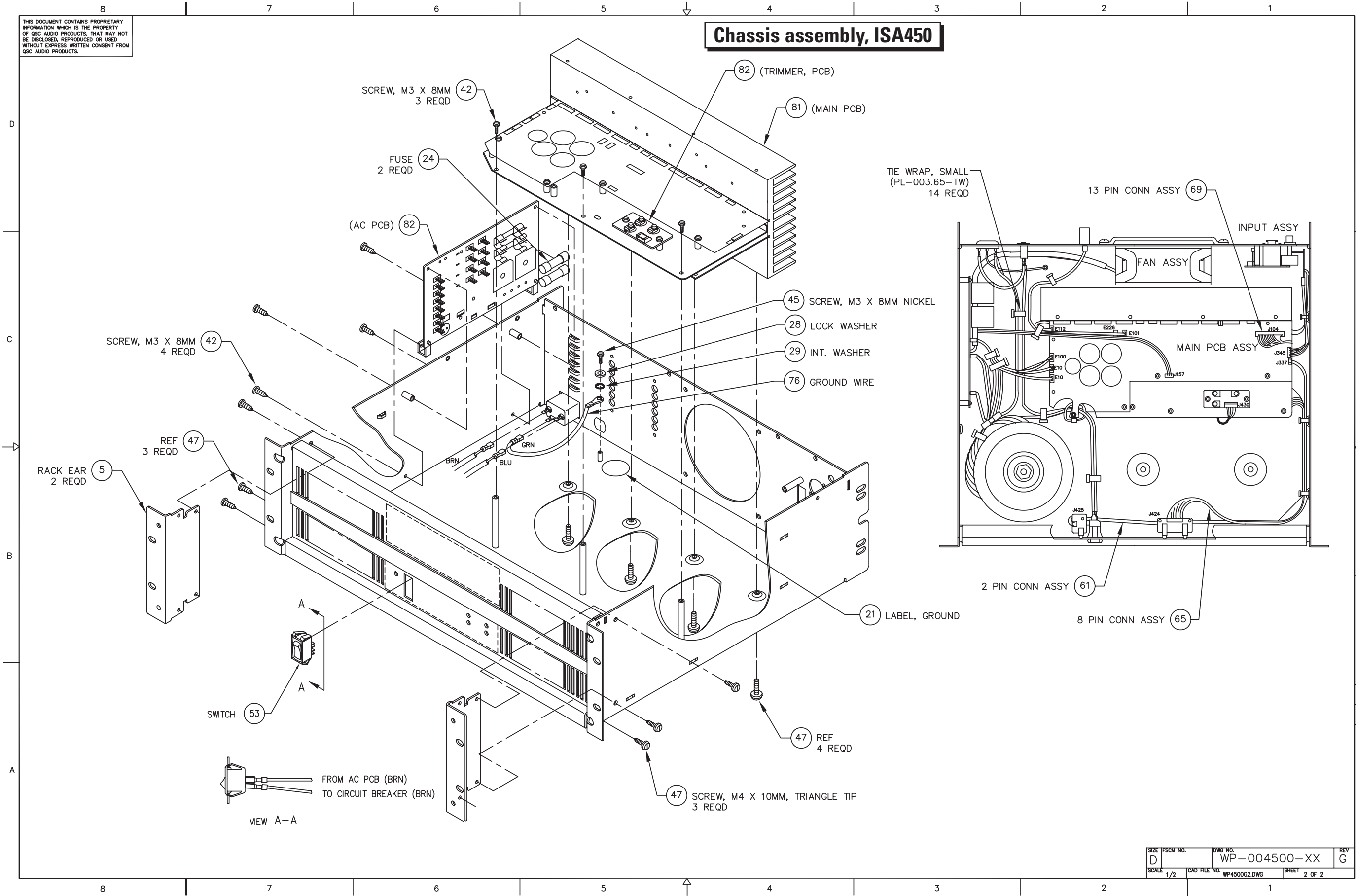
TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEET 3
-02	230 VOLT	SEE SHEET 4
-03	220 VOLT	SEE SHEET 5

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE:	APPROVALS	DATE	CHASSIS ASSY ISA 450	
DECIMALS DECIMALS ANGLES	DRAWN MILA P.	3-30-01		
.xxx ± .02 .xxx ± .010 ± 1/2	CHECKED W. RULAND	5-1-01		
DEBURR EDGES .XXX R MAX	ISSUED TIM SHOOK	5-30-01		
MATERIAL SEE SHEETS 3-5	CAD SEED FILE NO. WP4500D1.DWG	SCALE 1/2	DWG NO. WP-004500-XX	REV G
FINISH	DO NOT SCALE DRAWING	CAD FILE NO. WP4500G1.DWG	SHEET 1 OF 5	

THIS DRAWING USED IN CONJUNCTION WITH DWGs SCHEMATIC MAIN PCB SH-004501-00, PANELIZED MAIN PCB ASSY WP-004502-XX, PANELIZED AC/INPUT PCB ASSY WP-004506-00, WIRING DIAGRAM SH-004500-00 AND FINAL ASSY FG-004500-XX.
 NOTES: UNLESS OTHERWISE SPECIFIED

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Chassis assembly, ISA450

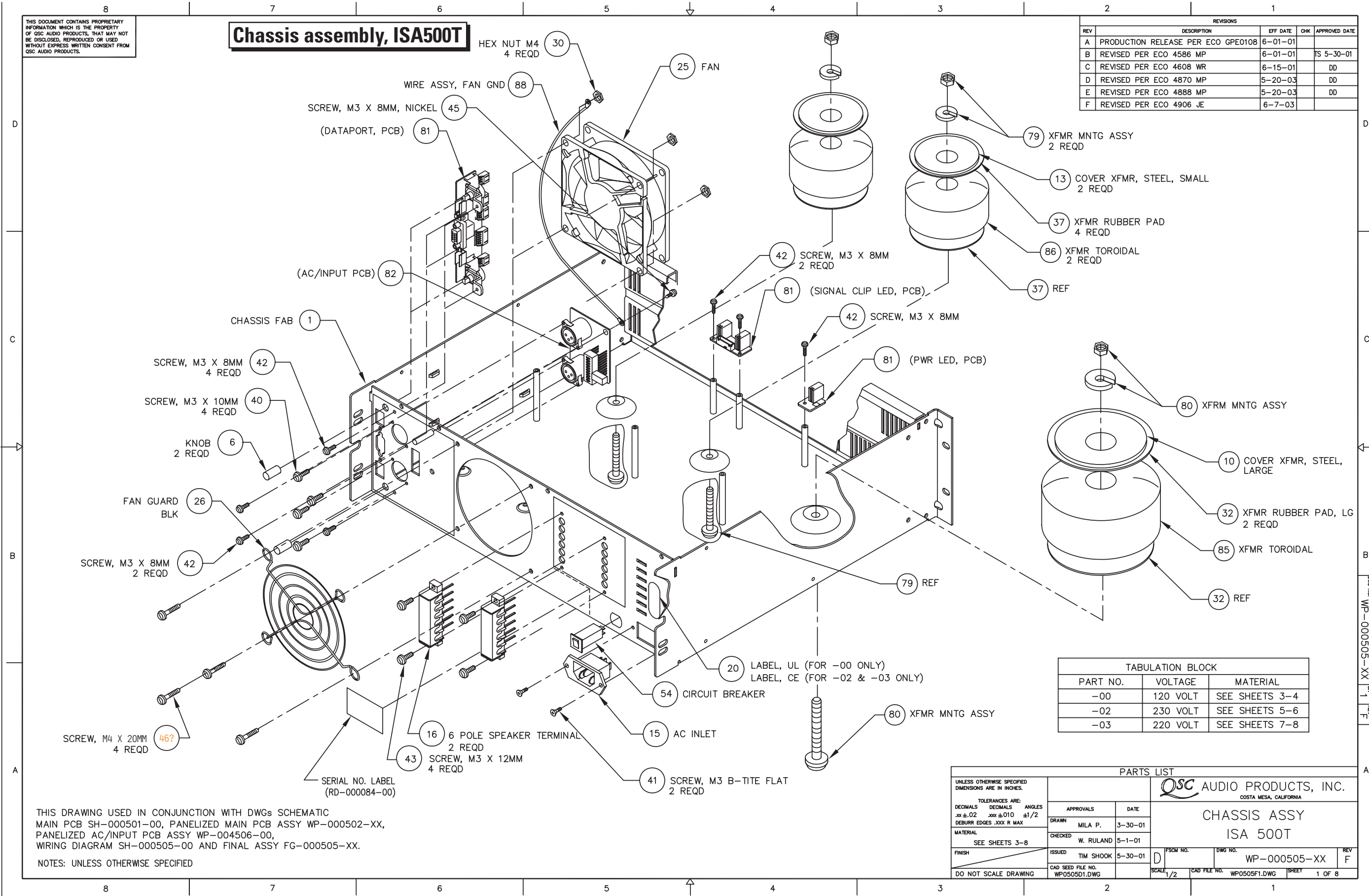


SIZE D	PSCM NO.	DWG NO. WP-004500-XX	REV G
SCALE 1/2	CAD FILE NO. WP4500G2.DWG	SHEET 2 OF 2	

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Chassis assembly, ISA500T

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
A	PRODUCTION RELEASE PER ECO GPE0108	6-01-01		
B	REVISED PER ECO 4586 MP	6-01-01		TS 5-30-01
C	REVISED PER ECO 4608 WR	6-15-01		DD
D	REVISED PER ECO 4870 MP	5-20-03		DD
E	REVISED PER ECO 4888 MP	5-20-03		DD
F	REVISED PER ECO 4906 JE	6-7-03		



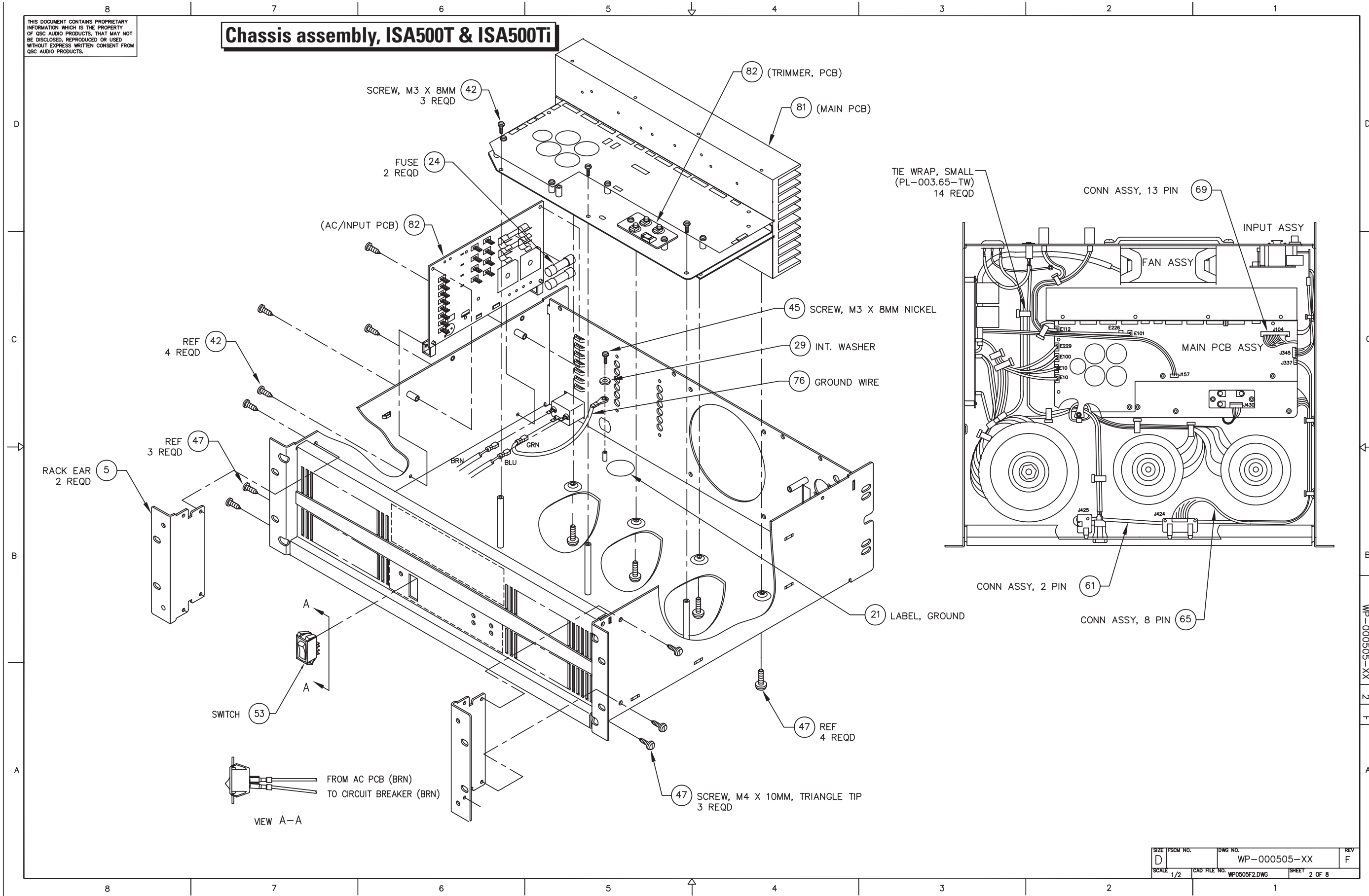
TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEETS 3-4
-02	230 VOLT	SEE SHEETS 5-6
-03	220 VOLT	SEE SHEETS 7-8

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE: DECIMALS .02 ANGLES ±1/2 DEBURR EDGES .XXX R MAX		APPROVALS	DATE	
MATERIAL SEE SHEETS 3-8		DRAWN MILA P.	3-30-01	
FINISH		CHECKED W. RULAND	5-1-01	
DO NOT SCALE DRAWING		ISSUED TIM SHOOK	5-30-01	
CAD SEED FILE NO. WP050501.DWG		SCALE 1/2	CAD FILE NO. WP050501.DWG	PART NO. WP-000505-XX REV F

THIS DRAWING USED IN CONJUNCTION WITH DWGS SCHEMATIC MAIN PCB SH-000501-00, PANELIZED MAIN PCB ASSY WP-000502-XX, PANELIZED AC/INPUT PCB ASSY WP-004506-00, WIRING DIAGRAM SH-000505-00 AND FINAL ASSY FG-000505-XX.
 NOTES: UNLESS OTHERWISE SPECIFIED

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Chassis assembly, ISA500T & ISA500Ti

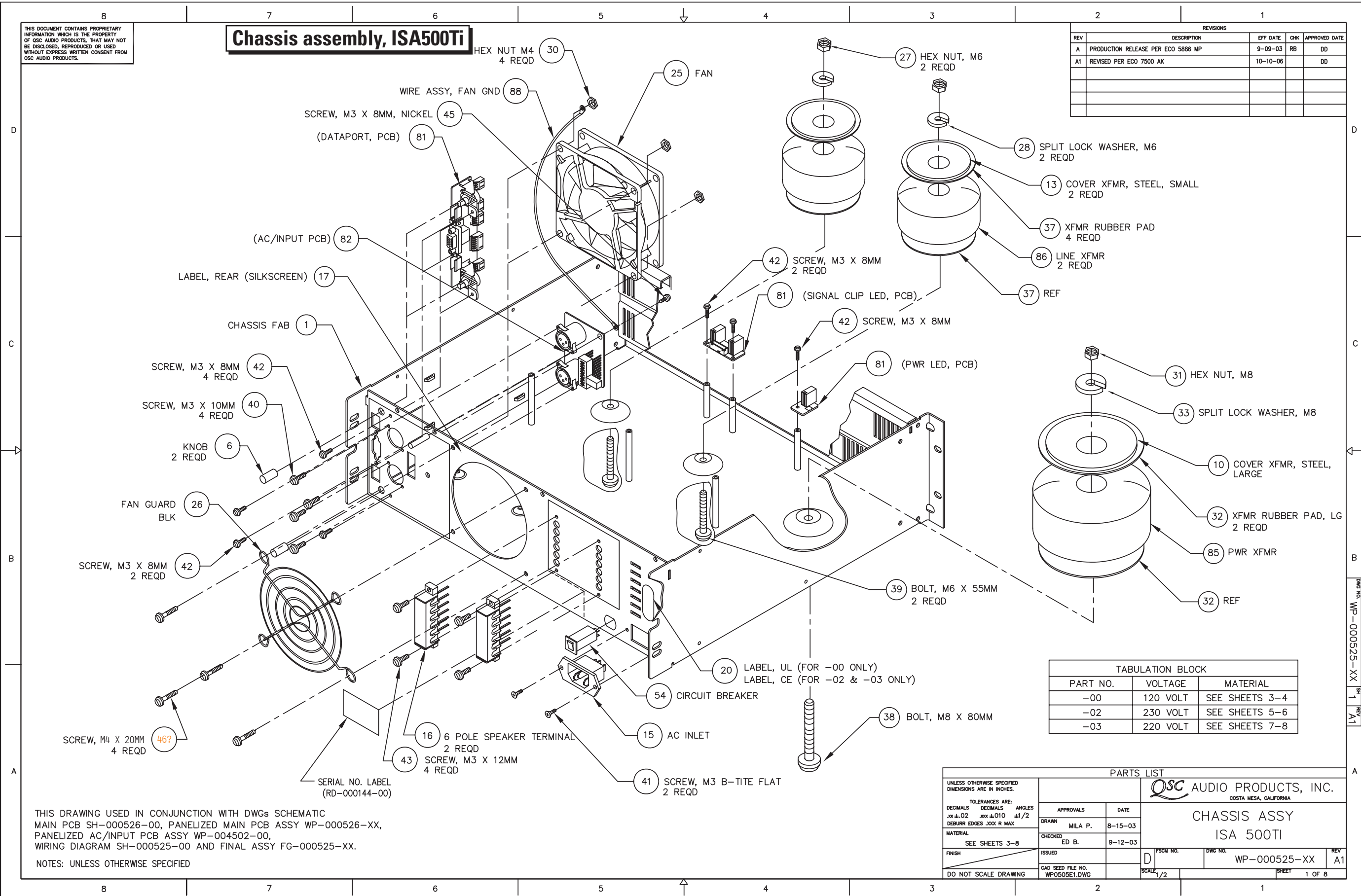


SIZE D	PSCM NO.	DWG NO. WP-000505-XX	REV F
SCALE 1/2	CAD FILE NO. WP0505F2.DWG	SHEET 2 OF 8	

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS THE PROPERTY OF QSC AUDIO PRODUCTS, THAT MAY NOT BE DISCLOSED, REPRODUCED OR USED WITHOUT EXPRESS WRITTEN CONSENT FROM QSC AUDIO PRODUCTS.

Chassis assembly, ISA500Ti

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
A	PRODUCTION RELEASE PER ECO 5886 MP	9-09-03	RB	DD
A1	REVISED PER ECO 7500 AK	10-10-06		DD



PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEETS 3-4
-02	230 VOLT	SEE SHEETS 5-6
-03	220 VOLT	SEE SHEETS 7-8

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE:		APPROVALS		
DECIMALS .xxx ±.02	DECIMALS .xxx ±.010	ANGLES ±1/2	DATE 8-15-03	
DEBURR EDGES .XXX R MAX		DRAWN MILA P.		
MATERIAL SEE SHEETS 3-8		CHECKED ED B.		
FINISH		ISSUED		
DO NOT SCALE DRAWING		CAD SEED FILE NO. WP0505E1.DWG		
SCALE 1/2		SHEET 1 OF 8		
QSC AUDIO PRODUCTS, INC. COSTA MESA, CALIFORNIA		CHASSIS ASSY ISA 500Ti		
PFCM NO. D		DWG NO. WP-000525-XX		
		REV A1		

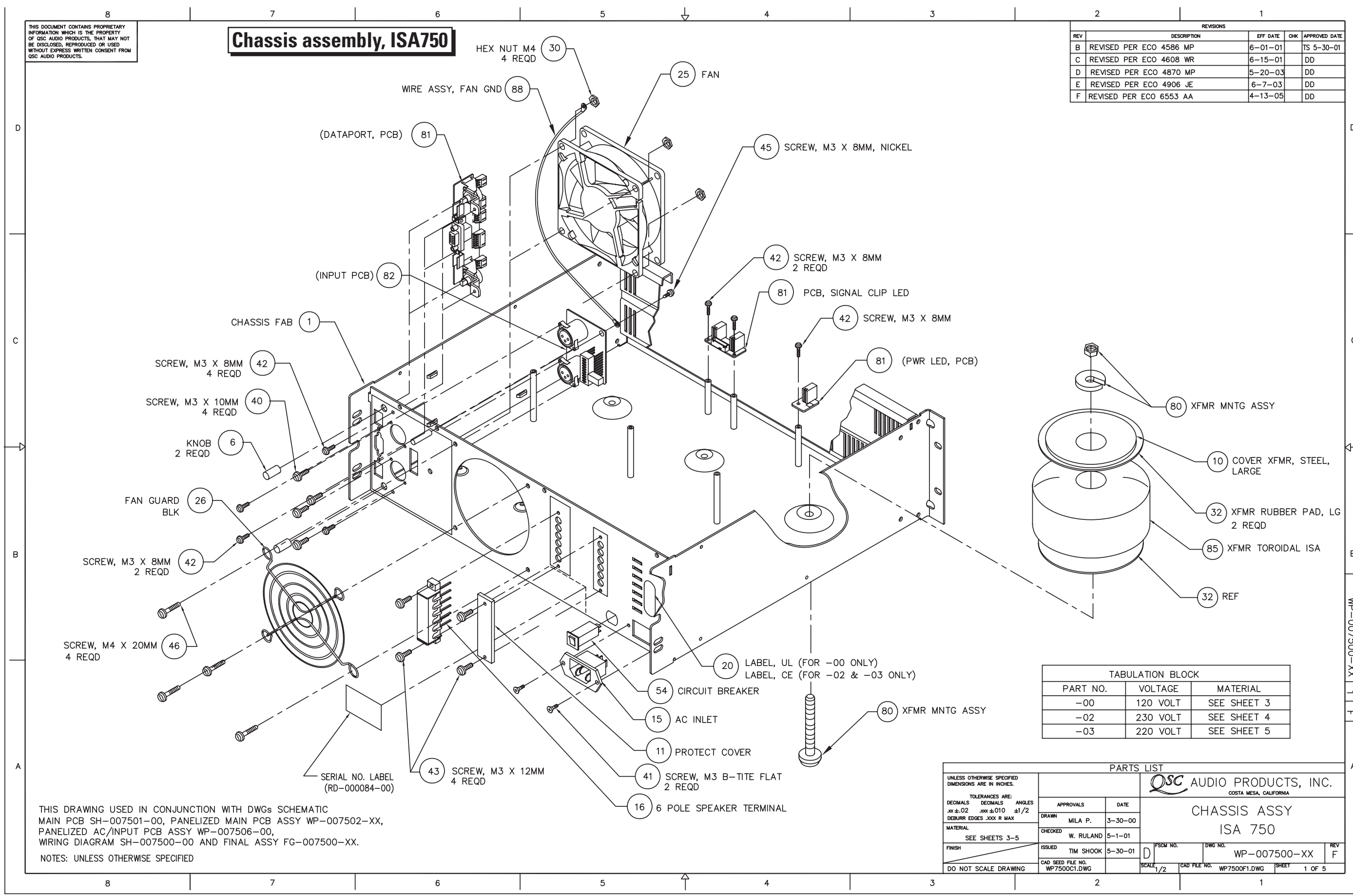
THIS DRAWING USED IN CONJUNCTION WITH DWGS SCHEMATIC MAIN PCB SH-000526-00, PANELIZED MAIN PCB ASSY WP-000526-XX, PANELIZED AC/INPUT PCB ASSY WP-004502-00, WIRING DIAGRAM SH-000525-00 AND FINAL ASSY FG-000525-XX.

NOTES: UNLESS OTHERWISE SPECIFIED

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Chassis assembly, ISA750

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
B	REVISED PER ECO 4586 MP	6-01-01	TS	5-30-01
C	REVISED PER ECO 4608 WR	6-15-01	DD	
D	REVISED PER ECO 4870 MP	5-20-03	DD	
E	REVISED PER ECO 4906 JE	6-7-03	DD	
F	REVISED PER ECO 6553 AA	4-13-05	DD	



THIS DRAWING USED IN CONJUNCTION WITH DWGS SCHEMATIC MAIN PCB SH-007501-00, PANELIZED MAIN PCB ASSY WP-007502-XX, PANELIZED AC/INPUT PCB ASSY WP-007506-00, WIRING DIAGRAM SH-007500-00 AND FINAL ASSY FG-007500-XX.

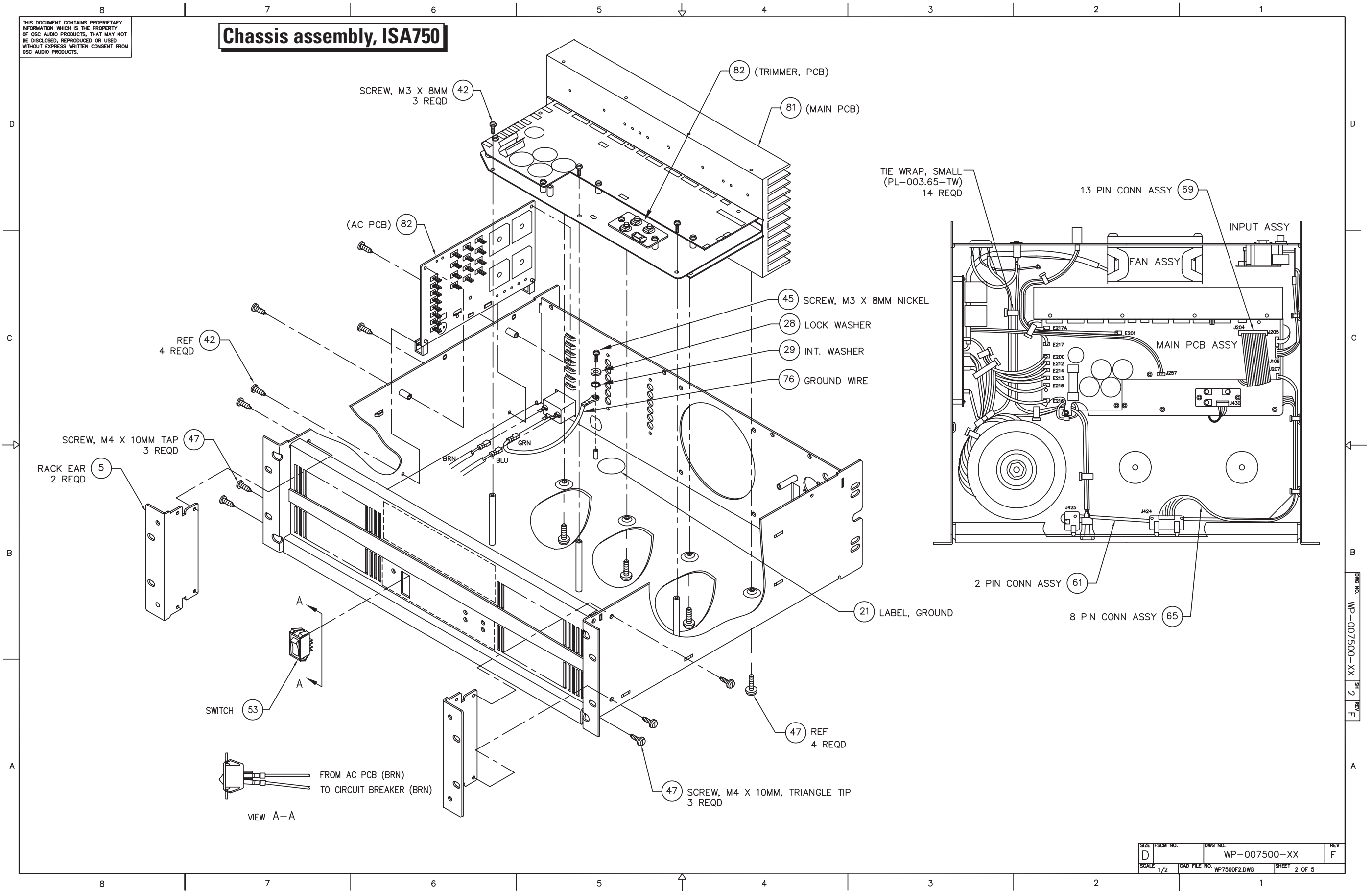
NOTES: UNLESS OTHERWISE SPECIFIED

TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEET 3
-02	230 VOLT	SEE SHEET 4
-03	220 VOLT	SEE SHEET 5

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE: DECIMALS .02 FRACTIONS 1/16 ANGLES ±1/2		APPROVALS	DATE	CHASSIS ASSY ISA 750
DEBURR EDGES .XXX R MAX		DRAWN MILA P.	3-30-00	
SEE SHEETS 3-5		CHECKED W. RULAND	5-1-01	
FINISH		ISSUED TIM SHOOK	5-30-01	
DO NOT SCALE DRAWING		CAD SEED FILE NO. WP7500C1.DWG	SCALE 1/2	
		P/SCM NO. D DWG NO. WP-007500-XX REV F		SHEET 1 OF 5

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Chassis assembly, ISA750



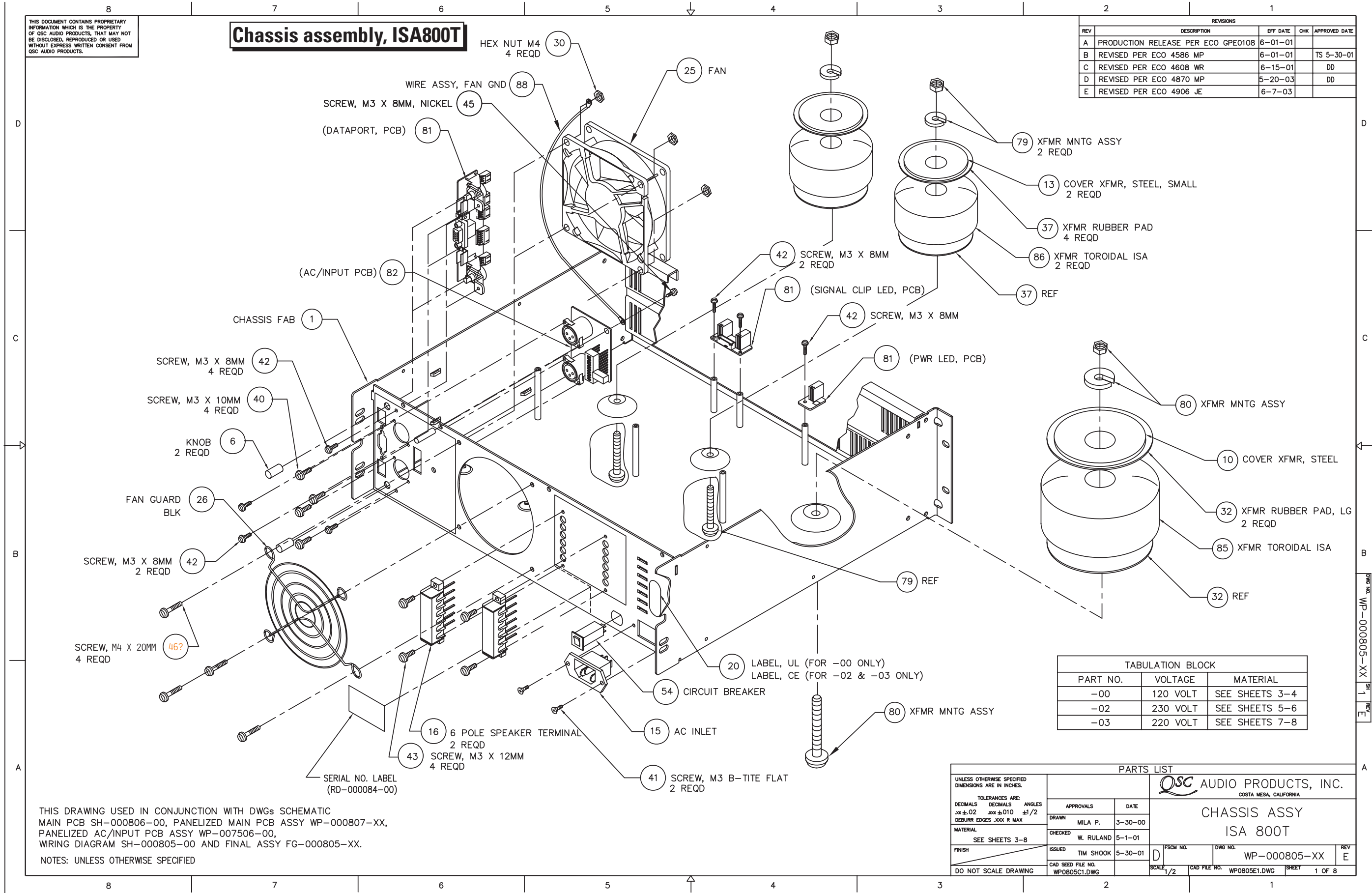
SIZE	PSOM NO.	DWG NO.	REV
D		WP-007500-XX	F
SCALE	CAD FILE NO.	SHEET	2 OF 5
1/2	WP7500F2.DWG		

DWG NO. WP-007500-XX SR 2 REV F

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION WHICH IS THE PROPERTY OF QSC AUDIO PRODUCTS, THAT MAY NOT BE DISCLOSED, REPRODUCED OR USED WITHOUT EXPRESS WRITTEN CONSENT FROM QSC AUDIO PRODUCTS.

Chassis assembly, ISA800T

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
A	PRODUCTION RELEASE PER ECO GPE0108	6-01-01		
B	REVISED PER ECO 4586 MP	6-01-01		TS 5-30-01
C	REVISED PER ECO 4608 WR	6-15-01		DD
D	REVISED PER ECO 4870 MP	5-20-03		DD
E	REVISED PER ECO 4906 JE	6-7-03		



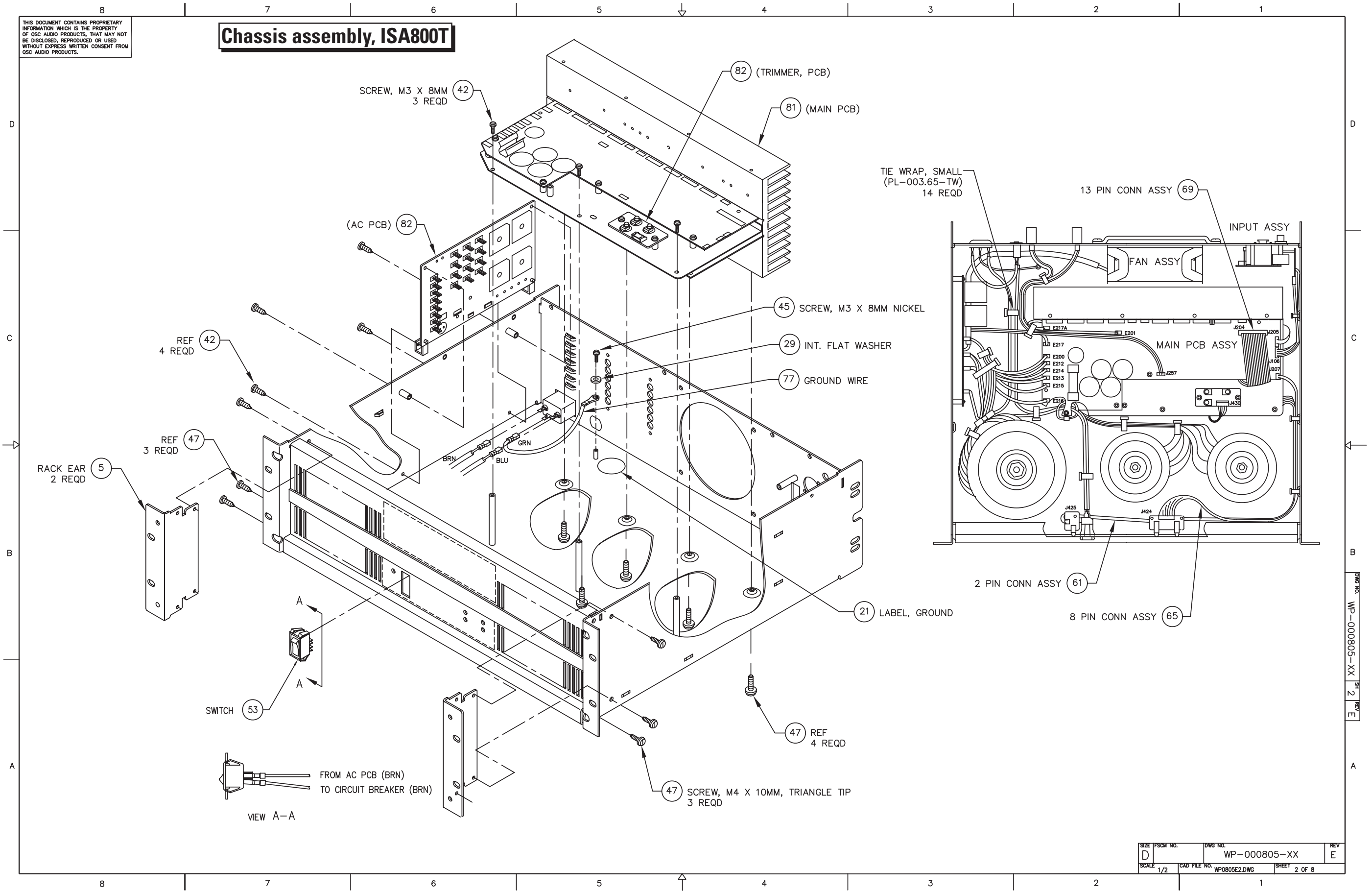
TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEETS 3-4
-02	230 VOLT	SEE SHEETS 5-6
-03	220 VOLT	SEE SHEETS 7-8

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE: DECIMALS .02 DECIMALS .001 ANGLES ±1/2 DEBURR EDGES .XXX R MAX		APPROVALS	DATE	CHASSIS ASSY ISA 800T
MATERIAL SEE SHEETS 3-8		DRAWN MILA P.	3-30-00	
FINISH		CHECKED W. RULAND	5-1-01	
DO NOT SCALE DRAWING		ISSUED TIM SHOOK	5-30-01	
CAD SEED FILE NO. WP0805C1.DWG		SCALE 1/2		PARTS LIST WP-000805-XX SHEET 1 OF 8

THIS DRAWING USED IN CONJUNCTION WITH DWGS SCHEMATIC
 MAIN PCB SH-000806-00, PANELIZED MAIN PCB ASSY WP-000807-XX,
 PANELIZED AC/INPUT PCB ASSY WP-007506-00,
 WIRING DIAGRAM SH-000805-00 AND FINAL ASSY FG-000805-XX.
 NOTES: UNLESS OTHERWISE SPECIFIED

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Chassis assembly, ISA800T

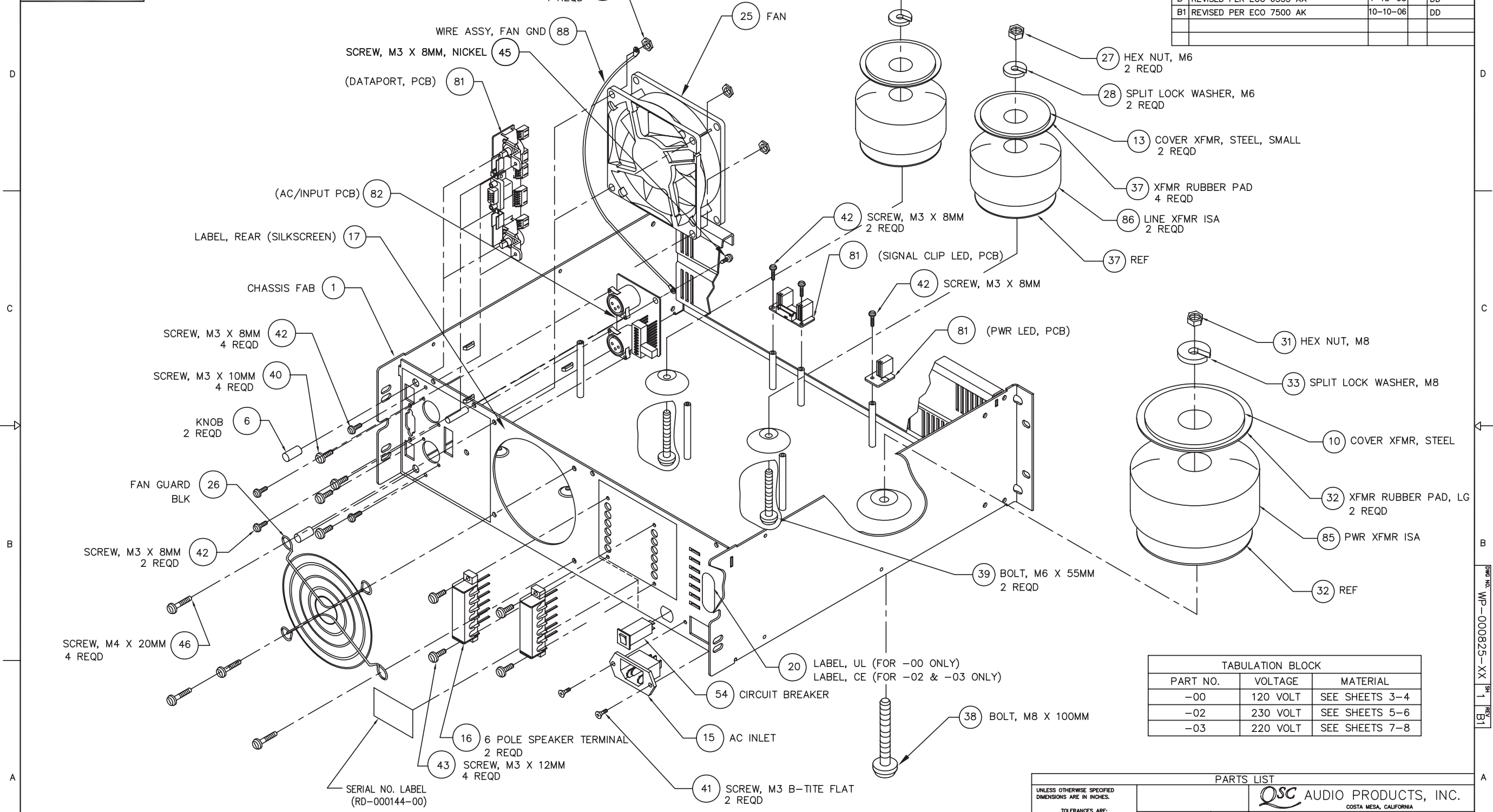


SIZE	PSOM NO.	DWG NO.	REV
D		WP-000805-XX	E
SCALE	CAD FILE NO.	SHEET	2 OF 8
1/2	WP0805E2.DWG		

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Chassis assembly, ISA800Ti

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
A	PRODUCTION RELEASE PER ECO 5886 MP	9-09-03	RB	DD
B	REVISED PER ECO 6553 AA	4-13-05	DD	
B1	REVISED PER ECO 7500 AK	10-10-06	DD	



PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEETS 3-4
-02	230 VOLT	SEE SHEETS 5-6
-03	220 VOLT	SEE SHEETS 7-8

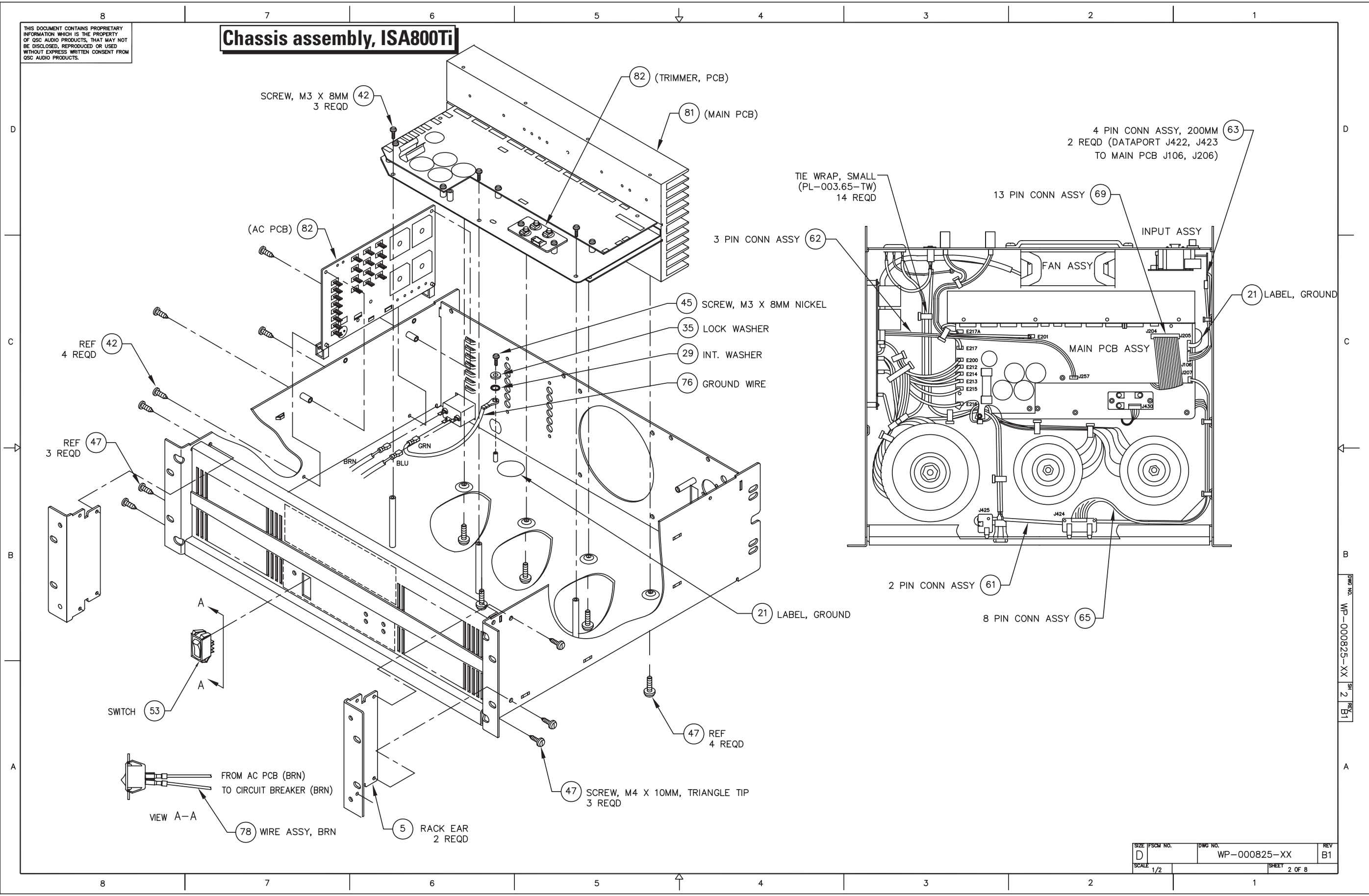
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE: DECIMALS DECIMALS ANGLES .xx ±.02 .xxx ±.010 ±1/2 DEBURR EDGES .XXX R MAX		APPROVALS	DATE	CHASSIS ASSY ISA 800Ti
MATERIAL	SEE SHEETS 3-8	DRAWN MILA P.	8-12-03	
FINISH		CHECKED ED B.	9-12-03	
DO NOT SCALE DRAWING	CAD SEED FILE NO. WP0805E1.DWG	ISSUED		
		SCALE 1/2	DWG NO. WP-000825-XX	REV B1
		SHEET 1 OF 8		

THIS DRAWING USED IN CONJUNCTION WITH DWG's SCHEMATIC MAIN PCB SH-000826-00, PANELIZED MAIN PCB ASSY WP-000826-XX, PANELIZED AC/INPUT PCB ASSY WP-007502-00, WIRING DIAGRAM SH-000825-00 AND FINAL ASSY FG-000825-XX.

NOTES: UNLESS OTHERWISE SPECIFIED

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Chassis assembly, ISA800Ti

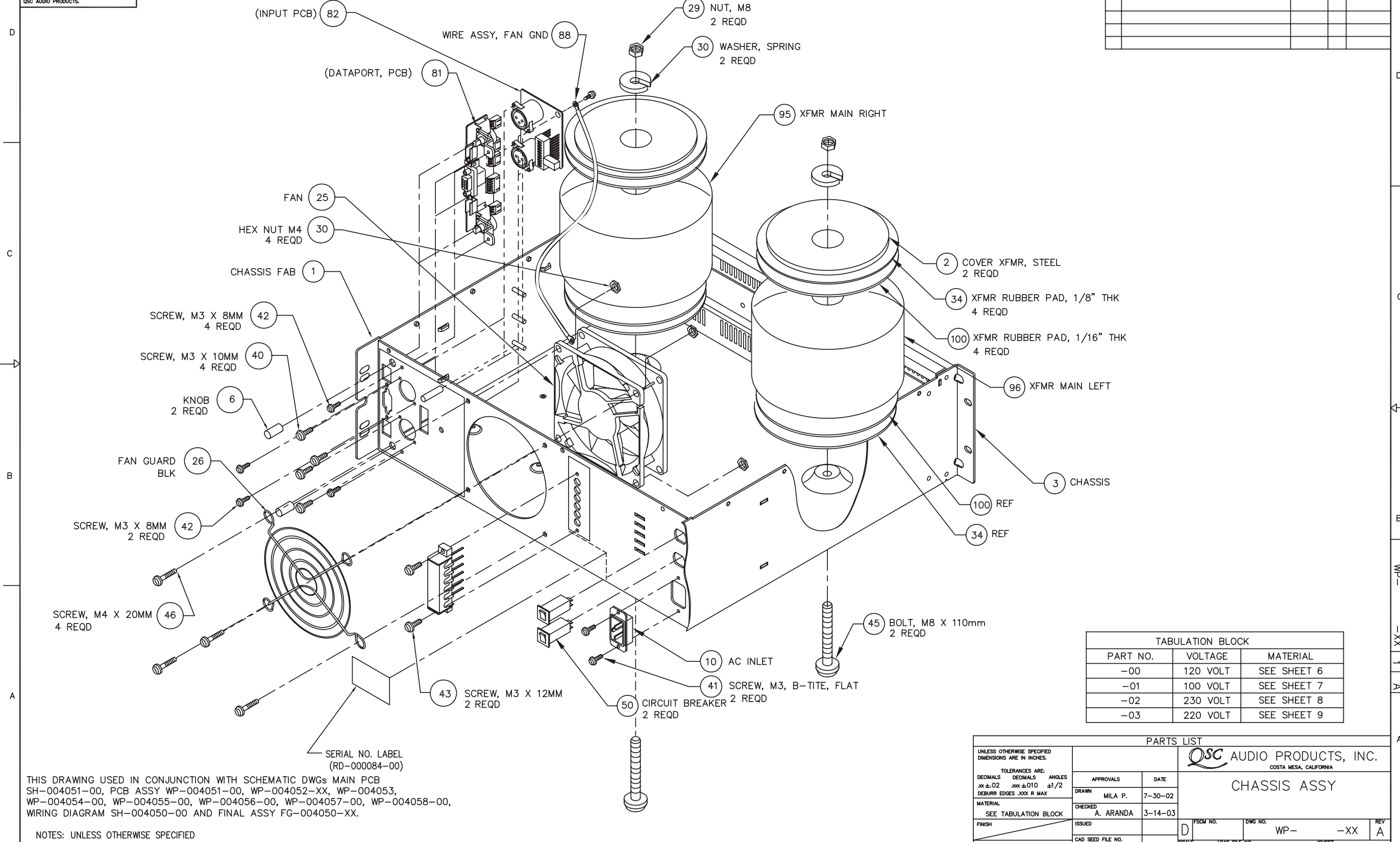


SIZE	FORM NO.	DWG NO.	REV
D		WP-000825-XX	B1
SCALE	1/2	SHEET	2 OF 8

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Chassis assembly, ISA1350

REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
A	PRODUCTION RELEASE PER ECO 4896 AA	3-14-03		



THIS DRAWING USED IN CONJUNCTION WITH SCHEMATIC DWGS MAIN PCB SH-004051-00, PCB ASSY WP-004051-00, WP-004052-XX, WP-004053, WP-004054-00, WP-004055-00, WP-004056-00, WP-004057-00, WP-004058-00, WIRING DIAGRAM SH-004050-00 AND FINAL ASSY FG-004050-XX.

NOTES: UNLESS OTHERWISE SPECIFIED

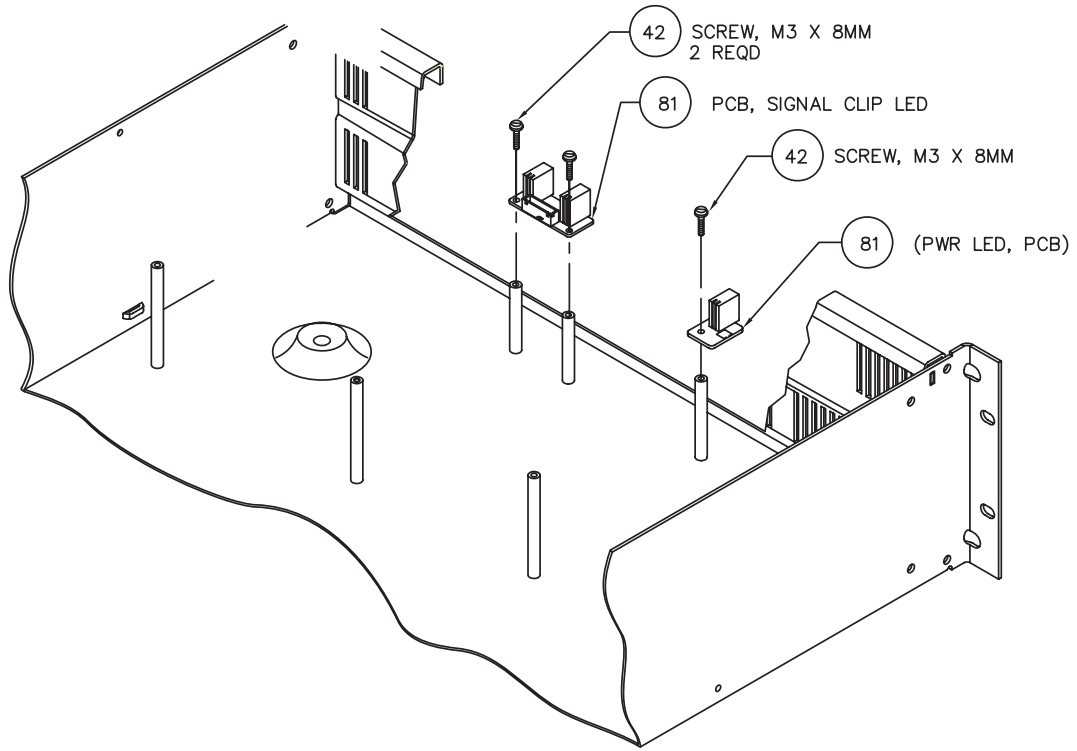
TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEET 6
-01	100 VOLT	SEE SHEET 7
-02	230 VOLT	SEE SHEET 8
-03	220 VOLT	SEE SHEET 9

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE: DECIMALS DECIMALS ANGLES xxx ±.02 xxx ±.010 ±1/2 DEBURR EDGES .XXX R MAX				
APPROVALS	DATE	<p>CHASSIS ASSY</p> <p>ISSUED: D PSCM NO. DWG NO. WP- -XX REV A</p> <p>CAD SEED FILE NO. SCALE 1/2 CAD FILE NO. .DWG SHEET 1 OF 9</p>		
DRAWN MILA P.	7-30-02			
CHECKED A. ARANDA	3-14-03			
MATERIAL SEE TABULATION BLOCK				
DO NOT SCALE DRAWING				

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Chassis assembly, ISA1350

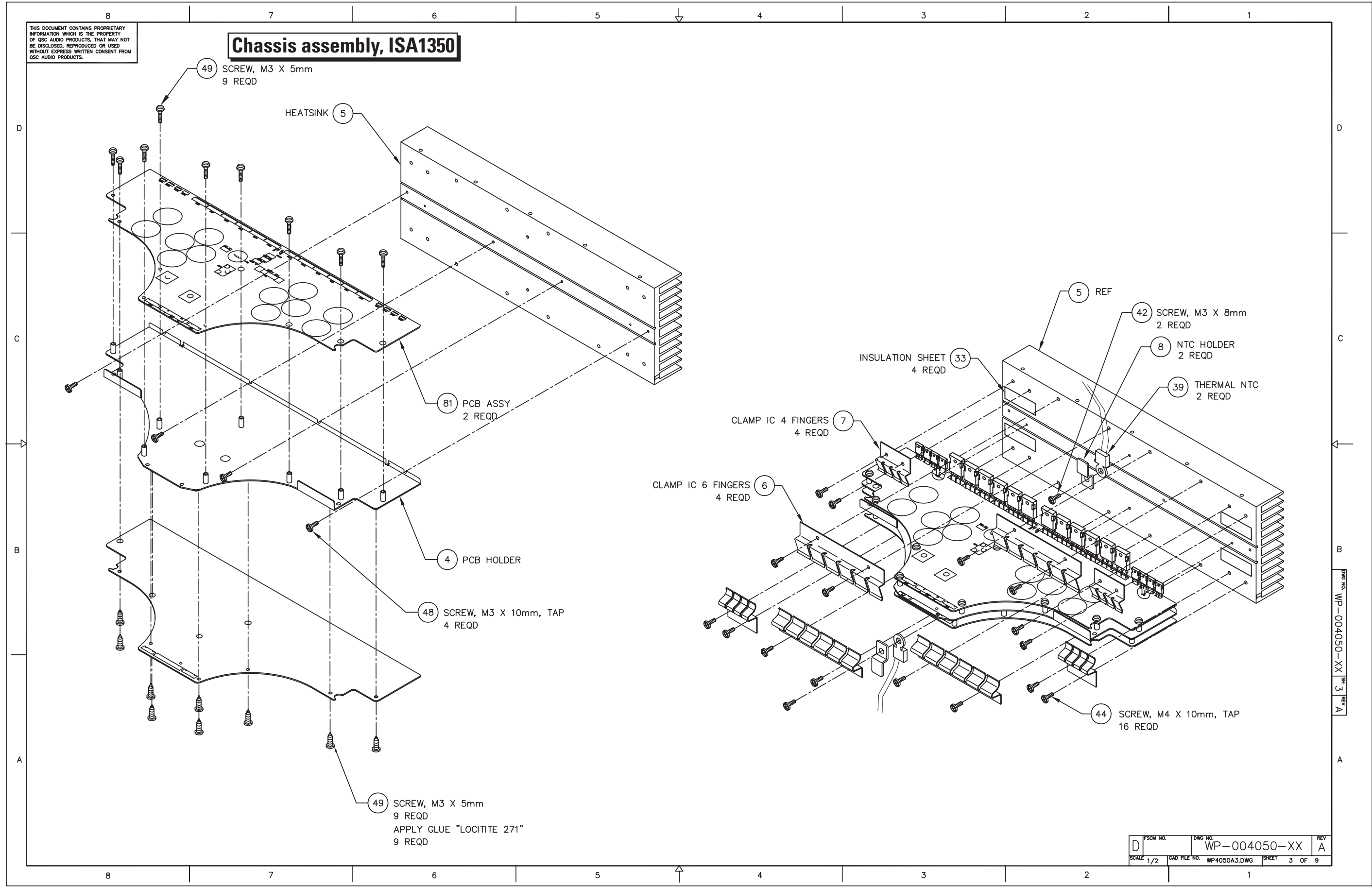
REVISIONS			
REV	DESCRIPTION	EFF DATE	CHK
B	REVISED PER ECO 4586 MP	6-01-01	TS
C	REVISED PER ECO 4608 WR	6-15-01	DD
D	REVISED PER ECO 4870 MP	5-20-03	DD
E	REVISED PER ECO 4906 JE	6-7-03	DD
F	REVISED PER ECO 6553 AA	4-13-05	DD



PARTS LIST			
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.			
TOLERANCES ARE:			
DECIMALS .XX ± .02	DECIMALS .XXX ± .010	ANGLES ±1/2	APPROVALS
DEBURR EDGES .XXX R MAX			DATE
MATERIAL SEE SHEETS 3-5			DRAWN MILA P.
FINISH			CHECKED W. RULAND
DO NOT SCALE DRAWING			ISSUED TIM SHOOK
CAD SEED FILE NO. WP7500C1.DWG		SCALE 1/2	DATE 3-30-00
		DWG NO. WP-	REV F
		SHEET 1 OF 5	

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Chassis assembly, ISA1350



49 SCREW, M3 X 5mm
9 REQD

HEATSINK 5

81 PCB ASSY
2 REQD

4 PCB HOLDER

48 SCREW, M3 X 10mm, TAP
4 REQD

49 SCREW, M3 X 5mm
9 REQD
APPLY GLUE "LOCITITE 271"
9 REQD

5 REF

42 SCREW, M3 X 8mm
2 REQD

8 NTC HOLDER
2 REQD

39 THERMAL NTC
2 REQD

INSULATION SHEET 33
4 REQD

CLAMP IC 4 FINGERS 7
4 REQD

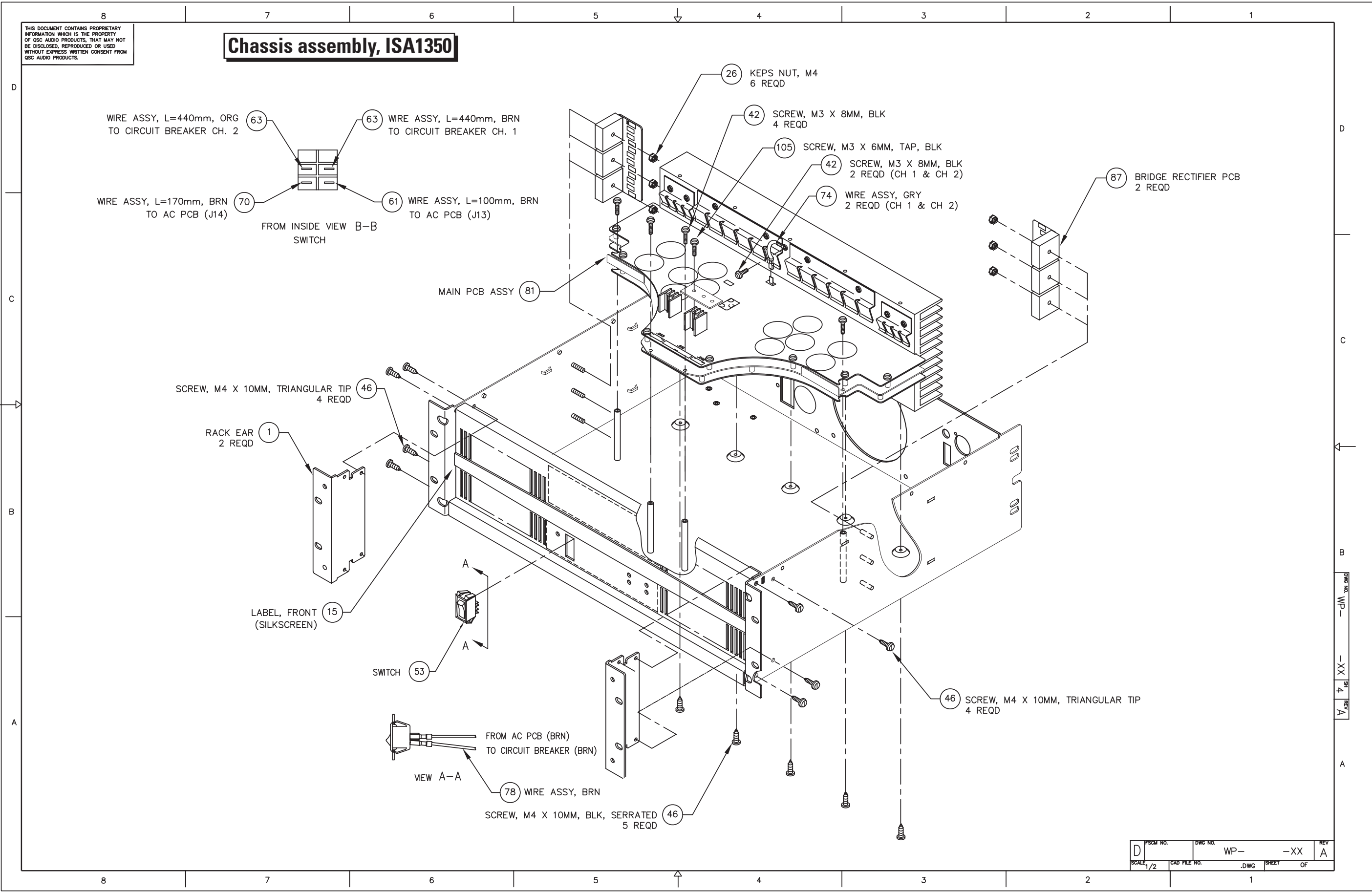
CLAMP IC 6 FINGERS 6
4 REQD

44 SCREW, M4 X 10mm, TAP
16 REQD

D	FORM NO.	DWG NO.	REV
		WP-004050-XX	A
SCALE	CAD FILE NO.	SHEET	OF
1/2	WP4050A3.DWG	3	9

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Chassis assembly, ISA1350



WIRE ASSY, L=440mm, ORG TO CIRCUIT BREAKER CH. 2 (63)

WIRE ASSY, L=440mm, BRN TO CIRCUIT BREAKER CH. 1 (63)

WIRE ASSY, L=170mm, BRN TO AC PCB (J14) (70)

WIRE ASSY, L=100mm, BRN TO AC PCB (J13) (61)

FROM INSIDE VIEW B-B SWITCH

KEPS NUT, M4 6 REQD (26)

SCREW, M3 X 8MM, BLK 4 REQD (42)

SCREW, M3 X 6MM, TAP, BLK (105)

SCREW, M3 X 8MM, BLK 2 REQD (CH 1 & CH 2) (42)

WIRE ASSY, GRY 2 REQD (CH 1 & CH 2) (74)

BRIDGE RECTIFIER PCB 2 REQD (87)

SCREW, M4 X 10MM, TRIANGULAR TIP 4 REQD (46)

RACK EAR 2 REQD (1)

LABEL, FRONT (SILKSCREEN) (15)

SWITCH (53)

FROM AC PCB (BRN) TO CIRCUIT BREAKER (BRN)

VIEW A-A

WIRE ASSY, BRN (78)

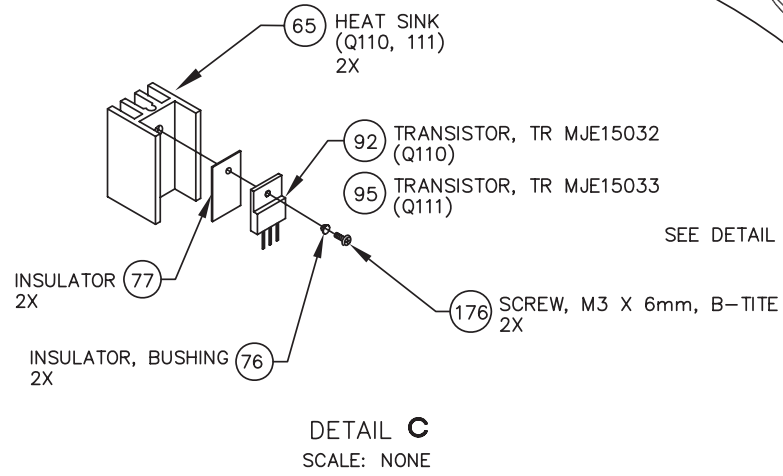
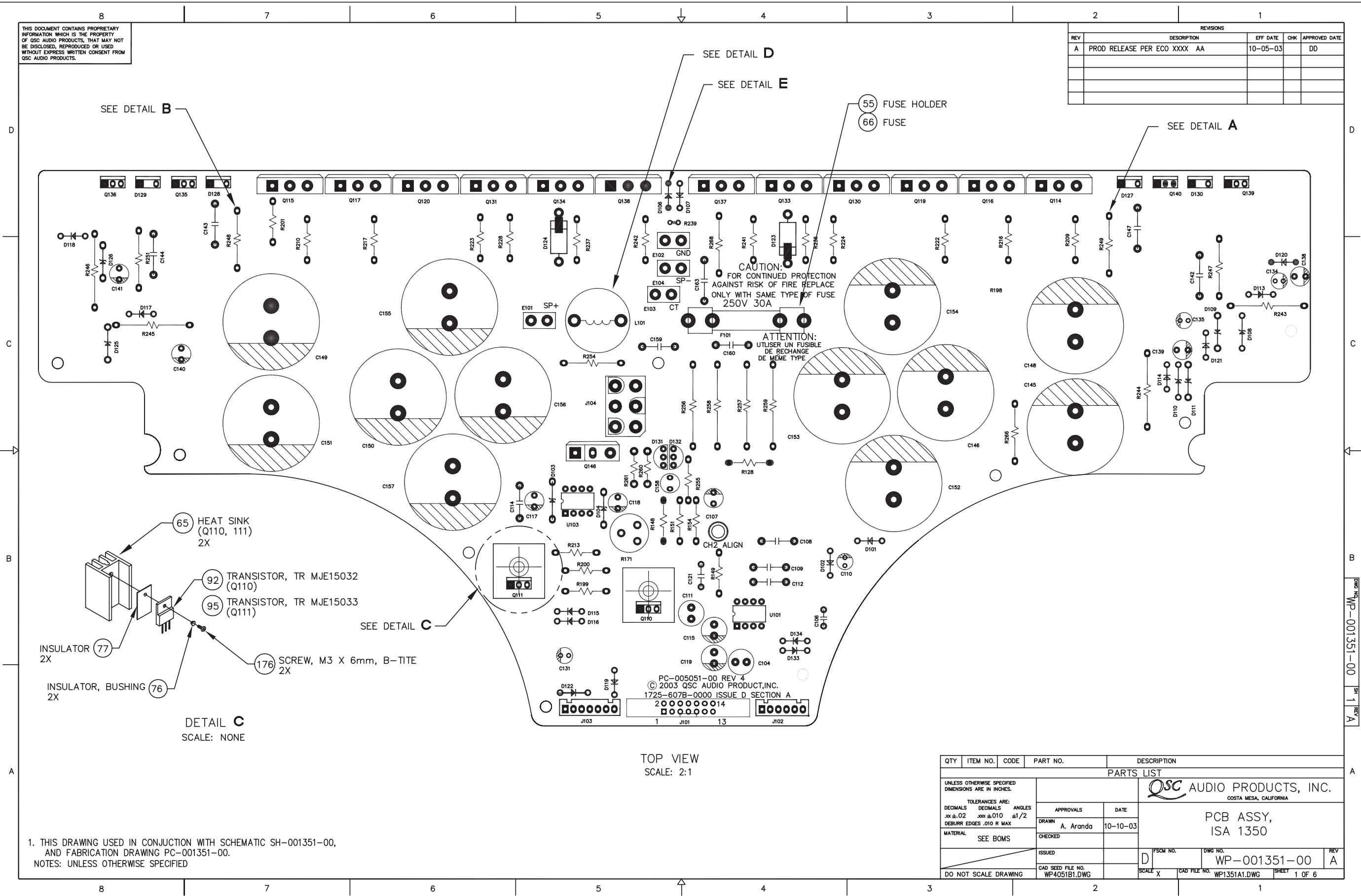
SCREW, M4 X 10MM, BLK, SERRATED 5 REQD (46)

SCREW, M4 X 10MM, TRIANGULAR TIP 4 REQD (46)

D	PSCM NO.	DWG NO.	WP-	-XX	REV
SCALE: 1/2	CAD FILE NO.	.DWG	SHEET	OF	A

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REVISIONS				
REV	DESCRIPTION	EFF DATE	CHK	APPROVED DATE
A	PROD RELEASE PER ECO XXXX AA	10-05-03		DD



TOP VIEW
SCALE: 2:1

1. THIS DRAWING USED IN CONJUNCTION WITH SCHEMATIC SH-001351-00, AND FABRICATION DRAWING PC-001351-00.
NOTES: UNLESS OTHERWISE SPECIFIED

QTY	ITEM NO.	CODE	PART NO.	DESCRIPTION
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.				
TOLERANCES ARE:				
DECIMALS	DECIMALS	ANGLES	APPROVALS	
.xx ±.02	.xxx ±.010	±1/2	DATE	
DEBURR EDGES .010 R MAX				
MATERIAL			CHECKED	
SEE BOMS				
ISSUED				
DO NOT SCALE DRAWING			CAD SEED FILE NO.	WP4051B1.DWG

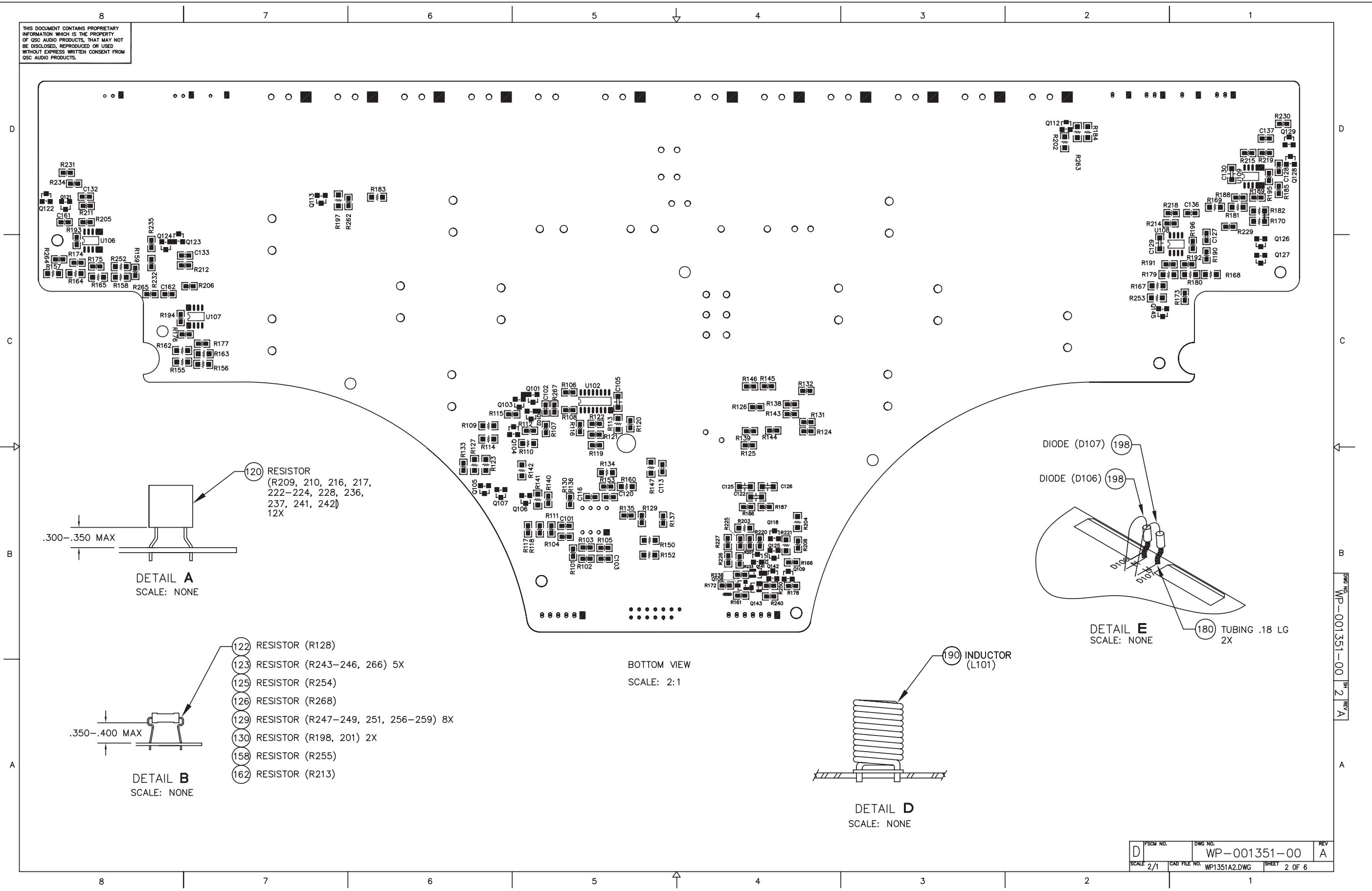
QSC AUDIO PRODUCTS, INC.
COSTA MESA, CALIFORNIA

PCB ASSY,
ISA 1350

DWG NO. WP-001351-00
REV A

SCALE X CAD FILE NO. WP1351A1.DWG SHEET 1 OF 6

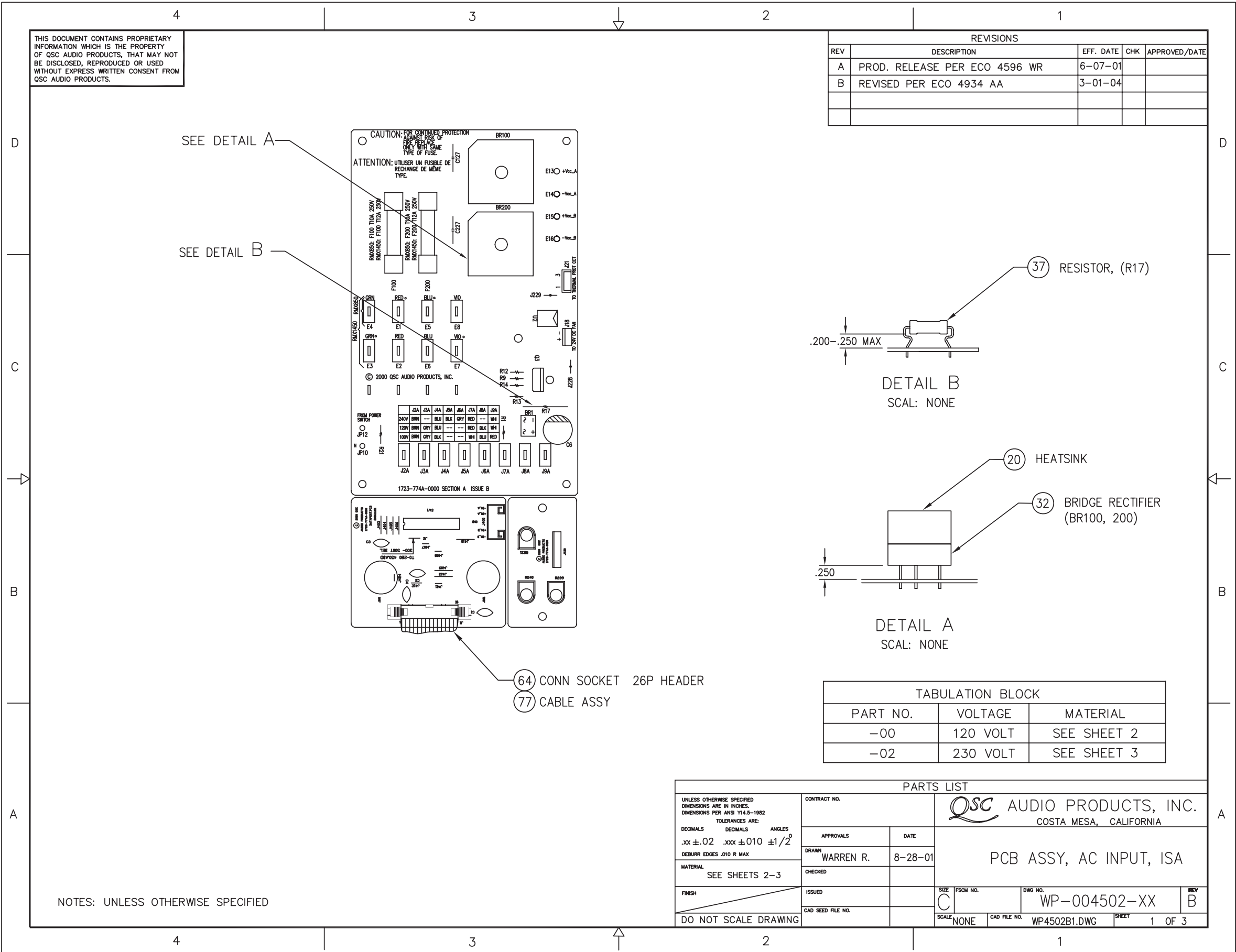
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D	FSCM NO.	DWG NO.	REV
SCALE 2/1	CAD FILE NO. WP1351A2.DWG	WP-001351-00	A
		SHEET 2 OF 6	

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REVISIONS				
REV	DESCRIPTION	EFF. DATE	CHK	APPROVED/DATE
A	PROD. RELEASE PER ECO 4596 WR	6-07-01		
B	REVISED PER ECO 4934 AA	3-01-04		



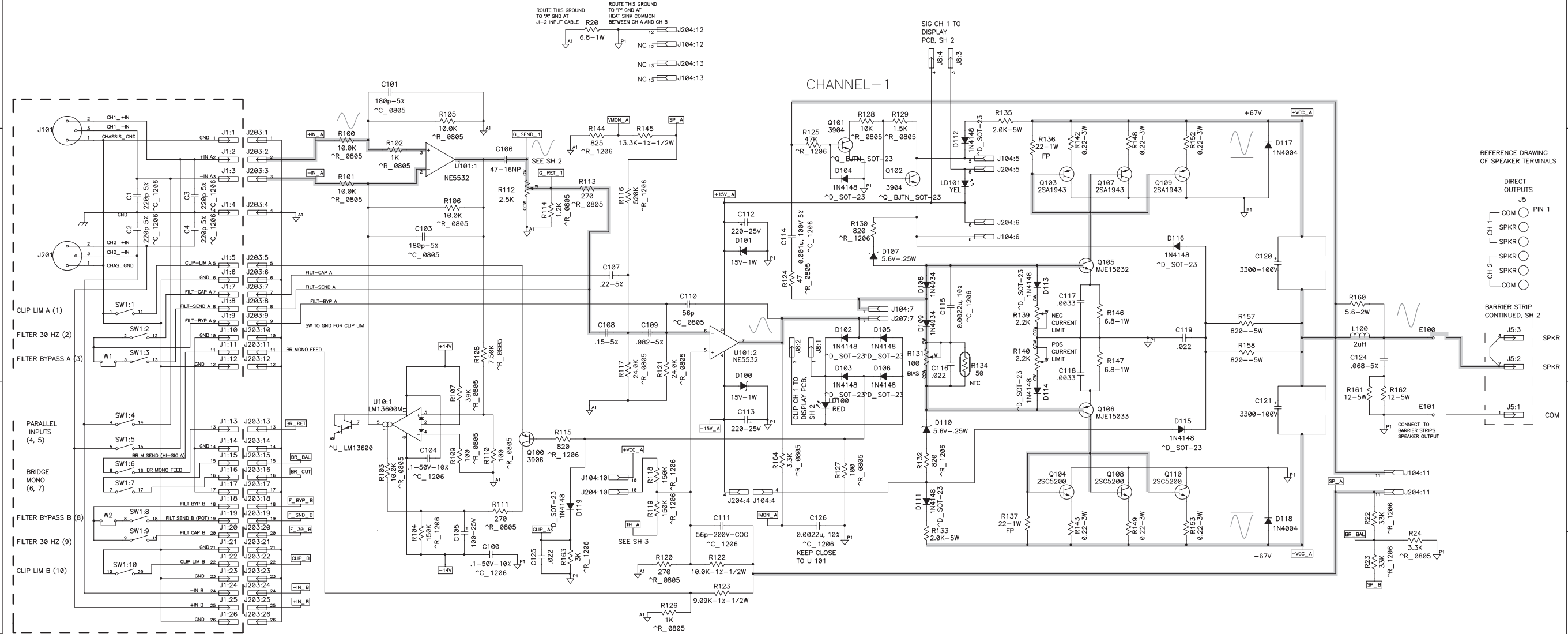
TABULATION BLOCK		
PART NO.	VOLTAGE	MATERIAL
-00	120 VOLT	SEE SHEET 2
-02	230 VOLT	SEE SHEET 3

PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DIMENSIONS PER ANSI Y14.5-1982 TOLERANCES ARE: DECIMALS .XX ±.02 ANGLES ±1/2° DEBURR EDGES .010 R MAX	CONTRACT NO.		QSC AUDIO PRODUCTS, INC. COSTA MESA, CALIFORNIA	
	APPROVALS	DATE	PCB ASSY, AC INPUT, ISA	
DRAWN WARREN R.	8-28-01			
MATERIAL SEE SHEETS 2-3	CHECKED			
FINISH	ISSUED	SIZE C	FSCM NO. WP-004502-XX	DWG NO. WP-004502-XX
DO NOT SCALE DRAWING	CAD SEED FILE NO.	SCALE NONE	CAD FILE NO. WP4502B1.DWG	SHEET 1 OF 3

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7.2 ISA280 (1st generation) Schematics



Gray shading indicates signal path

ISA 280
Early version
page 1 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

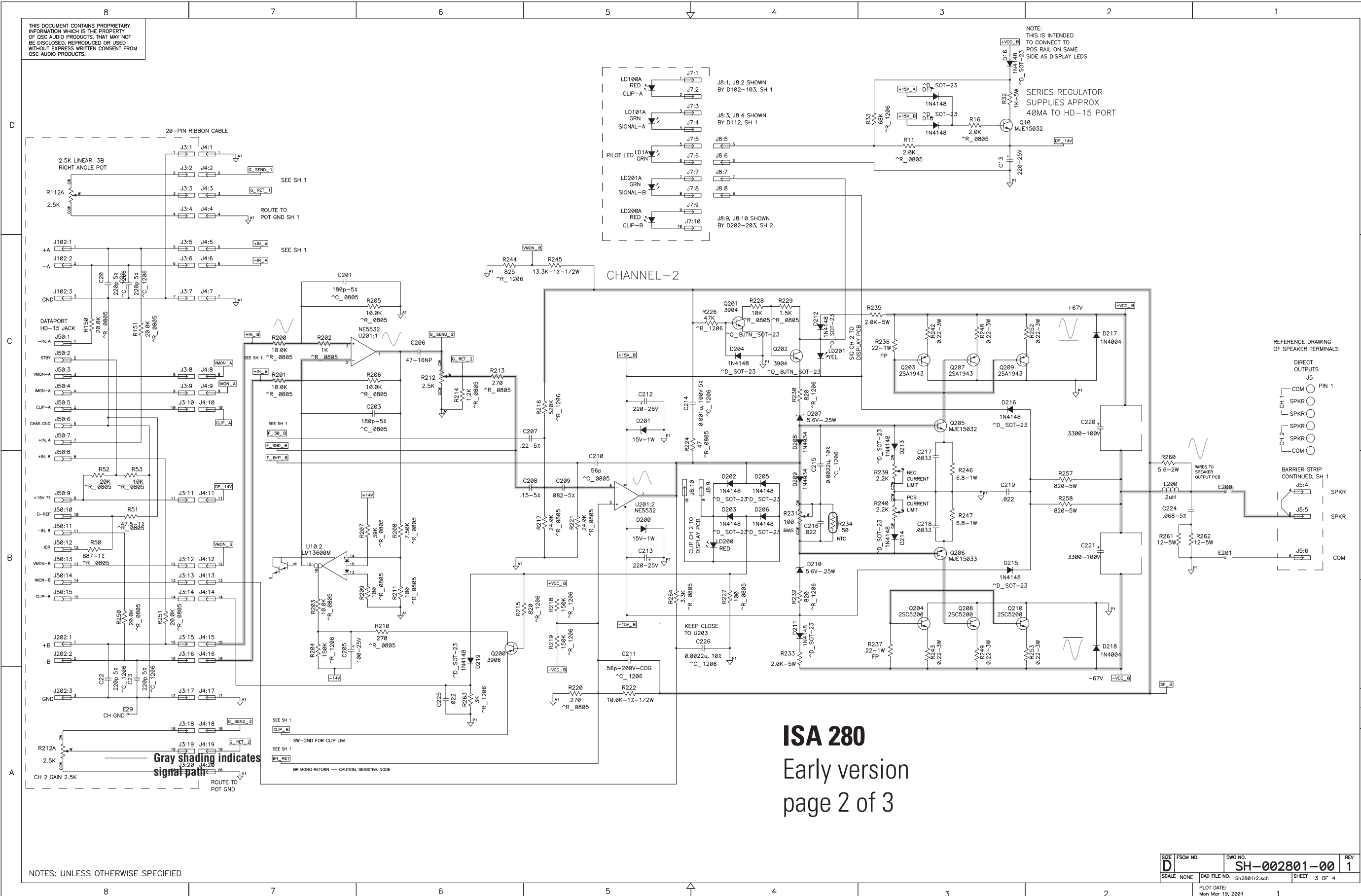
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SCALE	NONE	CAD FILE NO.	SHEET
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PLOT DATE: Mon Mar 19, 2001

1 SH-002801-00

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NOTE: THIS IS INTENDED TO CONNECT TO POS RAIL ON SAME SIDE AS DISPLAY LEADS

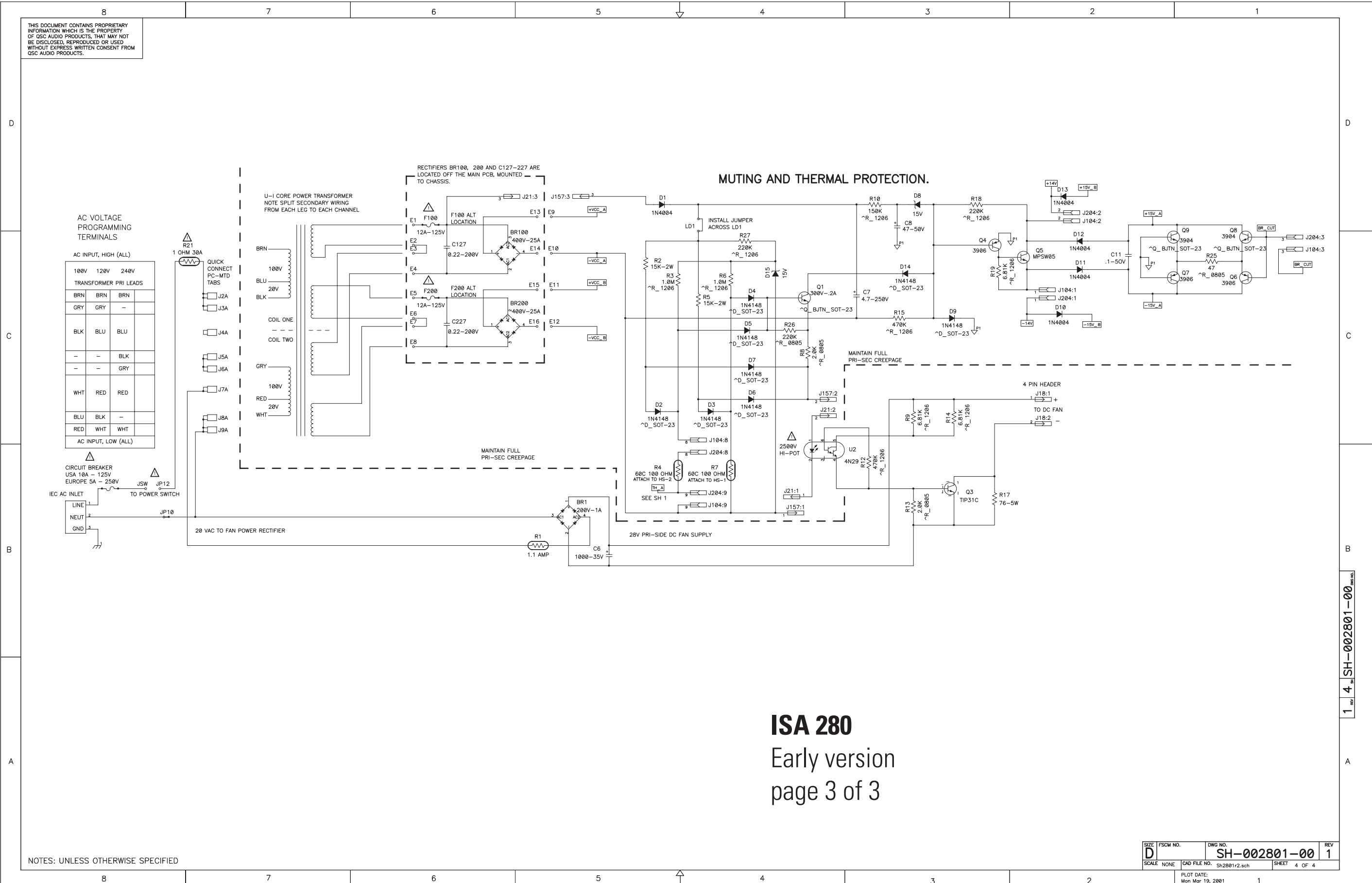


NOTES: UNLESS OTHERWISE SPECIFIED

ISA 280
Early version
page 2 of 3

SIZE	FSCM NO.	DWG NO.	REV
D		SH-002801-00	1
SCALE	NONE	CAD FILE NO. SH2801r2.sch	SHEET 3 OF 4
PLOT DATE: Mon Mar 19, 2001			1

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NOTES: UNLESS OTHERWISE SPECIFIED

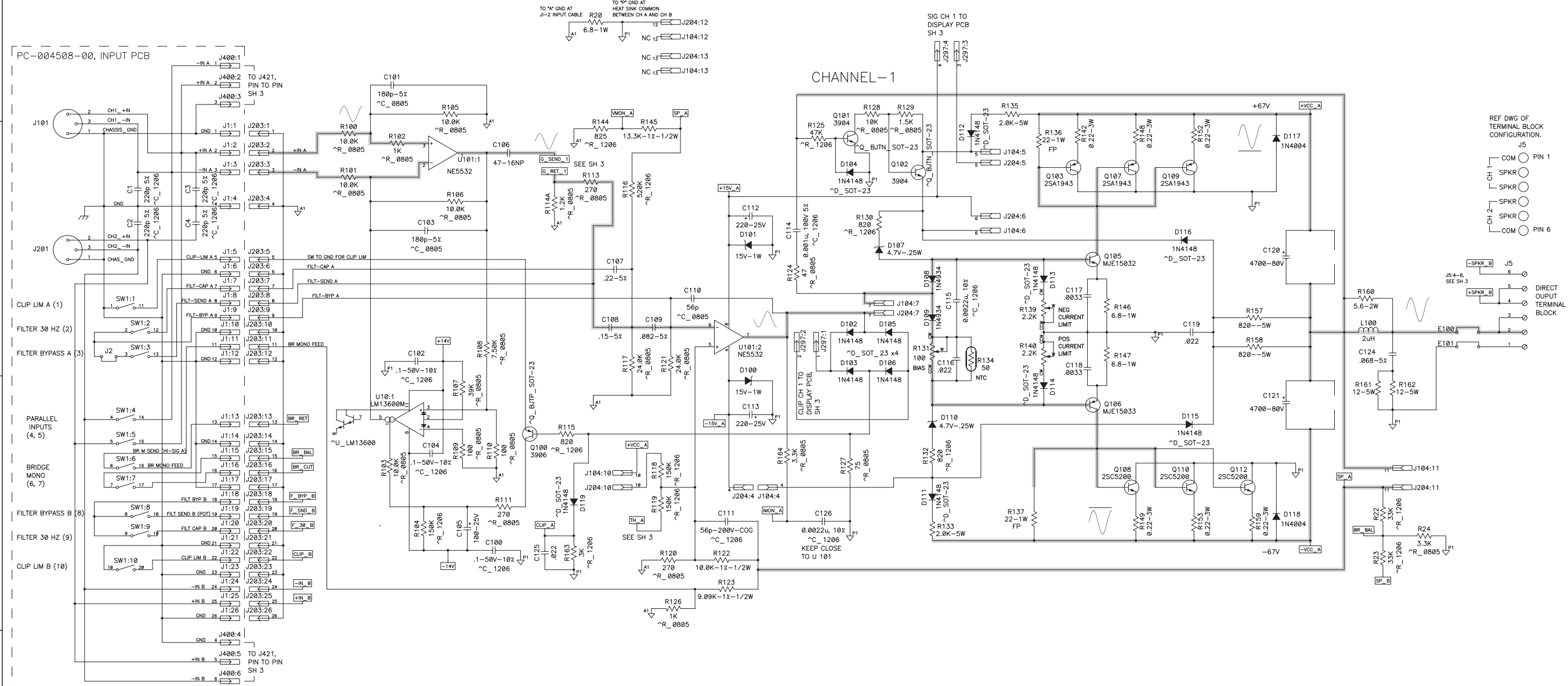
ISA 280
Early version
page 3 of 3

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PLOT DATE:		1	
Mon Mar 19, 2001			

1 of 4 SH-002801-00

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7.3 ISA280 (revised) Schematics



Gray shading indicates signal path

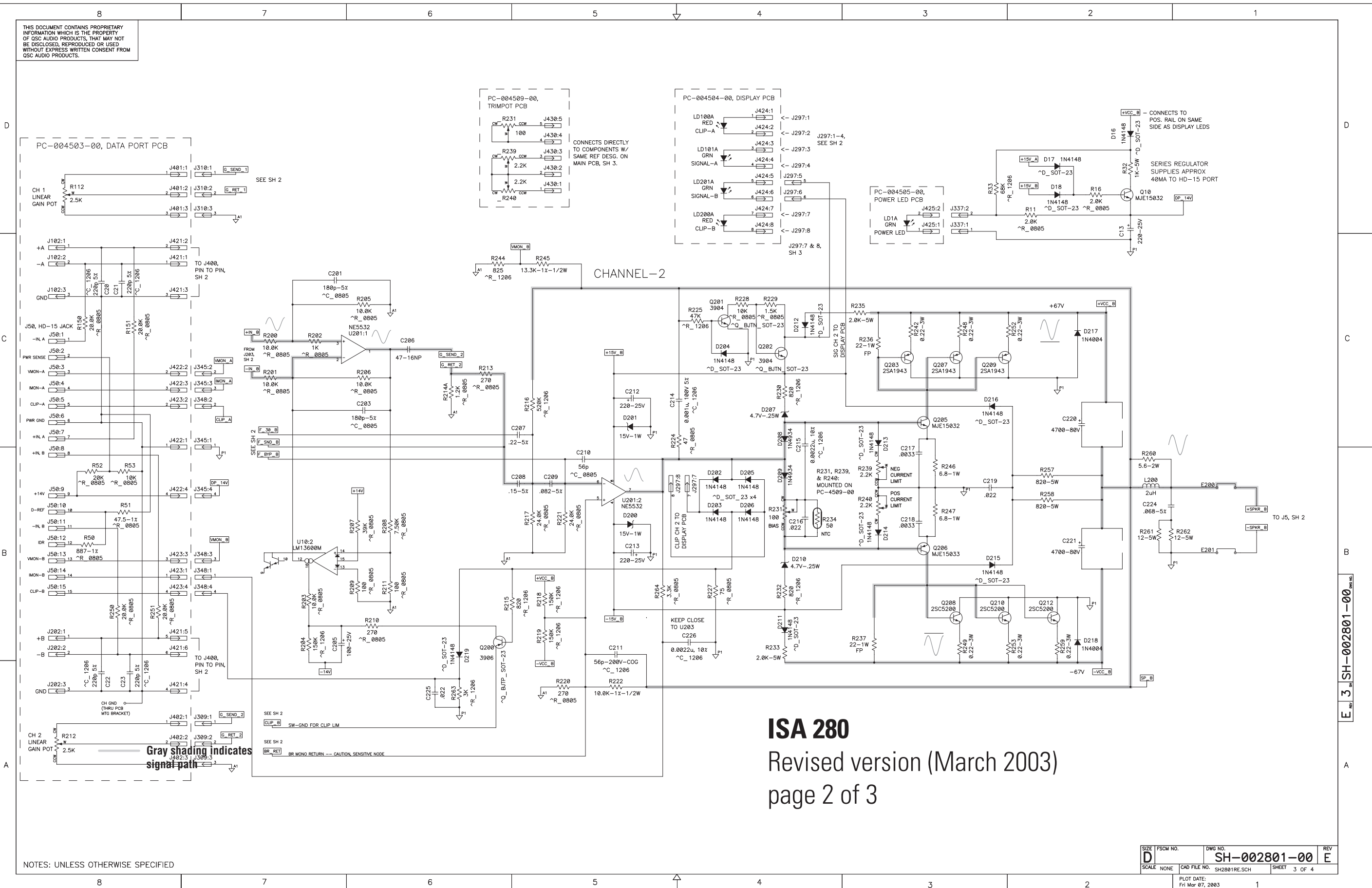
ISA 280
 Revised version (March 2003)
 page 1 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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Fri Mar 07, 2003			

E 2 SH-002801-00

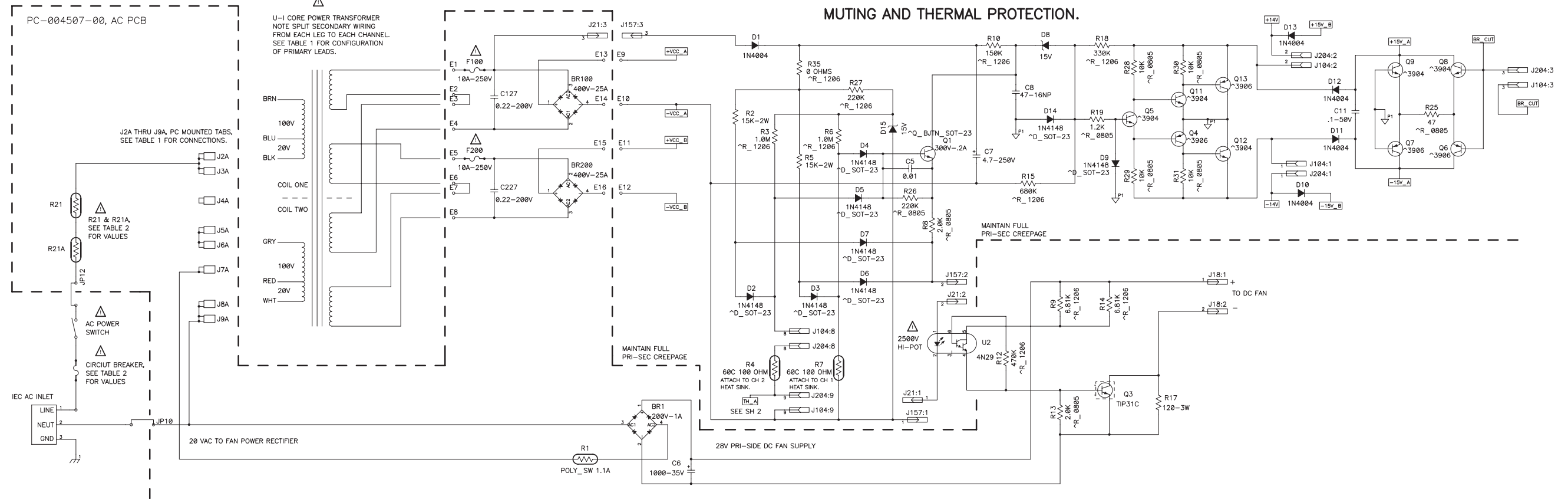
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 Revised version (March 2003)
 page 2 of 3

SIZE	FSCM NO.	DWG NO.	REV
D		SH-002801-00	E
SCALE	NONE	CAD FILE NO. SH2801RE.SCH	SHEET 3 OF 4
PLOT DATE:		Fri Mar 07, 2003	

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U-1 CORE POWER TRANSFORMER
NOTE SPLIT SECONDARY WIRING FROM EACH LEG TO EACH CHANNEL. SEE TABLE 1 FOR CONFIGURATION OF PRIMARY LEADS.

MUTING AND THERMAL PROTECTION.

PC-004507-00, AC PCB
J2A THRU J9A, PC MOUNTED TABS, SEE TABLE 1 FOR CONNECTIONS.

R21 & R21A, SEE TABLE 2 FOR VALUES

AC POWER SWITCH
CIRCUIT BREAKER, SEE TABLE 2 FOR VALUES

BRN 100V
BLU 20V
BLK 20V
COIL ONE
COIL TWO
GRY 100V
RED 20V
WHT 20V

MAINTAIN FULL PRI-SEC CREEPAGE

MAINTAIN FULL PRI-SEC CREEPAGE

28V PRI-SIDE DC FAN SUPPLY

TABLE 1

POWER TRANSFORMER PRIMARY LEAD COLOR	AC LINE VOLTAGE			TAB
	100V	120V	240V	
BRN	BRN	BRN	BRN	J2A
GRY	GRY	-	-	J3A
BLK	BLU	BLU	BLU	J4A
-	-	BLK	BLK	J5A
-	-	GRY	GRY	J6A
WHT	RED	RED	RED	J7A
BLU	BLK	-	-	J8A
RED	WHT	WHT	WHT	J9A

TABLE 2

	AC LINE VOLTAGE		
	100V	120V	240V
CIRCUIT BREAKER	10A-125V	10A-125V	5A-250V
R21	1 OHM 30A	1 OHM 30A	2.5 OHM 15A
R21A	0 OHM (JUMPER)	0 OHM (JUMPER)	2.5 OHM 15A

ISA 280
Revised version (March 2003)
page 3 of 3

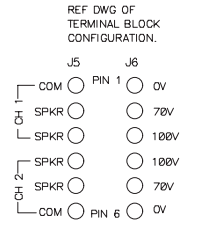
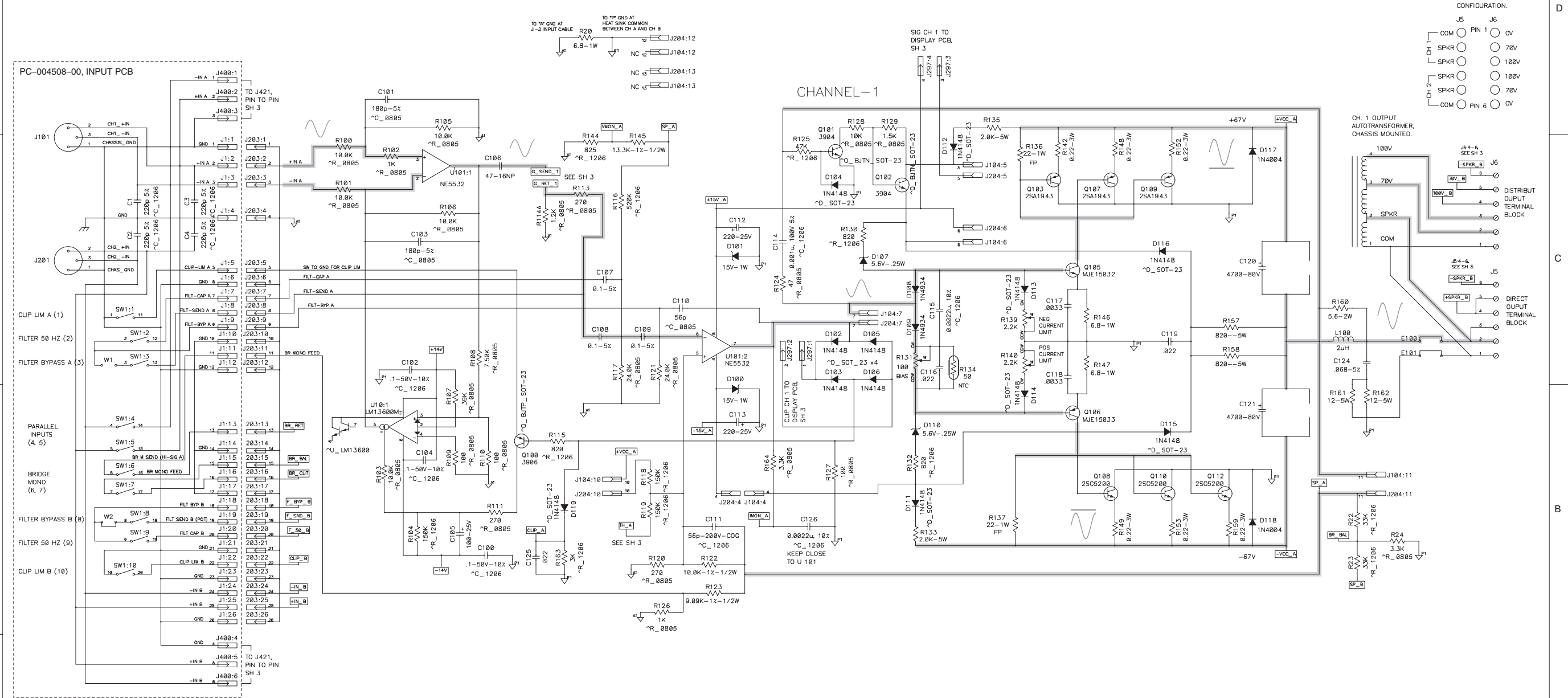
NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
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SCALE	CAD FILE NO.	SHEET	REV
NONE	SH2801RE.SCH	4 OF 4	
PLOT DATE:			
Fri Mar 07, 2003			1

E 4 SH-002801-00

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7.4 ISA300T Schematics



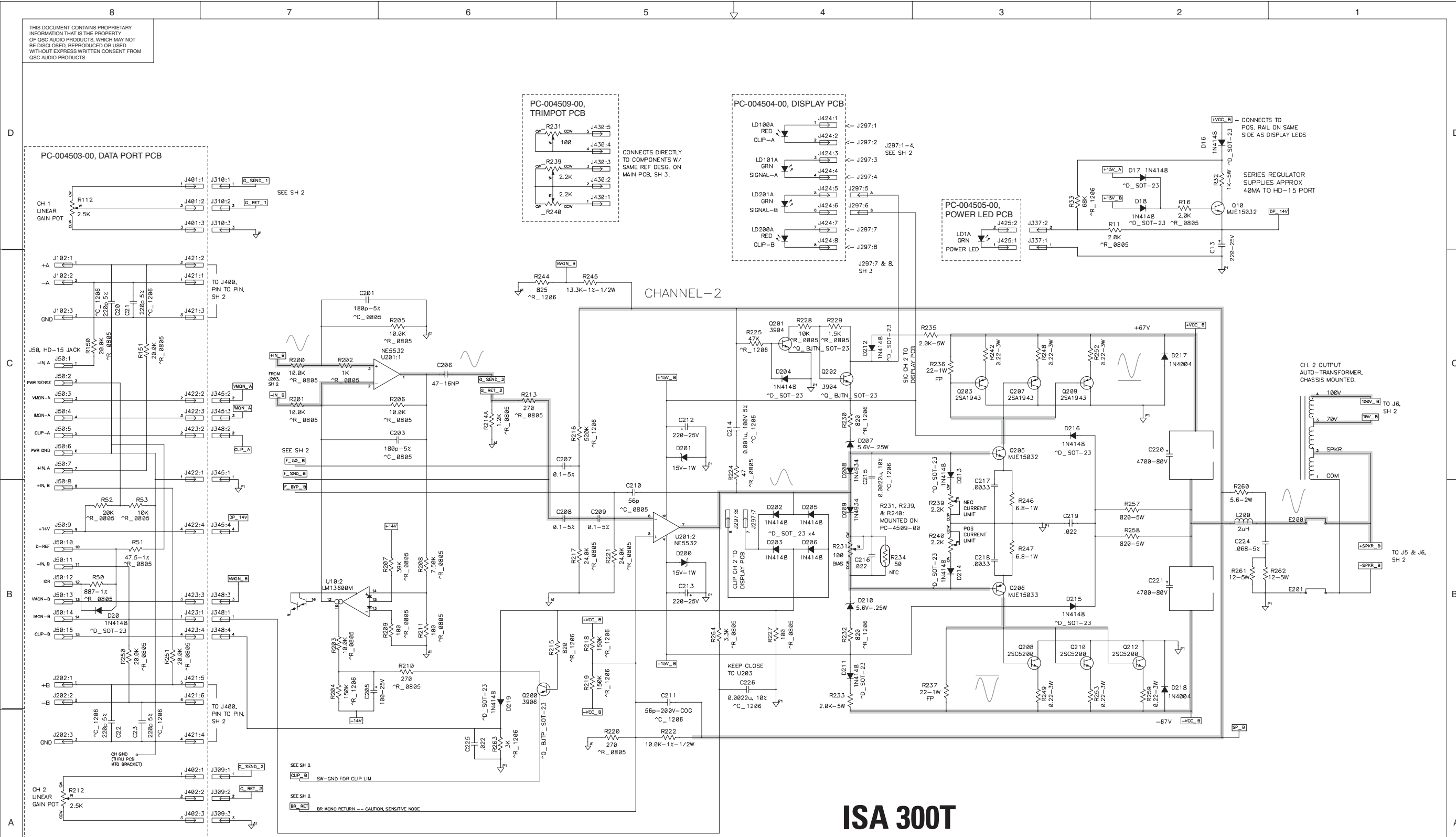
Gray shading indicates signal path

ISA 300T
page 1 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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SCALE: NONE	CAD FILE NO. SH8001na.sch	SHEET 2 OF 4	
PLOT DATE: Wed Sep 05, 2001		1	

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NOTES: UNLESS OTHERWISE SPECIFIED

ISA 300T

page 2 of 3

SIZE	FSCM NO.	DWG NO.	REV
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PLOT DATE: Wed Sep 05, 2001		1	

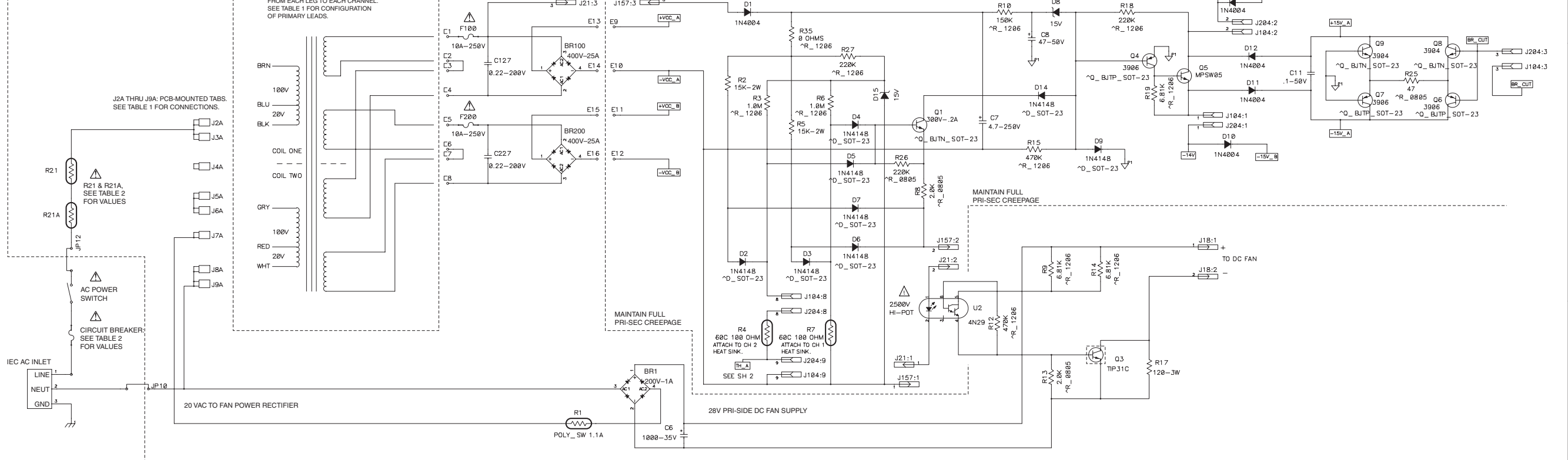
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PC-004507-00, AC PCB

J2A THRU J9A: PCB-MOUNTED TABS. SEE TABLE 1 FOR CONNECTIONS.

U4 CORE POWER TRANSFORMER
NOTE: SPLIT SECONDARY WIRING FROM EACH LEG TO EACH CHANNEL. SEE TABLE 1 FOR CONFIGURATION OF PRIMARY LEADS.

MUTING AND THERMAL PROTECTION



POWER TRANSFORMER PRIMARY LEAD COLOR	AC LINE VOLTAGE			TAB
	100V	120V	240V	
BRN	BRN	BRN	BRN	J4A
GRY	GRY	—	—	J5A
BLK	BLU	BLU	BLK	J6A
—	—	BLK	—	J8A
—	—	GRY	—	J9A
WHT	RED	RED	—	J7A
BLU	BLK	—	—	J2A
RED	WHT	WHT	—	J3A

	AC LINE VOLTAGE		
	100V	120V	240V
CIRCUIT BREAKER	15A— 125V	15A— 125V	7.5A— 250V
R21	1 OHM 30A	1 OHM 30A	2.5 OHM 15A
R21A	0 OHM (JUMPER)	0 OHM (JUMPER)	2.5 OHM 15A

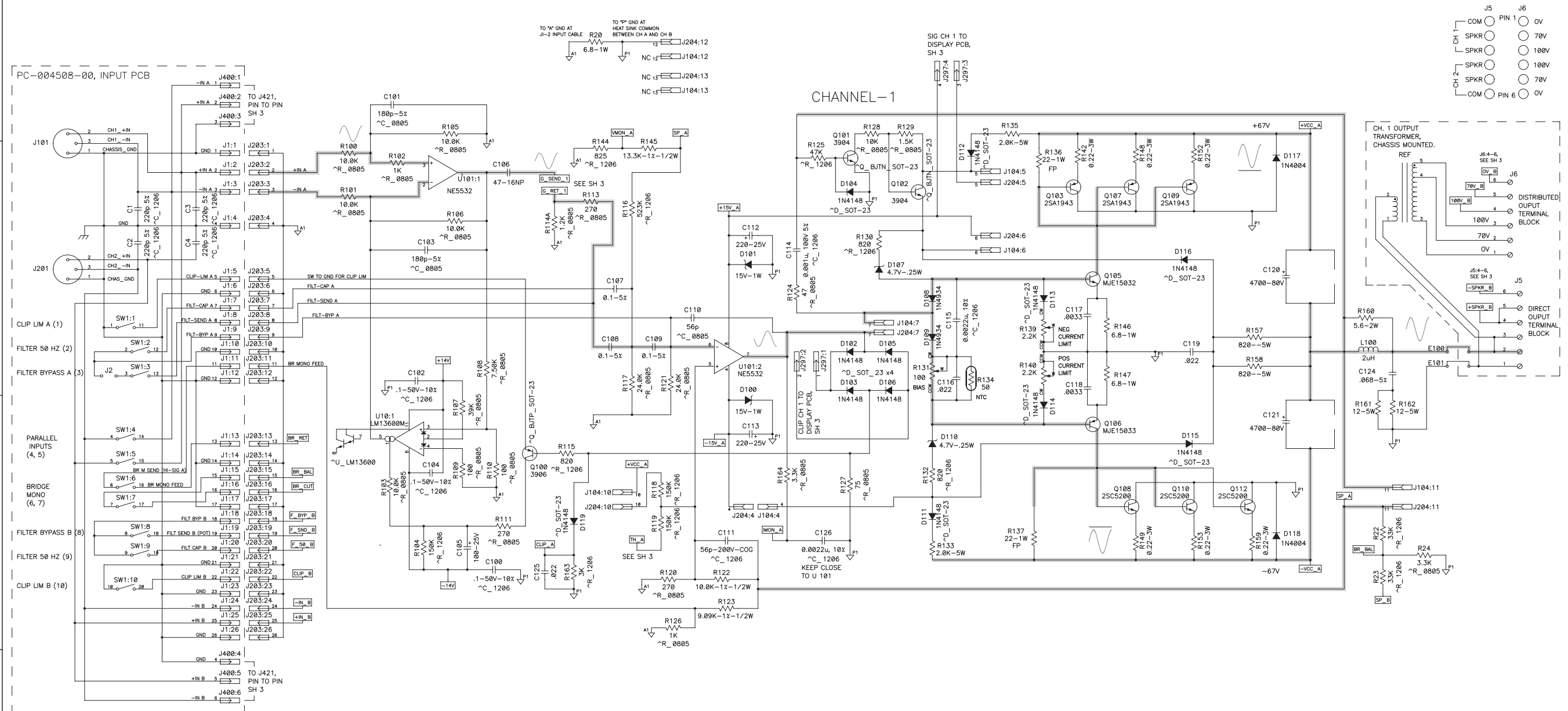
ISA 300T
page 3 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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SCALE: NONE	CAD FILE NO.: SH8001na.sch	SHEET 4 OF 4	
	PLOT DATE: Wed Sep 05, 2001		

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7.5 ISA300Ti Schematics



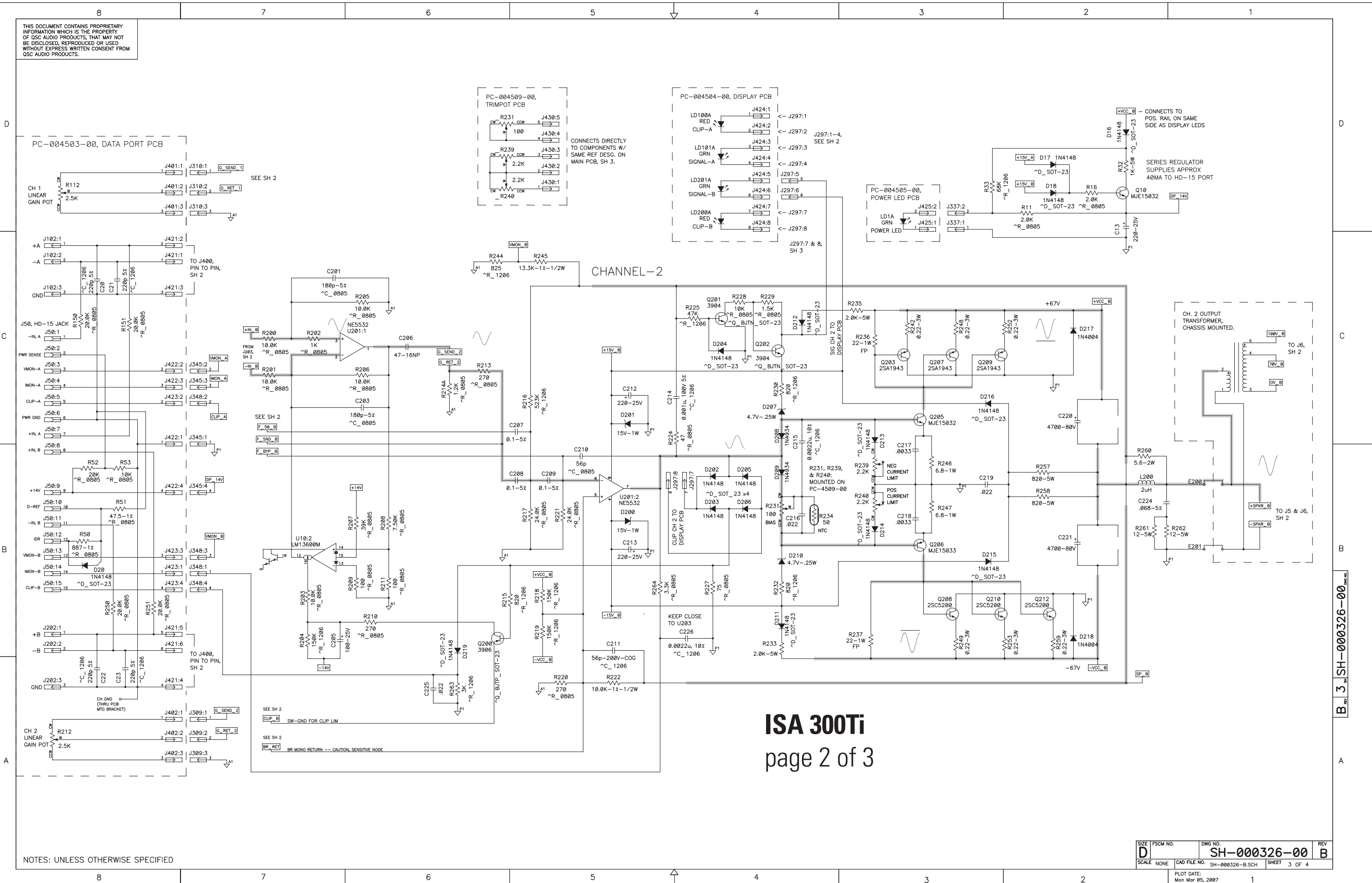
Gray shading indicates signal path

ISA 300Ti page 1 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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PLOT DATE:		1	
Mon Mar 05, 2007			

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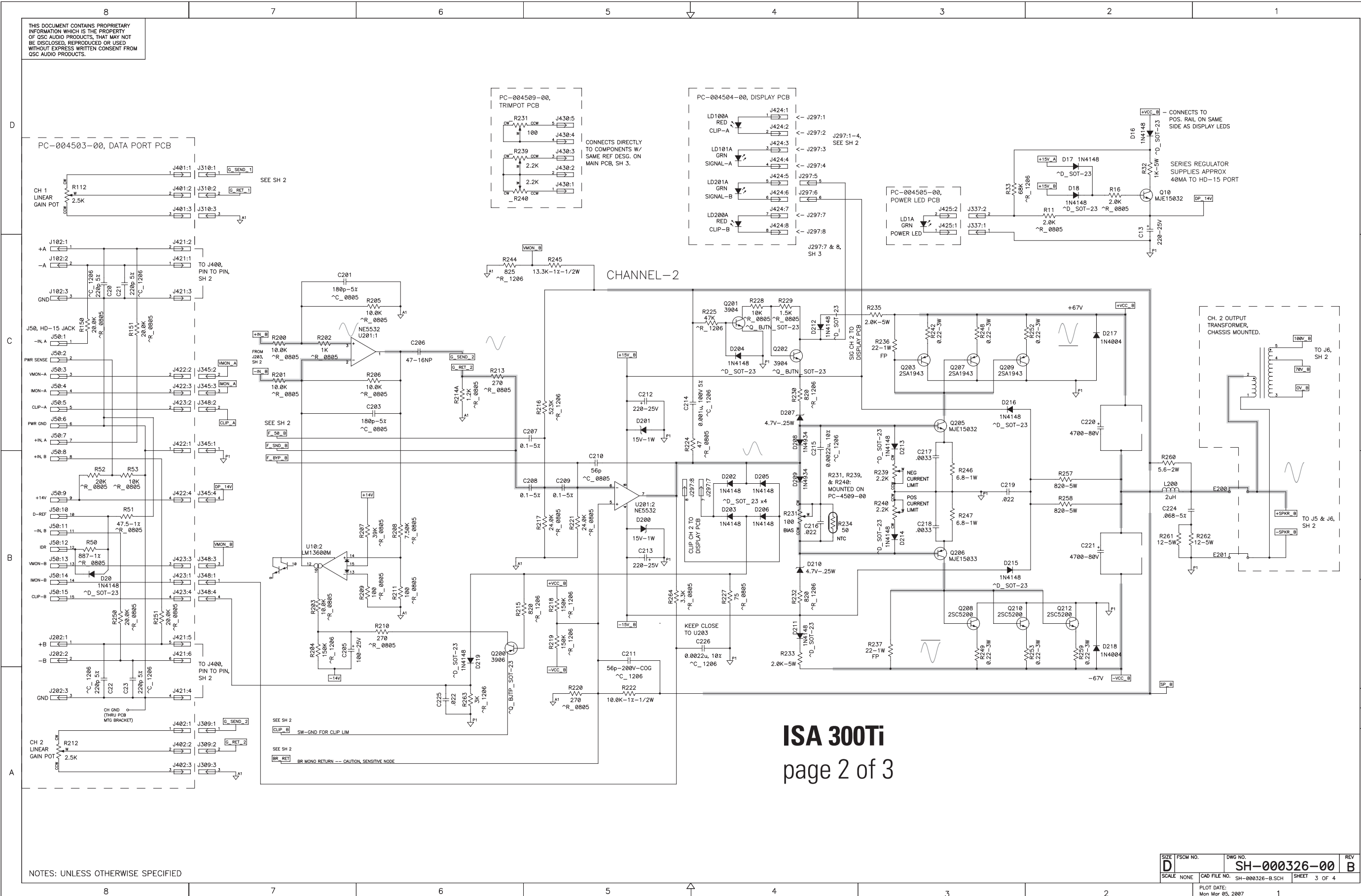


ISA 300Ti
page 2 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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PLOT DATE:		1	
Mon Mar 05, 2007			

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ISA 300Ti

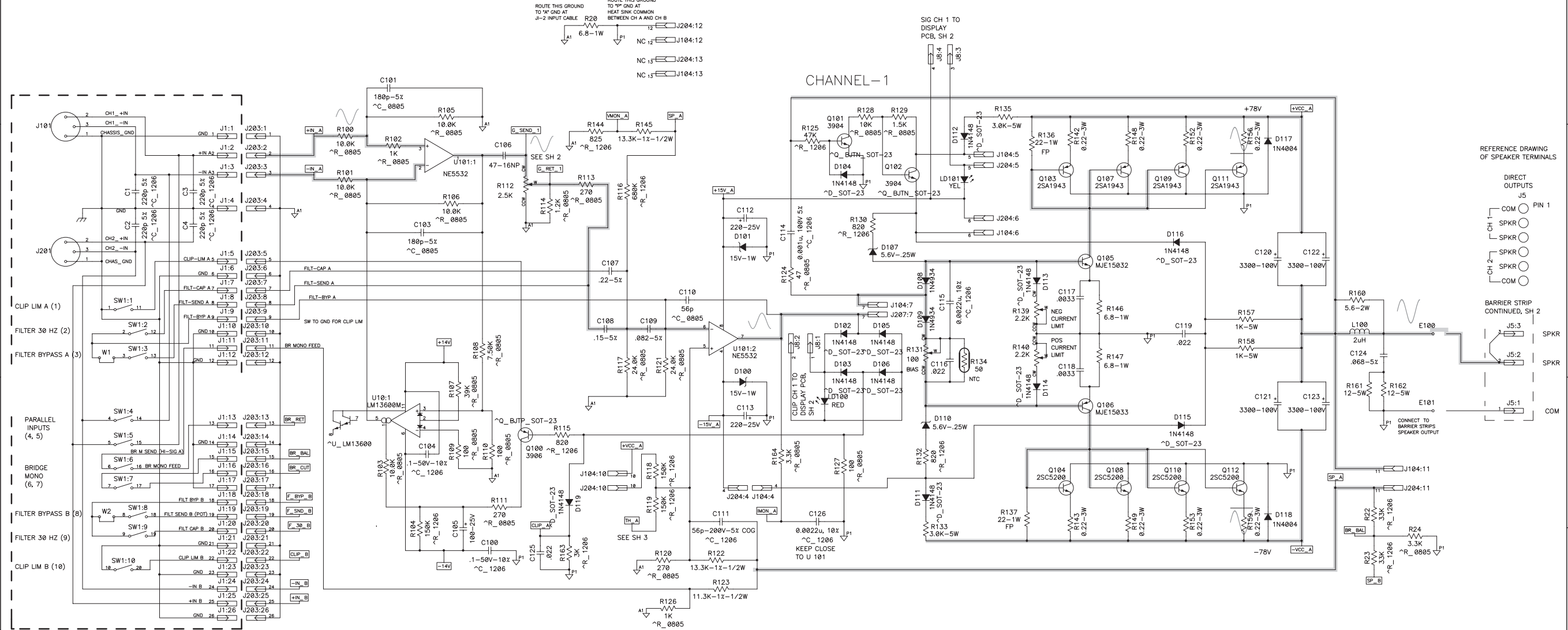
page 2 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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		SHEET	3 OF 4
		PLOT DATE:	Mon Mar 05, 2007
			1

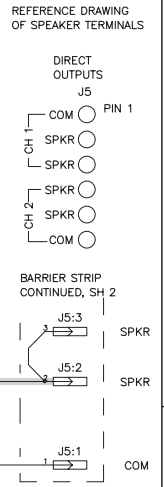
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7.6 ISA450 (1st generation) Schematics



Gray shading indicates signal path

ISA 450
Early version
page 1 of 3



NOTES: UNLESS OTHERWISE SPECIFIED

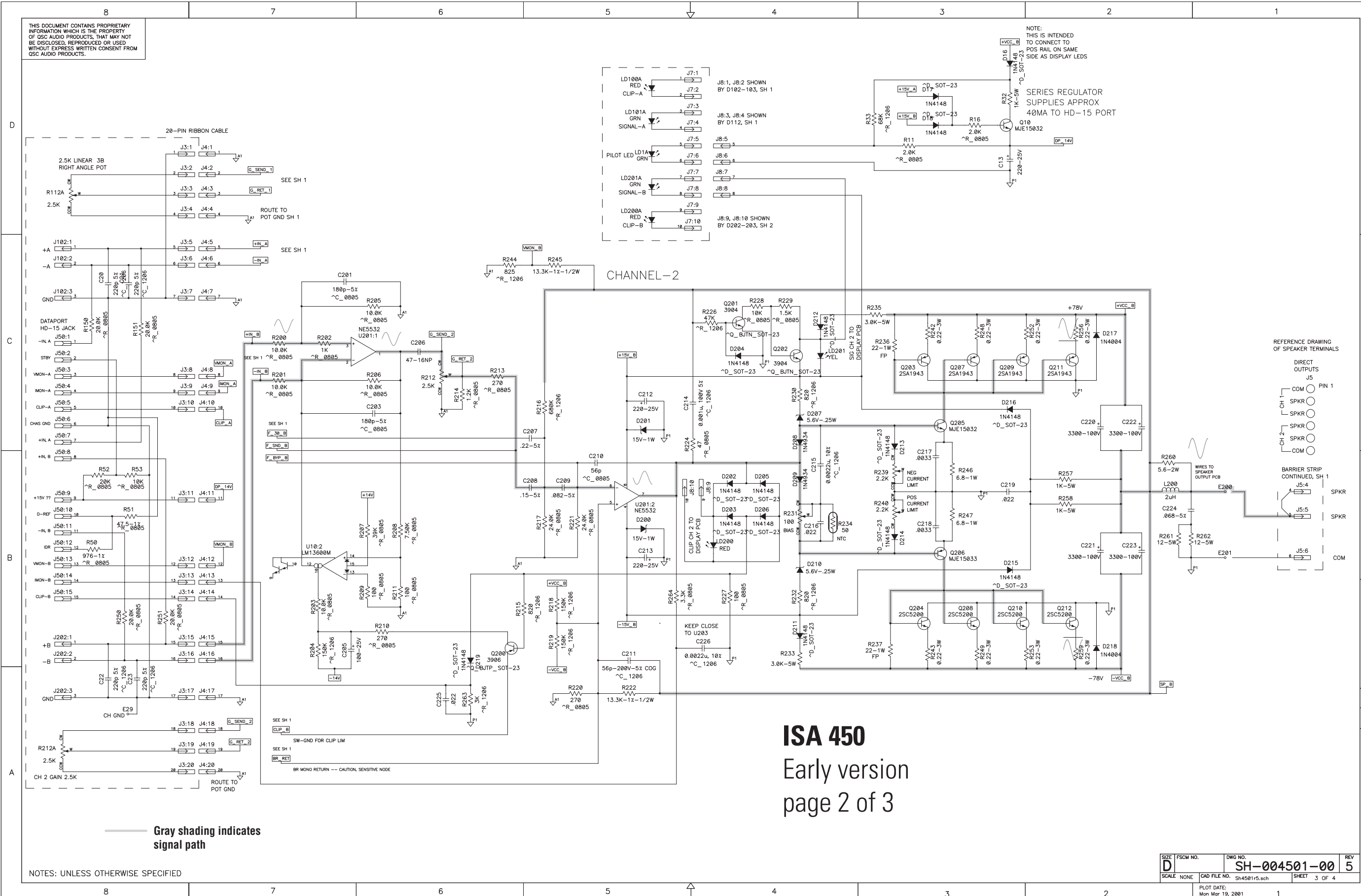
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		Sh4501r5.sch	

PLOT DATE: Mon Mar 19, 2001

5 SH-004501-00

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NOTE: THIS IS INTENDED TO CONNECT TO POS RAIL ON SAME SIDE AS DISPLAY LEADS



Gray shading indicates signal path

NOTES: UNLESS OTHERWISE SPECIFIED

ISA 450
Early version
page 2 of 3

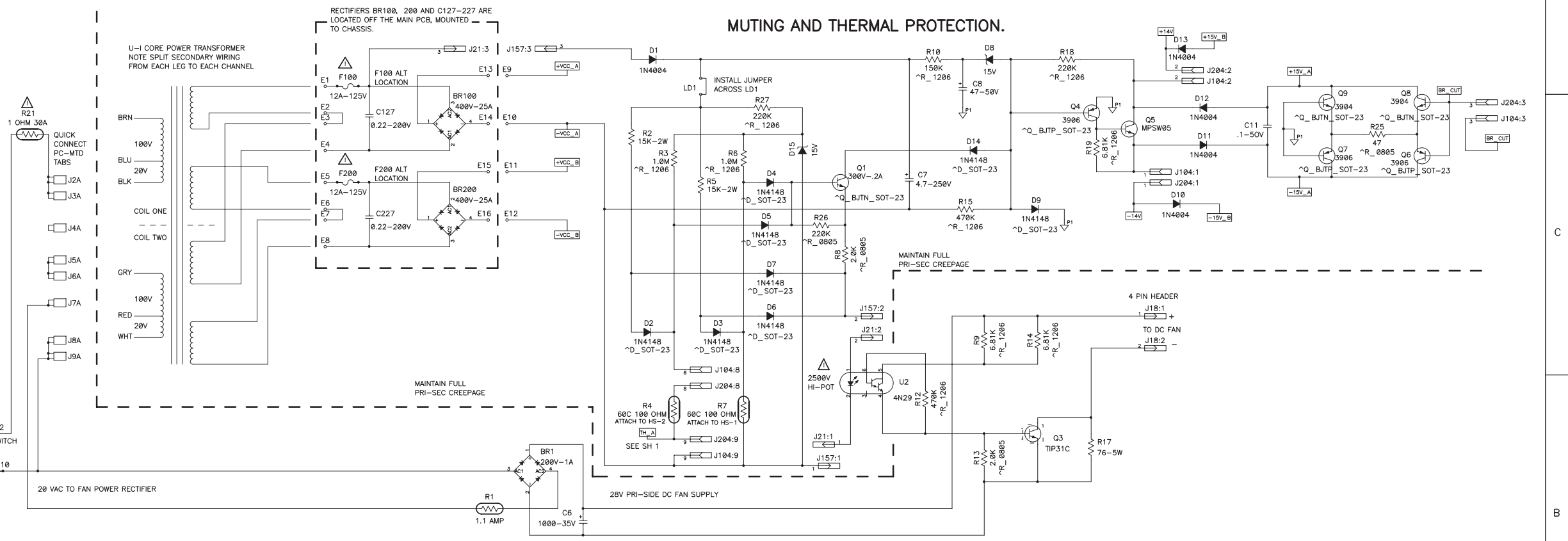
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PLOT DATE: Mon Mar 19, 2001		1	

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AC VOLTAGE PROGRAMMING TERMINALS

AC INPUT, HIGH (ALL)		
100V	120V	240V
BRN	BRN	BRN
GRY	GRY	-
BLK	BLU	BLU
-	-	BLK
-	-	GRY
WHT	RED	RED
BLU	BLK	-
RED	WHT	WHT

AC INPUT, LOW (ALL)



NOTES: UNLESS OTHERWISE SPECIFIED

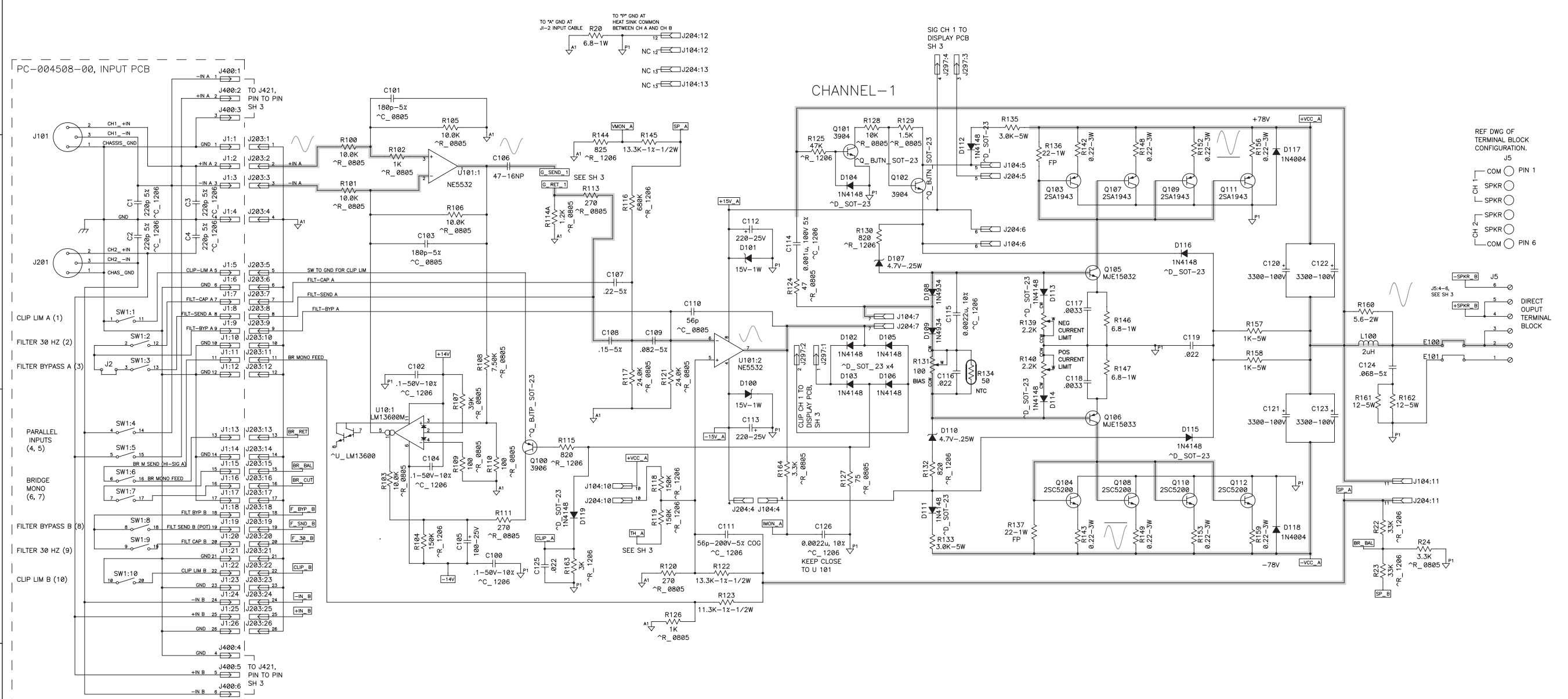
ISA 450
Early version
page 3 of 3

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PLOT DATE:		1	
Mon Mar 19, 2001			

5 SH-004501-00

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7.7 ISA450 (revised) Schematics



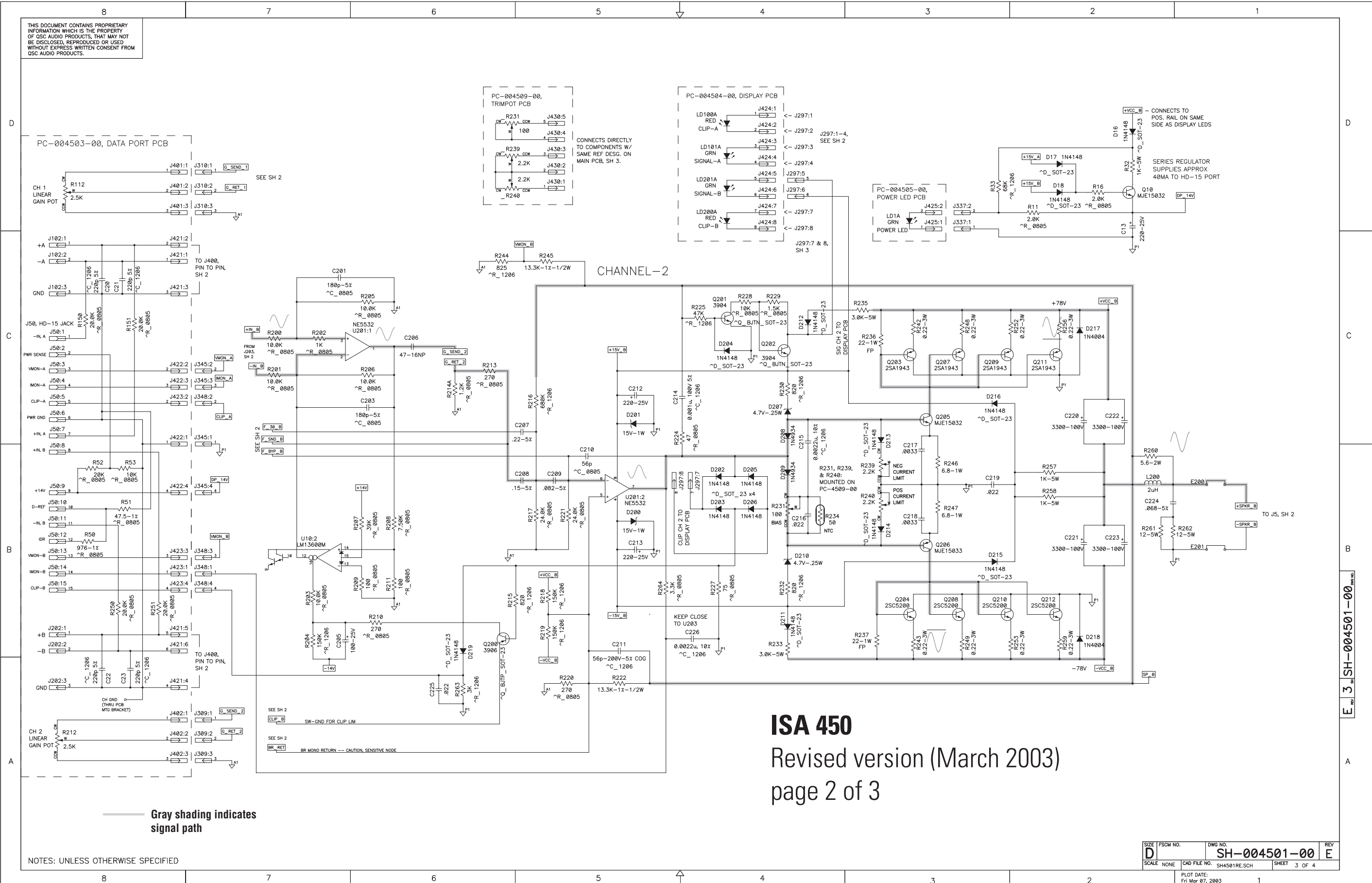
Gray shading indicates signal path

ISA 450
 Revised version (March 2003)
 page 1 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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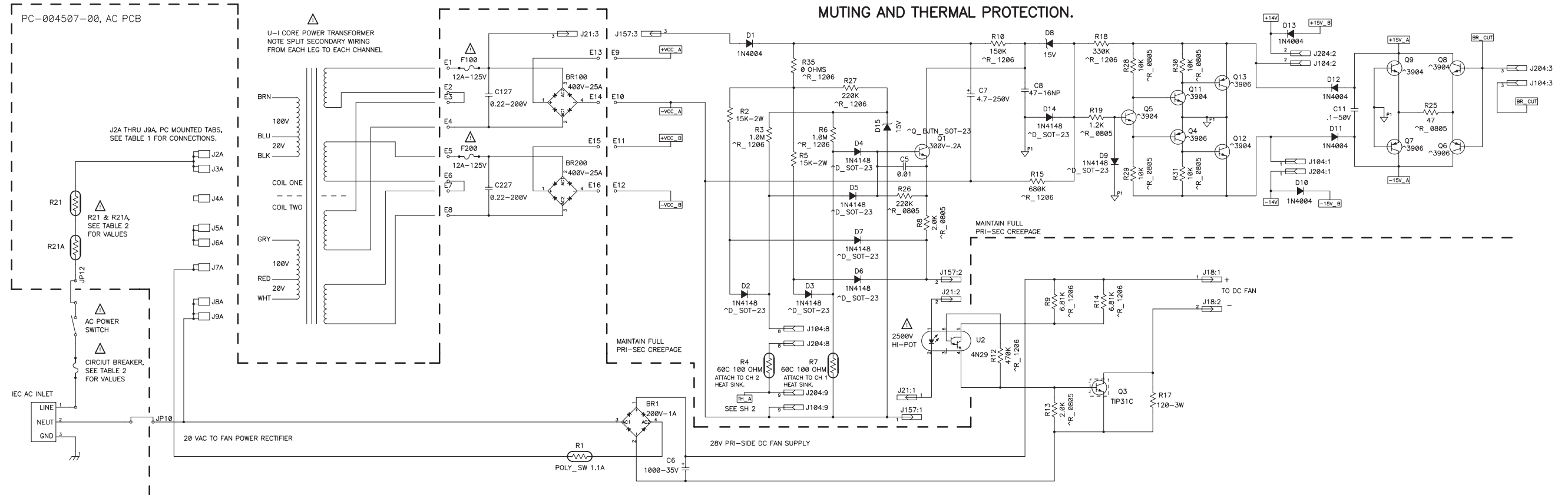
ISA 450
 Revised version (March 2003)
 page 2 of 3

Gray shading indicates signal path

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
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SCALE	NONE	CAD FILE NO. SH4501RE.SCH	SHEET 3 OF 4
PLOT DATE:		Fri Mar 07, 2003	

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POWER TRANSFORMER PRIMARY LEAD COLOR	AC LINE VOLTAGE			TAB
	100V	120V	240V	
BRN	BRN	BRN	BRN	J2A
GRY	GRY	-	-	J3A
BLK	BLU	BLU	BLU	J4A
-	-	BLK	BLK	J5A
-	-	GRY	GRY	J6A
WHT	RED	RED	RED	J7A
BLU	BLK	-	-	J8A
RED	WHT	WHT	WHT	J9A

	AC LINE VOLTAGE		
	100V	120V	240V
CIRCUIT BREAKER	15A-125V	15A-125V	7.5A-250V
R21	1 OHM 30A	1 OHM 30A	2.5 OHM 15A
R21A	0 OHM (JUMPER)	0 OHM (JUMPER)	2.5 OHM 15A

ISA 450
 Revised version (March 2003)
 page 3 of 3

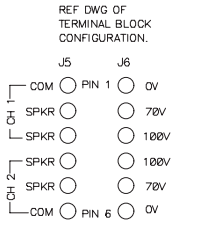
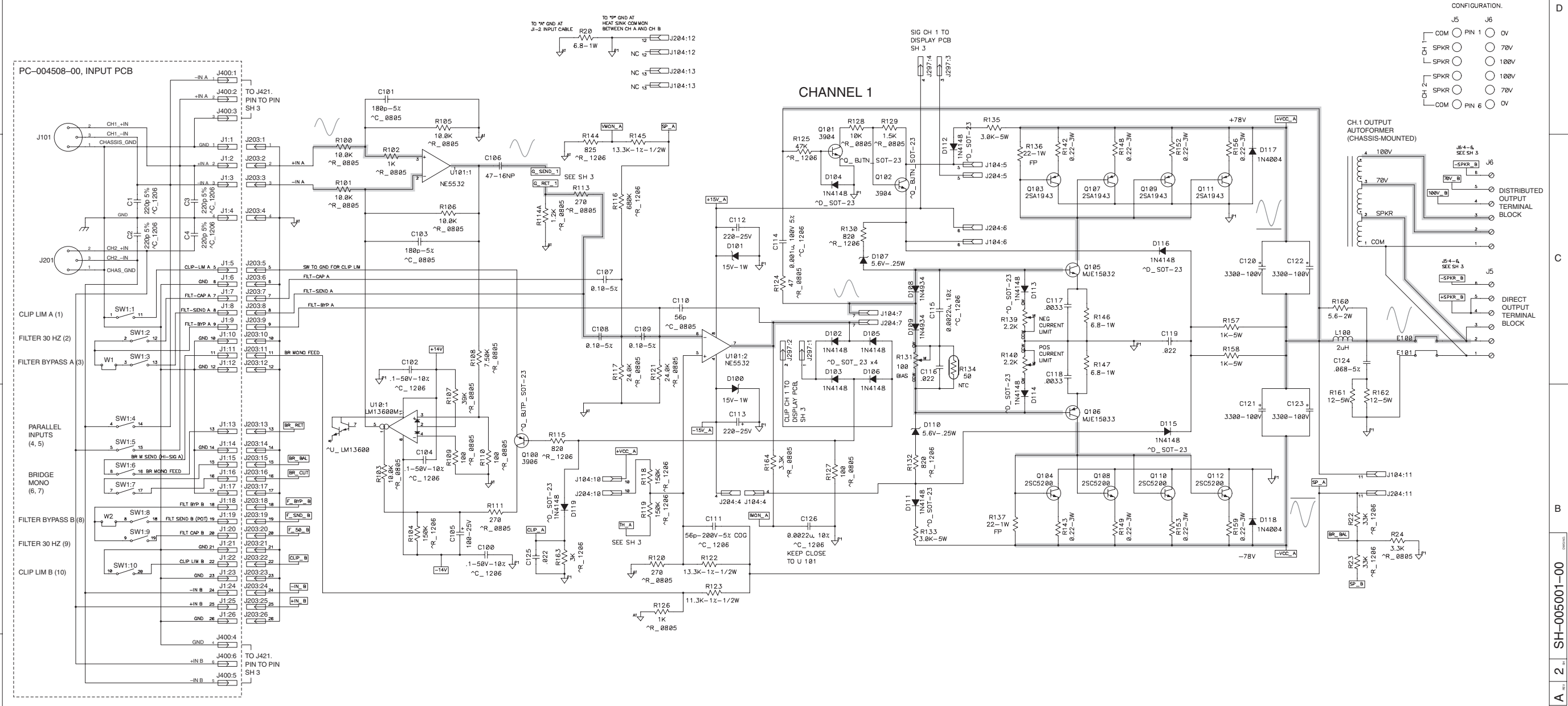
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SCALE	CAD FILE NO.	SHEET	REV
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PLOT DATE:		REV	
Fri Mar 07, 2003		1	

E 4 SH-004501-00

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7.8 ISA500T Schematics



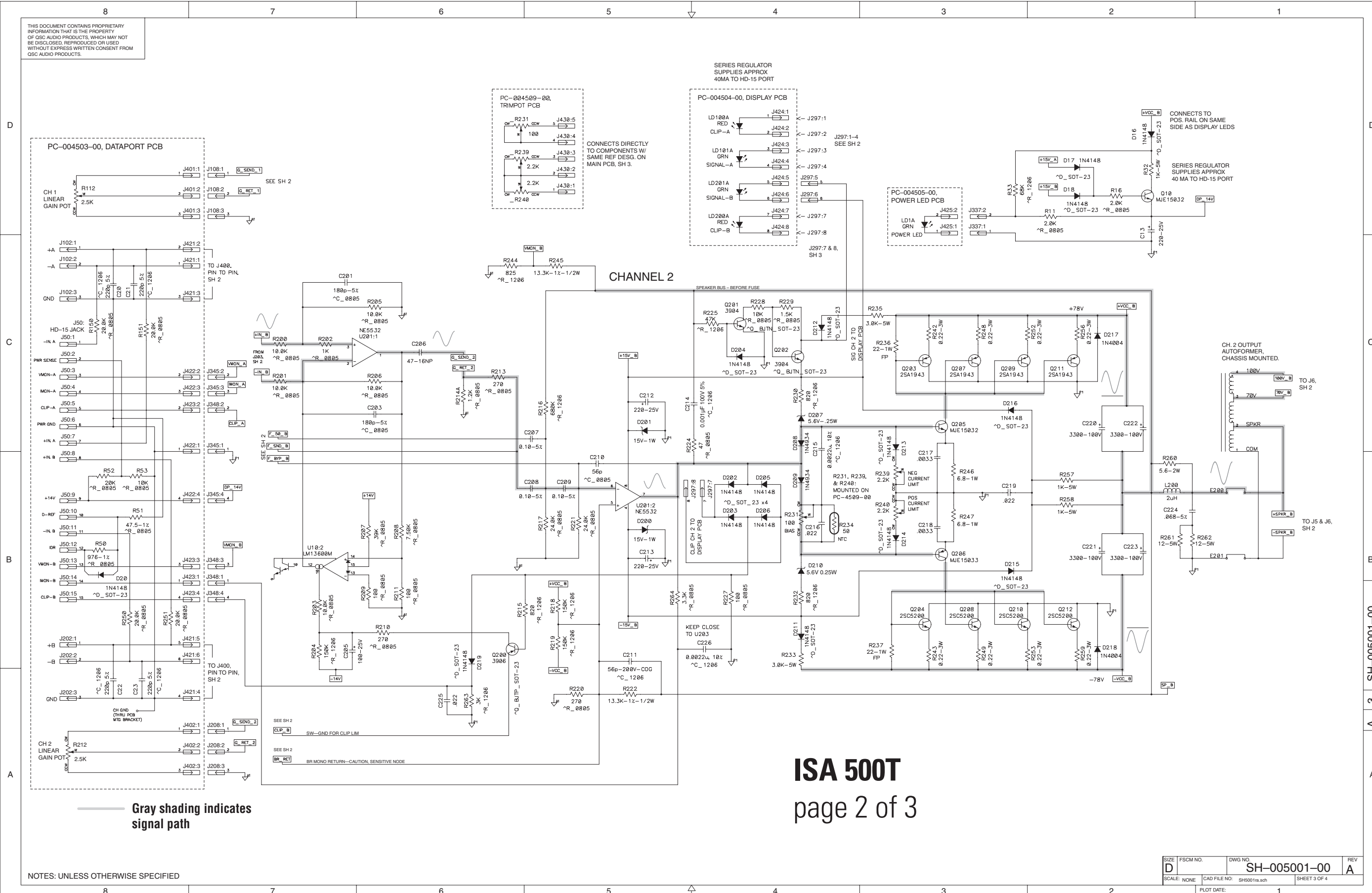
Gray shading indicates signal path

ISA 500T
page 1 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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PLOT DATE: Wed Sep 05, 2001		1	

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Gray shading indicates signal path

NOTES: UNLESS OTHERWISE SPECIFIED

ISA 500T

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SIZE	FSCM NO.	DWG NO.	REV
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SCALE: NONE	CAD FILE NO. SH5001ra.sch	SHEET 3 OF 4	
PLOT DATE: Wed Sep 05, 2001		1	

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PC-004507-00, AC PCB

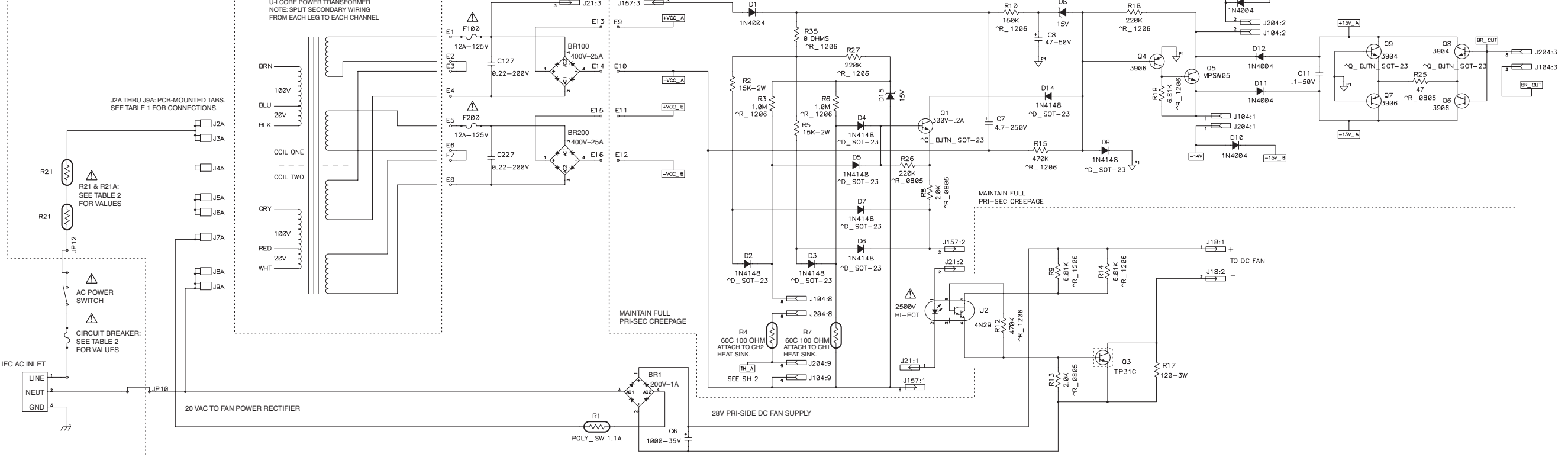


TABLE 1

POWER TRANSFORMER PRIMARY LEAD COLOR	AC LINE VOLTAGE			TAB
	100V	120V	240V	
BRN	BRN	BRN	BRN	J4A
GRY	GRY	—	—	J5A
BLK	BLU	BLU	BLK	J6A
—	—	—	—	J8A
—	—	GRY	—	J9A
WHT	RED	RED	—	J7A
BLU	BLK	—	—	J2A
RED	WHT	WHT	—	J3A

TABLE 2

	AC LINE VOLTAGE		
	100V	120V	240V
CIRCUIT BREAKER	15A— 125V	15A— 125V	7.5A— 250V
R21	1 OHM 30A	1 OHM 30A	2.5 OHM 15A
R21A	0 OHM (JUMPER)	0 OHM (JUMPER)	2.5 OHM 15A

ISA 500T
page 3 of 3

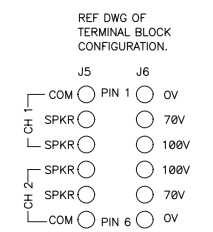
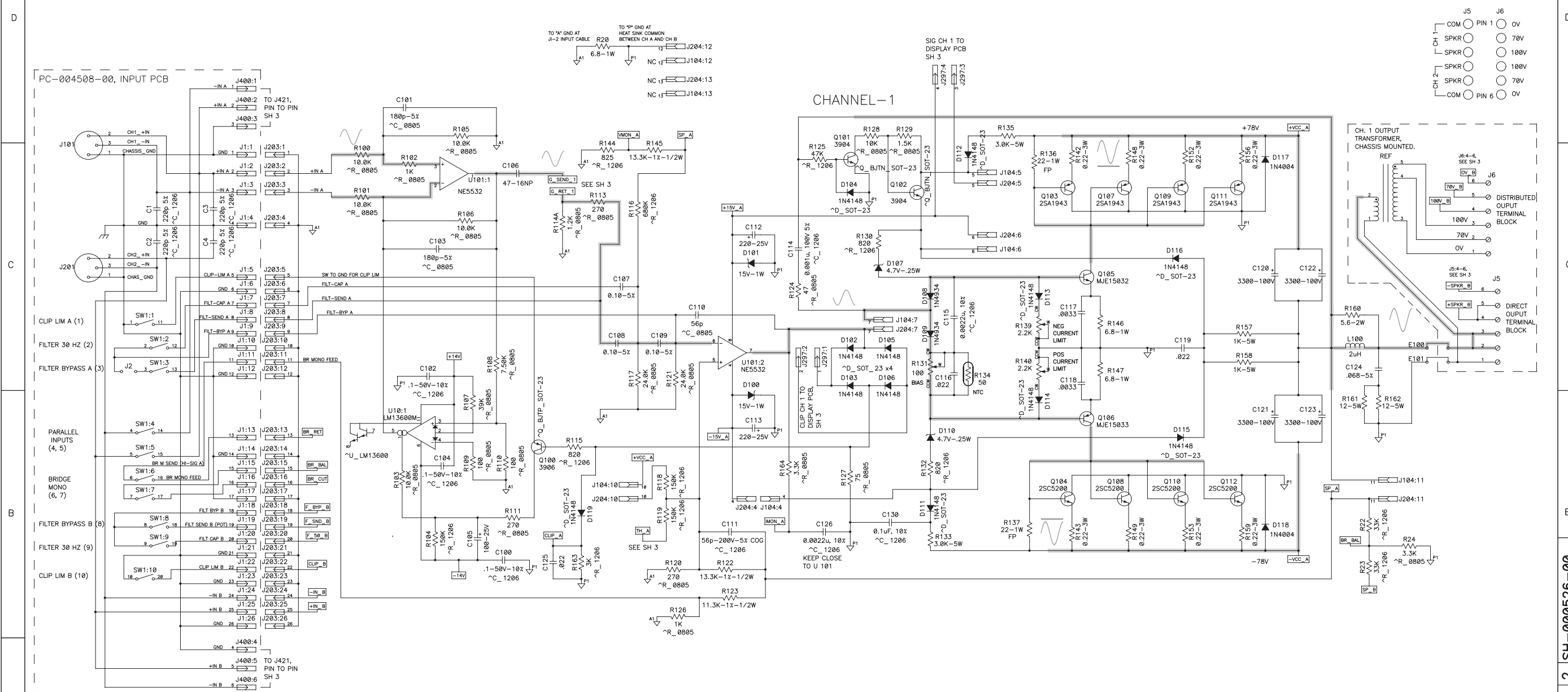
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PLOT DATE: Wed Sep 05, 2001		1	

SH-005001-00

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7.9 ISA500Ti Schematics



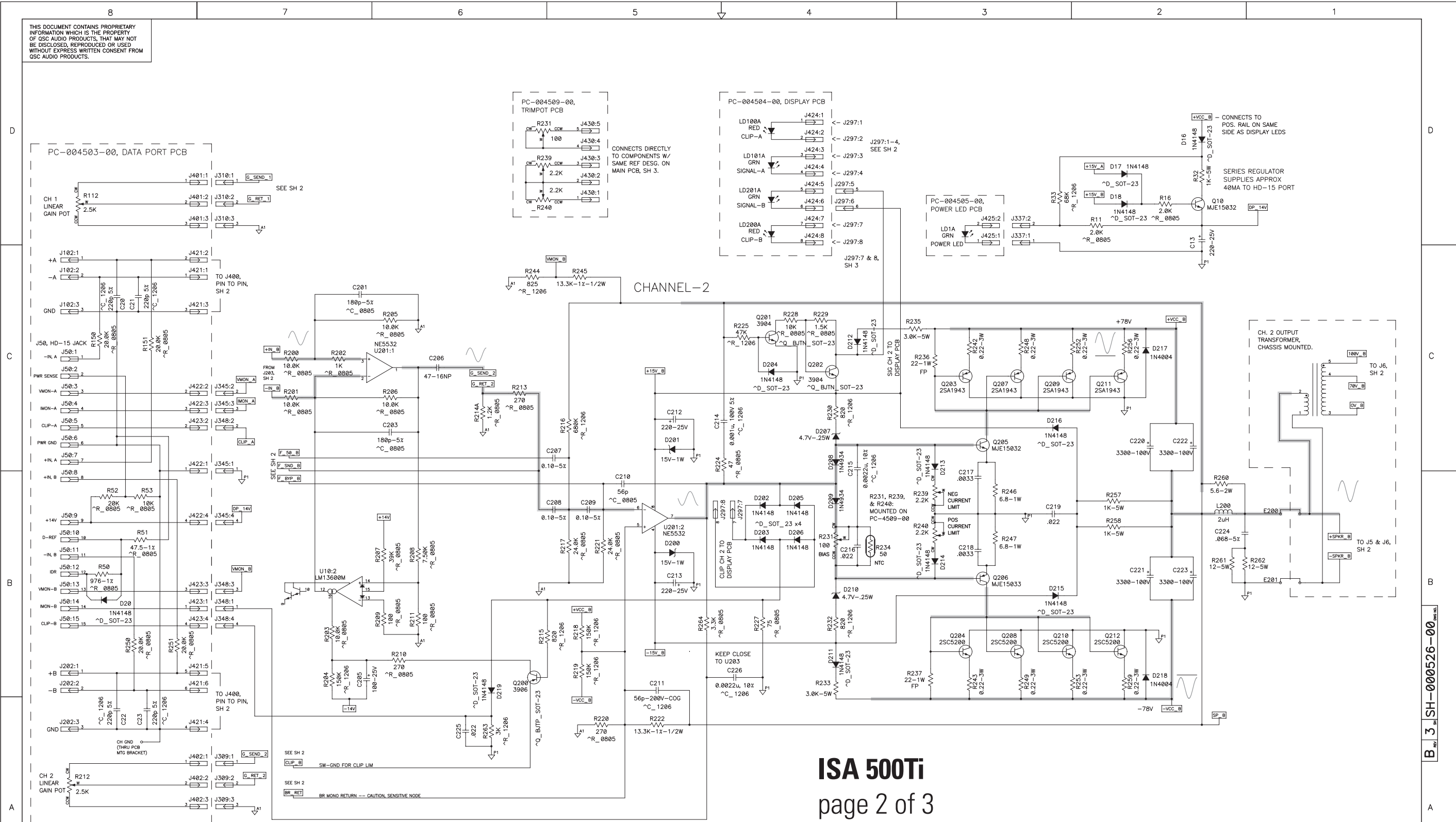
Gray shading indicates signal path

ISA 500Ti
page 1 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
D	NONE	SH-000526-00	B
SCALE	CAD FILE NO.	SHEET	2 OF 4
	SH-000526-B.SCH		
PLOT DATE:		1	
Mon Mar 05, 2007			

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Gray shading indicates signal path

CHANNEL-2

ISA 500Ti

page 2 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
D		SH-000526-00	B
SCALE	NONE	CAD FILE NO. SH-000526-B.SCH	SHEET 3 OF 4

PLOT DATE: Mon Mar 05, 2007

B 3 SH-000526-00

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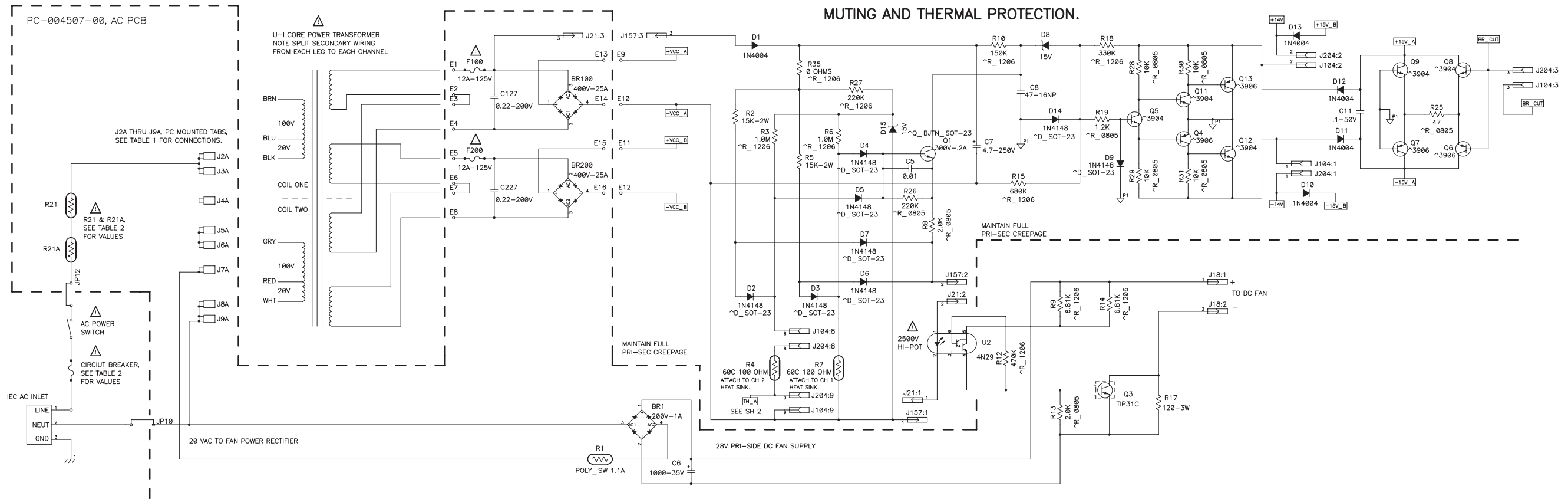


TABLE 1

POWER TRANSFORMER PRIMARY LEAD COLOR	AC LINE VOLTAGE			TAB
	100V	120V	240V	
BRN	BRN	BRN	BRN	J2A
GRY	GRY	-	-	J3A
BLK	BLU	BLU	BLU	J4A
-	-	BLK	BLK	J5A
-	-	GRY	GRY	J6A
WHT	RED	RED	RED	J7A
BLU	BLK	-	-	J8A
RED	WHT	WHT	WHT	J9A

TABLE 2

	AC LINE VOLTAGE		
	100V	120V	240V
CIRCUIT BREAKER	15A-125V	15A-125V	7.5A-250V
R21	1 OHM 30A	1 OHM 30A	2.5 OHM 15A
R21A	0 OHM (JUMPER)	0 OHM (JUMPER)	2.5 OHM 15A

ISA 500Ti
page 3 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
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SCALE	CAD FILE NO.	SH-000526-B.SCH	SHEET 4 OF 4
PLOT DATE:		Mon Mar 05, 2007	1

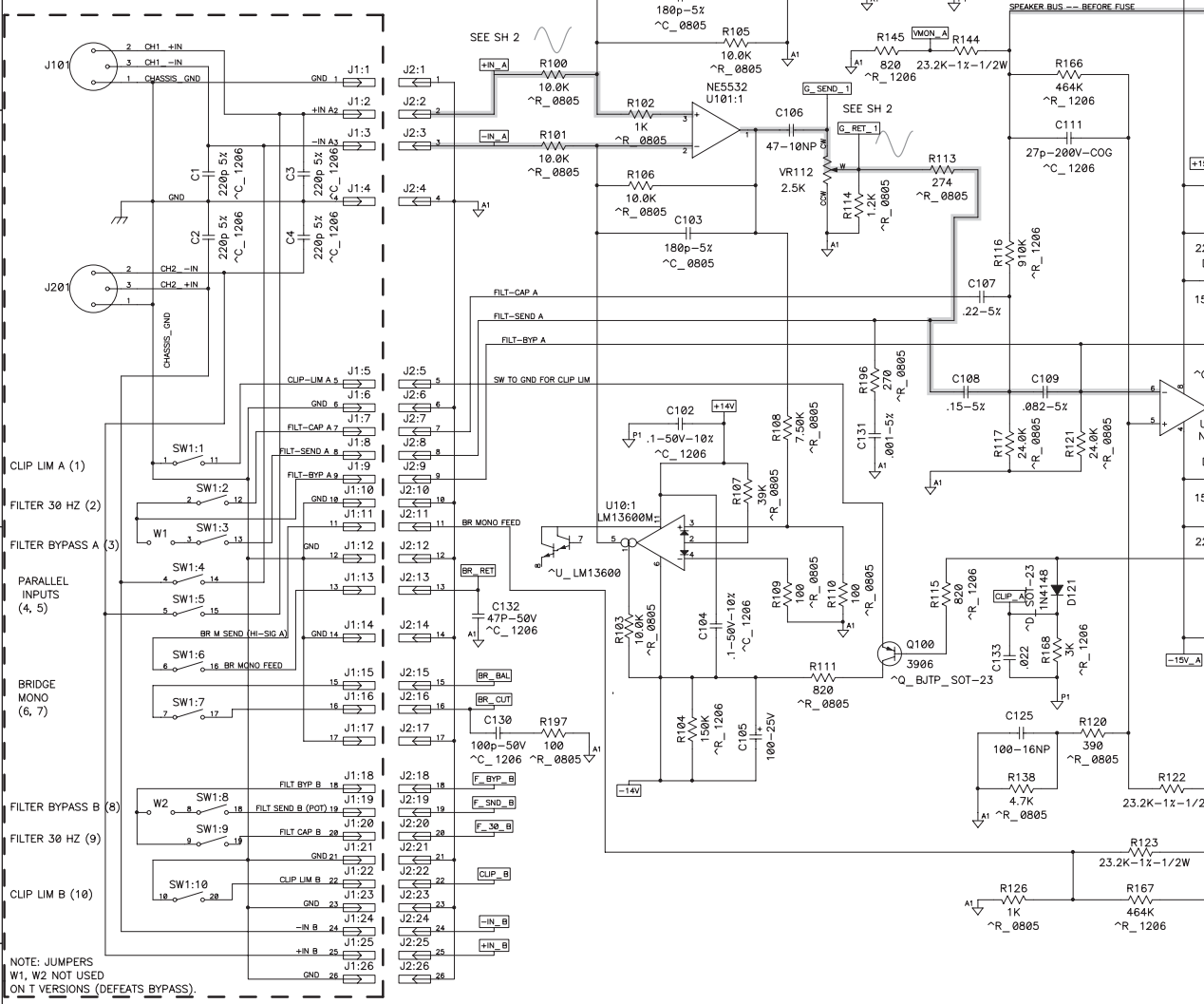
B 4 SH-000526-00

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7.10 ISA750 (1st generation) Schematics

CHANNEL - 1

26-LINE RIBBON CABLE CONNECTS BREAKAWAY INPUT PCB TO MAIN PCB

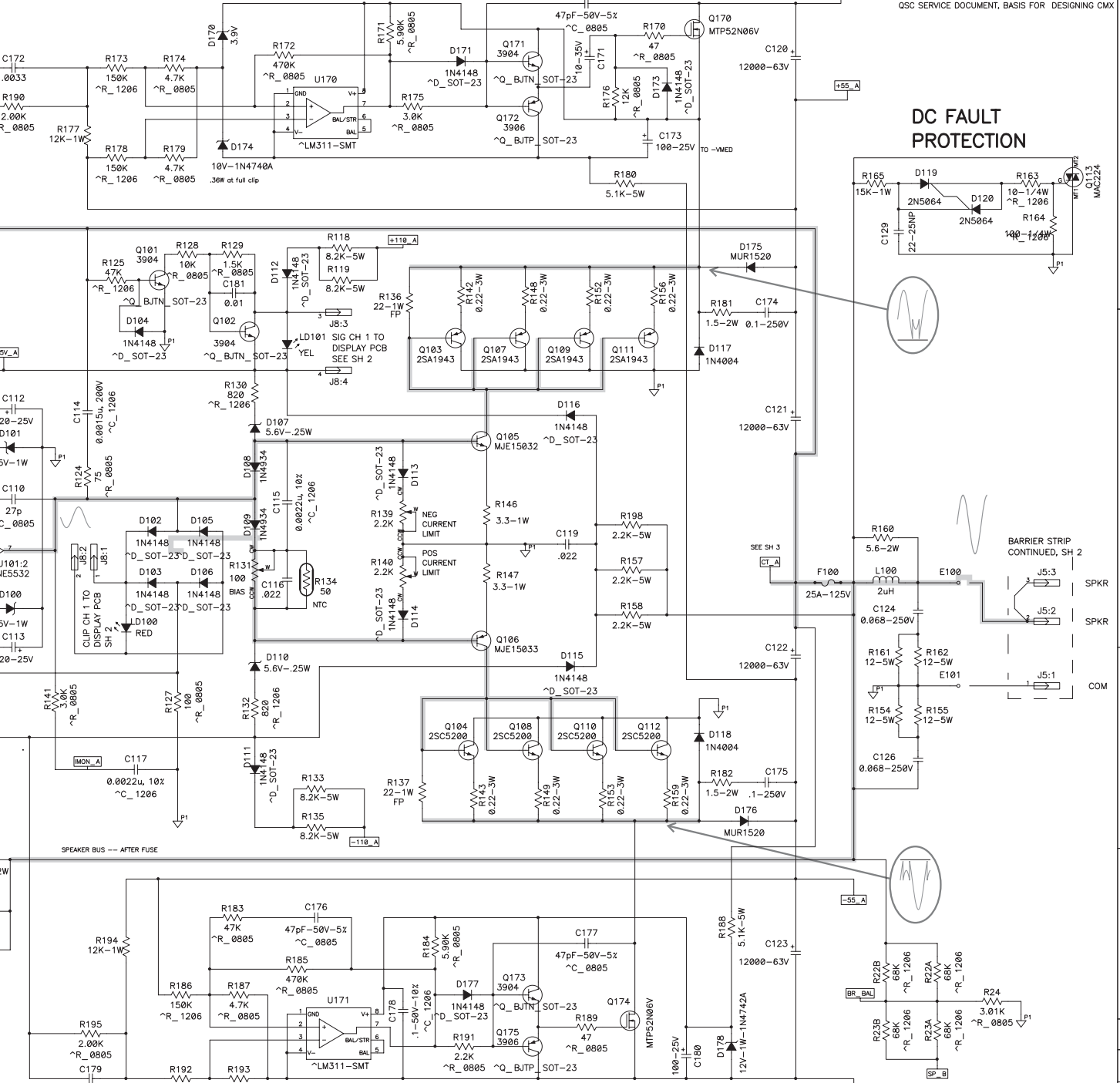


NOTE: JUMPERS W1, W2 NOT USED ON T VERSIONS (DEFEATS BYPASS).

Gray shading indicates signal path

NOTES: UNLESS OTHERWISE SPECIFIED

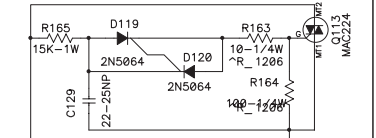
POS STEP DRIVER



NEG STEP DRIVER



DC FAULT PROTECTION



ISA 750
Early version
page 1 of 3

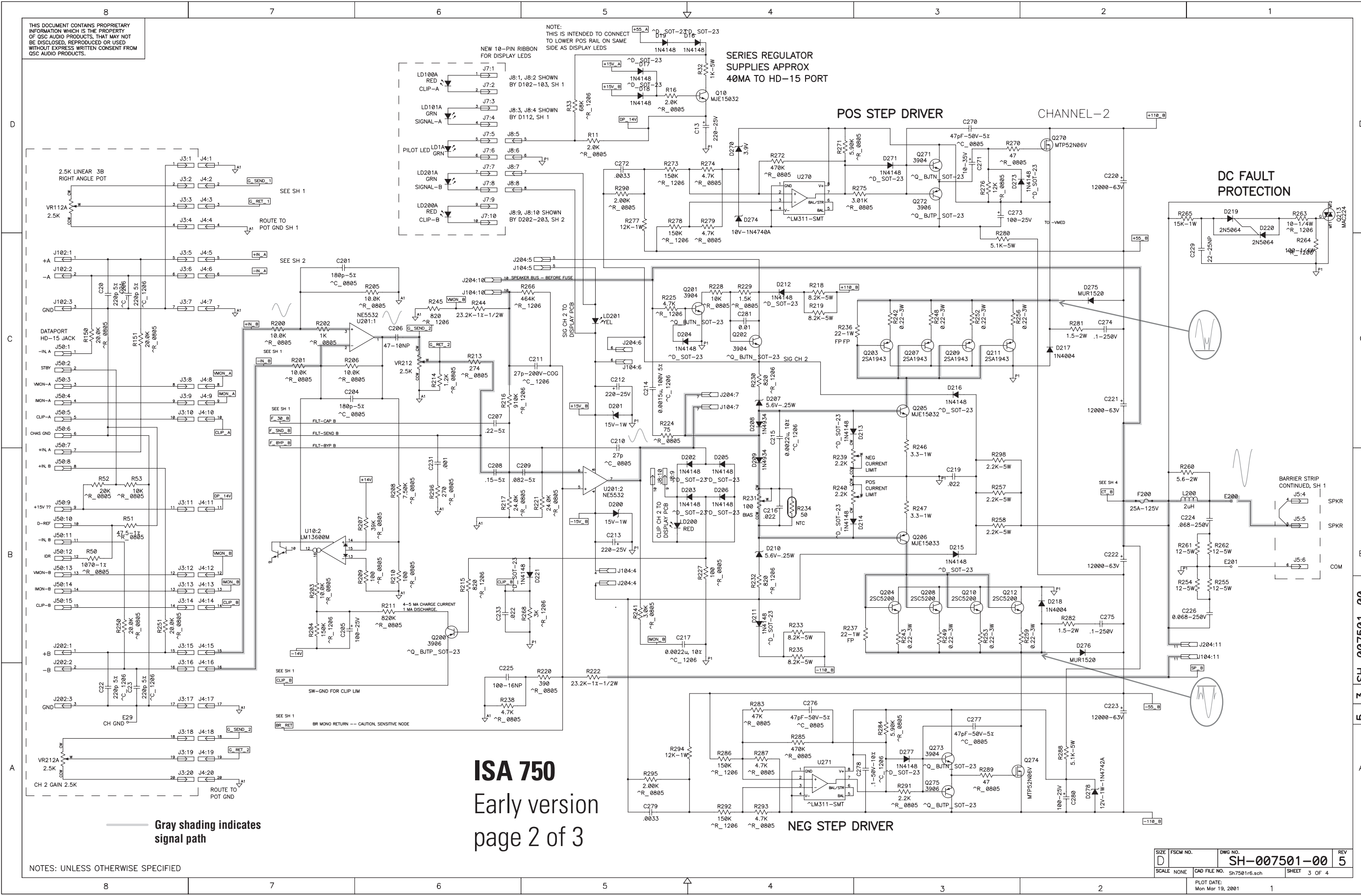
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		Sh7501r6.sch	

PLOT DATE: Mon Mar 19, 2001

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NOTE: THIS IS INTENDED TO CONNECT TO LOWER POS RAIL ON SAME SIDE AS DISPLAY LEADS

SERIES REGULATOR SUPPLIES APPROX 40MA TO HD-15 PORT



ISA 750
Early version
page 2 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
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SCALE	NONE	CAD FILE NO. Sh7501r6.sch	SHEET 3 OF 4
		PLOT DATE: Mon Mar 19, 2001	1

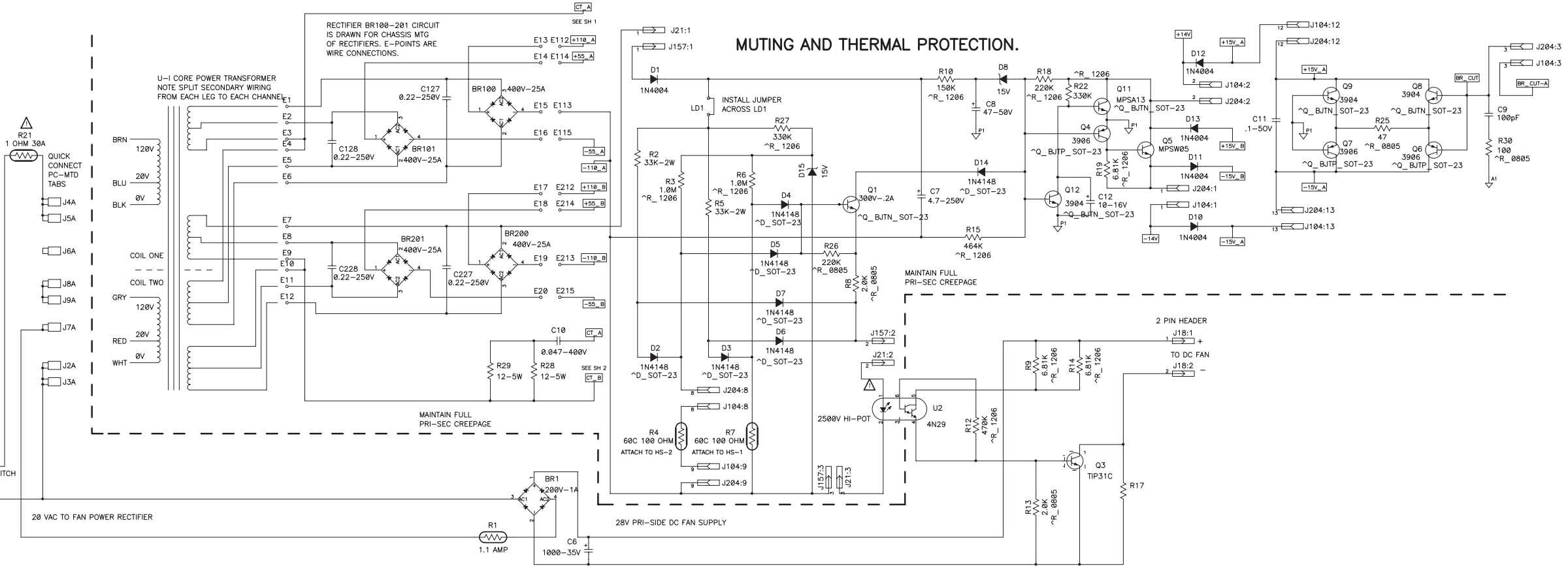
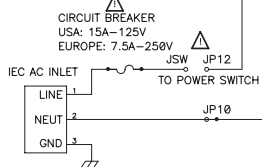
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AC VOLTAGE PROGRAMMING TERMINALS

100V 120V 240V		
TRANSFORMER PRI LEADS		
BRN	BRN	BRN
GRY	GRY	-
BLK	BLU	BLU
-	-	BLK
-	-	GRY
WHT	RED	RED
BLU	BLK	-
RED	WHT	WHT

AC INPUT, HIGH (ALL)

AC INPUT, LOW (ALL)



ISA 750
Early version
page 3 of 3

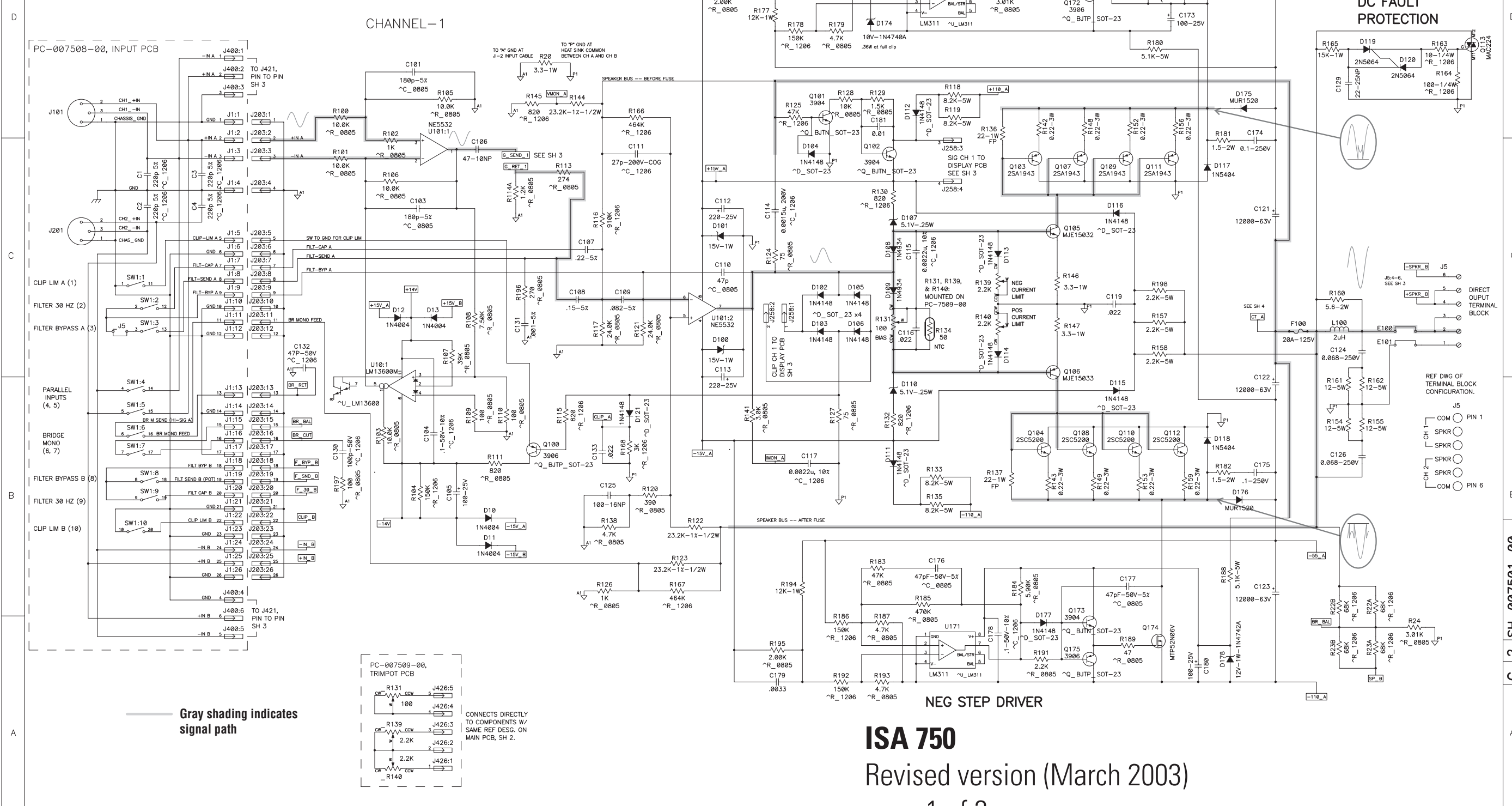
NOTES: UNLESS OTHERWISE SPECIFIED

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SCALE	NONE	CAD FILE NO.	SHEET
		Sh7501r6.sch	4 OF 4
PLOT DATE:		1	
Mon Mar 19, 2001			

5 SH-007501-00

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7.11 ISA750 (revised) Schematics

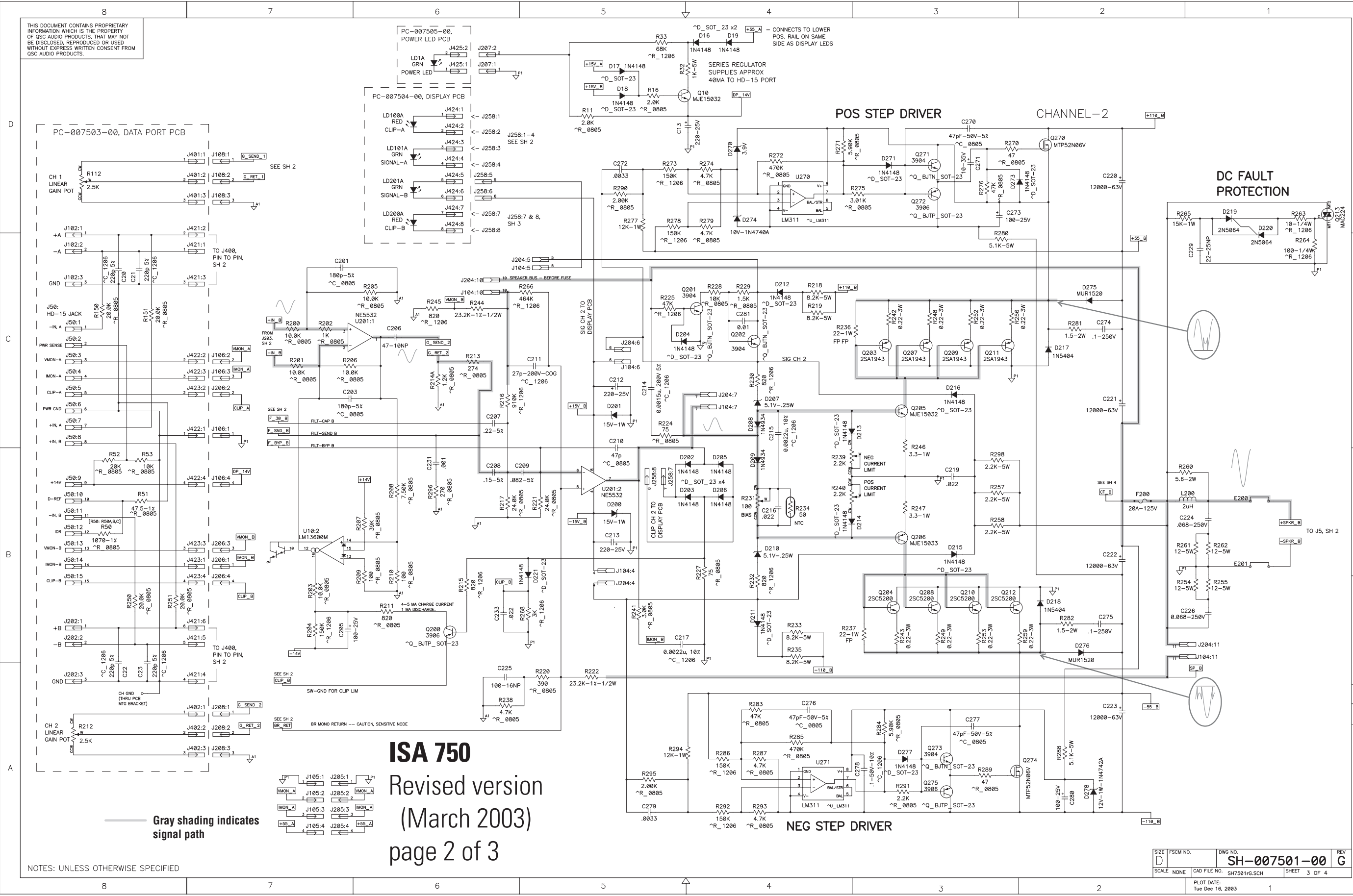


NOTES: UNLESS OTHERWISE SPECIFIED

ISA 750
 Revised version (March 2003)
 page 1 of 3

SIZE	FSCM NO.	DWG NO.	REV
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SCALE	CAD FILE NO.	SHEET 2 OF 4	
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PLOT DATE:		1	
Tue Dec 16, 2003			

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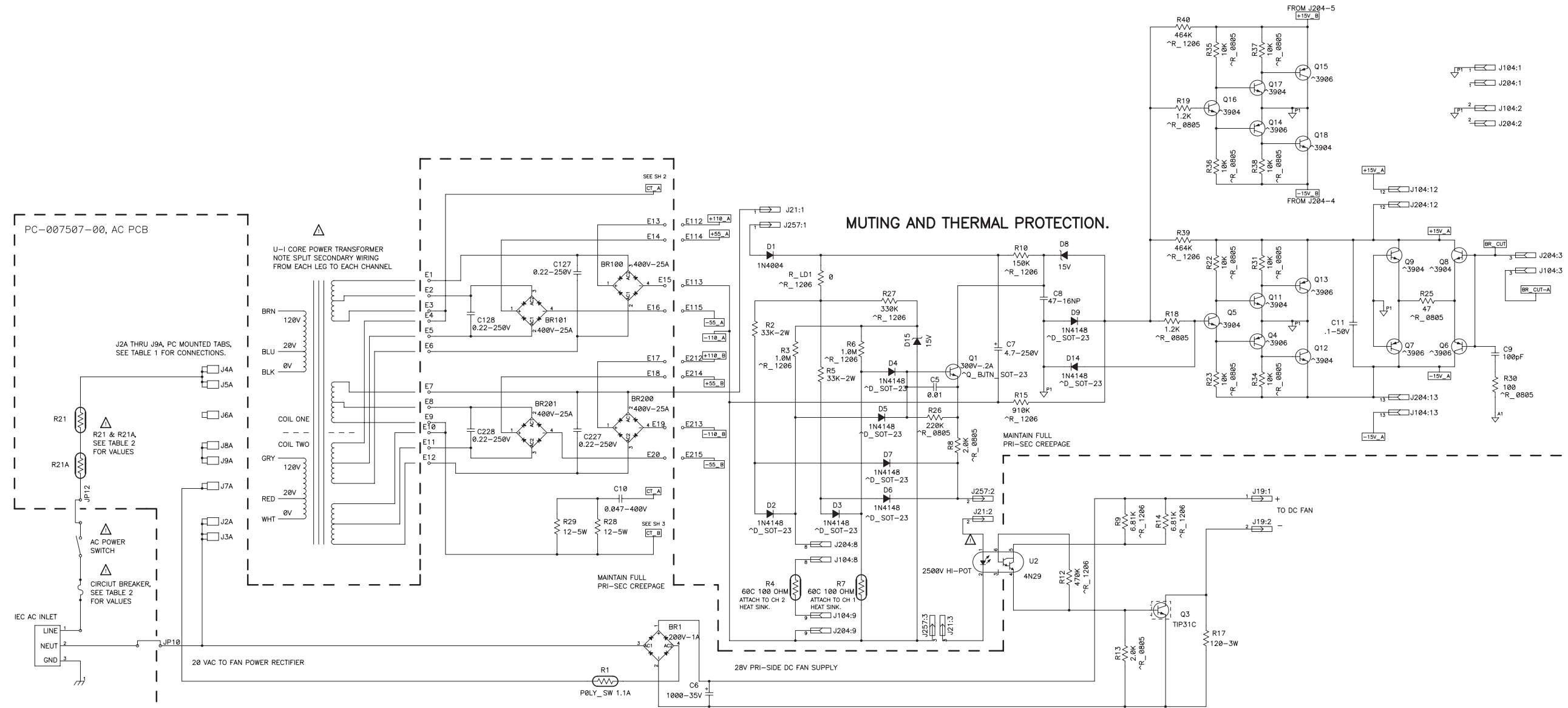
Gray shading indicates signal path

ISA 750
 Revised version
 (March 2003)
 page 2 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
D		SH-007501-00	G
SCALE	NONE	CAD FILE NO. SH7501G.SCH	SHEET 3 OF 4
PLOT DATE:		Tue Dec 16, 2003	

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PC-007507-00, AC PCB

U-1 CORE POWER TRANSFORMER
NOTE SPLIT SECONDARY WIRING
FROM EACH LEG TO EACH CHANNEL

MUTING AND THERMAL PROTECTION.

IEC AC INLET

LINE
NEUT
GND

AC POWER SWITCH

CIRCUIT BREAKER,
SEE TABLE 2
FOR VALUES

J2A THRU J9A, PC MOUNTED TABS,
SEE TABLE 1 FOR CONNECTIONS.

R21 & R21A,
SEE TABLE 2
FOR VALUES

COIL ONE

COIL TWO

BRN 120V
BLU 20V
BLK 0V

GRY 120V
RED 20V
WHT 0V

J4A
J5A
J6A
J8A
J9A
J7A
J2A
J3A

20 VAC TO FAN POWER RECTIFIER

28V PRI-SIDE DC FAN SUPPLY

TABLE 1

POWER TRANSFORMER PRIMARY LEAD COLOR	AC LINE VOLTAGE			TAB
	100V	120V	240V	
BRN	BRN	BRN	BRN	J4A
GRY	GRY	-	-	J5A
BLK	BLU	BLU	BLU	J6A
-	-	BLK	BLK	J8A
-	-	GRY	GRY	J9A
WHT	RED	RED	RED	J7A
BLU	BLK	-	-	J2A
RED	WHT	WHT	WHT	J3A

TABLE 2

CIRCUIT BREAKER	AC LINE VOLTAGE		
	100V	120V	240V
R21	1 OHM 30A	1 OHM 30A	4 OHM 15A
R21A	0 OHM (JUMPER)	0 OHM (JUMPER)	4 OHM 15A

NOTES: UNLESS OTHERWISE SPECIFIED

ISA 750
Revised version (March 2003)
page 3 of 3

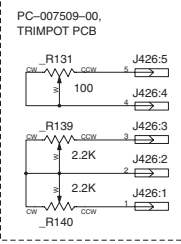
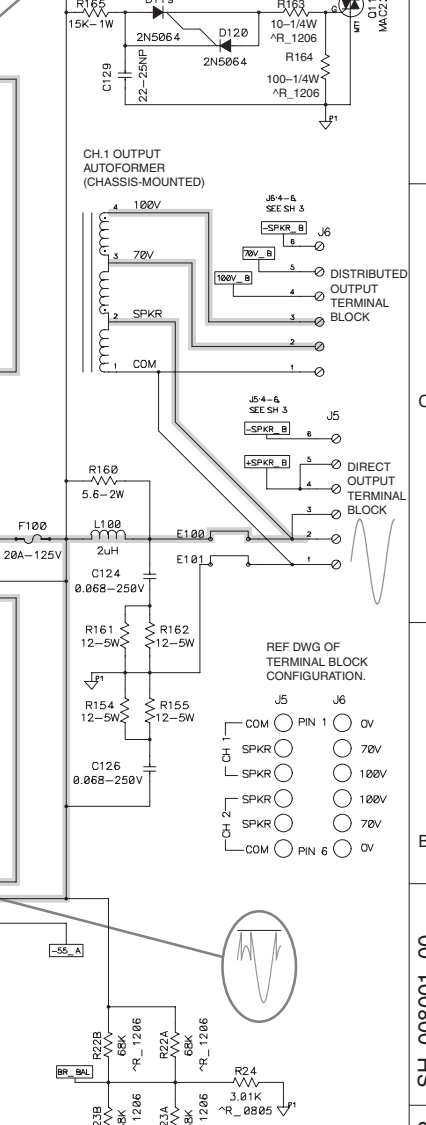
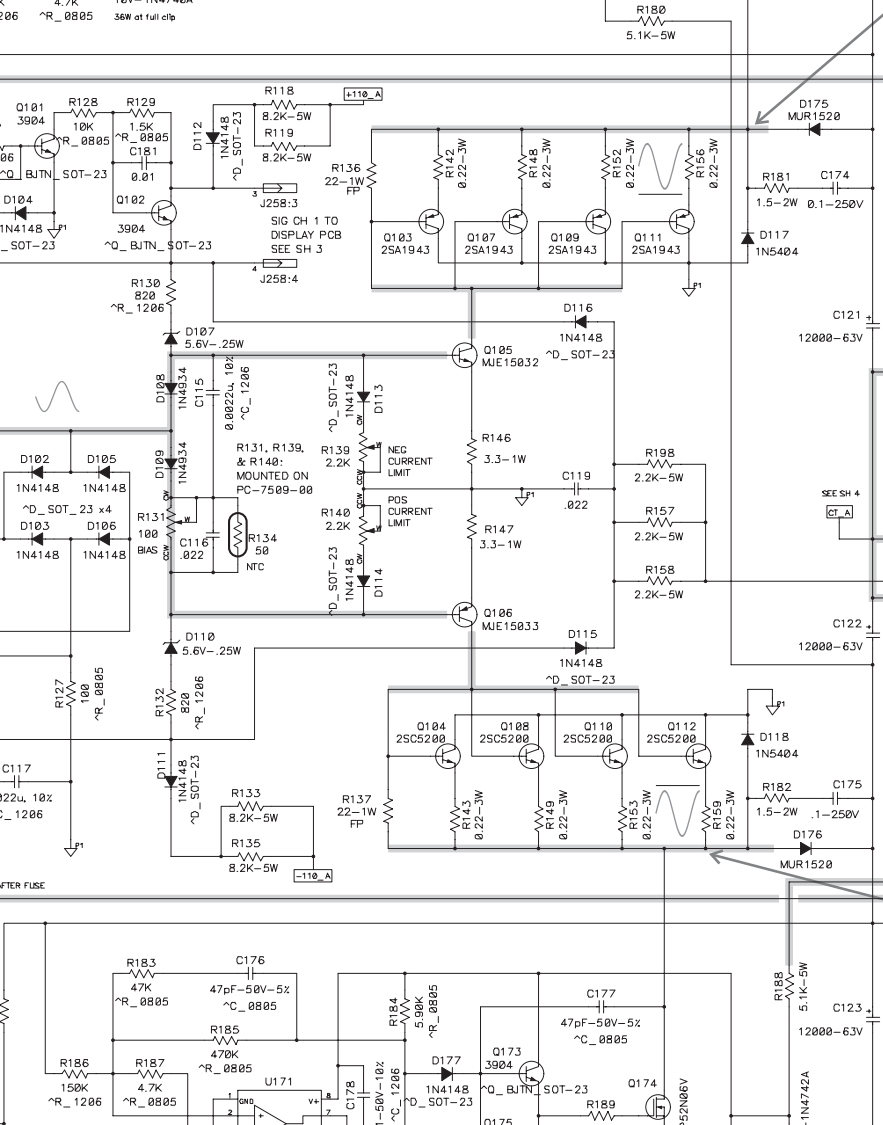
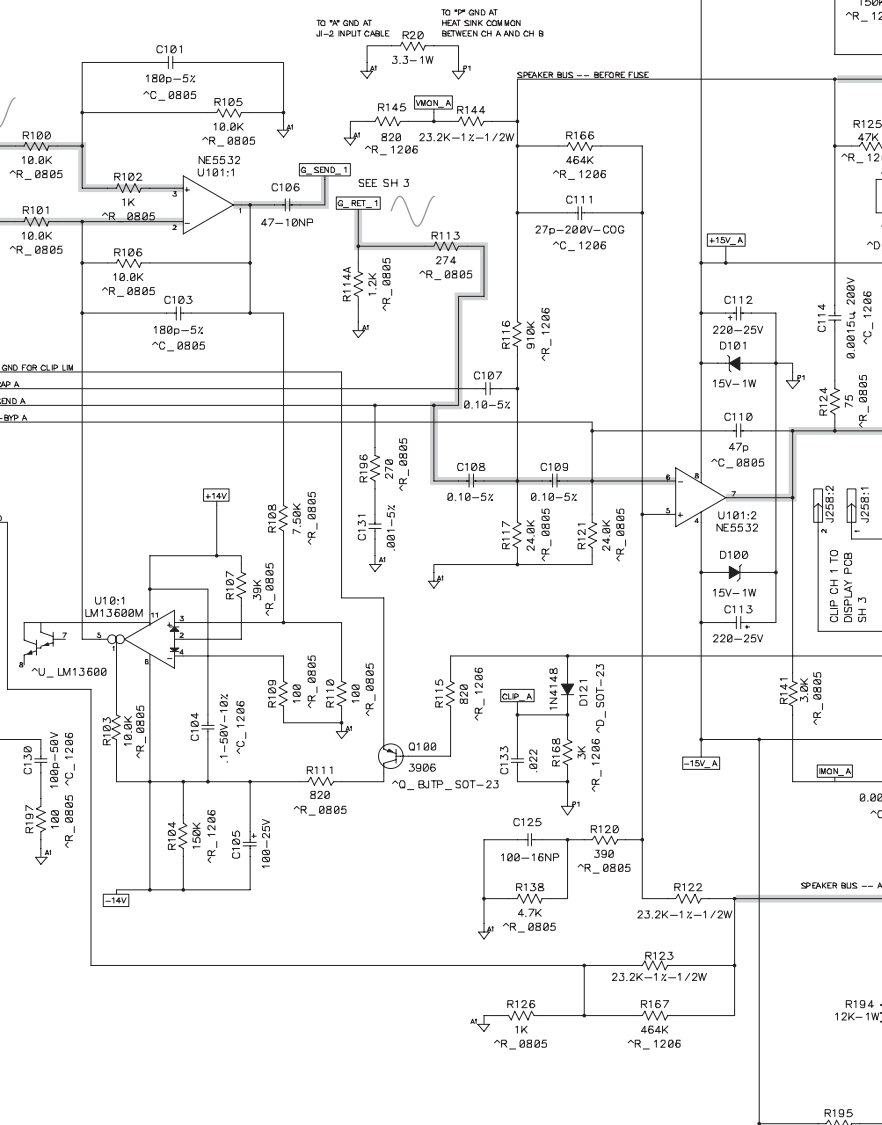
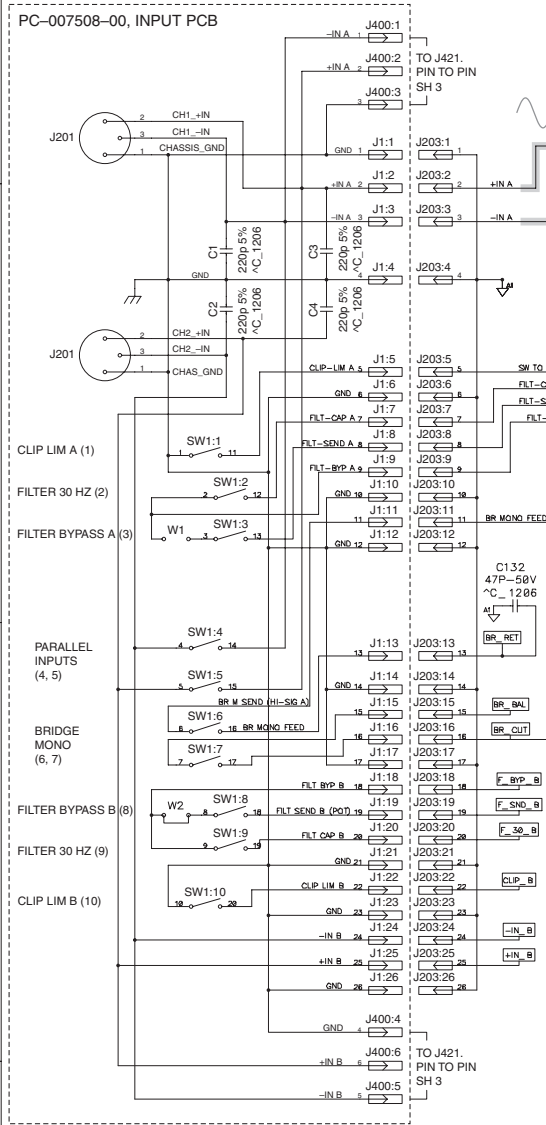
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SCALE	CAD FILE NO.	SHEET	4 OF 4
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	PLOT DATE:		1
	Tue Dec 16, 2003		

G 4 SH-007501-00

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7.12 ISA800T Schematics

CHANNEL 1



CONNECTS DIRECTLY TO COMPONENTS W/ SAME REF DESG. ON MAIN PCB, SH. 2.

Gray shading indicates signal path

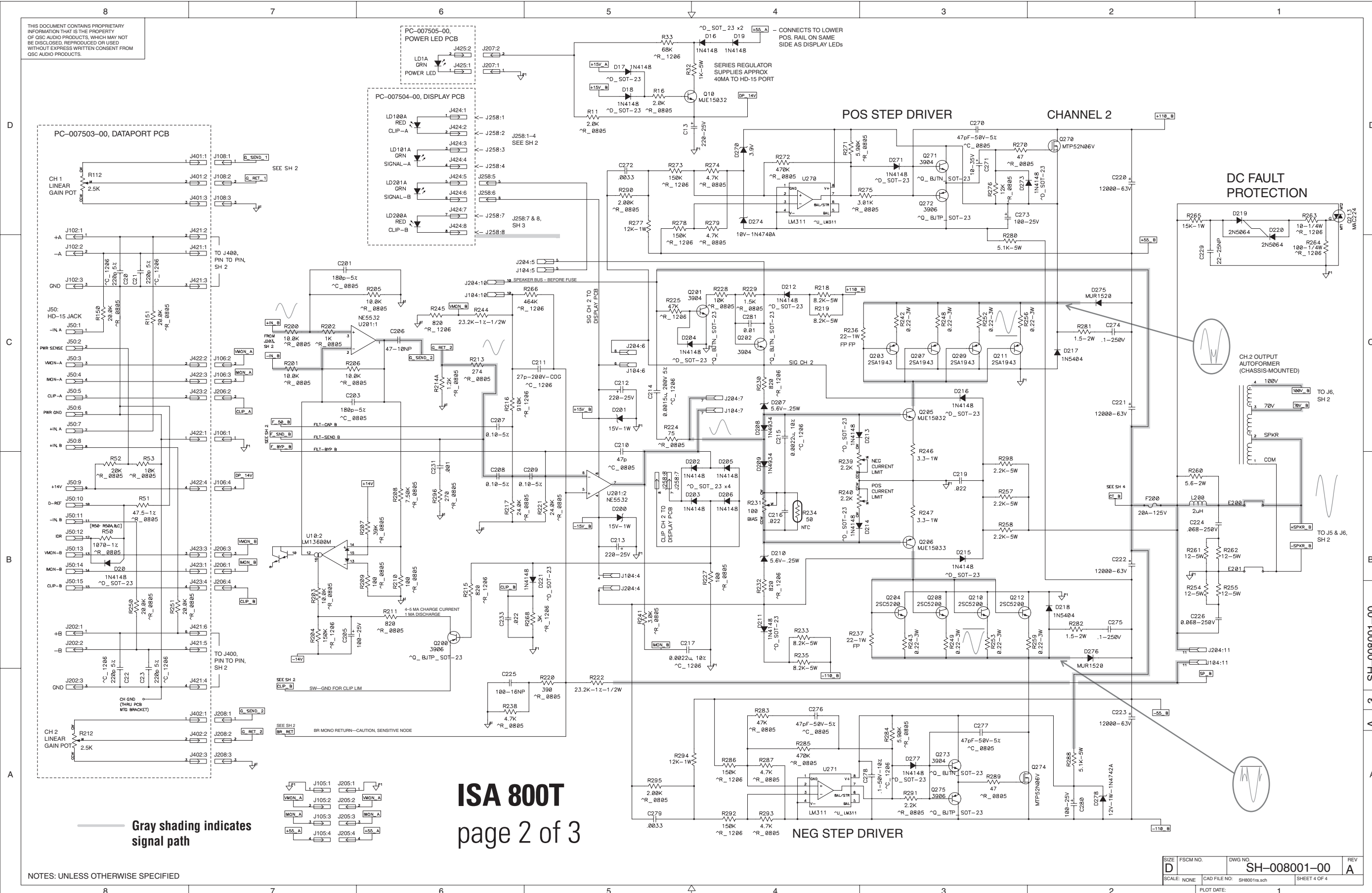
NOTES: UNLESS OTHERWISE SPECIFIED

ISA 800T

page 1 of 3

SIZE	FSCM NO.	DWG NO.	REV
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SCALE: NONE	CAD FILE NO: SH8001na.sch	SHEET 2 OF 4	
PLOT DATE: Wed Sep 05, 2001			

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Gray shading indicates signal path

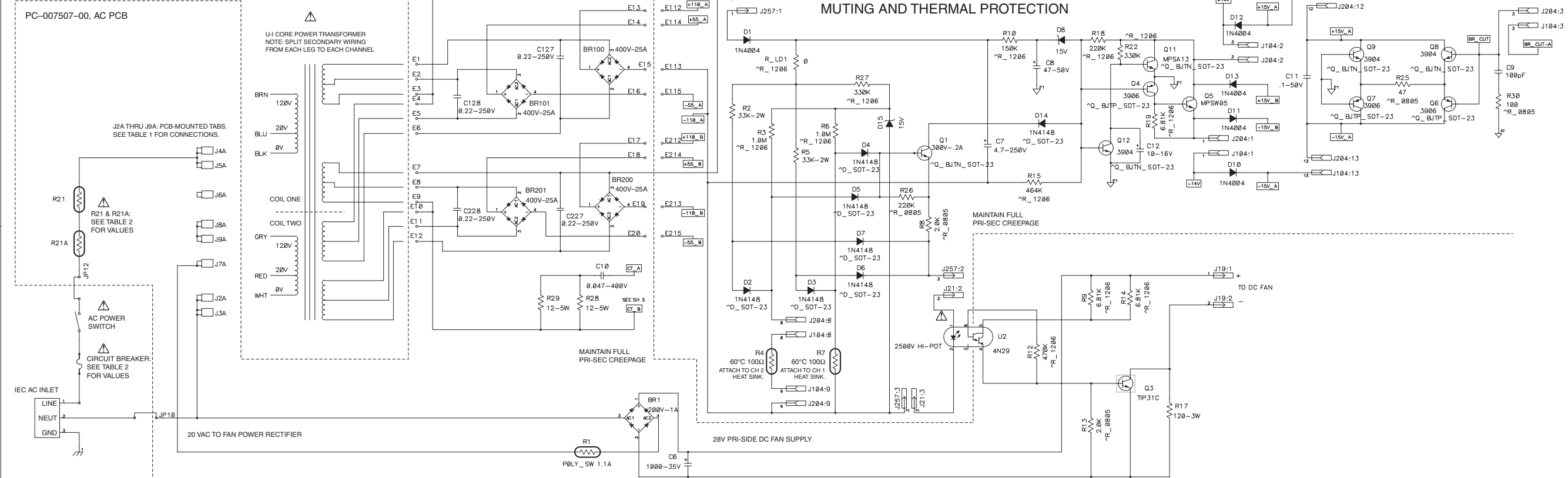
ISA 800T
page 2 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

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D		SH-008001-00	A
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PLOT DATE:		Wed Sep 05, 2001	

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PC-007507-00, AC PCB



POWER TRANSFORMER PRIMARY LEAD COLOR	AC LINE VOLTAGE			TAB
	100V	120V	240V	
BRN	BRN	BRN	BRN	J4A
GRY	GRY	—	—	J5A
BLK	BLU	BLU	BLU	J6A
—	—	BLK	—	J8A
—	—	GRY	—	J9A
WHT	RED	RED	—	J7A
BLU	BLK	—	—	J2A
RED	WHT	WHT	—	J3A

CIRCUIT BREAKER	AC LINE VOLTAGE		
	100V	120V	240V
CIRCUIT BREAKER	15A—125V	15A—125V	7.5A—250V
R21	1 OHM 30A	1 OHM 30A	4 OHM 15A
R21A	0 OHM (JUMPER)	0 OHM (JUMPER)	4 OHM 15A

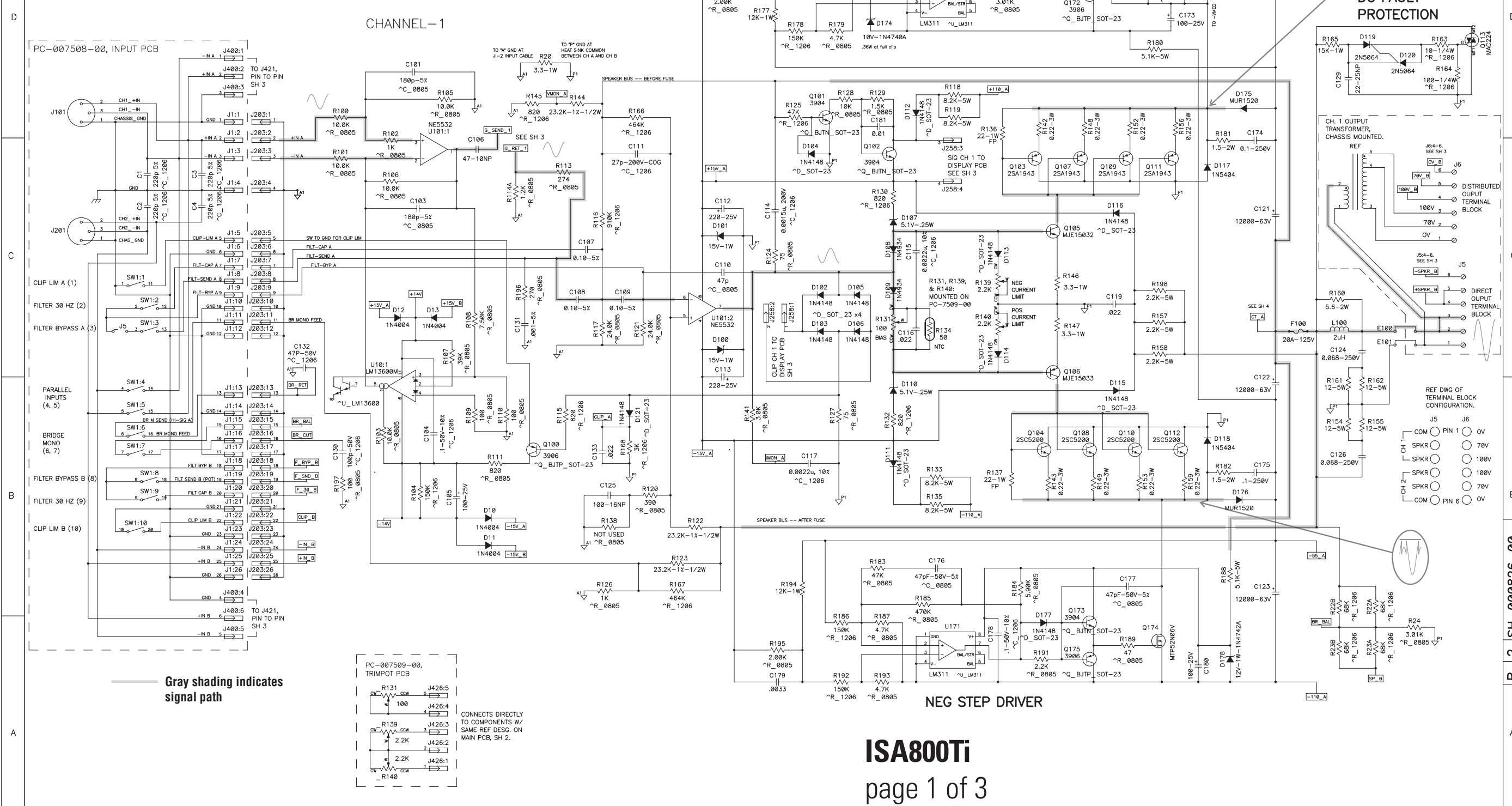
ISA 800T
page 3 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
D		SH-008001-00	A
SCALE: NONE	CAD FILE NO: SH8001ra.sch	SHEET 4 OF 4	
PLOT DATE: Wed Sep 05, 2001			

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7.13 ISA800Ti Schematics

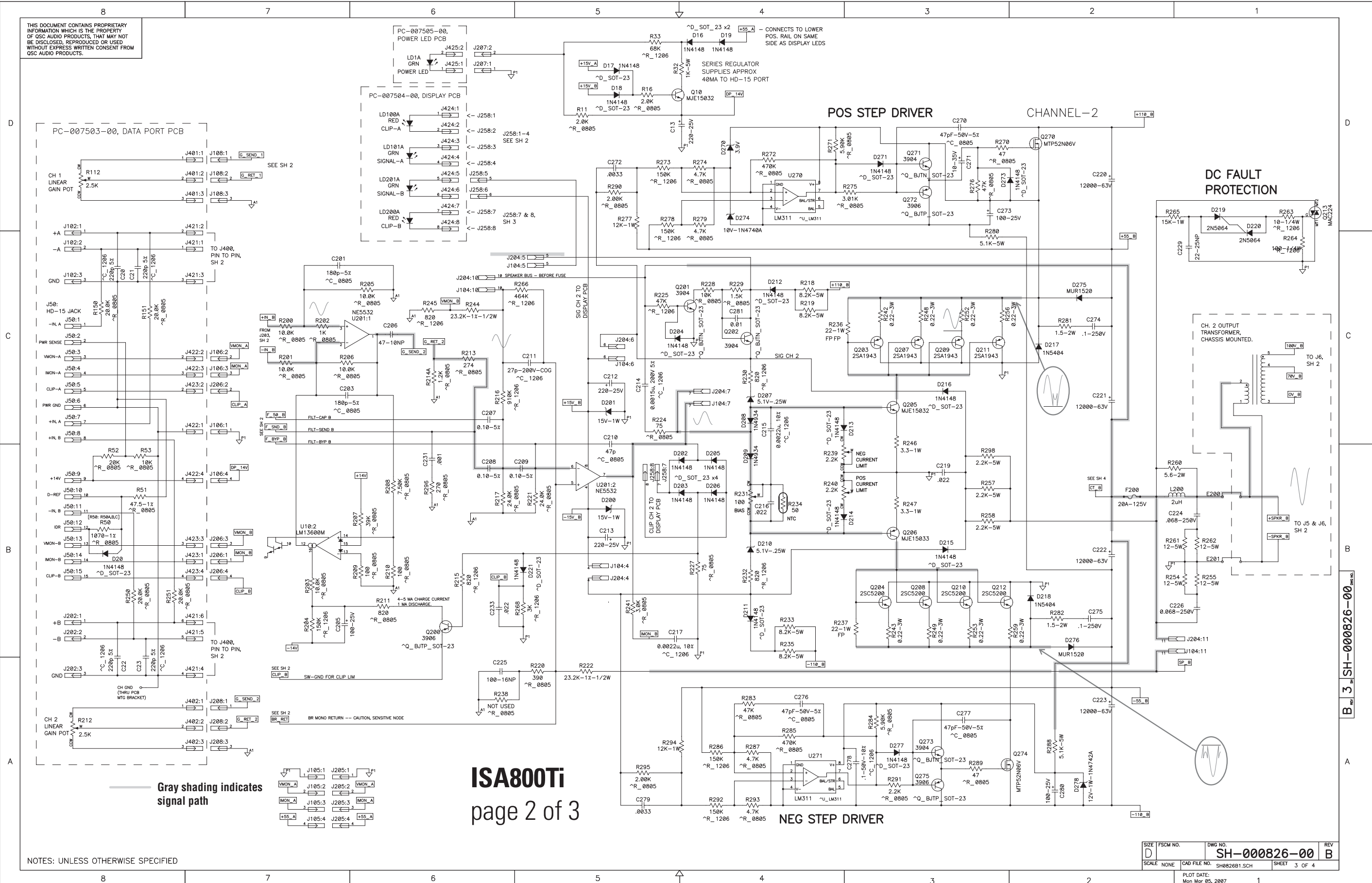


NOTES: UNLESS OTHERWISE SPECIFIED

ISA800Ti
page 1 of 3

SIZE	FSCM NO.	DWG NO.	REV
D		SH-000826-00	B
SCALE	NONE	CAD FILE NO. SH0826B1.SCH	SHEET 2 OF 4
PLOT DATE:		1	
Mon Mar 05, 2007			

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Gray shading indicates signal path

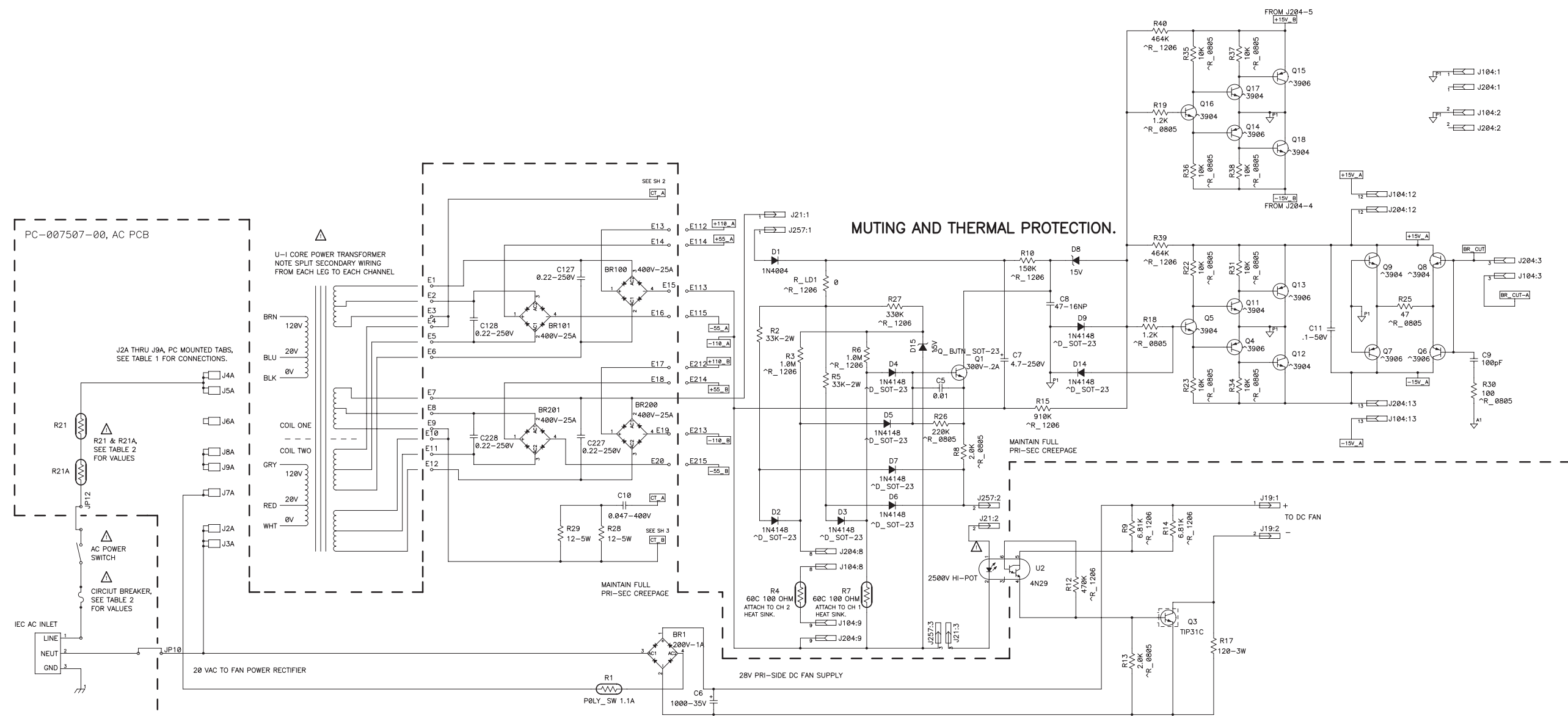
ISA800T
page 2 of 3

NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
D		SH-000826-00	B
SCALE	NONE	CAD FILE NO. SH0826B1.SCH	SHEET 3 OF 4
PLOT DATE:		Mon Mar 05, 2007	

B SH-000826-00

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PC-007507-00, AC PCB

U-1 CORE POWER TRANSFORMER
NOTE SPLIT SECONDARY WIRING FROM EACH LEG TO EACH CHANNEL

MUTING AND THERMAL PROTECTION.

MAINTAIN FULL PRI-SEC CREEPAGE

MAINTAIN FULL PRI-SEC CREEPAGE

TABLE 1

POWER TRANSFORMER PRIMARY LEAD COLOR	AC LINE VOLTAGE			
	100V	120V	240V	TAB
BRN	BRN	BRN	BRN	J4A
GRY	GRY	-	-	J5A
BLK	BLU	BLU	BLU	J6A
-	-	BLK	BLK	J8A
-	-	GRY	GRY	J9A
WHT	RED	RED	RED	J7A
BLU	BLK	-	-	J2A
RED	WHT	WHT	WHT	J3A

TABLE 2

	AC LINE VOLTAGE		
	100V	120V	240V
CIRCUIT BREAKER	15A-125V	15A-125V	7.5A-250V
R21	1 OHM 30A	1 OHM 30A	4 OHM 15A
R21A	0 OHM (JUMPER)	0 OHM (JUMPER)	4 OHM 15A

NOTES: UNLESS OTHERWISE SPECIFIED

ISA800Ti
page 3 of 3

SIZE	FSCM NO.	DWG NO.	REV
D	NONE	SH-000826-00	B
SCALE	CAD FILE NO.	SHEET	4 OF 4
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	PLOT DATE:		1
	Mon Mar 05, 2007		

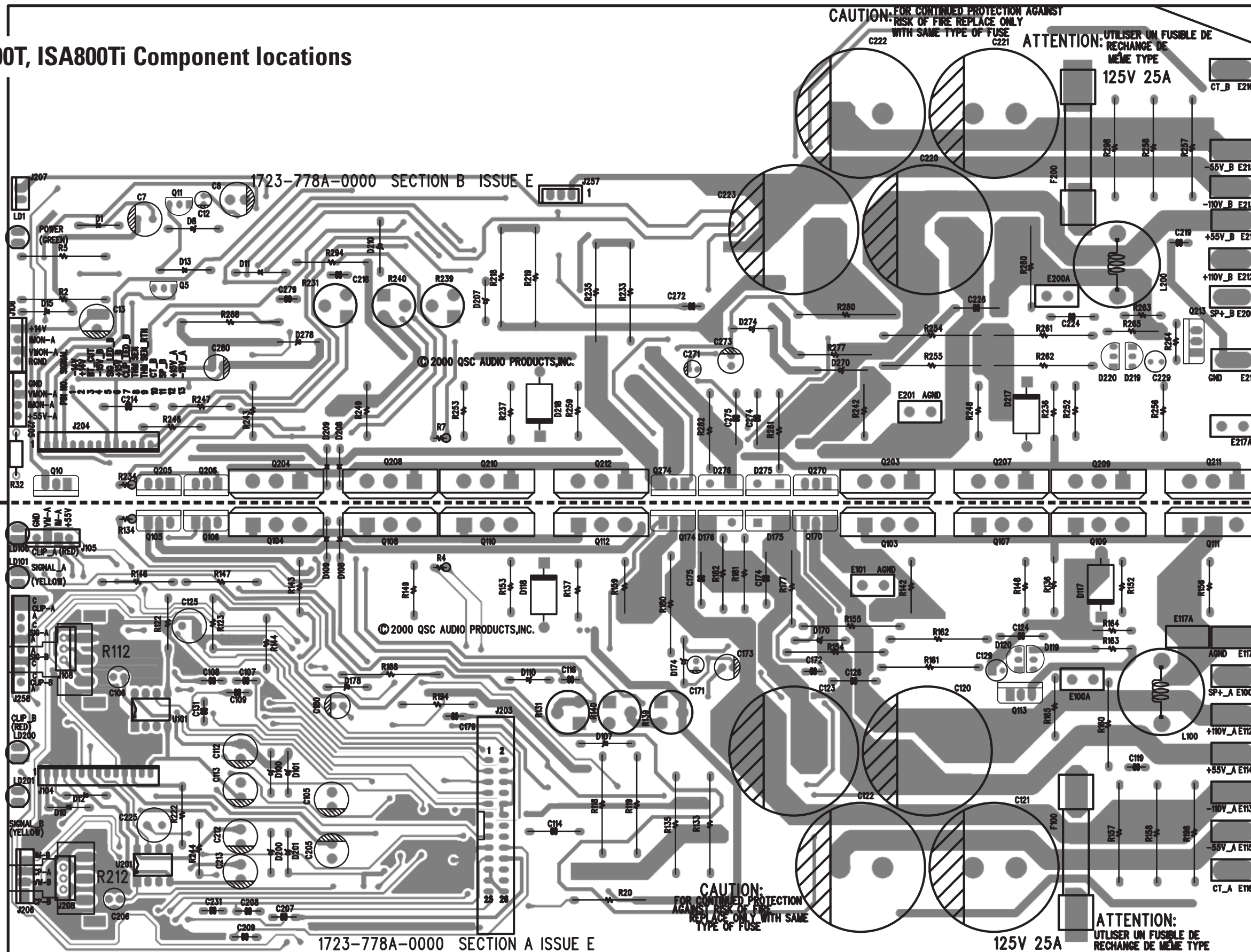
B 4 SH-000826-00

COPPER (COMPONENT SIDE)
SILKSCREEN (COMPONENT SIDE)

7.14 ISA750, ISA800T, ISA800Ti Component locations

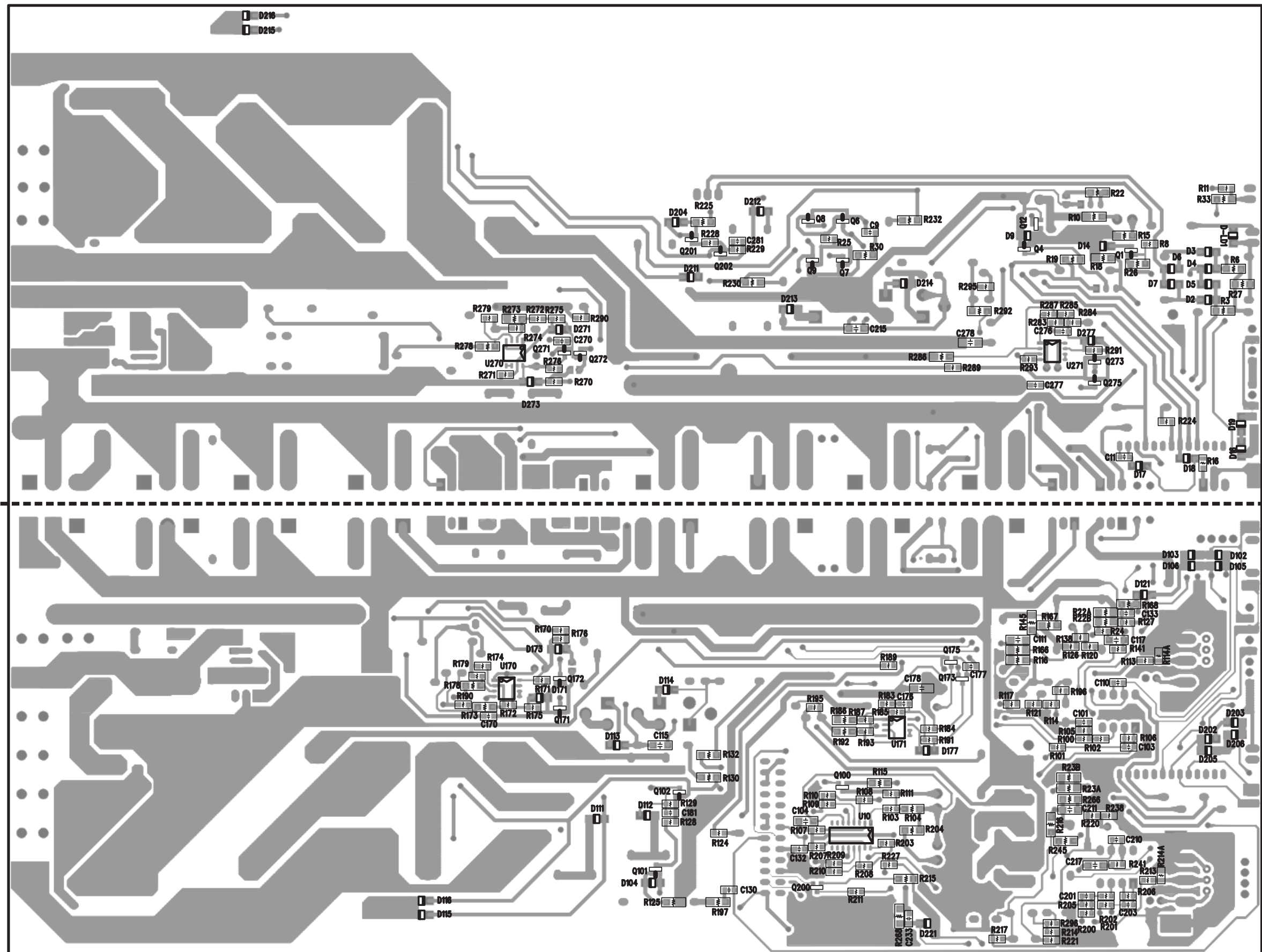
Channel 2

Channel 1



Channel 2

Channel 1



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WIRING DIAGRAM AND PCB ARRANGEMENT

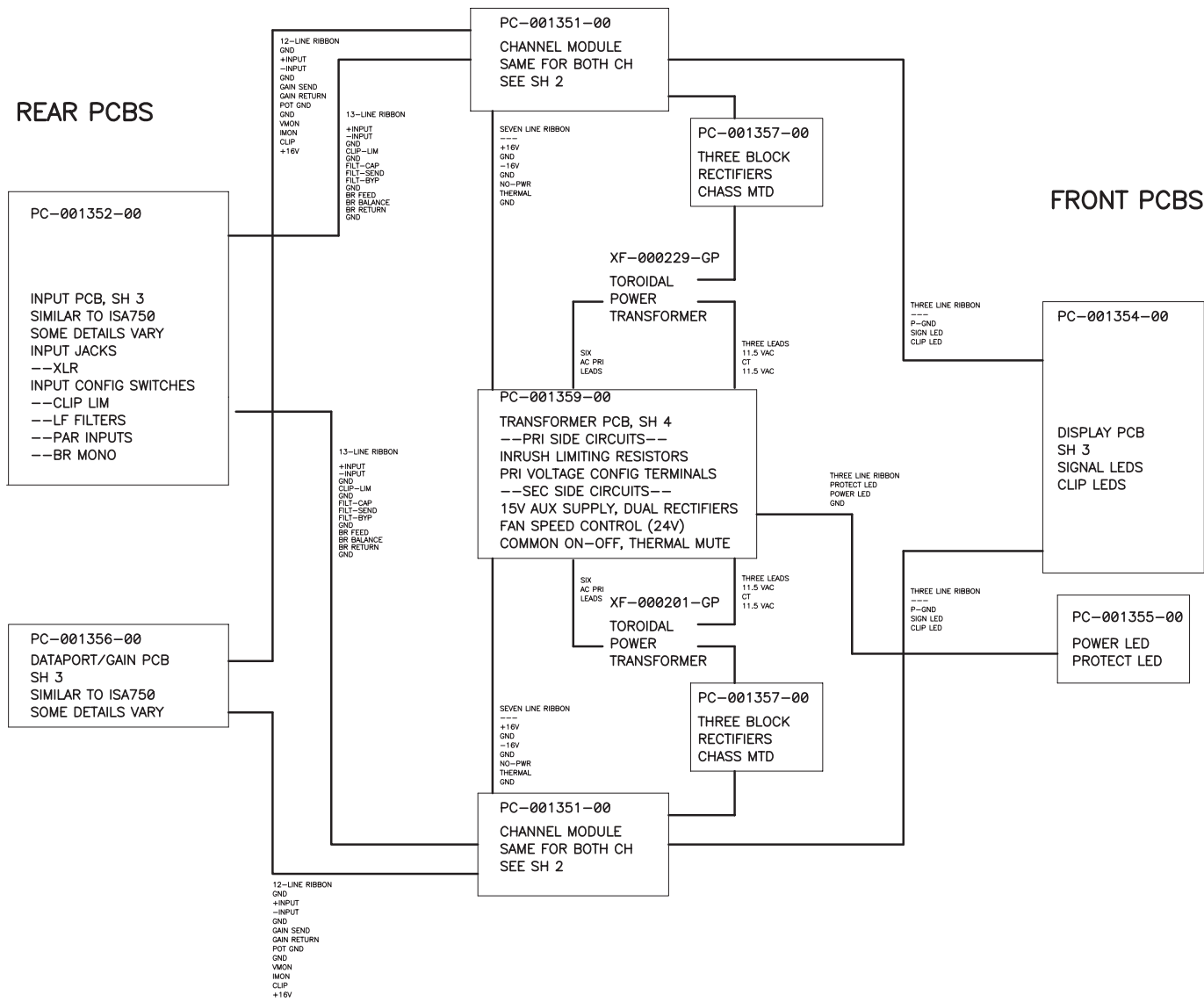
REVISION				
REV	DESCRIPTION	EFF. DATE	CHK	APPROVED / DATE
A	PRODUCTION RELEASE PER ECO 6027 AA	12-19-03		DD
B	REVISED PER ECO 4976 AA	4-15-04		

7.15 ISA1350 Schematics

CHASSIS PCBs

REAR PCBs

FRONT PCBs



11. ZENER TOLERANCE IS 5%
10. SMT CAPACITOR VOLTAGE IS 50V
9. SMT RESISTOR WATTAGE RATING IS 0.1W UNLESS MARKED 1206, 0.2W
SMT RESISTOR TOLERANCE 1%
8. THRU HOLE RESISTORS USED FOR 1/4W AND HIGHER.
FOR RESISTOR WATTAGE RATINGS GREATER THAN 1W, TOLERANCE IS 5%
FOR RESISTOR WATTAGE RATINGS LESS THAN 1/2W, TOLERANCE IS 1%
7. THROUGH-HOLE FILM AND CERAMIC CAPACITOR TOLERANCE IS 10%, VOLTAGE IS 100V
6. ELECTROLYTIC CAPACITOR TOLERANCE IS 20%
5. ALL RIBBON CABLES ARE CONNECTED PIN TO CORRESPONDING PIN
4. PART NUMBERING SCHEME
PARTS IN COMMON TO BOTH CH: 1-99. CH 1 AND 2 PARTS (USES SAME PCB) 101-UP
3. COMPONENTS MARKED WITH Δ ARE SAFETY CRITICAL PARTS.
2. COMPONENTS WITH VALUE PREFIXED WITH A **^ REPRESENT SMT COMPONENTS.
1. THIS DRAWING USED IN CONJUNCTION WITH ASSEMBLY WP-001351-00

NOTES: UNLESS OTHERWISE SPECIFIED

QTY	ITEM NO.	PART NO.	DESCRIPTION	VENDOR
PARTS LIST				
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. DIMENSIONS PER ANSI Y14.5-1982 TOLERANCES ARE: DECIMALS DECIMALS ANGLES .XX ± .XXX ± 0		CONTRACT NO. QSC AUDIO PRODUCTS, INC. COSTA MESA, CALIFORNIA		
DRAWN I. OVERHOLT		DATE 11-20-03		
CHECKED		ISSUED D. DELARM		
MATERIAL		SIZE D		
FINISH		FSCM NO.		
DO NOT SCALE DRAWING		DWG NO. SH-001351-00		
		REV B		
		SCALE NONE		
		CAD FILE NO. SH01351B.SCH		
		SHEET 1 OF 4		
		F:\DM\SH\SH001351		

B SH-001351-00

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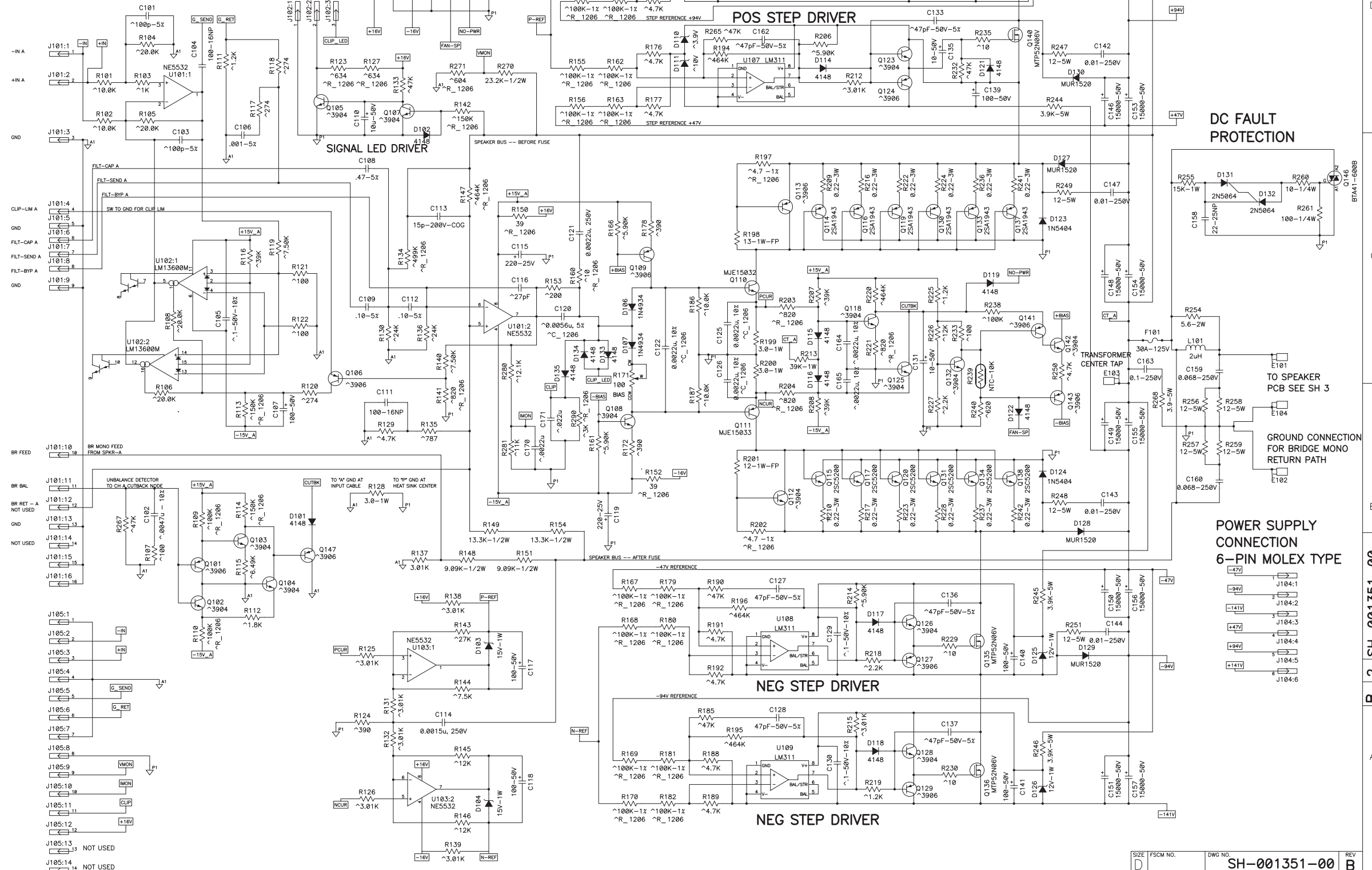
PC-001351-00

TO REAR PANEL INPUT PCB
SEE SH 3
16 PIN RIBBON

TO REAR PANEL DATAPORT PCB
SEE SH 3
14 PIN RIBBON

TO FRONT PANEL PCB
SIG, CLIP LED
SEE SH 3
3 PIN RIBBON

TO TRANSFORMER PCB
SEE SH 4
7 PIN RIBBON

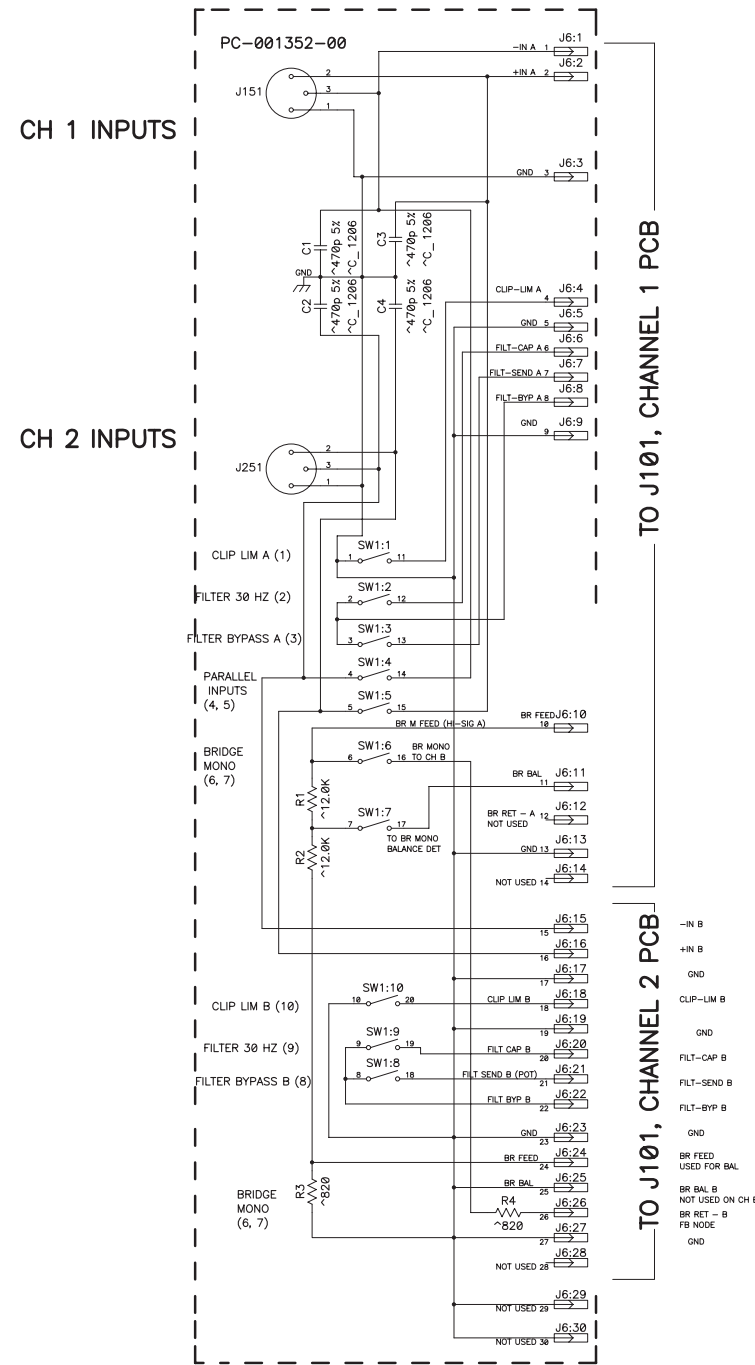


NOTES: UNLESS OTHERWISE SPECIFIED

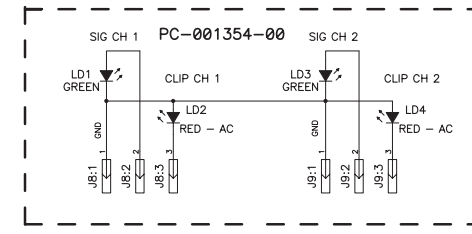
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D		SH-001351-00	B
SCALE	NONE	CAD FILE NO.	SHEET 2 OF 4
			PLOT DATE:

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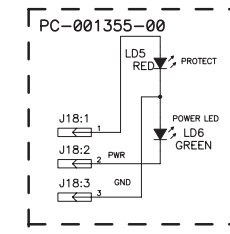
REAR PANEL INPUT PCB
DUAL 14-CONDUCTOR CABLES
ONE TO EACH CHANNEL



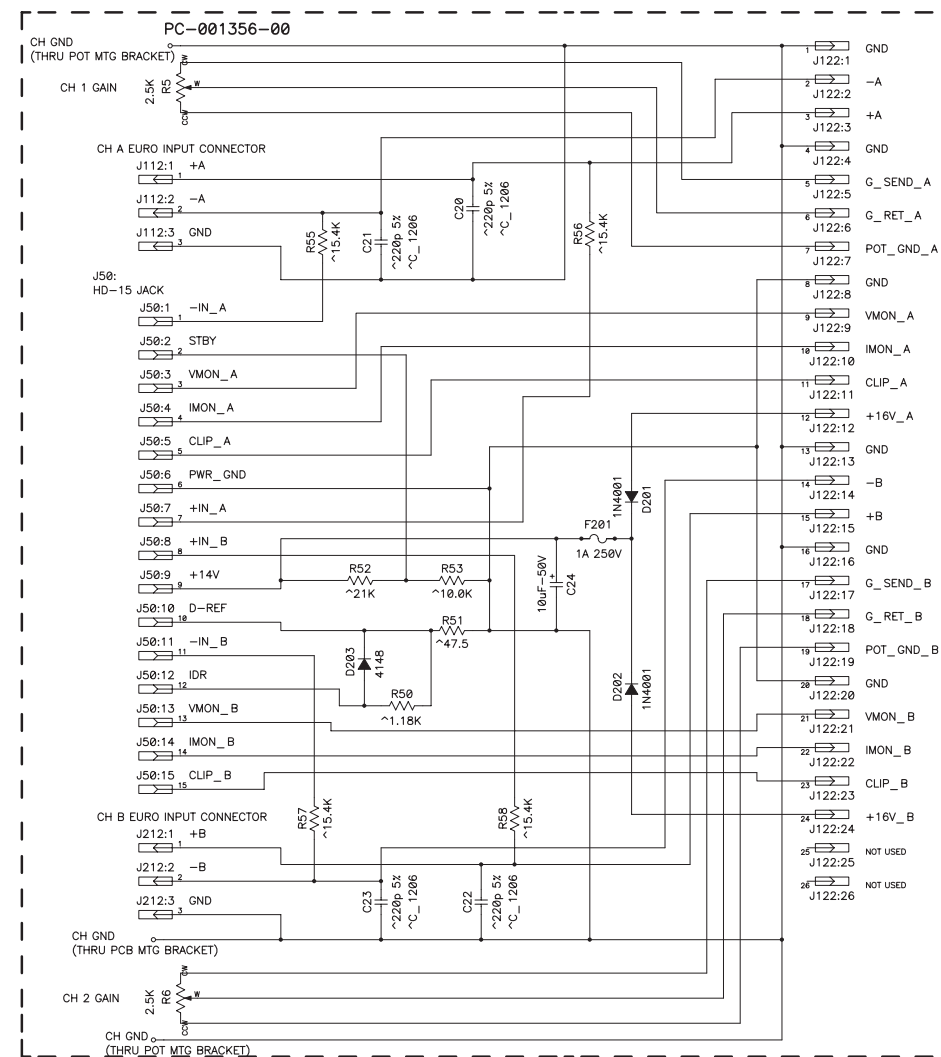
DISPLAY PCB, 2-SIG LED, 2-CLIP LED



POWER & PROTECT LED PCB



DATAPORT AND GAIN PCB DUAL 14-CONDUCTOR CABLES ONE TO EACH CHANNEL



NOTES: UNLESS OTHERWISE SPECIFIED

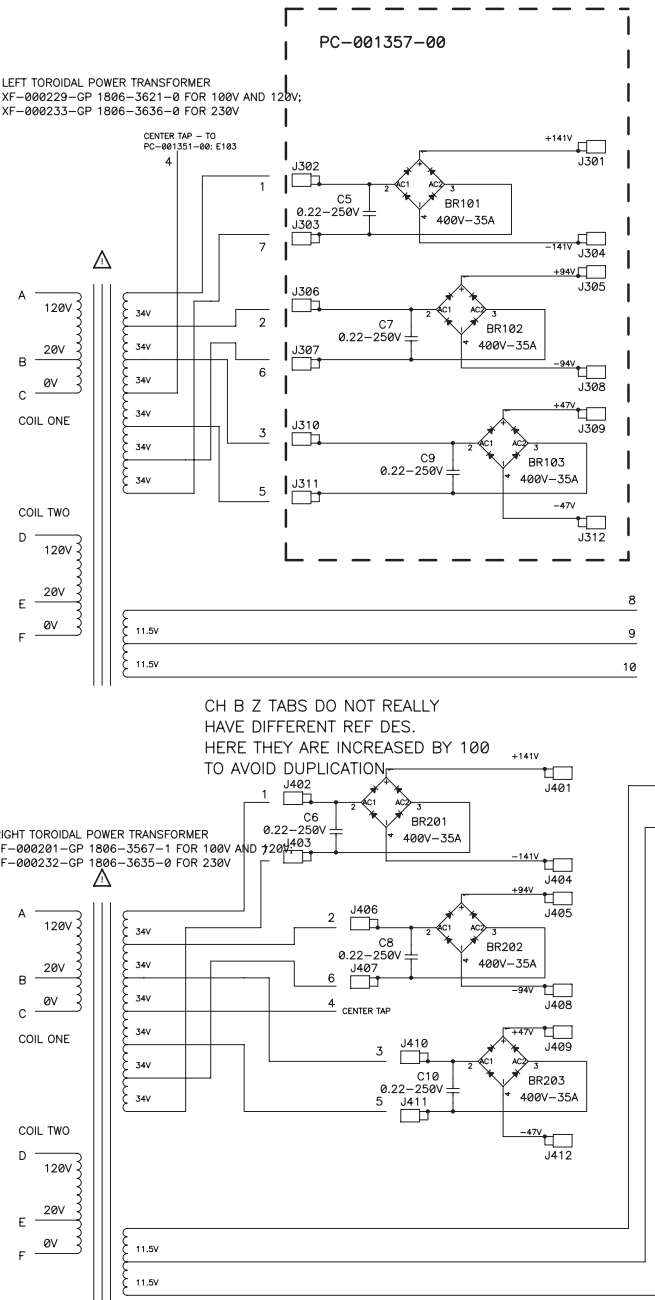
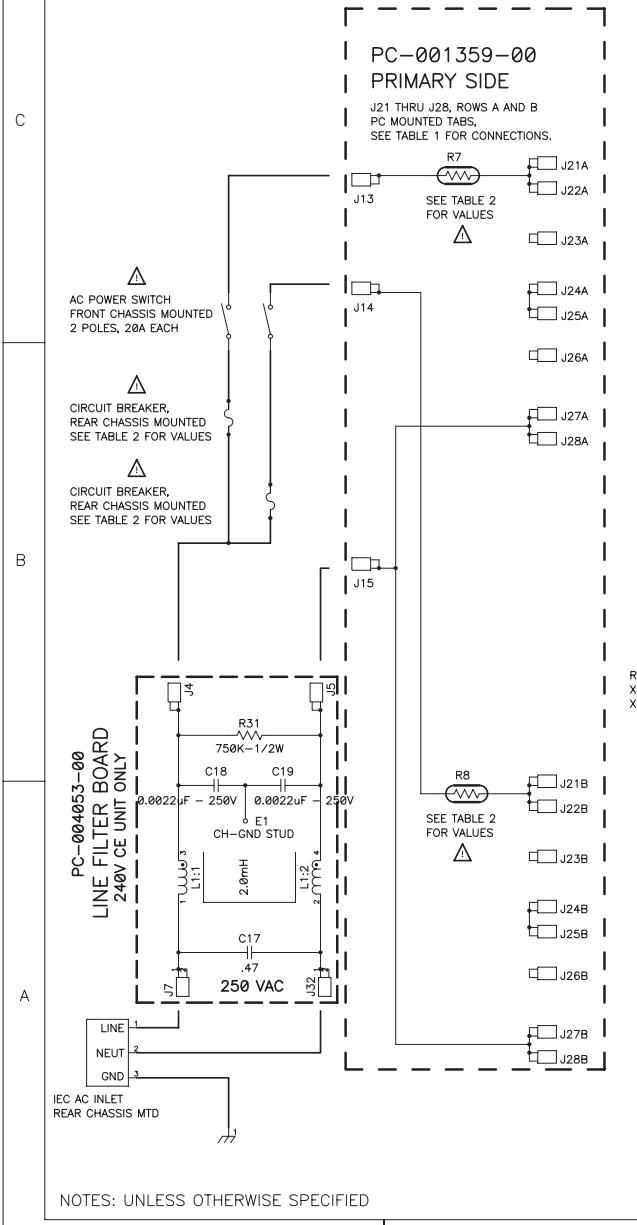
SIZE	FSCM NO.	DWG NO.	REV
D		SH-001351-00	B
SCALE	NONE	CAD FILE NO.	SH01351B.SCH
		SHEET	3 OF 4

PLOT DATE: 1

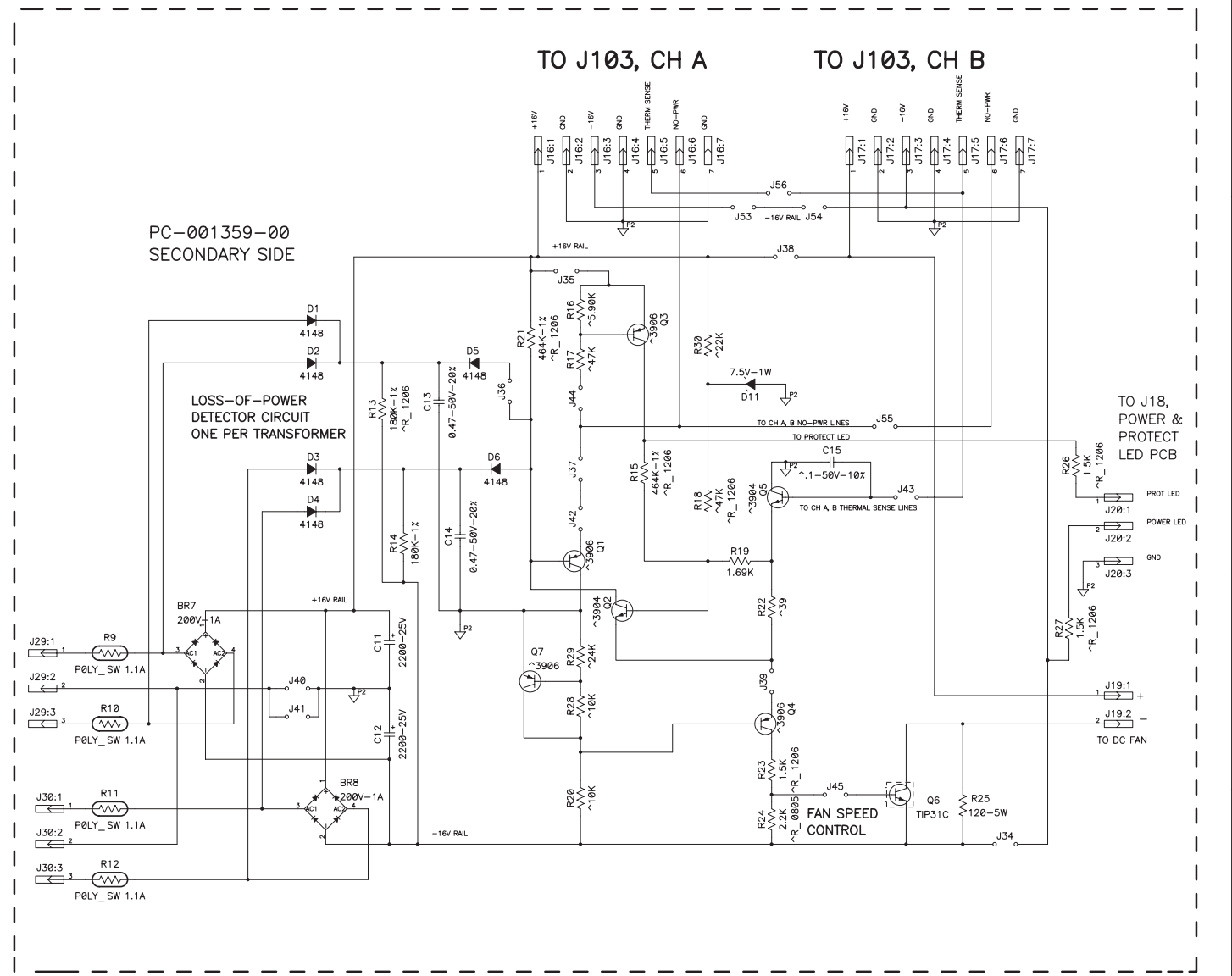
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AC LINE VOLTAGE			
100V	120V	240V	TAB
A	A	A	J21
D	D	-	J22
C	B	B	J23
-	-	C	J24
-	-	D	J25
F	E	E	J26
B	C	-	J27
E	F	F	J28

AC LINE VOLTAGE			
	100V	120V	240V
CIRCUIT BREAKER	15A-125V	15A-125V	7.5A-250V
R7 & R8	1 OHM 30A	1 OHM 30A	4 OHM 15A
LINE FILTER	NO	NO	YES



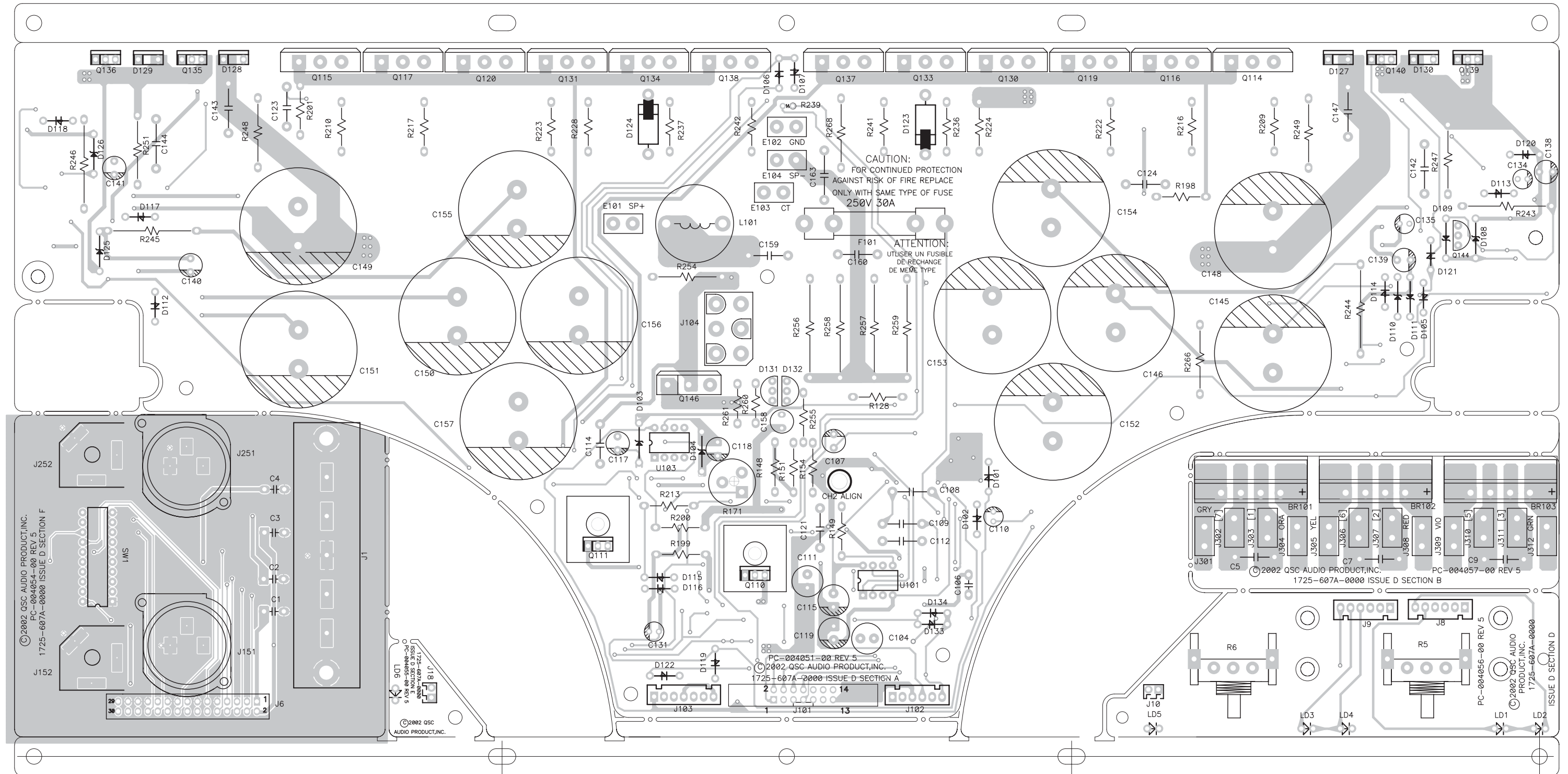
CH B Z TABS DO NOT REALLY HAVE DIFFERENT REF DES. HERE THEY ARE INCREASED BY 100 TO AVOID DUPLICATION

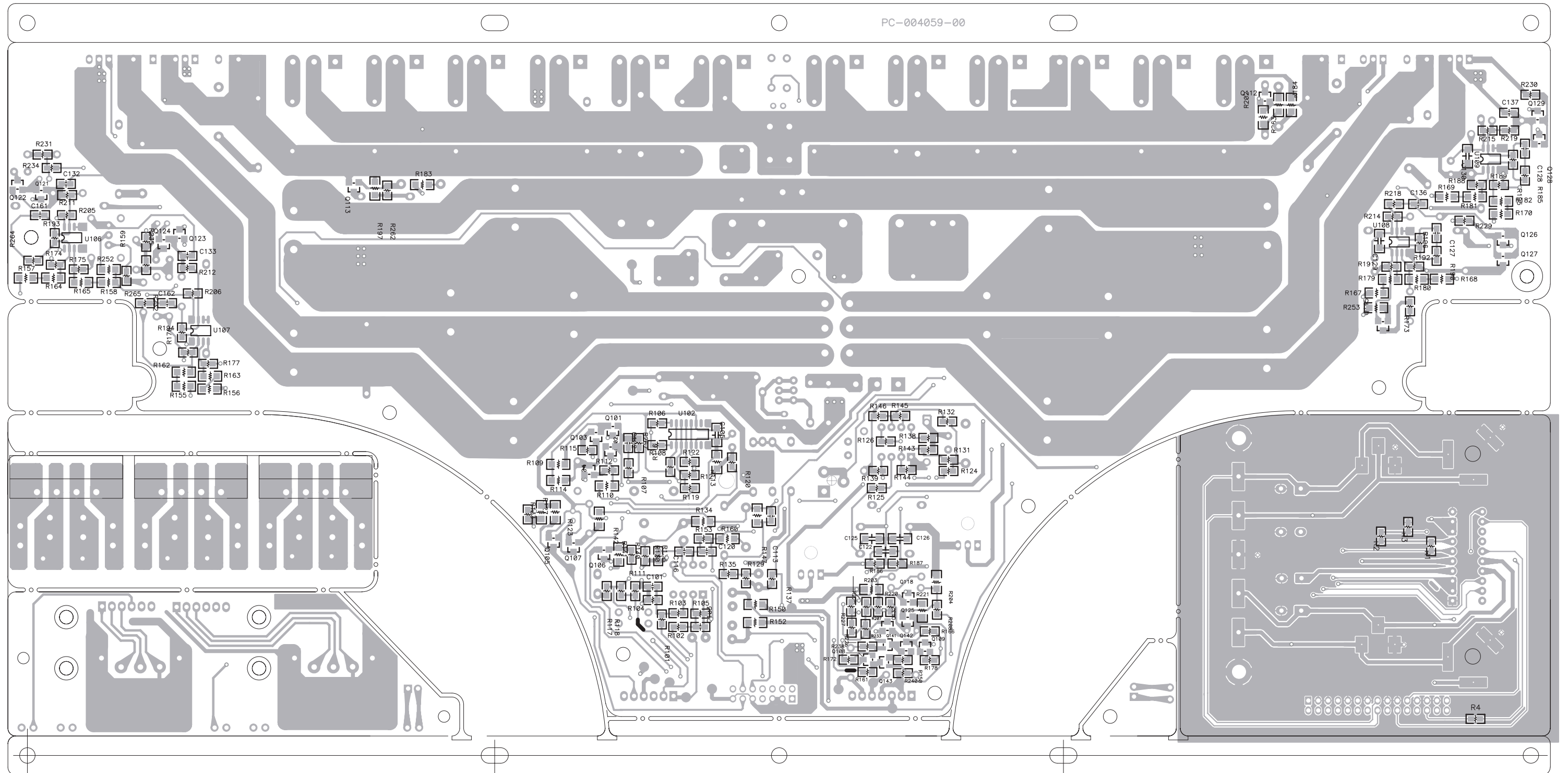


NOTES: UNLESS OTHERWISE SPECIFIED

SIZE	FSCM NO.	DWG NO.	REV
D		SH-001351-00	B
SCALE	NONE	CAD FILE NO.	SHEET
		SH01351/B.SCH	4 OF 4
PLOT DATE:		1	

7.16 ISA1350 Component locations







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