

SERVICE
MANUAL **1122 DC**



marantz

model **1122 DC**

Stereo Console Amplifier

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1. POWER AMPLIFIER ADJUSTMENT

1.1 DC-OFFSET Adjustment

Connect VTVM to J860 and J865 (or ground) and adjust left channel R739 until the meter indication reaches 0mV ($\pm 5mV$). Similarly, connect VTVM to J861 and J865 (or ground) and adjust right channel R740 until the meter indication reaches 0mV ($\pm 5mV$).

2. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 1122DC Stereo Console Amplifier. The wattmeter, AC voltmeter, and variable autotransformer may be assembled as a test fixture as shown schematically in Figure 1. The load resistors and AC ammeter may be assembled into a second test fixture as shown in Figure 2.

Item	Manufacturer and Model No. (or equivalent)	Use
Distortion Analyzer and Audio Oscillator	Sound Technolge, Model 1700B (NOTE: Less than 0.002 percent residual distortion is required.)	Measures distortion, voltage of amplifier output and sinewave source.
Oscilloscope	Tektronix, Model 503; Data, Model 555	Waveform analysis and troubleshooting.
VTVM	RCA Senior Volt-Ohmyst, Model WV-98C	Voltage and resistance measurements.
AC Wattmeter	Simpson, Model 390	Monitors primary power consumption of amplifier.
AC Ammeter (0 to 10 amps)	Commercial Grade	Monitors amplifier output under short circuit condition.
Line Voltmeter (0 to 150V AC)	Commercial Grade	Monitors potential of primary power to amplifier.
Variable Autotransformer (0 to 140V AC, 10 amps)	Powerstat, Model 116B	Adjusts level of primary power to amplifier.
Shorting Plug	Use phono plug with 600 ohms across center pin and shell.	Shorts amplifier input to eliminate noise pickup.
Power Supply Bleeder Resistor (10 ohms at 1W)	Commercial Grade	Discharges power supply filter capacitors prior to disassembly or resistance measurements.
Output Load Resistor ($8\Omega \pm 0.5\%$, 250W)	Commercial Grade	Provides 4-ohm load for amplifier output termination.
Output Load Resistor ($4\Omega \pm 0.5\%$, 250W)	Commercial Grade	Provides 8-ohm load for amplifier output termination.
Output Load Capacitor (0.5 mfd)	Mylar	Provides capacitive load for instability checks.
AC Power Control Box	Optional Item. Fabricate in accordance with Figure 1.	Monitors and controls primary power for amplifier.
Amplifier Output Load Box	Optional Item. Fabricate in accordance with Figure 2.	Provides various amplifier loads and can monitor shorted output.

Table 1 Test Equipment Required for Servicing

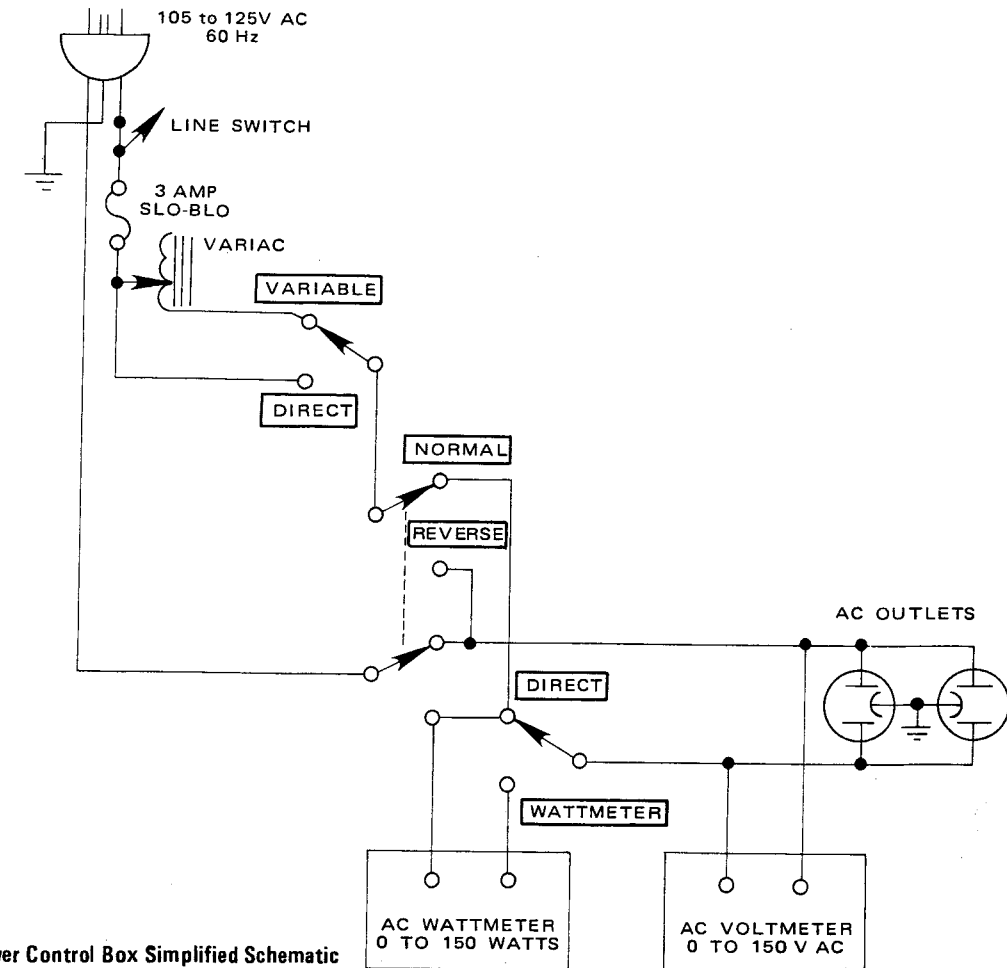


Figure 1. AC Power Control Box Simplified Schematic

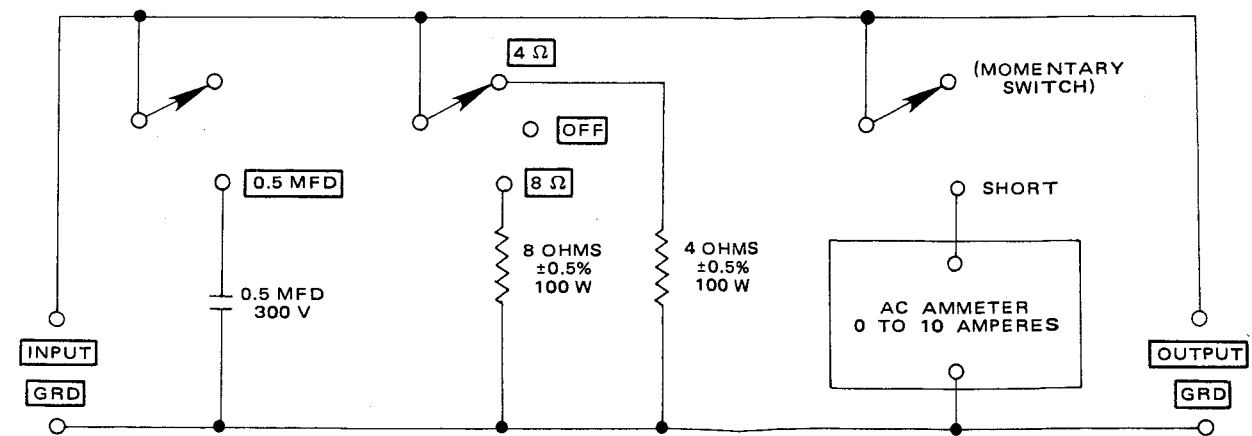


Figure 2. Amplifier Output Load Box Simplified Schematic

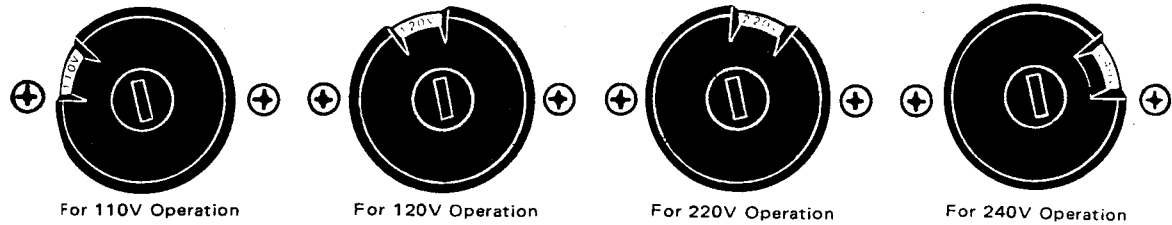
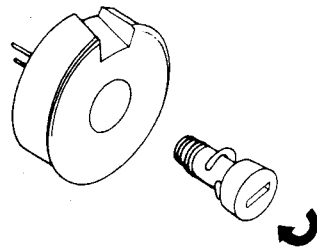
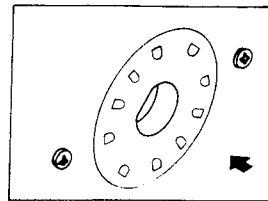
3. VOLTAGE CONVERSION

• EUROPEAN MODEL ONLY

This Model is equipped with a universal power transformer to permit operation at 110, 120, 220 and 240V AC 50/60 Hz.

To convert the unit to the required voltage, set the plug as illustrated so that you can adjust the voltage as required.

CAUTION
DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.



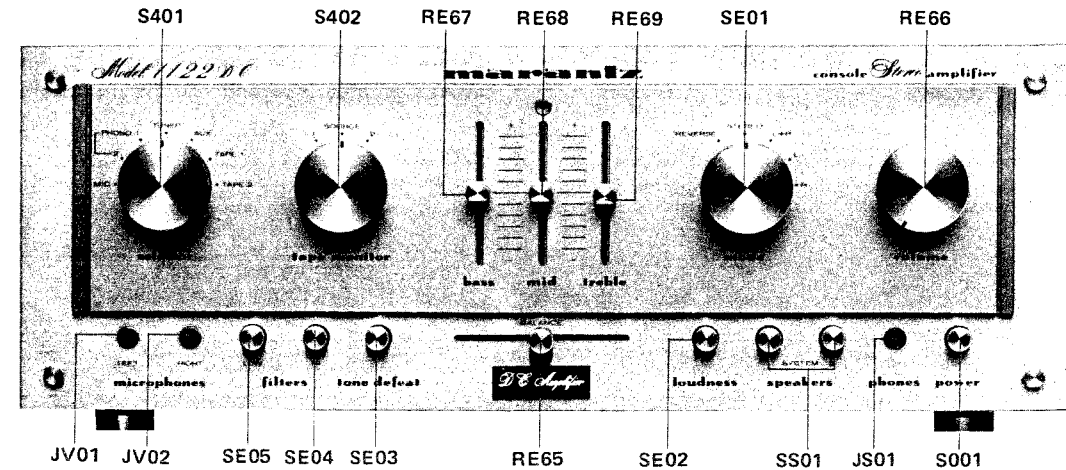
For 110V Operation

For 120V Operation

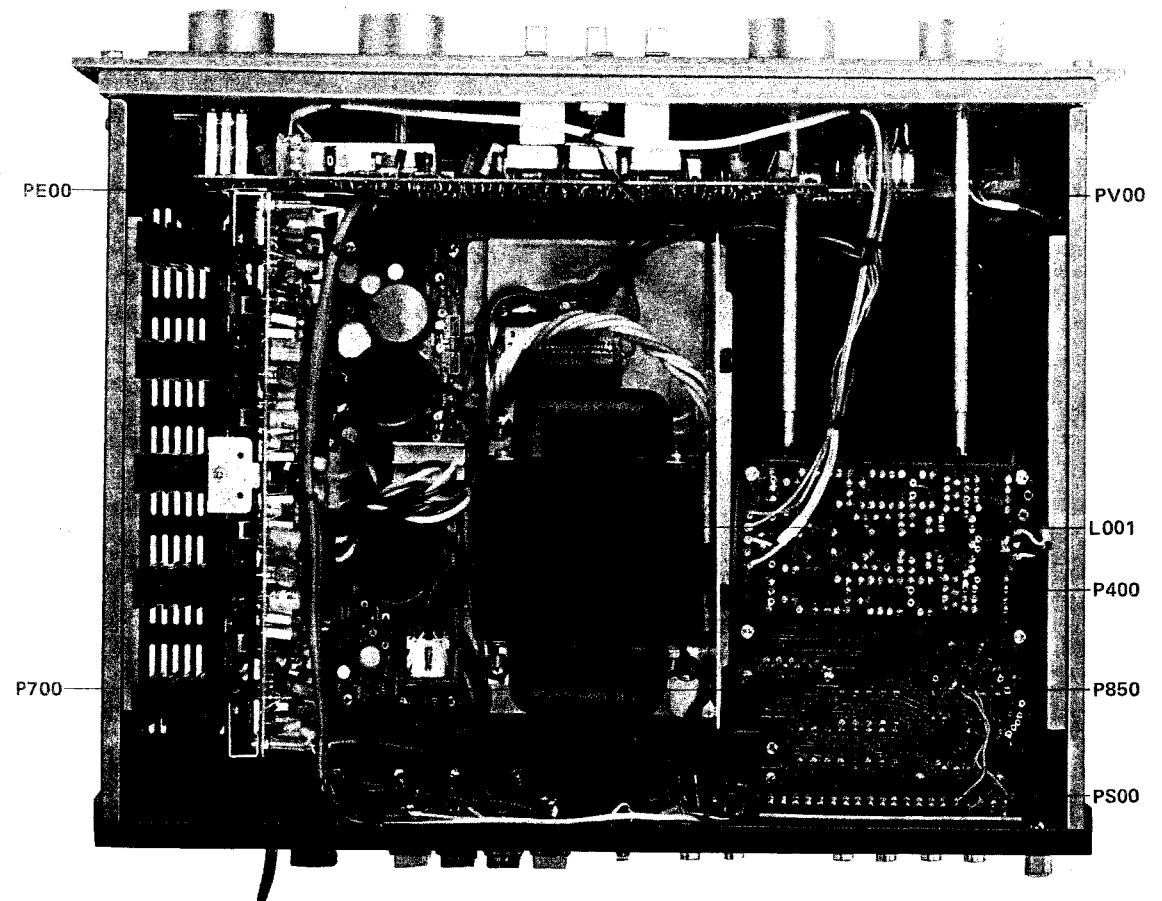
For 220V Operation

For 240V Operation

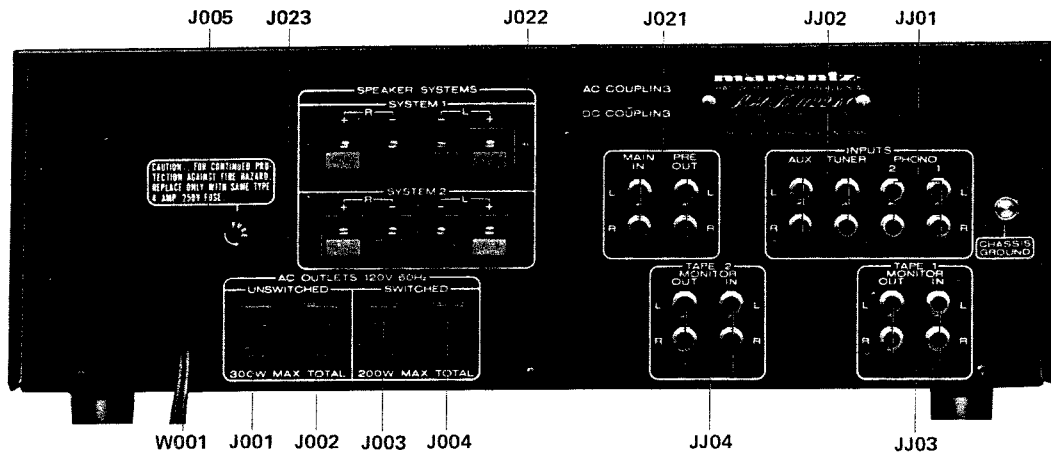
4.1 Front Panel Adjustment and Component Locations

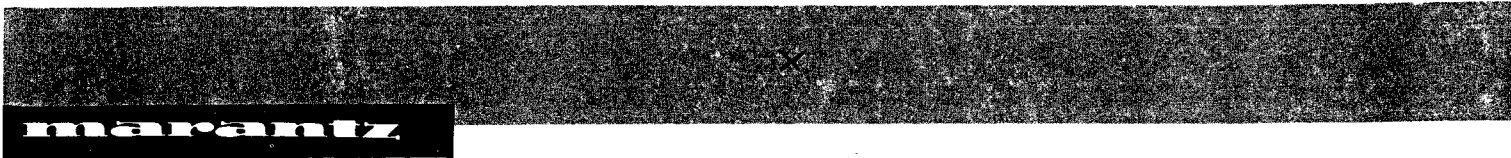


4.2 Main Chassis Component Locations (Top View)



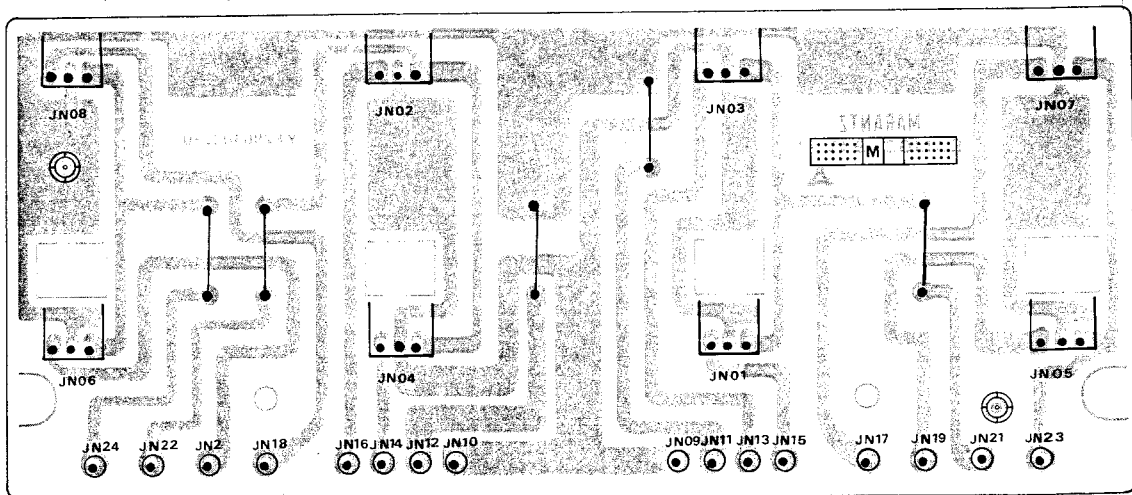
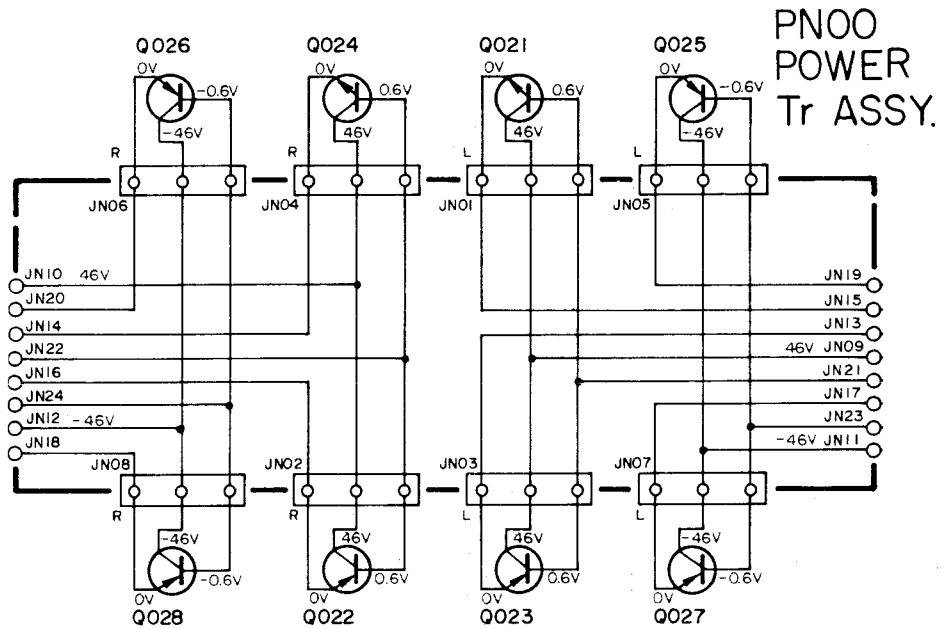
4.3 Rear Panel Adjustment and Component Locations





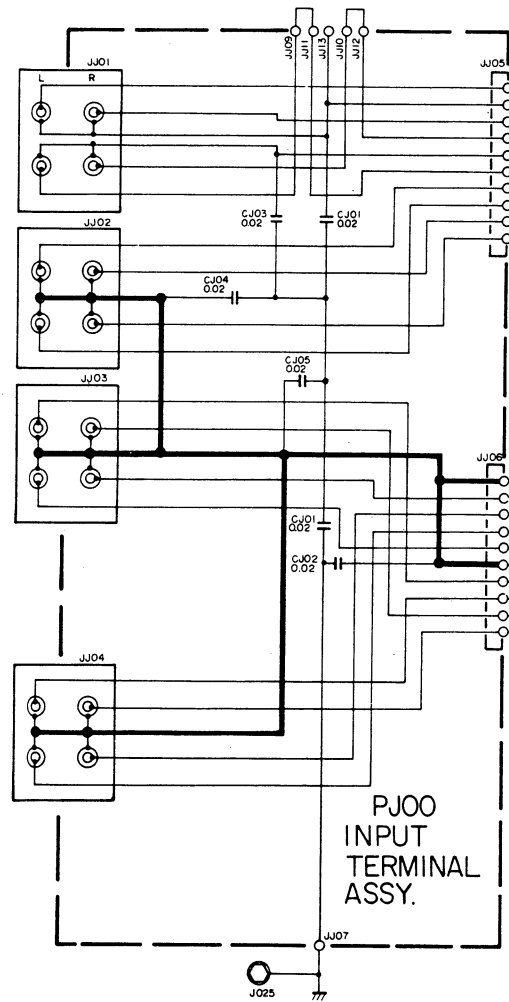
5. DIAGRAM AND COMPONENT LOCATIONS

5.1 Power Transformer Assembly (PN00) Schematic Diagram and Component Locations

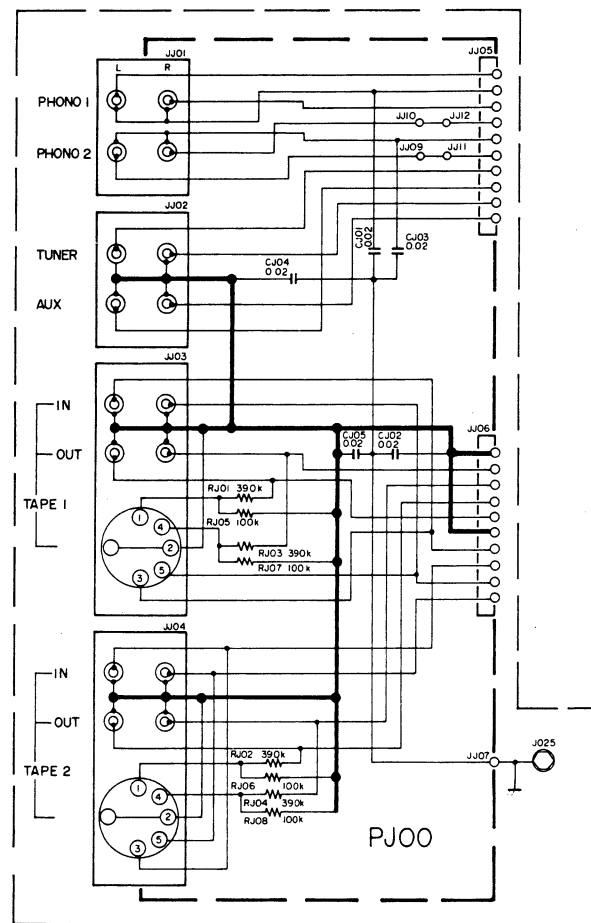


5.2 Input Terminal Assembly (PJ00) Schematic Diagram

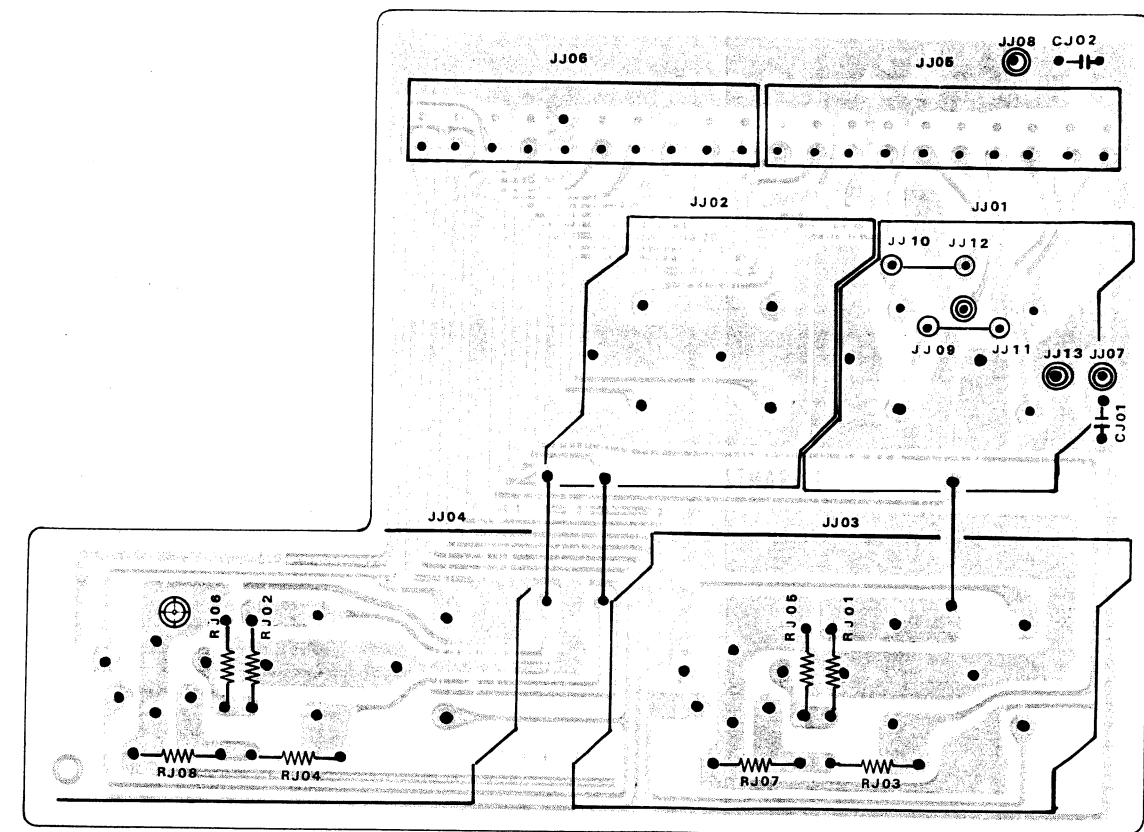
• Input Terminal Assembly (PJ00) Component Locations



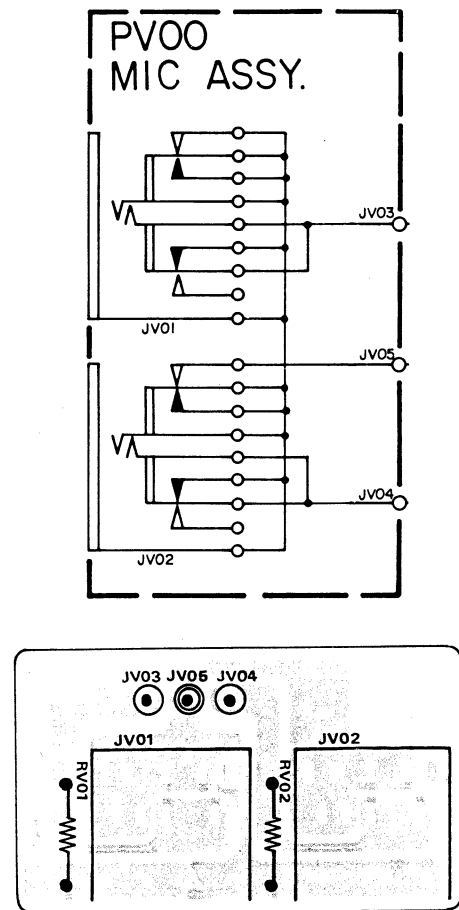
For U.S.A., Canada



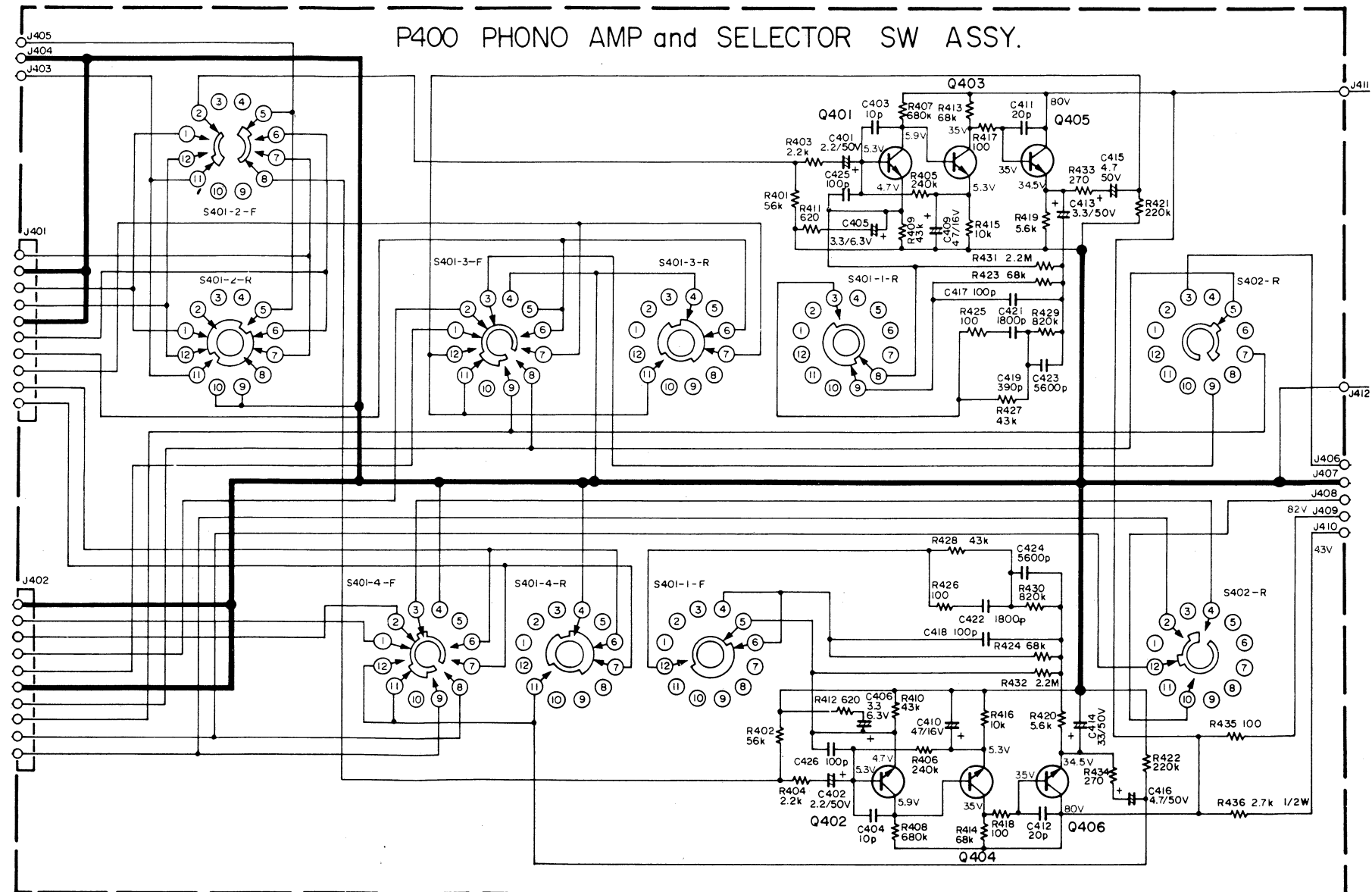
For Europe



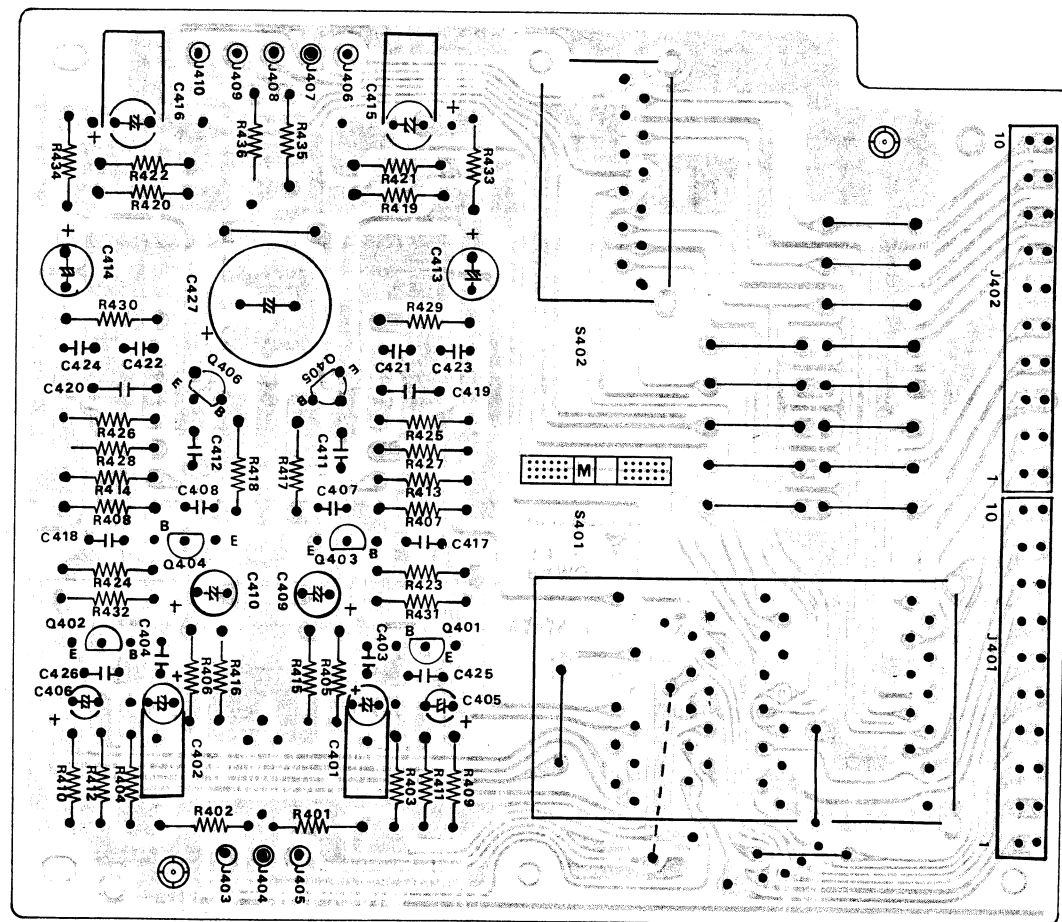
5.3 Mic Assembly (PV00) Schematic Diagram and Component Locations



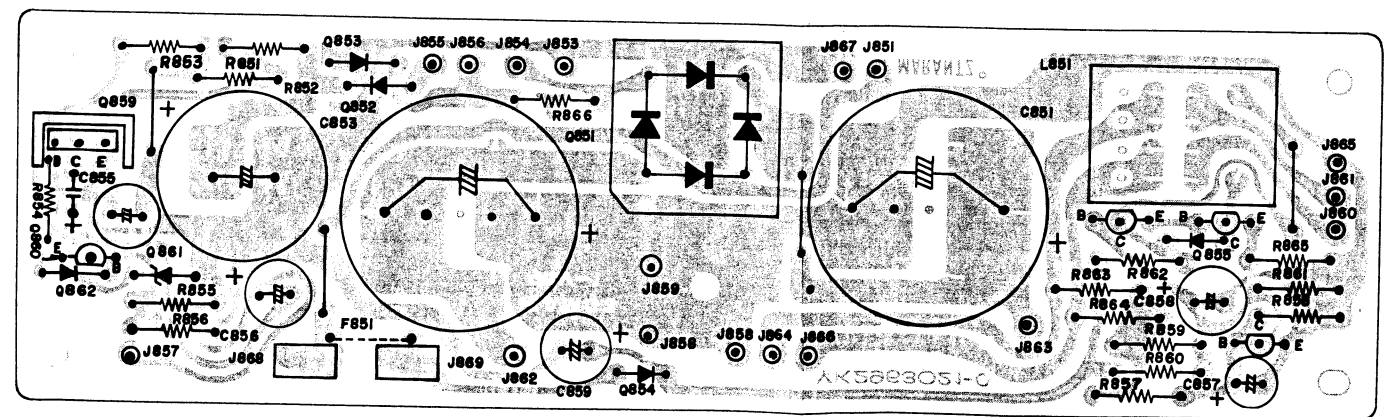
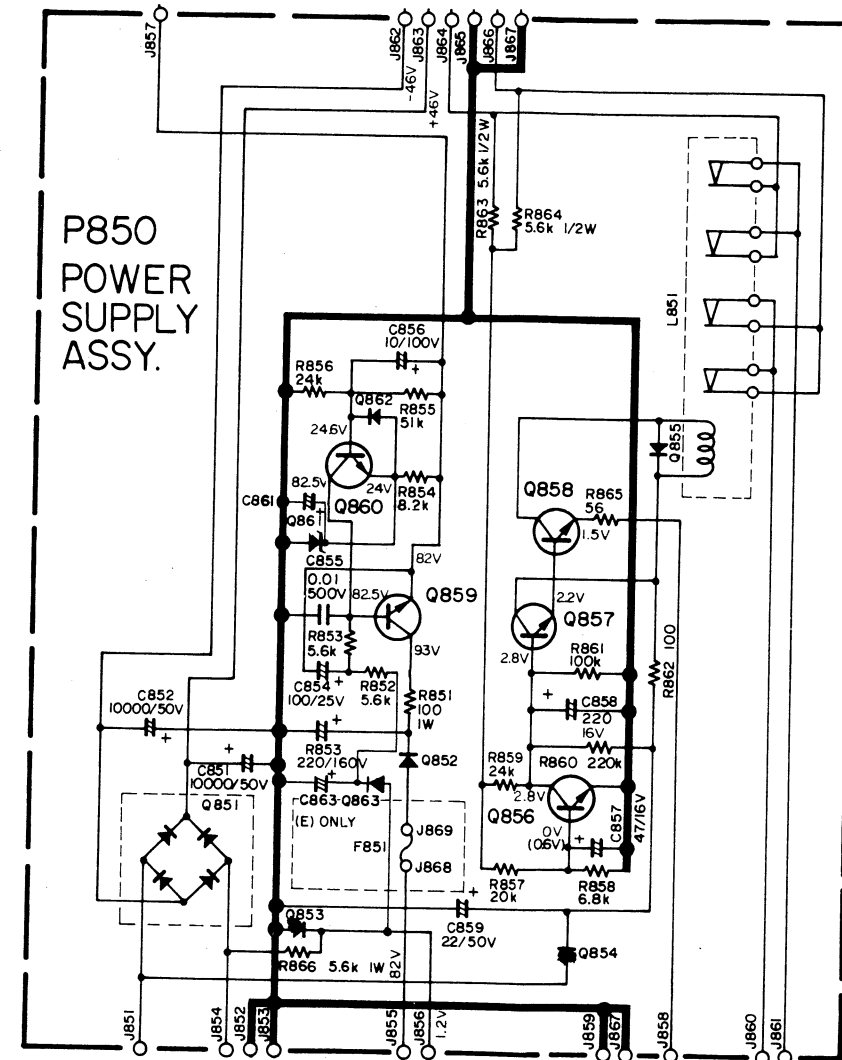
5.4 Phono Amp. & Selector SW. Assembly (P400) Schematic Diagram



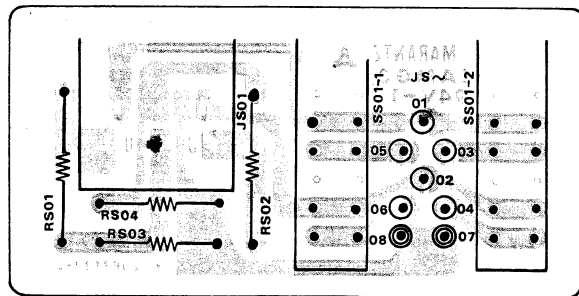
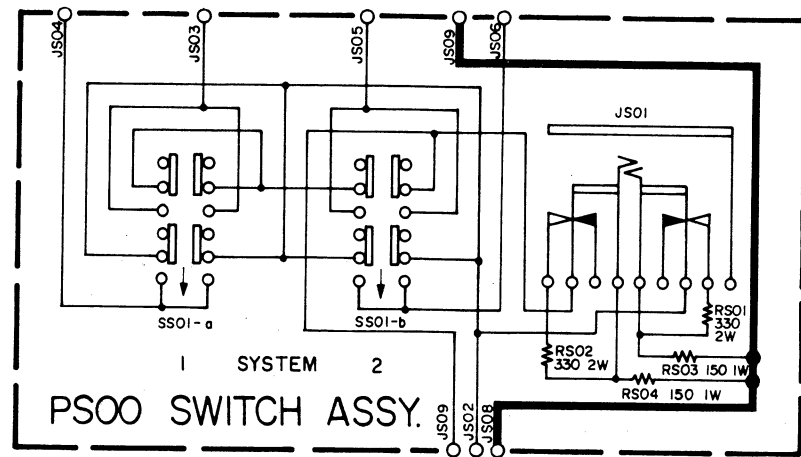
• Phono Amp. & Selector SW. Assembly (P400) Component Locations



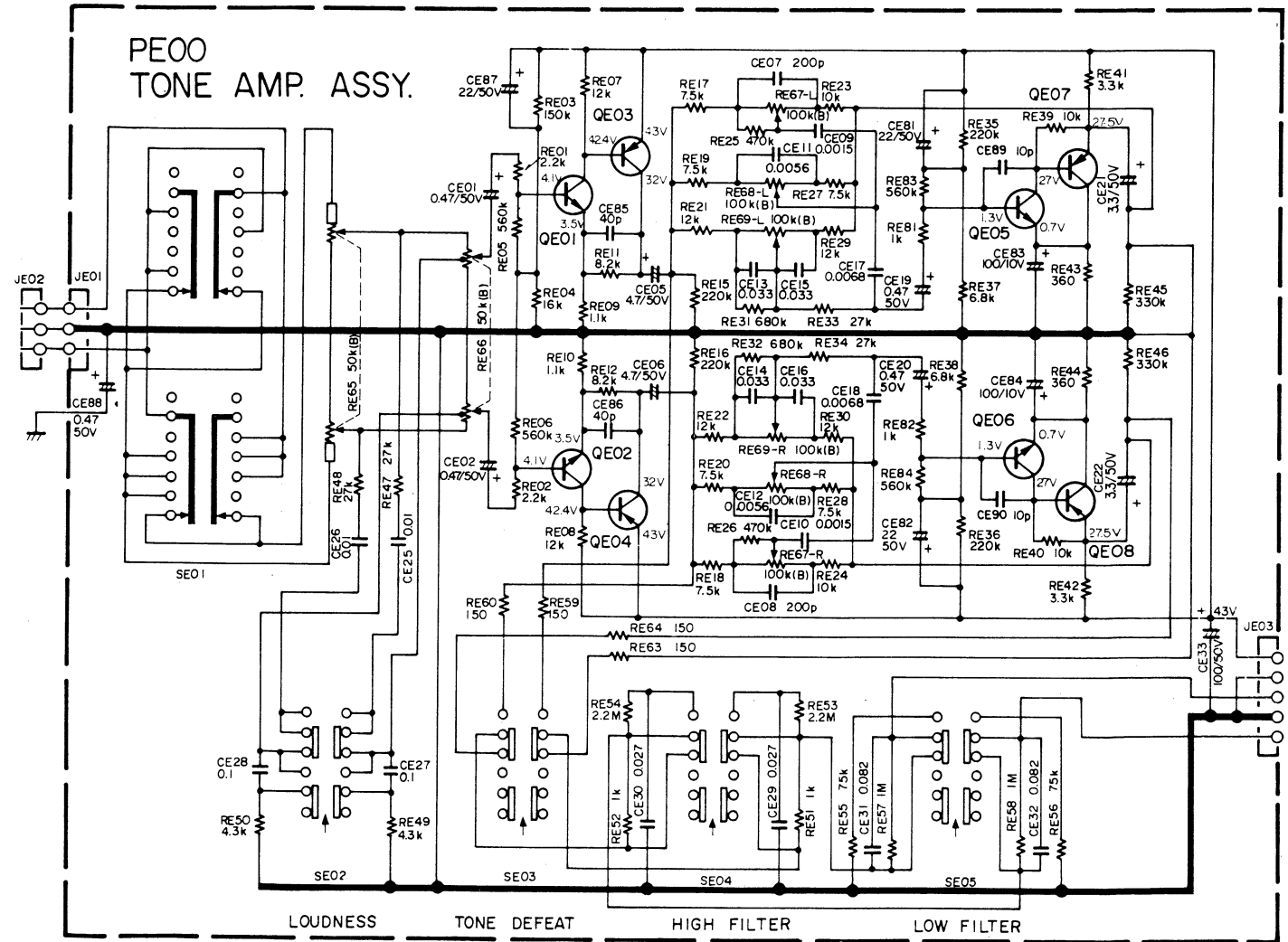
5.5 Power Supply Assembly (P850) Schematic Diagram and Component Locations



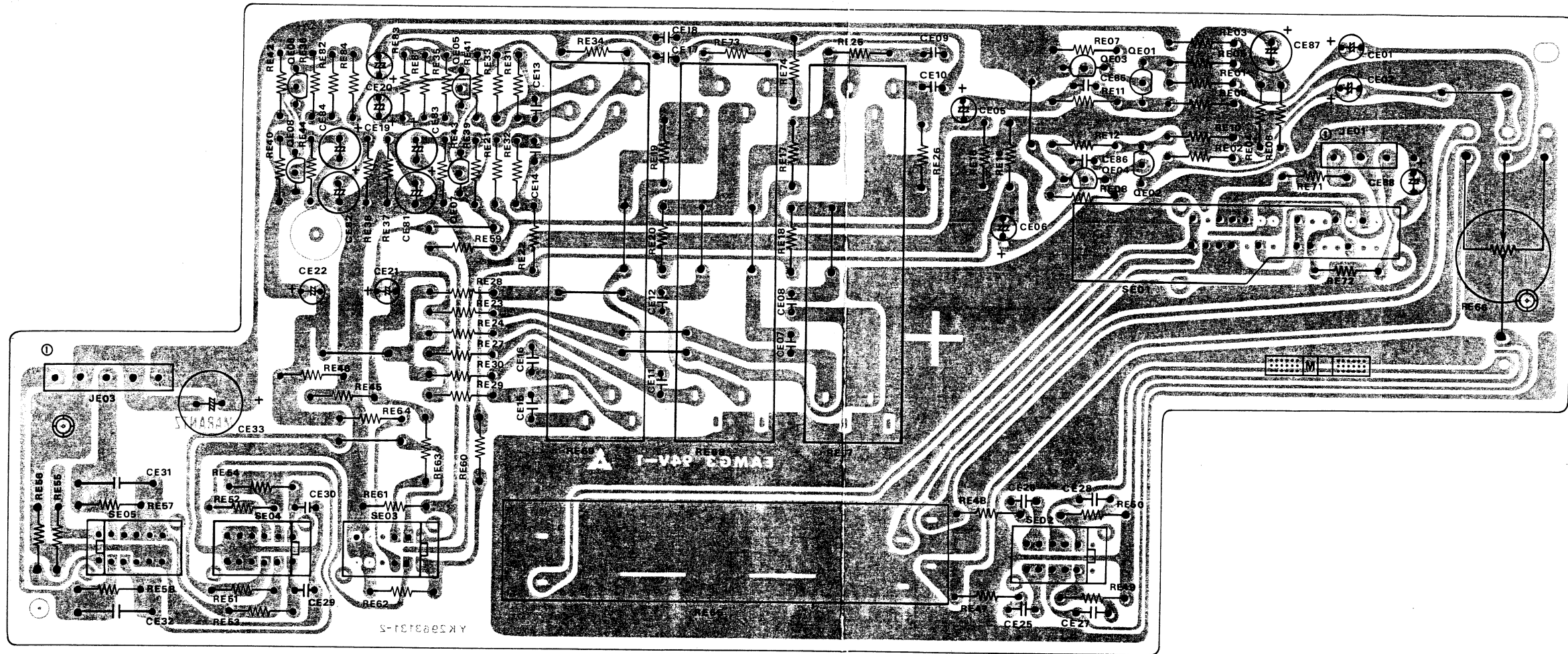
5.6 Speaker SW. Assembly (PS00) Schematic Diagram and Component Locations



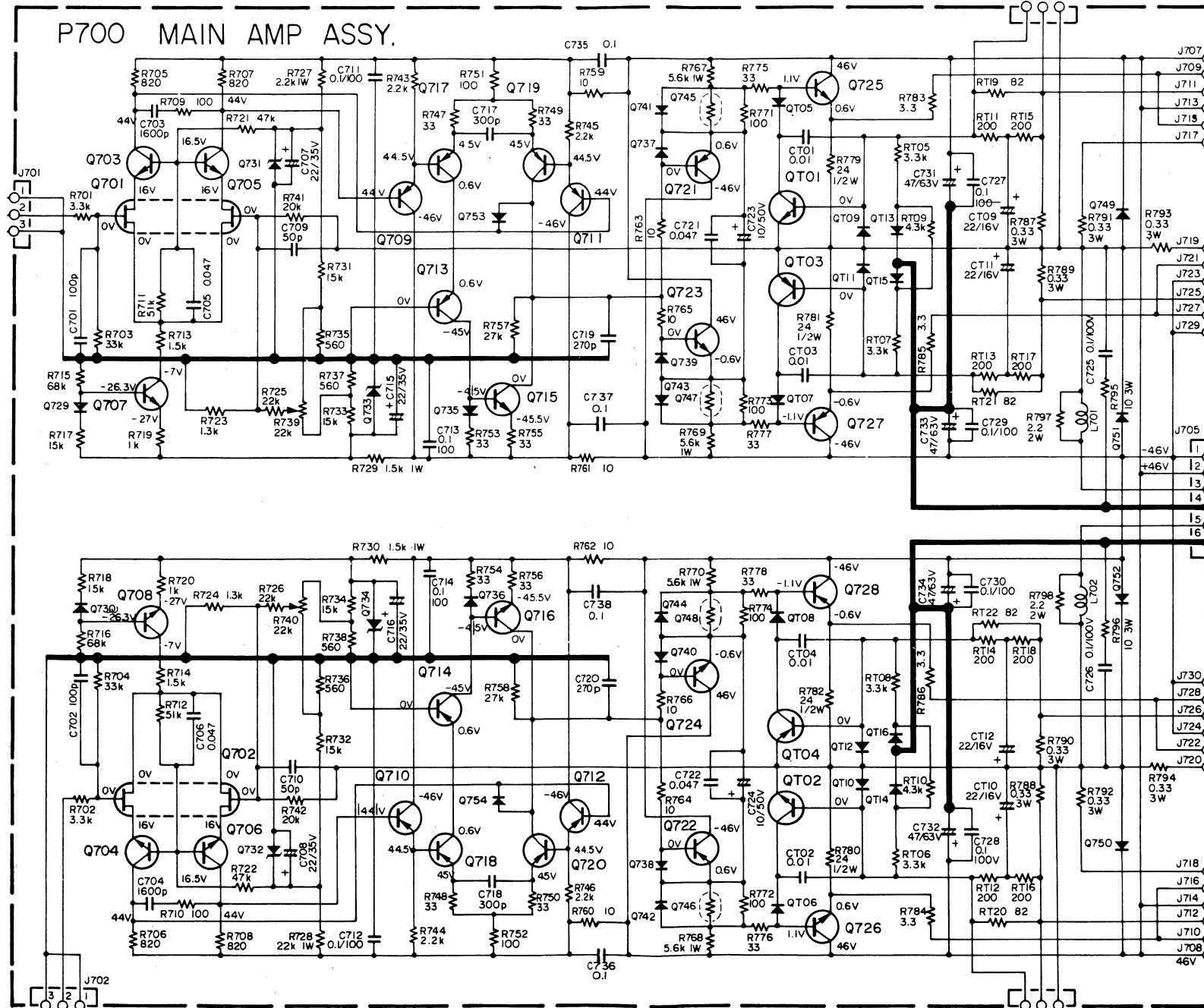
5.7 Tone Amp. Assembly (PE00) Schematic Diagram



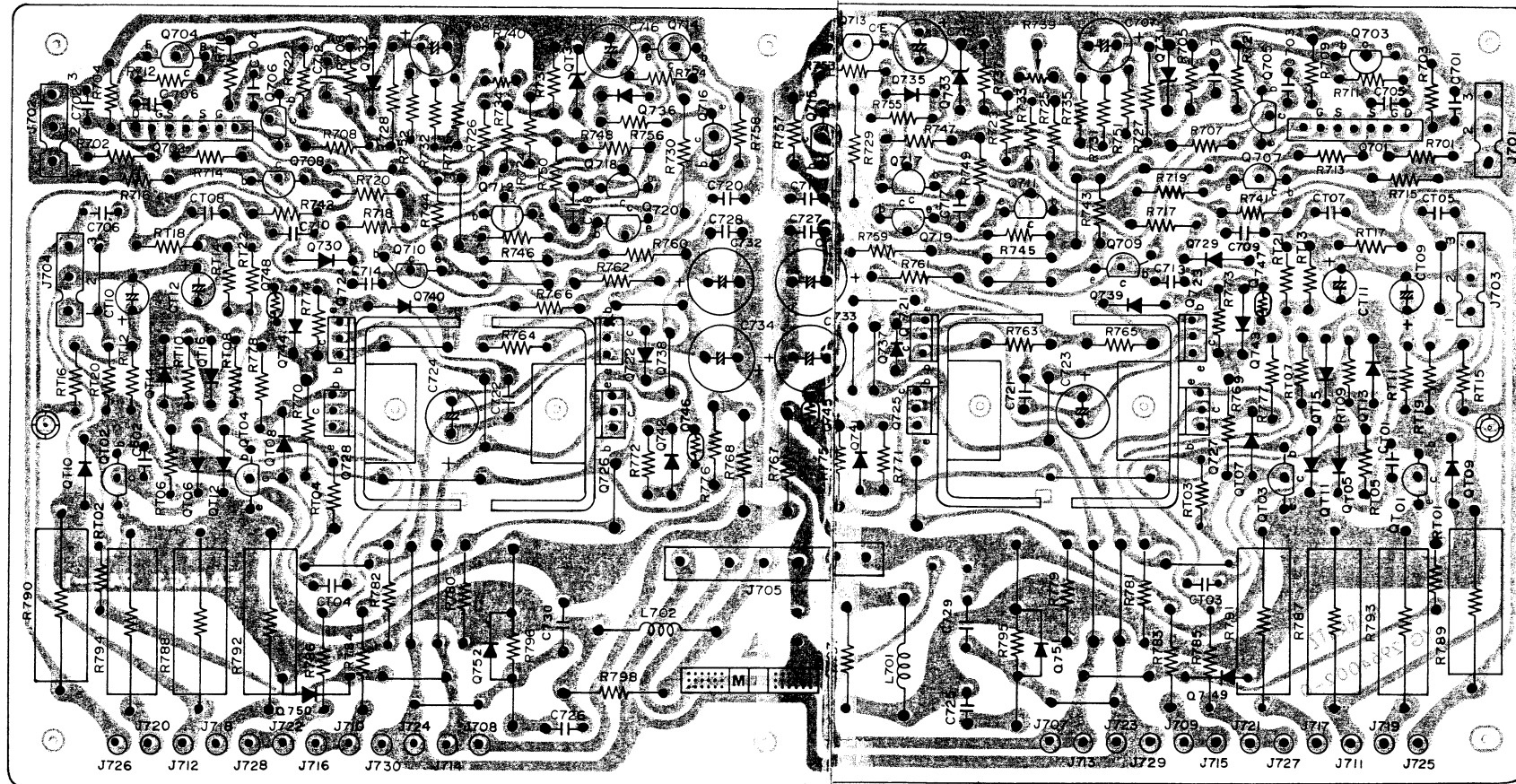
• Tone Amp. Assembly (PE00) Component Locations



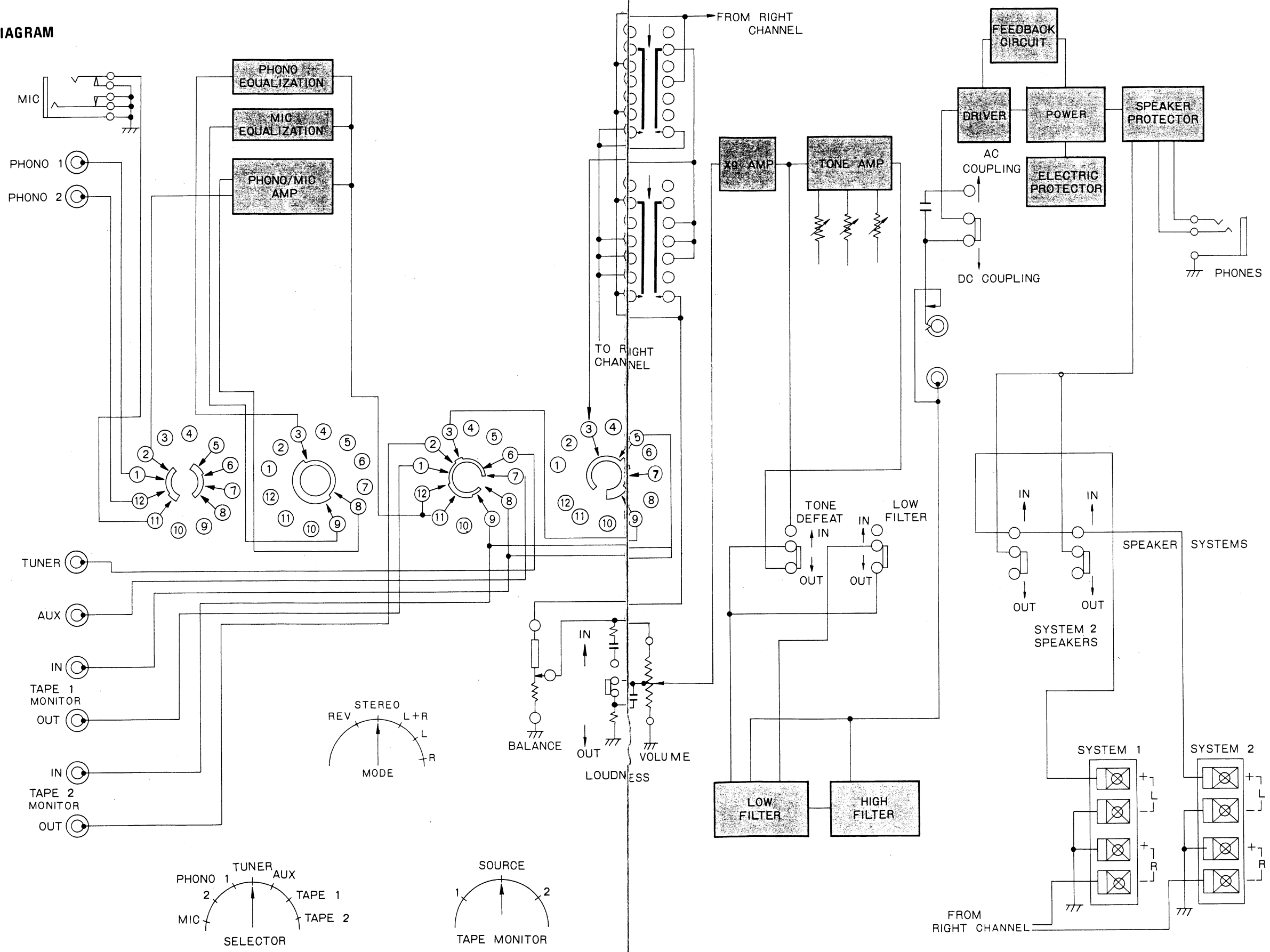
5.8 Main Amp. Assembly (P700) Schematic Diagram



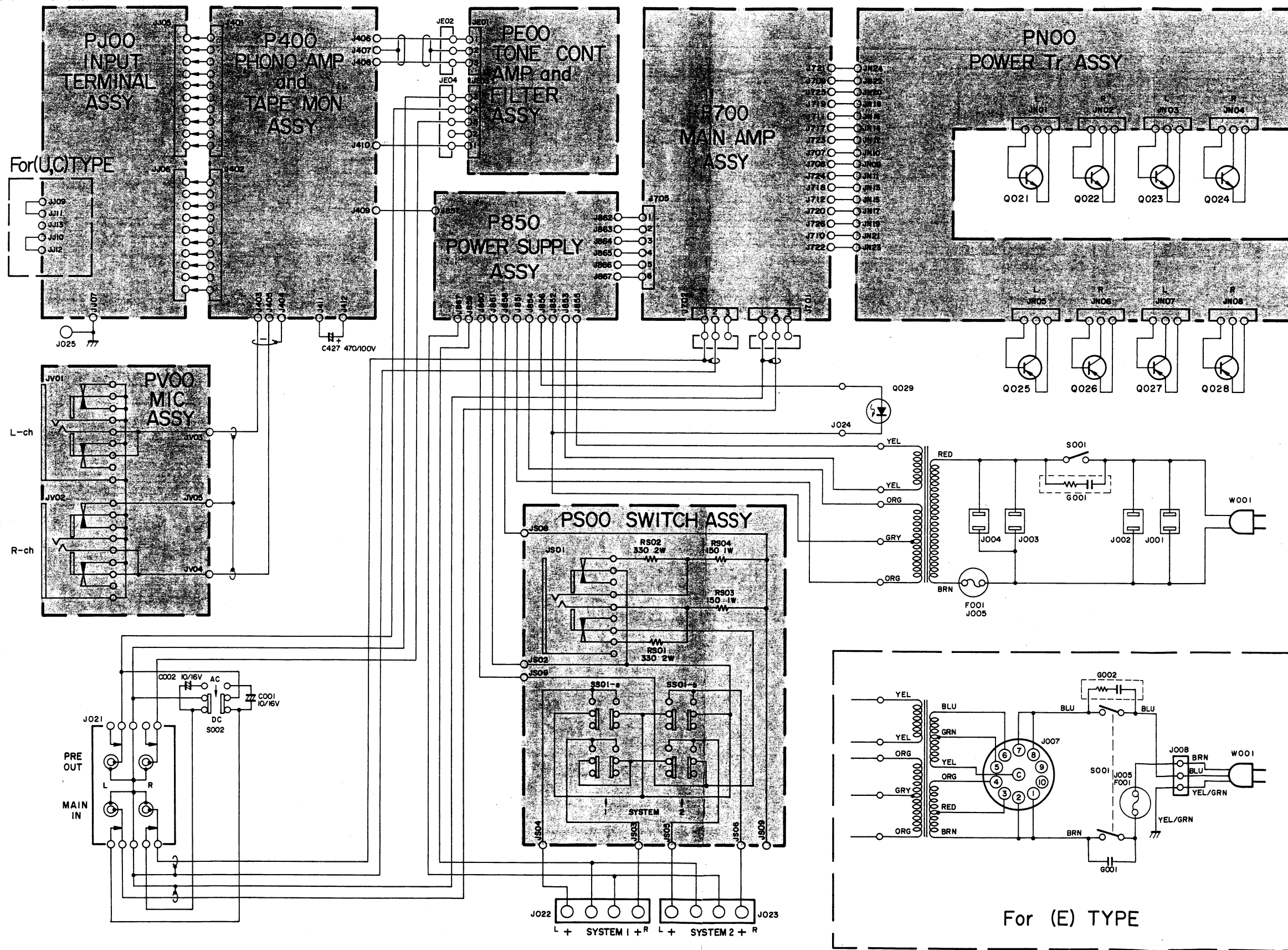
• Main Amp. Assembly (P700) Component Locations



6. BLOCK DIAGRAM



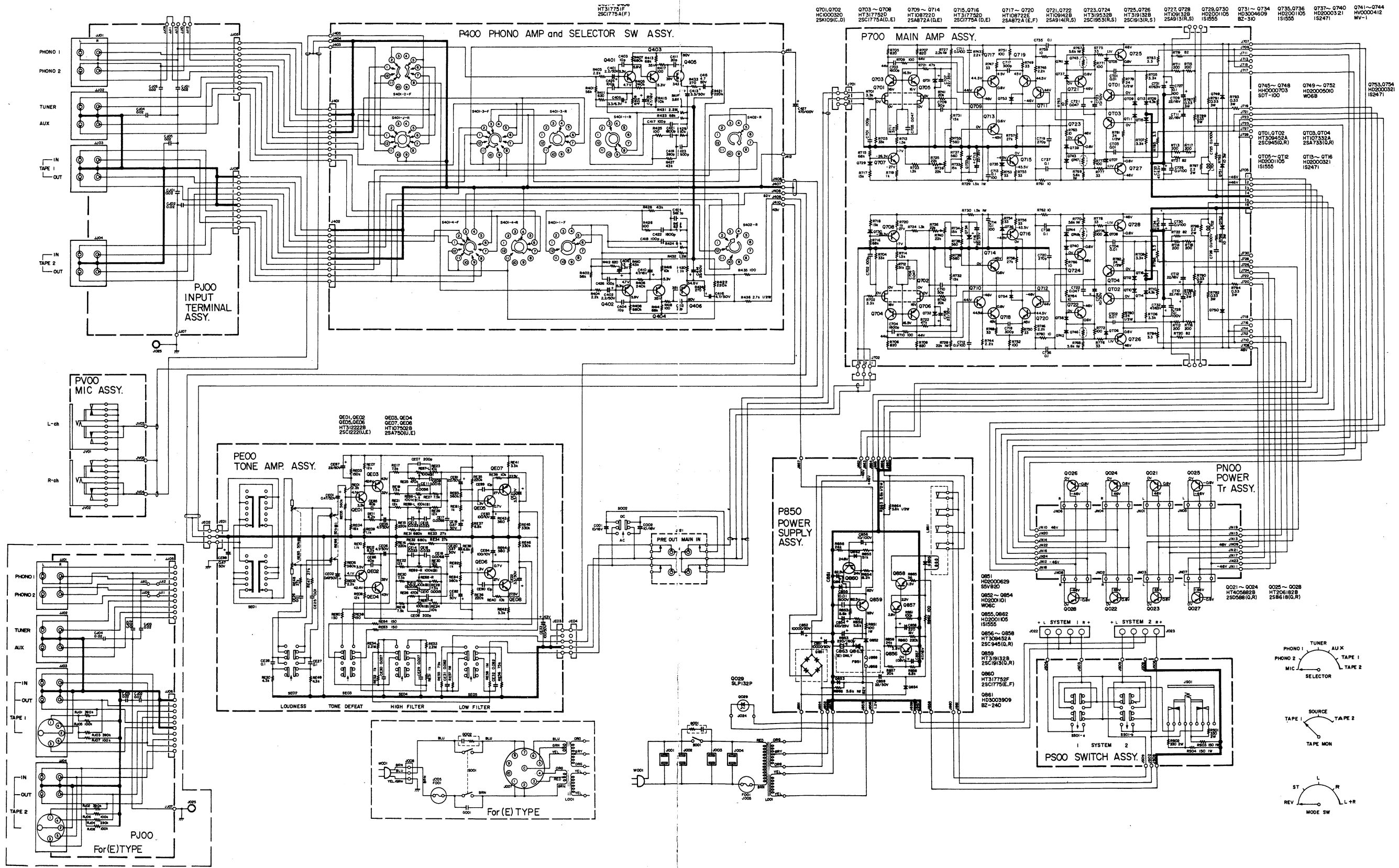
7. CONNECTION DIAGRAM



For (E) TYPE

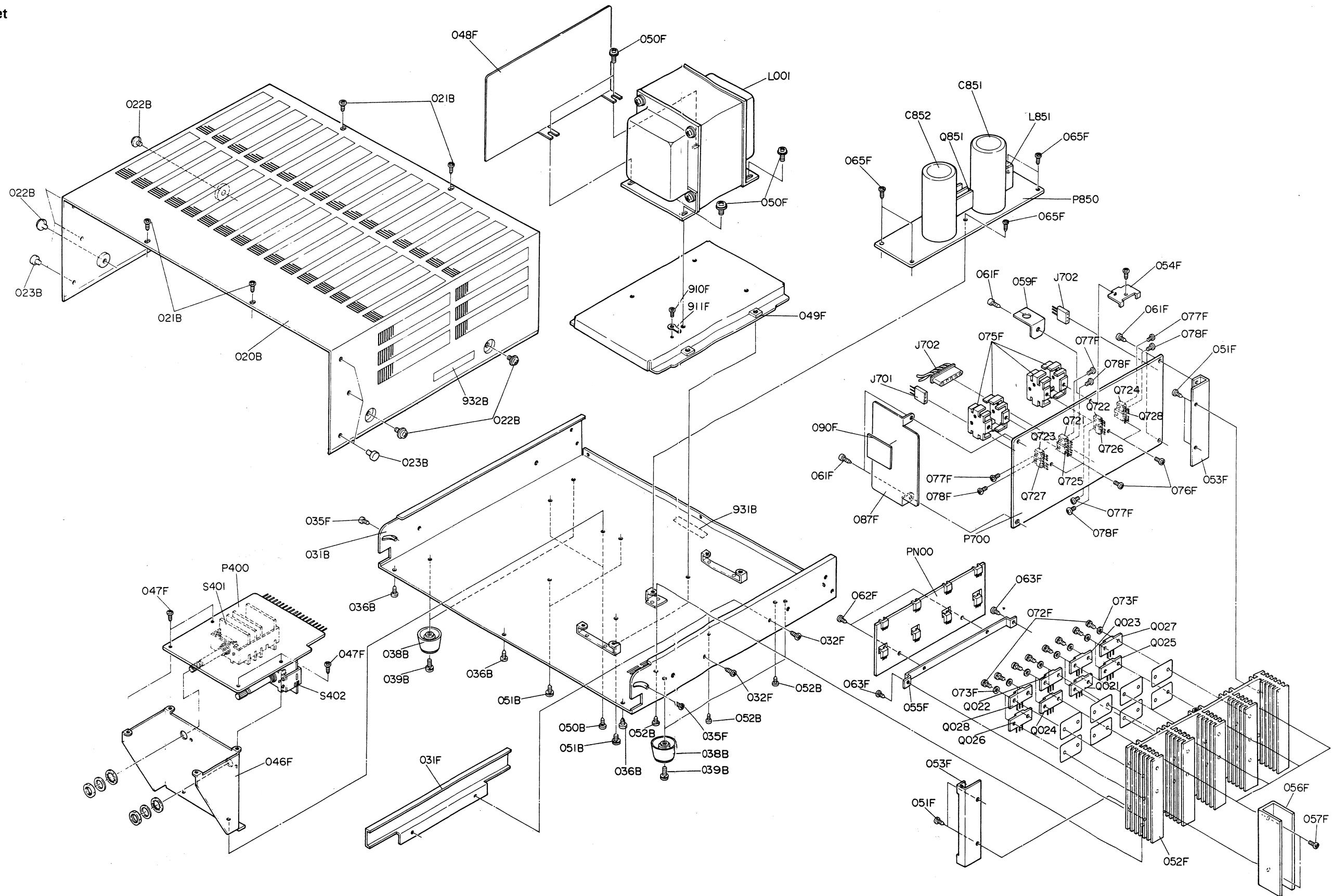


8. SCHEMATIC DIAGRAM



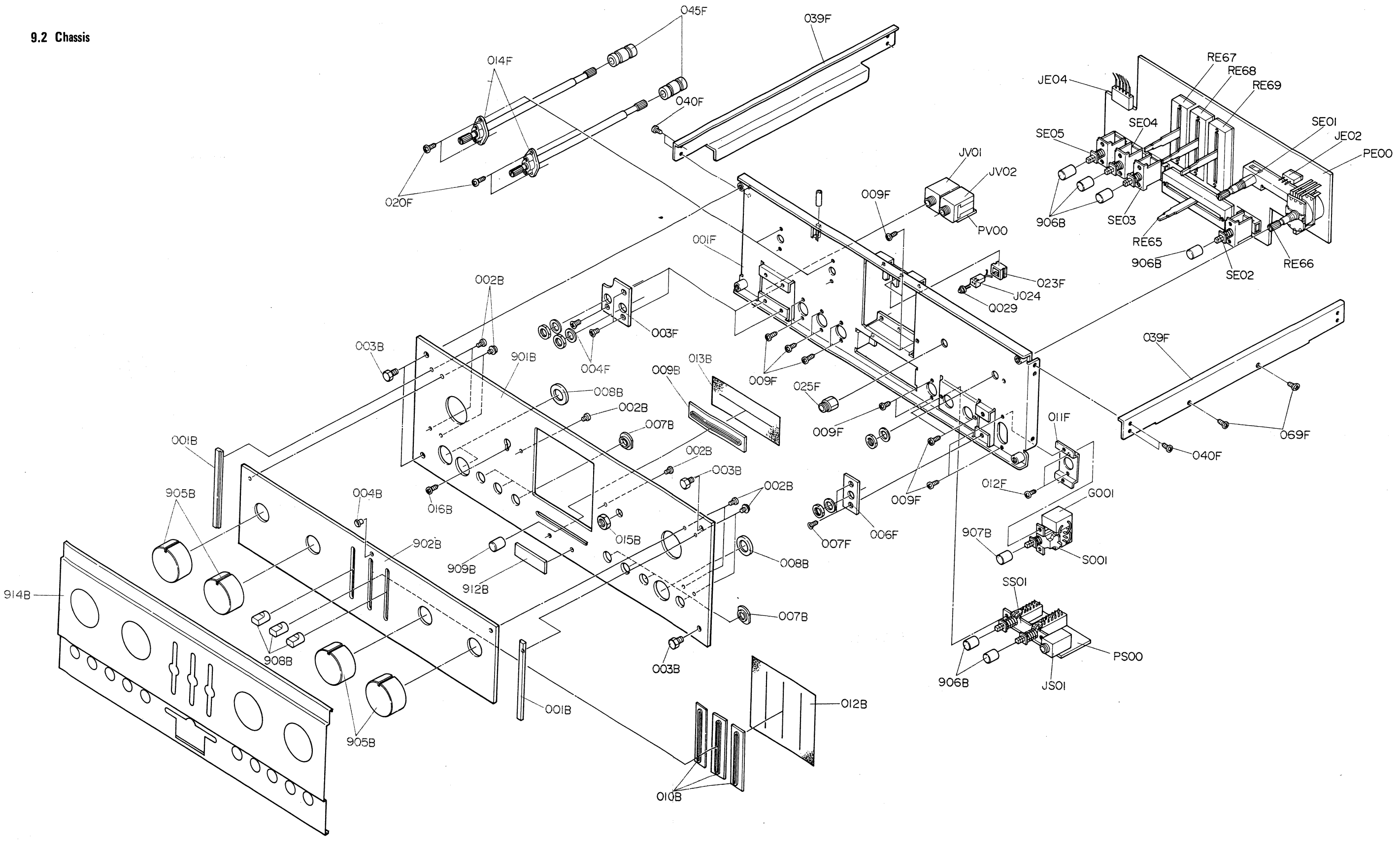
9. EXPLODED MECHANICAL DIAGRAM

9.1 Cabinet

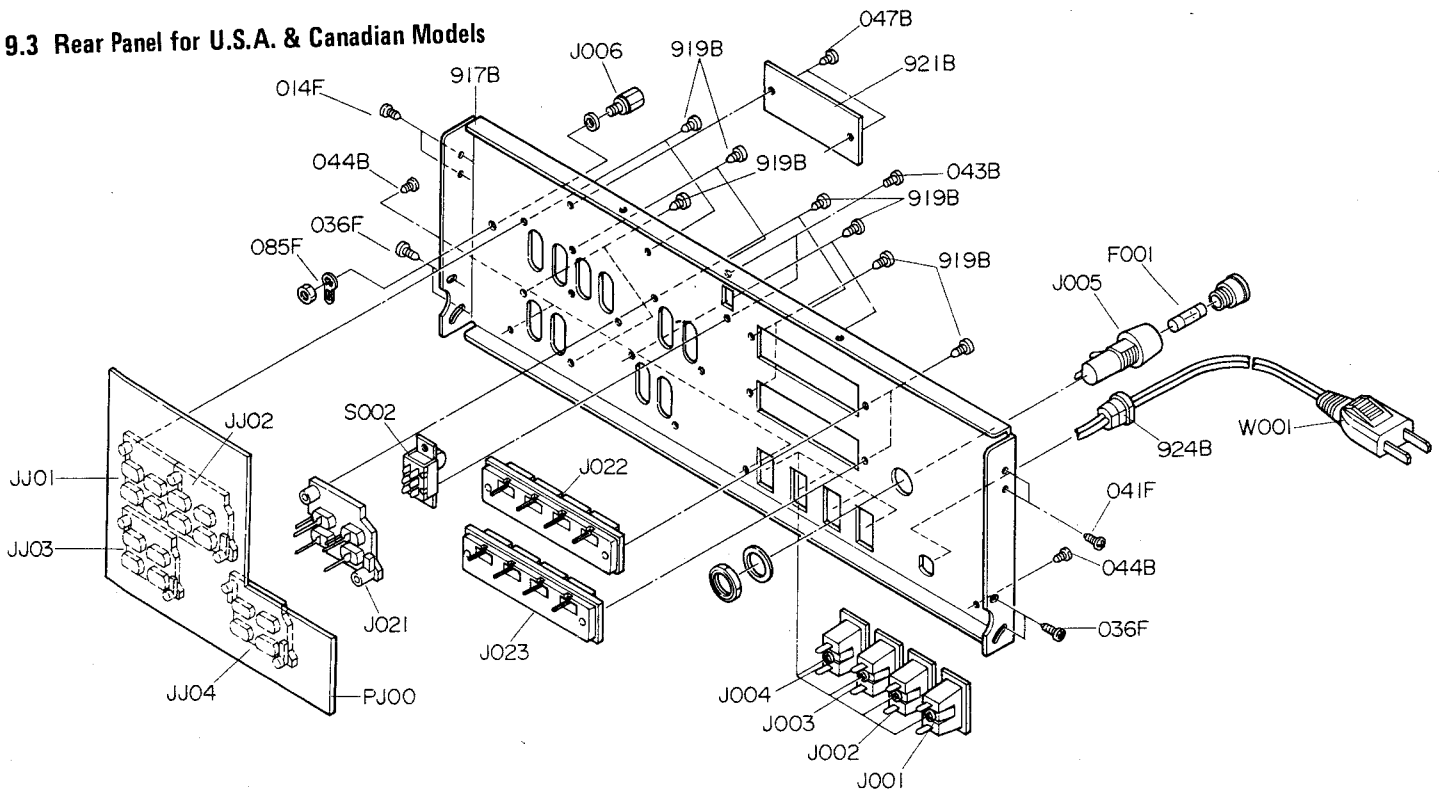




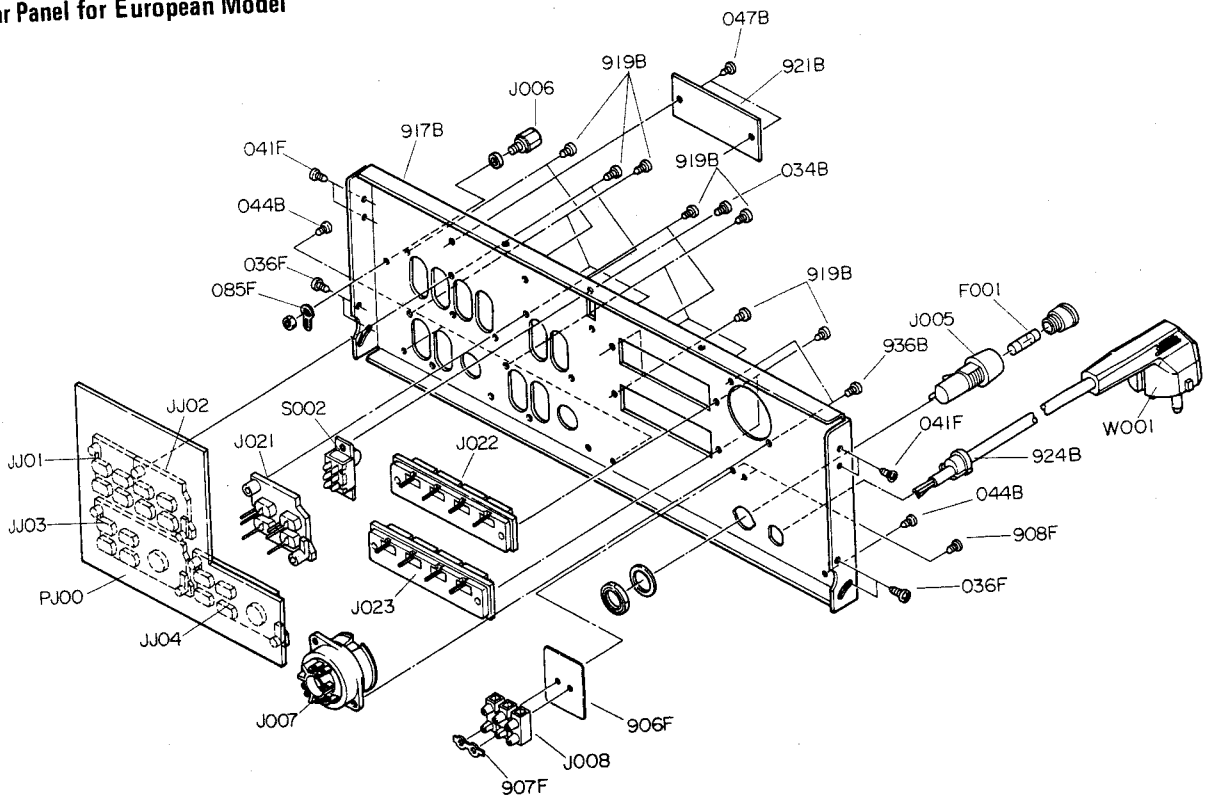
9.2 Chassis



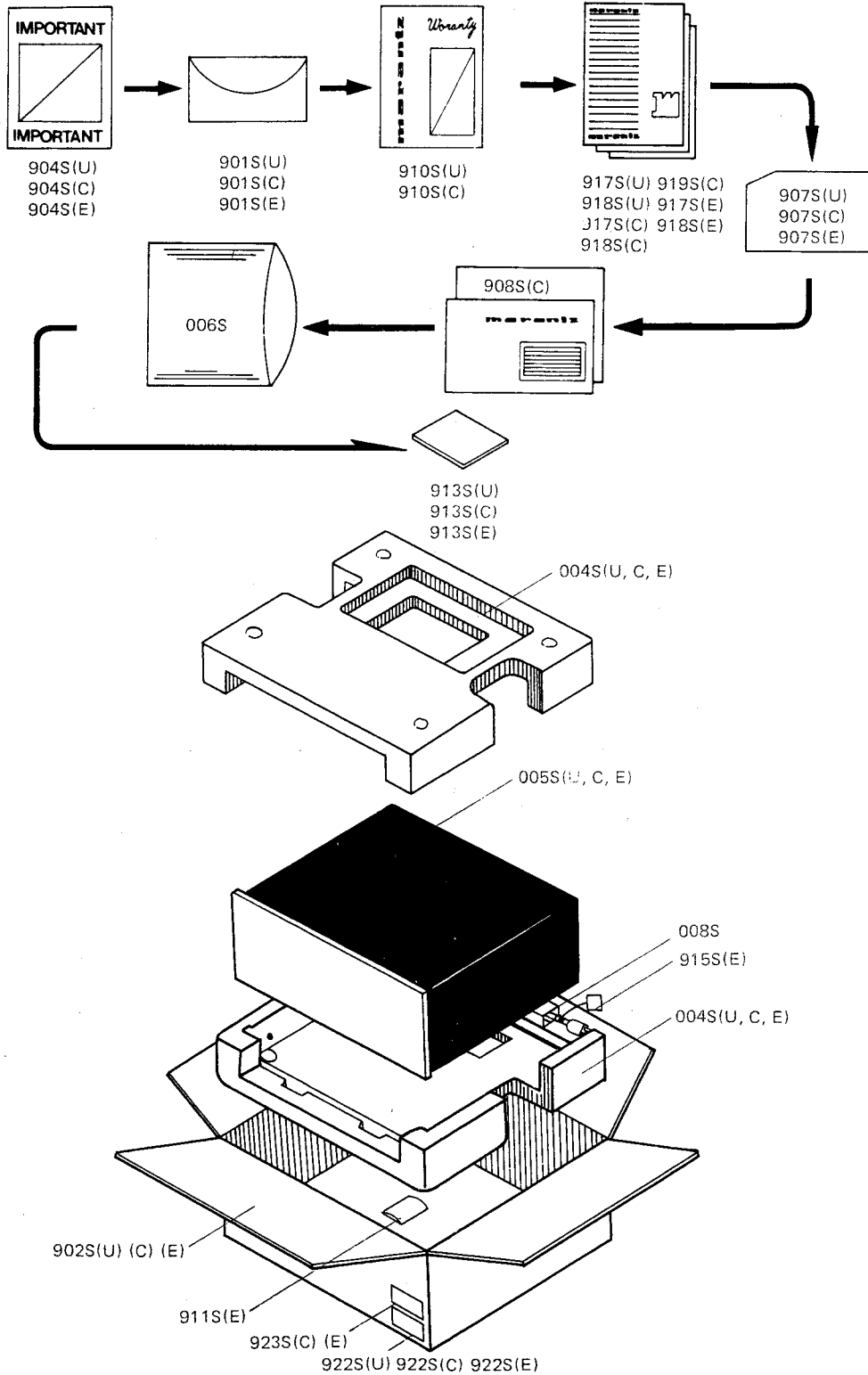
9.3 Rear Panel for U.S.A. & Canadian Models



9.4 Rear Panel for European Model



10. PACKING MATERIAL EXPLODED VIEW



11. PARTS LIST

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
A	1	1	1	2963063400	Front Panel Assembly
001B	2	2	2	2965063050	Escutcheon
002B	10	10	10	51480306A9	F. Washer Screw
004B	1	1	1	2979259022	Bushing
007B	7	7	7	2978259012	Bushing
008B	3	3	3	2978259020	Bushing
009B	1	1	1	2926259040	Bushing
010B	3	3	3	2970259010	Bushing
012B	1	1	1	2970303010	Mask
013B	1	1	1	2926303020	Mask
901B	1	1	1	2963063014	Escutcheon
902B	1	1	1	2963063022	Escutcheon
912B	1	1	1	2979251040	Badge
914B	1	1	1	2963053012	Cover
P407	4	4	4	3444118050	Spacer
P412	8	8	8	75061751P0	Jumper
P708	84	84	84	2933118020	Spacer
P711	26	26	26	75061001P0	Jumper
P712	6	6	6	75061501P0	Jumper
P857	8	8	8	3444118050	Spacer
001F	1	1	1	2963160010	Bracket
003B	4	4	4	52017069J0	H. Head Bolt
003F	1	1	1	2963120012	Insulator
004F	3	3	3	51340306B0	F. H. Tapped Screw, F3 x 6
004S	2	2	2	2963809020	Cushion
005S	1	1	1	9014335330	Polyethylene Bag
006F	1	1	1	2970120020	Insulator
006S	1	1	1	9013025010	Polyethylene Bag
007F	2	2	2	51340306B0	F. H. Tapped Screw, F3 x 6
008S	1	1	1	2864804010	Sleeve
009F	17	17	17	51100306A0	B. H. M. Screw, B3 x 6
011F	1	1	1	2963160090	Bracket
012F	2	2	2	51100306A0	B. H. M. Screw, B3 x 6
014F	2	2	2	2963112503	Shaft
015B	1	1	1	53118179A0	Hexagon Nut
016B	1	1	1	51302608B0	P. H. Tapped Screw, P2.6 x 8
020B	1	1	1	2963257013	Lid
020F	4	4	4	51280306B0	B. H. Tapped Screw, B3 x 6
021B	4	4	4	51280306U0	B. H. Tapped Screw, B3 x 6
022B	4	4	4	51480406S9	F. Washer Screw, F4 x 6
023B	6	6	6	2979259030	Bushing
023F	1	1	1	2978259060	Bushing
025F	1	1	1	2970101010	Support
031B	1	1	1	2963105505	Chassis
031F	1	1	1	2963160080	Bracket
032F	2	2	2	51280306B0	B. H. Tapped Screw, B3 x 6
035F	2	2	2	51100306S9	B. H. M. Screw, B3 x 6
036B	3	3	3	51280410U0	B. H. Tapped Screw, B4 x 10
036F	4	4	4	51280306U0	B. H. Tapped Screw, B3 x 6
038B	4	4	4	2932057010	Leg
039B	4	4	4	51570410S0	P. Tapped Screw, P4 x 10
039F	2	2	2	2963126010	Stay
040F	4	4	4	51280306B0	B. H. Tapped Screw, B3 x 6
041F	4	4	4	51280306U0	B. H. Tapped Screw, B3 x 6
043B	2	2	2	51100306S9	B. H. M. Screw, B3 x 6

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
044B	3	3	3	51280308U0	B. H. Tapped Screw, B3 x 8
045F	2	2	2	2963125010	Joint
046F	1	1	1	2963160020	Bracket
047B	2	2	2	51760306B0	OS Tapped Screw, O3 x 6
047F	4	4	4	51280306B0	B. H. Tapped Screw, B3 x 6
048F	1	1	1	2963109010	Shield
049F	1	1	1	2963105022	Chassis
050B	2	2	2	51100306S9	B. H. M. Screw, B3 x 6
050F	4	4	4	51490510A9	L. Washer Screw, L5 x 10
051B	4	4	4	51100410S9	B. H. M. Screw, B4 x 10
051F	4	4	4	51280306B0	B. H. Tapped Screw, B3 x 6
052B	3	3	3	51280308U0	B. H. Tapped Screw, B3 x 8
052F	1	1	1	2963267014	Heatsink
053F	2	2	2	2963160140	Bracket
054F	1	1	1	2963160130	Bracket
055F	1	1	1	2963160040	Bracket
056F	4	4	4	2963267042	Heat Sink
057F	8	8	8	51280306U0	B. H. Tap Screw
059F	1	1	1	2963120020	Insulator
061F	5	5	5	51280306B0	B. H. Tapped Screw, B3 x 6
062F	2	2	2	51280306B0	B. H. Tapped Screw, B3 x 6
063F	2	2	2	51280306B0	B. H. Tapped Screw, B3 x 6
065F	5	5	5	51280306B0	B. H. Tapped Screw, B3 x 6
069F	2	2	2	51280308B0	B. H. Tapped Screw, B3 x 8
072F	16	16	16	51470312B9	L. Washer Screw, L3 x 12
075F	4	4	4	2212267020	Heatsink
076F	4	4	4	51100305S9	B. H. M. Screw, B3 x 5
077F	4	4	4	51280305U0	B. H. Tapped Screw, B3 x 5
078F	4	4	4	51280308U0	B. H. Tapped Screw, B3 x 8
081F	1	1	1	2915267020	Heatsink
082F	1	1	1	5128306U0	B. H. Tapped Screw, B3 x 6
085F	1	1	1	62030049W0	Lug
087F	1	1	1	2963109020	Shield
088F	1	1	1	51280306B0	B. H. Tapped Screw, B3 x 6
089F	1	1	1	62030049W0	Lug
090F	1	1	1	2922120010	Insulator
901S	1			2577813010	Envelope
901S			1	2818813010	Envelope
901S	1			2918813012	Envelope
902S	1	1	1	2963801010	Packing Case
904S	1			2577851020	Instructions
904S		1	1	2818851120	Instructions
905B	4	4	4	2963154010	Knob
906B	6	6	6	2963154032	Knob
906F	1			4113120010	Insulator
907B	1	1	1	2963154022	Knob
907F			1	2970005010	Clamper
907S	1			2577854012	Guarantee Card
907S		1	1	9630000180	Guarantee Card
908B	3	3	3	2970154023	Knob
908F			2	51100314S9	B. H. M. Screw, B3 x 14
908S		1		9650000050	S. Station Card
909B	1	1	1	2970154012	Knob
910S	1			2818854022	Guarantee Card
910S		1		2818854040	Guarantee Card
911S			1	2731821010	Silicagel

• (U) for U.S.A.
• (C) for Canada
• (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION	REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E				U	C	E		
913S	1			2818851040	Instructions	CE27	1	1	1	DF16104010	Film Cap., 0.1 μ F \pm 20% 50V
913S		1	1	2818851140	Instructions	CE28	1	1	1	DF16104010	Film Cap., 0.1 μ F \pm 20% 50V
915S			1	9560000042	Hang Tag	CE29	1	1	1	DF15273010	Film Cap., 0.027 μ F \pm 5% 50V
917B	1	1		2963160214	Bracket	CE30	1	1	1	DF15273010	Film Cap., 0.027 μ F \pm 5% 50V
917B			1	2963160223	Bracket	CE31	1	1	1	DF15823050	Film Cap., 0.082 μ F \pm 5% 50V
917S	1			2963851010	Instructions	CE32	1	1	1	DF15823050	Film Cap., 0.082 μ F \pm 5% 50V
917S		1	1	2963851310	Instructions	CE33	1	1	1	EA10705090	Electrolytic Cap., 100 μ F 50V
918S			1	2886851100	Instructions	CE81	1	1	1	EA22605090	Electrolytic Cap., 22 μ F 50V
918S	1			2963851020	Instructions	CE82	1	1	1	EA22605090	Electrolytic Cap., 22 μ F 50V
918S			1	2963851030	Instructions	CE83	1	1	1	EA10701090	Electrolytic Cap., 100 μ F 10V
918S						CE84	1	1	1	EA10701090	Electrolytic Cap., 100 μ F 10V
919B	14	14	16	51280308U0	B.H. Tapped Screw, B3 x 8	CE85	1	1	1	DD15400010	Ceramic Cap., 40pF \pm 5% 50V
919S		1		2963851050	Instructions	CE86	1	1	1	DD15400010	Ceramic Cap., 40pF \pm 5% 50V
921B	1			2963265010	Indicator	CE87	1	1	1	EA22605090	Electrolytic Cap., 22 μ F 50V
921B			1	2963265020	Indicator	CE88	1	1	1	EA47405090	Electrolytic Cap., 0.47 μ F 50V
921B			1	2963265030	Indicator	JE01	1	1	1	YP06001040	Plug, Input Basepost
922S	3			9522815010	Serial No. Card	JE02	1	1	1	YJ06001240	Jack, Input
922S			3	9523015110	Serial No. Card	JE03	1	1	1	YP06001050	Plug, Output Basepost
922S			3	9523015120	Serial No. Card	JE04	1	1	1	YJ06001250	Jack, Output
923S		2	2	9510901020	Label						
924B	1	1		1455259030	Bushing						
924B			1	1455259040	Bushing	PE00	1	1	1	YK29631310	PE00 TONE CONTROL BOARD
925B	1	1	2	62040029W0	Lug						
930B	1			2991861010	Label						
931B	1	1		2578861010	Label	QE01	1	1	1	HT312222B0	Transistor, 2SC1222 (U or E)
931B			1	2911861110	Label	QE02	1	1	1	HT312222B0	Transistor, 2SC1222 (U or E)
932B			1	2911861143	Label	QE03	1	1	1	HT107502B0	Transistor, 2SA750 (U or E)
932B	1	1		2932861012	Label	QE04	1	1	1	HT107502B0	Transistor, 2SA750 (U or E)
933B			1	9510911010	Label	QE05	1	1	1	HT312222B0	Transistor, 2SC1222 (U or E)
933B	1			9511101010	Label	QE06	1	1	1	HT312222B0	Transistor, 2SC1222 (U or E)
935B			1	2911861270	Label	QE07	1	1	1	HT107502B0	Transistor, 2SA750 (U or E)
936B			1	2911861012	Label	QE08	1	1	1	HT107502B0	Transistor, 2SA750 (U or E)
936B			2	51280306U0	B.H. Tapped Screw, B3 x 6	RE01	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
937B			1	2911861192	Label	RE02	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
938B			1	2911861162	Label	RE03	1	1	1	RT05154140	Resistor, 150k Ω \pm 5% $\frac{1}{4}$ W
CE01	1	1	1	EE47405040	Electrolytic Cap., 0.47 μ F \pm 20% 50V	RE04	1	1	1	RT05163140	Resistor, 16k Ω \pm 5% $\frac{1}{4}$ W
CE02	1	1	1	EE47405040	Electrolytic Cap., 0.47 μ F \pm 20% 50V	RE05	1	1	1	RT05564140	Resistor, 560k Ω \pm 5% $\frac{1}{4}$ W
CE05	1	1	1	EE47505040	Electrolytic Cap., 4.7 μ F \pm 20% 50V	RE06	1	1	1	RT05564140	Resistor, 560k Ω \pm 5% $\frac{1}{4}$ W
CE06	1	1	1	EE47505040	Electrolytic Cap., 4.7 μ F \pm 20% 50V	RE07	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
CE07	1	1	1	DD16201010	Ceramic Cap., 200pF \pm 10% 50V	RE08	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
CE08	1	1	1	DD16201010	Ceramic Cap., 200pF \pm 10% 50V	RE09	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
CE09	1	1	1	DF15152010	Film Cap., 1500pF \pm 5% 50V	RE10	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
CE10	1	1	1	DF15152010	Film Cap., 1500pF \pm 5% 50V	RE11	1	1	1	RT05822140	Resistor, 8.2k Ω \pm 5% $\frac{1}{4}$ W
CE11	1	1	1	DF15562010	Film Cap., 5600pF \pm 5% 50V	RE12	1	1	1	RT05822140	Resistor, 8.2k Ω \pm 5% $\frac{1}{4}$ W
CE12	1	1	1	DF15562010	Film Cap., 5600pF \pm 5% 50V	RE15	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
CE13	1	1	1	DF15333010	Film Cap., 0.033 μ F \pm 5% 50V	RE16	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
CE14	1	1	1	DF15333010	Film Cap., 0.033 μ F \pm 5% 50V	RE17	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
CE15	1	1	1	DF15333010	Film Cap., 0.033 μ F \pm 5% 50V	RE18	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
CE16	1	1	1	DF15333010	Film Cap., 0.033 μ F \pm 5% 50V	RE19	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
CE17	1	1	1	DF15682010	Film Cap., 6800pF \pm 5% 50V	RE20	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
CE18	1	1	1	DF15682010	Film Cap., 6800pF \pm 5% 50V	RE21	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
CE19	1	1	1	EA47405090	Electrolytic Cap., 0.47 μ F 50V	RE22	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
CE20	1	1	1	EA47405090	Electrolytic Cap., 0.47 μ F 50V	RE23	1	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
CE21	1	1	1	EA33505090	Electrolytic Cap., 3.3 μ F 50V	RE24	1	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
CE22	1	1	1	EA33505090	Electrolytic Cap., 3.3 μ F 50V	RE25	1	1	1	RT05474140	Resistor, 470k Ω \pm 5% $\frac{1}{4}$ W
CE25	1	1	1	DF15103010	Film Cap., 0.001 μ F \pm 5% 50V	RE26	1	1	1	RT05474140	Resistor, 470k Ω \pm 5% $\frac{1}{4}$ W
CE26	1	1	1	DF15103010	Film Cap., 0.001 μ F \pm 5% 50V	RE27	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
						RE28	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
						RE29	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W

• (U) for U.S.A.
 • (C) for Canada
 • (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
RT08	1	1	1	GU05332120	Resistor, 3.3kΩ ±5% ¼W
RT09	1	1	1	GU05432120	Resistor, 4.3kΩ ±5% ¼W
RT10	1	1	1	GU05432120	Resistor, 4.3kΩ ±5% ¼W
RT11	1	1	1	GD05201140	Resistor, 200Ω ±5% ¼W
RT12	1	1	1	GD05201140	Resistor, 200Ω ±5% ¼W
RT13	1	1	1	GD05201140	Resistor, 200Ω ±5% ¼W
RT14	1	1	1	GD05201140	Resistor, 200Ω ±5% ¼W
RT15	1	1	1	GD05201140	Resistor, 200Ω ±5% ¼W
RT16	1	1	1	GD05201140	Resistor, 200Ω ±5% ¼W
RT17	1	1	1	GD05201140	Resistor, 200Ω ±5% ¼W
RT18	1	1	1	GD05201140	Resistor, 200Ω ±5% ¼W
RT19	1	1	1	GD05820140	Resistor, 82Ω ±5% ¼W
RT20	1	1	1	GD05820140	Resistor, 82Ω ±5% ¼W
RT21	1	1	1	GD05820140	Resistor, 82Ω ±5% ¼W
RT22	1	1	1	GD05820140	Resistor, 82Ω ±5% ¼W
JV01	1	1	1	YJ01000860	Jack, Microphone L-ch.
JV02	1	1	1	YJ01000860	Jack, Microphone R-ch.
PV00 MIC JACK BOARD					
PV00	1	1	1	YK29631330	P.W. Board
	1	1	1	ZZ29631330	P.W. Board Assembly
C001	1	1	1	EQ10601610	Electrolytic Cap., 10μF ±10% 16V
C002	1	1	1	EQ10601610	Electrolytic Cap., 10μF ±10% 16V
F001	1	1	1	FS10400050	Fuse, 30mm
F001	1	1	1	FS10400080	Fuse, SEMKO (20mm Type) 4AT
G001	1	1	1	BF10400040	Cap. Comp.
G001	1	1	1	BF33300020	Cap. Comp., 0.033μF+120Ω ECQ-JC
G001	1	1	1	DO07473540	Oil-Paper Cap., ECN-C4A SEMKO
G002	1	1	1	BF33300010	Cap. Comp., 0.033μF+120Ω AC
J001	4	4	4	YJ04000560	Jack, AC Outlet
J004					
J005	1	1	1	YJ08000220	Jack, Fuse Holder (20mm Type)
J005	1	1	1	YJ08000230	Jack, Fuse Holder
J006	1	1	1	YT01010050	Terminal, Ground
J007	1	1	1	BY03110010	Plug, Voltage Selector
J008	1	1	1	YL09030010	Terminal, 3P
J021	1	1	1	YT02040170	Terminal, Pre In, Main Out
J022	1	1	1	YT03040160	Terminal, Speaker
J023	1	1	1	YT03040160	Terminal, Speaker
J024	1	1	1	YJ05000250	Jack, LED Socket
J025	1	1	1	YT01010050	Terminal, Ground
L001	1	1	1	TS60506010	Power Transformer, 120V 60 Hz
L001	1	1	1	TS60506020	Power Transformer, SEMKO
Q021	1	1	1	HT405882B0	Transistor, 2SD588 (Q or R)
Q022	1	1	1	HT405882B0	Transistor, 2SD588 (Q or R)
Q023	1	1	1	HT405882B0	Transistor, 2SD588 (Q or R)
Q024	1	1	1	HT405882B0	Transistor, 2SD588 (Q or R)
Q025	1	1	1	HT206182B0	Transistor, 2SB618 (Q or R)
Q026	1	1	1	HT206182B0	Transistor, 2SB618 (Q or R)
Q027	1	1	1	HT206182B0	Transistor, 2SB618 (Q or R)
Q028	1	1	1	HT206182B0	Transistor, 2SB618 (Q or R)
Q029	1	1	1	H110004030	L.E.D., SLP-132P
S001	1	1	1	SP02010280	Pushswitch, Power
S001	1	1	1	SP02010300	Pushswitch, SEMKO
S002	1	1	1	SS02020380	Slide Switch, DC/AC Coupling
W001	1	1	1	YC01900030	A.C. Power Cord

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
W001	1	1	1	YC02400220	A.C. Power Cord
C401	1	1	1	EE22505040	Electrolytic Cap., 2.2μF ±20% 50V
C402	1	1	1	EE22505040	Electrolytic Cap., 2.2μF ±20% 50V
C403	1	1	1	DD12100010	Ceramic Cap., 10pF ±5% 50V
C404	1	1	1	DD12100010	Ceramic Cap., 10pF ±5% 50V
C405	1	1	1	EV33600660	Electrolytic Cap., 33μF ±20% 6.3V
C406	1	1	1	EV33600660	Electrolytic Cap., 33μF ±20% 6.3V
C409	1	1	1	EA47601090	Electrolytic Cap., 47μF 10V
C410	1	1	1	EA47601090	Electrolytic Cap., 47μF 10V
C411	1	1	1	DD16200010	Ceramic Cap., 20pF ±10% 50V
C412	1	1	1	DD16200010	Ceramic Cap., 20pF ±10% 50V
C413	1	1	1	EE33505040	Electrolytic Cap., 3.3μF ±20% 50V
C414	1	1	1	EE33505040	Electrolytic Cap., 3.3μF ±20% 50V
C415	1	1	1	EE47505040	Electrolytic Cap., 4.7μF ±20% 50V
C416	1	1	1	EE47505040	Electrolytic Cap., 4.7μF ±20% 50V
C417	1	1	1	DD16101010	Ceramic Cap., 100pF ±10% 50V
C418	1	1	1	DD16101010	Ceramic Cap., 100pF ±10% 50V
C419	1	1	1	DF65391500	Film Cap., 390pF ±5% 125V
C420	1	1	1	DF65391500	Film Cap., 390pF ±5% 125V
C421	1	1	1	DF14122010	Film Cap., 1200pF ±2% 50V
C422	1	1	1	DF14122010	Film Cap., 1200pF ±2% 50V
C423	1	1	1	DF15562010	Film Cap., 5600pF ±5% 50V
C424	1	1	1	DF15562010	Film Cap., 5600pF ±5% 50V
C425	1	1	1	DD16101010	Ceramic Cap., 100pF ±10% 50V
C426	1	1	1	DD16101010	Ceramic Cap., 100pF ±10% 50V
C427	1	1	1	EA10710010	Electrolytic Cap., 100μF 100V
J401	1	1	1	YP06000400	Plug
J402	1	1	1	YP06000400	Plug
P400 PHONO AMP. BOARD					
P400	1	1	1	YG29630012	P.W. Board
	1	1	1	ZZ29630010	P.W. Board Assembly
P407	4	4	4	3444118050	Spacer, for R435, R436
Q401	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q402	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q403	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q404	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q405	1	1	1	HT317751F0	Transistor, 2SC1775A F
Q406	1	1	1	HT317751F0	Transistor, 2SC1775A F
R401	1	1	1	RT05623140	Resistor, 56kΩ ±5% ¼W
R402	1	1	1	RT05623140	Resistor, 56kΩ ±5% ¼W
R403	1	1	1	RT05222140	Resistor, 2.2kΩ ±5% ¼W
R404	1	1	1	RT05222140	Resistor, 2.2kΩ ±5% ¼W
R405	1	1	1	RT05334140	Resistor, 330kΩ ±5% ¼W
R406	1	1	1	RT05334140	Resistor, 330kΩ ±5% ¼W
R407	1	1	1	RT05684140	Resistor, 680kΩ ±5% ¼W
R408	1	1	1	RT05684140	Resistor, 680kΩ ±5% ¼W
R409	1	1	1	RT05433140	Resistor, 43kΩ ±5% ¼W
R410	1	1	1	RT05433140	Resistor, 43kΩ ±5% ¼W
R411	1	1	1	RT02621140	Resistor, 620Ω ±2% ¼W
R412	1	1	1	RT02621140	Resistor, 620Ω ±2% ¼W
R413	1	1	1	RT05683140	Resistor, 68kΩ ±5% ¼W
R414	1	1	1	RT05683140	Resistor, 68kΩ ±5% ¼W
R415	1	1	1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
R416	1	1	1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
R417	1	1	1	RT05101140	Resistor, 100Ω ±5% ¼W
R418	1	1	1	RT05101140	Resistor, 100Ω ±5% ¼W
R419	1	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W

- (U) for U.S.A.
- (C) for Canada
- (E) for Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION	REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E				U	C	E		
R420	1	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W	J701	1	1	1	YP06001040	Plug, 3P
R421	1	1	1	RT05224140	Resistor, 220kΩ ±5% ¼W	J702	1	1	1	YP06001040	Plug, 3P
R422	1	1	1	RT05224140	Resistor, 220kΩ ±5% ¼W	J705	1	1	1	YP06000540	Plug, 6P (SMK)
R423	1	1	1	RT02683140	Resistor, 68kΩ ±2% ¼W	L701	1	1	1	LL23915120	Choke Coil
R424	1	1	1	RT02683140	Resistor, 68kΩ ±2% ¼W	L702	1	1	1	LL23915120	Choke Coil
R425	1	1	1	RT02101140	Resistor, 100Ω ±2% ¼W	P700 MAIN AMP. BOARD					
R426	1	1	1	RT02101140	Resistor, 100Ω ±2% ¼W						
R427	1	1	1	RT02473140	Resistor, 47kΩ ±2% ¼W						
R428	1	1	1	RT02473140	Resistor, 47kΩ ±2% ¼W						
R429	1	1	1	RT02824140	Resistor, 820kΩ ±2% ¼W						
R430	1	1	1	RT02824140	Resistor, 820kΩ ±2% ¼W						
R431	1	1	1	RT05225140	Resistor, 2.2MΩ ±5% ¼W						
R432	1	1	1	RT05225140	Resistor, 2.2MΩ ±5% ¼W						
R433	1	1	1	RT05271140	Resistor, 270Ω ±5% ¼W						
R434	1	1	1	RT05271140	Resistor, 270Ω ±5% ¼W						
R435	1	1	1	GF05101140	Resistor, 100Ω ±5% ¼W	P700	1	1	1	YG29640020	P.W. Board
R436	1	1	1	GF05332120	Resistor, 3.3kΩ ±5% ¼W		1	1	1	ZZ29631020	P.W. Board Assembly
S401	1	1	1	SR09070010	Rotary Switch, Selector	Q701	1	1	1	HC10003200	IC, 2SK109 (C or D)
S402	1	1	1	SR02030060	Rotary Switch, Tape Monitor	Q702	1	1	1	HC10003200	IC, 2SK109 (C or D)
C701	1	1	1	DF65101010	Film Cap., 100pF ±5% 50V	Q703	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
C702	1	1	1	DF65101010	Film Cap., 100pF ±5% 50V	Q704	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
C703	1	1	1	DF65162010	Film Cap., 1600pF ±5% 50V	Q705	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
C704	1	1	1	DF65162010	Film Cap., 1600pF ±5% 50V	Q706	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
C705	1	1	1	DF16473010	Film Cap., 0.047μF ±10% 50V	Q707	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
C706	1	1	1	DF16473010	Film Cap., 0.047μF ±10% 50V	Q708	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
C707	1	1	1	EA22603590	Electrolytic Cap., 22μF 35V	Q709	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
C708	1	1	1	EA22603590	Electrolytic Cap., 22μF 35V	Q710	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
C709	1	1	1	DD15500500	Ceramic Cap., 50pF ±5% 500V	Q711	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
C710	1	1	1	DD15500500	Ceramic Cap., 50pF ±5% 500V	Q712	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
C711	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q713	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
C712	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q714	1	1	1	HT108722D0	Transistor, 2SA872A (D or E)
C713	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q715	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
C714	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q716	1	1	1	HT317752D0	Transistor, 2SC1775A (D or E)
C715	1	1	1	EA22603590	Electrolytic Cap., 22μF 100V	Q717	1	1	1	HT108722E0	Transistor, 2SC872A (E or F)
C716	1	1	1	EA22603590	Electrolytic Cap., 22μF 100V	Q718	1	1	1	HT108722E0	Transistor, 2SC872A (E or F)
C717	1	1	1	DF65301510	Film Cap., 300pF ±5%	Q719	1	1	1	HT108722E0	Transistor, 2SC872A (E or F)
C718	1	1	1	DF65301510	Film Cap., 300pF ±5%	Q720	1	1	1	HT108722E0	Transistor, 2SC872A (E or F)
C719	1	1	1	DF65271510	Film Cap., 270pF ±5%	Q721	1	1	1	HT109142B0	Transistor, 2SA914 (R or S)
C720	1	1	1	DF65271510	Film Cap., 270pF ±5%	Q722	1	1	1	HT109142B0	Transistor, 2SA914 (R or S)
C721	1	1	1	DF16473010	Film Cap., 0.047μF ±10% 50V	Q723	1	1	1	HT319532B0	Transistor, 2SC1953 (R or S)
C722	1	1	1	DF16473010	Film Cap., 0.047μF ±10% 50V	Q724	1	1	1	HT319532B0	Transistor, 2SC1953 (R or S)
C723	1	1	1	EA10605090	Electrolytic Cap., 10μF 50V	Q725	1	1	1	HT319132B0	Transistor, 2SC1913 (R or S)
C724	1	1	1	EA10605090	Electrolytic Cap., 10μF 50V	Q726	1	1	1	HT319132B0	Transistor, 2SC1913 (R or S)
C725	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q727	1	1	1	HT109132B0	Transistor, 2SA913 (R or S)
C726	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q728	1	1	1	HT109132B0	Transistor, 2SA913 (R or S)
C727	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q729	1	1	1	HD20011050	Diode, 1S1555
C728	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q730	1	1	1	HD20011050	Diode, 1S1555
C729	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q731	1	1	1	HD30046090	Zener, WZ-310
C730	1	1	1	DF17104540	Film Cap., 0.1μF 100V	Q732	1	1	1	HD30046090	Zener, WZ-310
C731	1	1	1	EA47606390	Electrolytic Cap., 47μF 63V	Q733	1	1	1	HD30046090	Zener, WZ-310
C732	1	1	1	EA47606390	Electrolytic Cap., 47μF 63V	Q734	1	1	1	HD30046090	Zener, WZ-310
C733	1	1	1	EA47606390	Electrolytic Cap., 47μF 63V	Q735	1	1	1	HD20011050	Diode, 1S1555
C734	1	1	1	EA47606390	Electrolytic Cap., 47μF 63V	Q736	1	1	1	HD20011050	Diode, 1S1555
C735	1	1	1	DF16104010	Film Cap., 0.1μF 50V	Q737	1	1	1	HD20003210	Diode, 1S2471
C736	1	1	1	DF16104010	Film Cap., 0.1μF 50V	Q738	1	1	1	HD20003210	Diode, 1S2471
C737	1	1	1	DF16104010	Film Cap., 0.1μF 50V	Q739	1	1	1	HD20003210	Diode, 1S2471 (Black)
C738	1	1	1	DF16104010	Film Cap., 0.1μF 50V	Q740	1	1	1	HD20003210	Diode, 1S2471
						Q741	1	1	1	HV00004120	Varistor, MV-1
						Q742	1	1	1	HV00004120	Varistor, MV-1
						Q743	1	1	1	HV00004120	Varistor, MV-1
						Q744	1	1	1	HV00004120	Varistor, MV-1
						Q745	1	1	1	HH00007030	Thermistor, SDT-100
						Q746	1	1	1	HH00007030	Thermistor, SDT-100
						Q747	1	1	1	HH00007030	Thermistor, SDT-100

- (U) for U.S.A.
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REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
F851			1	FS10025800	Fuse, SEMKO (20mm Type) 250MAT
J868			1	YJ08000200	Jack, Fuse Socket
J869			1	YJ08000200	Jack, Fuse Socket
L851	1	1	1	LY40240040	Relay
P850 POWER SUPPLY BOARD					
P850	1	1	1	YK29630210	P.W. Board
	1	1	1	ZZ29630210	P.W. Board Assembly
Q851	1	1	1	HD20006290	Diode, S5VB20 W/FIN
Q852	1	1	1	HD20011010	Diode, W06C
Q853	1	1	1	HD20011010	Diode, W06C
Q854	1	1	1	HD20011010	Diode, W06C
Q855	1	1	1	HD20011050	Diode, 1S1555
Q856	1	1	1	HT309452A0	Transistor, 2SC945 (Q or R)
Q857	1	1	1	HT309452A0	Transistor, 2SC945 (Q or R)
Q858	1	1	1	HT309452A0	Transistor, 2SC945 (Q or R)
Q859	1	1	1	HT319132B0	Transistor, 2SC1913 (Q or R)
Q860	1	1	1	HT317752E0	Transistor, 2SC1775A (E or F)
Q861	1	1	1	HD30039090	Zener, WZ-240
Q862	1	1	1	HD20011050	Diode, 1S1555
Q863	1	1	1	HD20011010	Diode, W06C
R851	1	1	1	GJ05101010	Resistor, 100Ω ±5% 1W
R852	1	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
R853	1	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
R854	1	1	1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
R855	1	1	1	RT05563140	Resistor, 56kΩ ±5% ¼W
R856	1	1	1	RT05153140	Resistor, 15kΩ ±5% ¼W
R857	1	1	1	RT05203140	Resistor, 20kΩ ±5% ¼W
R858	1	1	1	RT05682140	Resistor, 6.8kΩ ±5% ¼W
R859	1	1	1	RT05243140	Resistor, 24kΩ ±5% ¼W
R860	1	1	1	RT05224140	Resistor, 220kΩ ±5% ¼W
R861	1	1	1	RT05104140	Resistor, 100kΩ ±5% ¼W
R862	1	1	1	GF05100140	Resistor, 10Ω ±5% ¼W
R863	1	1	1	GF05562120	Resistor, 5.6kΩ ±5% ½W
R864	1	1	1	GF05562120	Resistor, 5.6kΩ ±5% ½W
R865	1	1	1	RT05560140	Resistor, 56Ω ±5% ¼W
R866	1	1	1	GJ05562010	Resistor, 5.6kΩ ±5% 1W

12. TECHNICAL SPECIFICATIONS

FOR U.S.A. MODEL ONLY

AMPLIFIER SECTION:

RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN 61W
 POWER BAND 20Hz to 20kHz
 TOTAL HARMONIC DISTORTION 0.03%
 LOAD IMPEDANCE 8 OHMS
 RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER PER CHANNEL, BOTH CHANNELS DRIVEN 77W
 POWER BAND 20Hz to 20kHz
 TOTAL HARMONIC DISTORTION 0.09%
 LOAD IMPEDANCE 4 OHMS

I.M. Distortion

(I.H.F. method, 60Hz and 7kHz mixed 4:1 at rated power output)
 at 8 ohm load impedance 0.03%
 at 4 ohm load impedance 0.09%
 Damping Factor (at 20Hz) 60
 Sensitivity (at MAIN IN) 1.5 V
 Impedance (at MAIN IN) 30k ohms
 Frequency Response for Power Amp Only (at 1 Watt output, 20Hz to 20kHz) ±0.2 dB
 S/N Ratio (MAIN IN, "A" WEIGHTED) 110 dB

PREAMPLIFIER SECTION:

Phono
 Input Overload at 1kHz 200 mV
 Equivalent Input Noise ("A" WEIGHTED) 0.48μV
 Dynamic Range (Dynamic Range is the ratio of input overload to equivalent input noise) 109 dB
 Input Sensitivity 1.8 mV
 Input Impedance 47k ohms
 Frequency Response, RIAA 20Hz to 20kHz ±0.3 dB
 Signal-to-Noise Ratio ("A" WEIGHTED) (at rated output and 7.75 mV input) 83 dB
 High Level (Aux and Tape) Input Sensitivity 180 mV

Input Impedance 20k ohms
 Frequency Response (includes power amp) 5Hz to 60kHz ±1.0 dB
 Signal-to-Noise Ratio ("A" WEIGHTED) (ref. to rated output and 775 mV input) 93 dB
 Output Levels
 Tape Out (ref. 7.75 mV at Phono inputs) 775 mV
 Pre-Out (ref. 180 mV at Aux inputs) 1.5 V (ref. 500 mV at Aux inputs, main amp disconnected) 4.2 V
 Output Impedance
 Tape Out 330 ohms
 Pre-Out 220 ohms

GENERAL:

Power Requirements 120V AC, 60Hz
 Power Consumption at rated output, both channels operating 250 Watts
 Idling Power (Volume Control at zero) 50 Watts
 Dimensions:
 Panel Width 416 mm (16-3/8")
 Panel Height 146 mm (5-3/4")
 Depth 312 mm (12-3/8")
 Weight:
 Unit alone 12.5 kg (27.5 lbs)
 Packed for Shipment 14.5 kg (31.9 lbs)

FOR EUROPEAN MODEL ONLY

AUDIO SECTION

POWER OUTPUT AT 1% DISTORTION	120 W
RATED POWER OUTPUT, 1kHz	76 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT, 1kHz	0.09%
I.M. DISTORTION AT RATED POWER OUTPUT (I.H.F. METHOD, 300 Hz AND 10 kHz MIXED 4:1 AT RATED POWER OUTPUT)	0.09%
POWER BANDWIDTH, ½ RATED POWER OUTPUT	7 Hz ~ 70 kHz
LOAD IMPEDANCE	4 OHMS
POWER OUTPUT AT 1% DISTORTION	75 W
RATED POWER OUTPUT, 1 kHz	61 W
TOTAL HARMONIC DISTORTION AT RATED POWER OUTPUT, 1 kHz	0.03%
I.M. DISTORTION AT RATED POWER OUTPUT (I.H.F. METHOD, 300 Hz AND 10 kHz MIXED 4:1 AT RATED POWER OUTPUT)	0.03%
POWER BANDWIDTH, ½ RATED POWER OUTPUT	7 Hz ~ 70 kHz
LOAD IMPEDANCE	8 OHMS

Damping Factor, SP Output	
40 Hz	60
1 kHz	50
12.5 kHz	45
Frequency Response	
Phono ± 2 dB	±0.5 dB
Aux ±1.5 dB	±0.5 dB
Main In ±1.5 dB	±0.2 dB
Signal-to-Noise Ratio, 1 kHz	
Phono	56 dB
Aux	91 dB
Main In	58 dB
Input Sensitivity, 1 kHz (Rated Input Voltage)	
Phono	1.8 mV
Aux	180 mV
Main In	1.5 V
Input Impedance, 1 kHz	
Phono	47 k ohms
Aux	20 k ohms
Main In	36 k ohms
Phono Equivalent Input Noise	1.5 µV
Phono Dynamic Range	102 dB
Phono Input Capacitance	100 pF
Channal Balance	
Phono 0 ~ -40 dB	2.5 dB
Aux 40 Hz ~ 16 kHz	2.0 dB
Main In	1.0 dB
Interchannel Crosstalk	
Phono 1 kHz	43 dB
250 Hz ~ 10 kHz	40 dB
Aux 1 kHz	45 dB
250 Hz ~ 10 kHz	33 dB
Tape 1 kHz	45 dB
250 Hz ~ 10 kHz	33 dB

Main In 1 kHz	55 dB
250 Hz ~ 10 kHz	50 dB
Intersource Crosstalk, Worst Point	
1 kHz	45 dB
250 Hz ~ 10 kHz	33 dB
Output Voltage, 1 kHz	
Tape Out	0.18 V
Pre Out	1.5 V
Output Impedance, 1 kHz	
Tape Out	330 ohms
Pre Out	220 ohms
Power Consumption	
Idling	50 W
Rated Power, 1 kHz	250 W

GENERAL:

Power Requirements	220 V ~, 50 Hz
(E and N versions are featuring an external voltage selector for use on 110/120/240 V. Other versions can be converted by a qualified technician to operate on 110/120/240 V.)	
Power Consumption at rated output, both channels operating	250 W ±50 W
Idling Power	50 W ±20 W
Semiconductor Complement	
Transistors	60
Diodes	39
Field Effect Transistors	4
Dimensions	
Panel Width	416 mm (16-3/8 inches)
Panel Height	146 mm (5-3/4 inches)
Depth	316 mm (12-3/8 inches)
Weight	
Unit Alone	12.5 kg (27.5 lbs)
Packed for Shipment	14.5 kg (31.9 lbs)