



3200



marantz

model 3200

Stereo Control Console

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INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model 3200 Stereo Control Console.

Servicing information and voltage data included in this manual are intended for use by knowledgeable and experienced personnel only. All instructions should be read carefully. No attempt should be made to proceed without a good understanding of circuitry operation.

The parts list furnishes complete ordering information. Most replacement parts should be ordered from the Marantz Company. However, a simple description is included for parts which can be obtained locally.

1. P.W. BOARD

As can be seen from the circuit diagram, the chassis of Model 3200 consists of following units. Each unit mounted on a printed circuit board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. Phono Amp. mounted on P.W. Board, P400
2. Pre & Tone Amp. mounted on P.W. Board, PE00
3. Output Amp. & Relay Circuit mounted on P.W. Board, PJ00
4. Power Supply mounted on P.W. Board, P800
5. Speaker Switch & Loudness mounted on P.W. Board, PS00
6. Tape Monitor & High Filter mounted on P.W. Board, PT00

2. ALIGNMENT PROCEDURES

1. Set the VOLUME control at maximum, and also BASS, MID, TREBLE and BALANCE Controls at mechanical center position.
2. Connect 47K Ω dummy load resistor to each R and L channel on PRE OUT Jacks of the unit.

ITEM	SIGNAL APPLICATION	INDICATOR CONNECTION	ADJUSTMENT POINT	HOW TO ADJUST
POWER SUPPLY VOLTAGE ADJUSTMENT	—	J806	R805	75V DC AT J806
CHECK OF THE TECHNICAL SPEC.	PHONO, AUX, TAPE	TAPE OUT, PRE OUT	—	—

3. TEST EQUIPMENT REQUIRED FOR SERVICING

Item	Manufacturer and Model No. (or equivalent)	Function
Distortion Analyzer	Hewlett Packard, Model 331A or 333A	Measures distortion and voltage of amplifier output.
Audio Oscillator	Weston Model CVO-100P (NOTE: Less than 0.02 percent residual distortion is required.)	Sinewave and squarewave signal 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 150 vac)	Commercial Grade	Monitors potential of primary power to amplifier.
Variable Autotransformer (0 to 140 vac, 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.

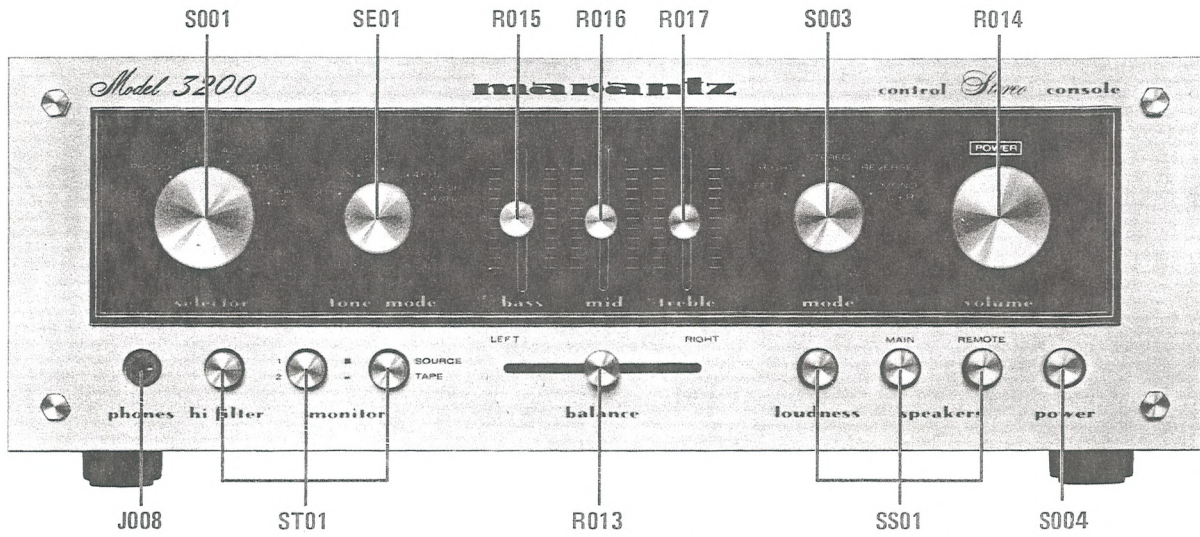


Figure 1. Front Panel Switches and Component Locations

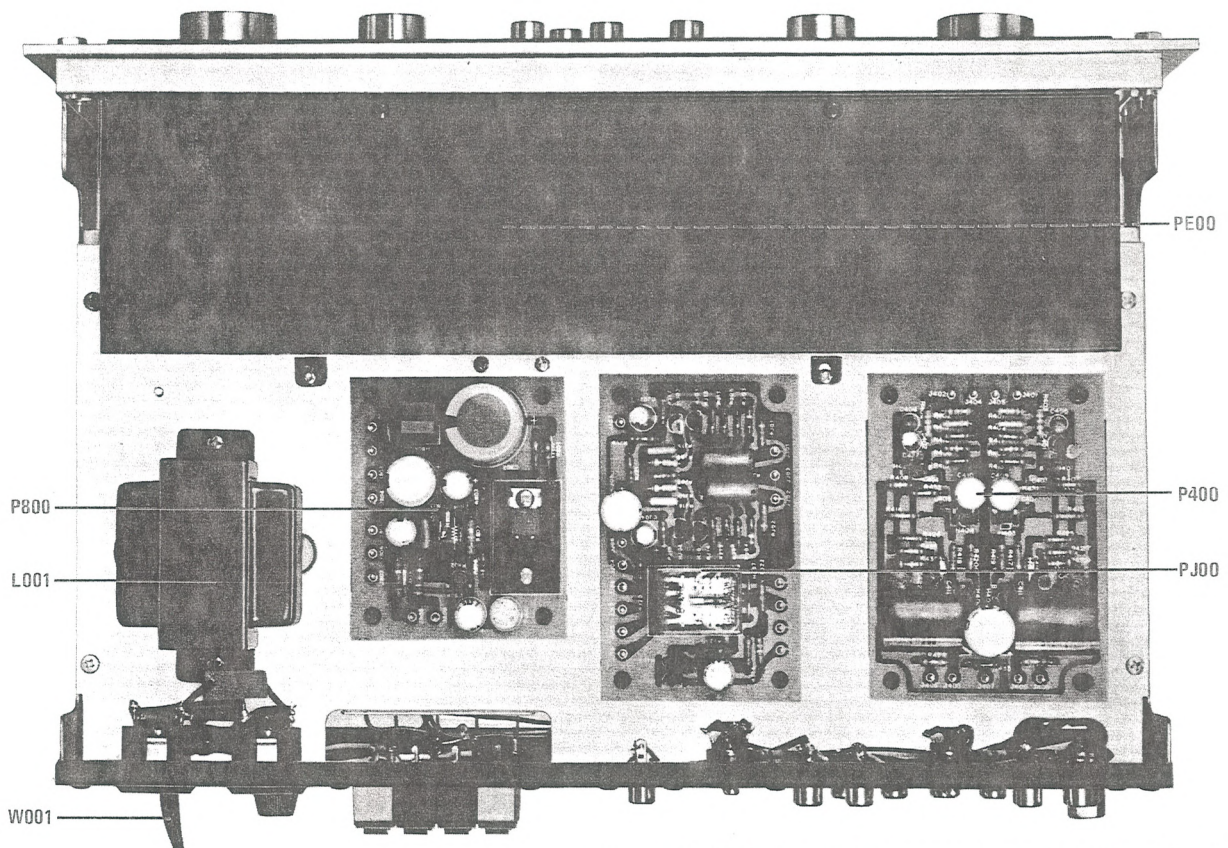


Figure 2. Main Chassis Component Locations (Top View)

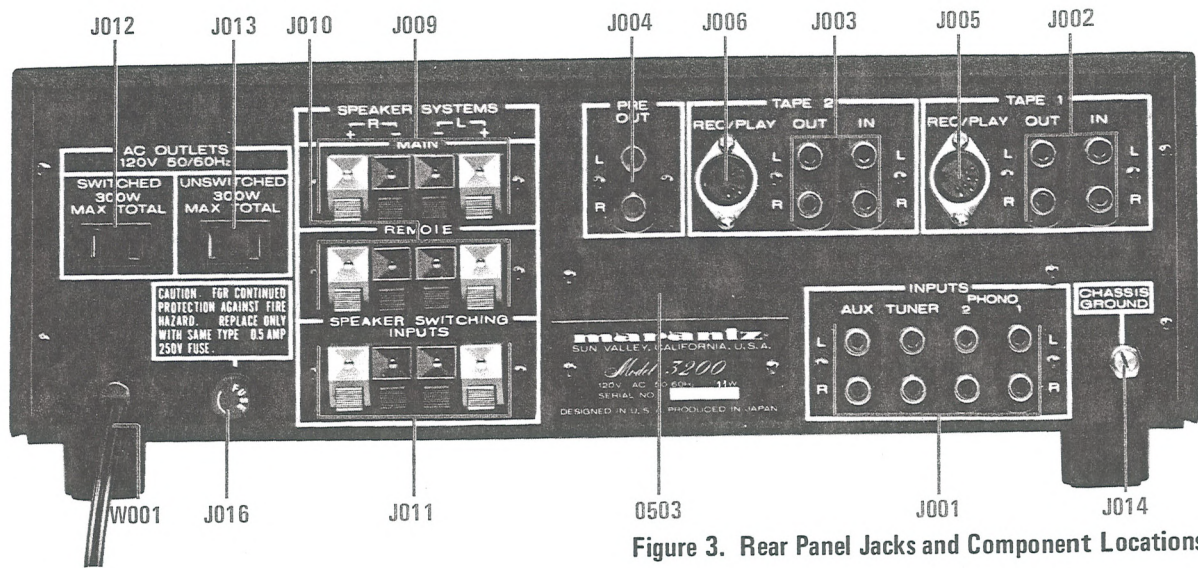


Figure 3. Rear Panel Jacks and Component Locations

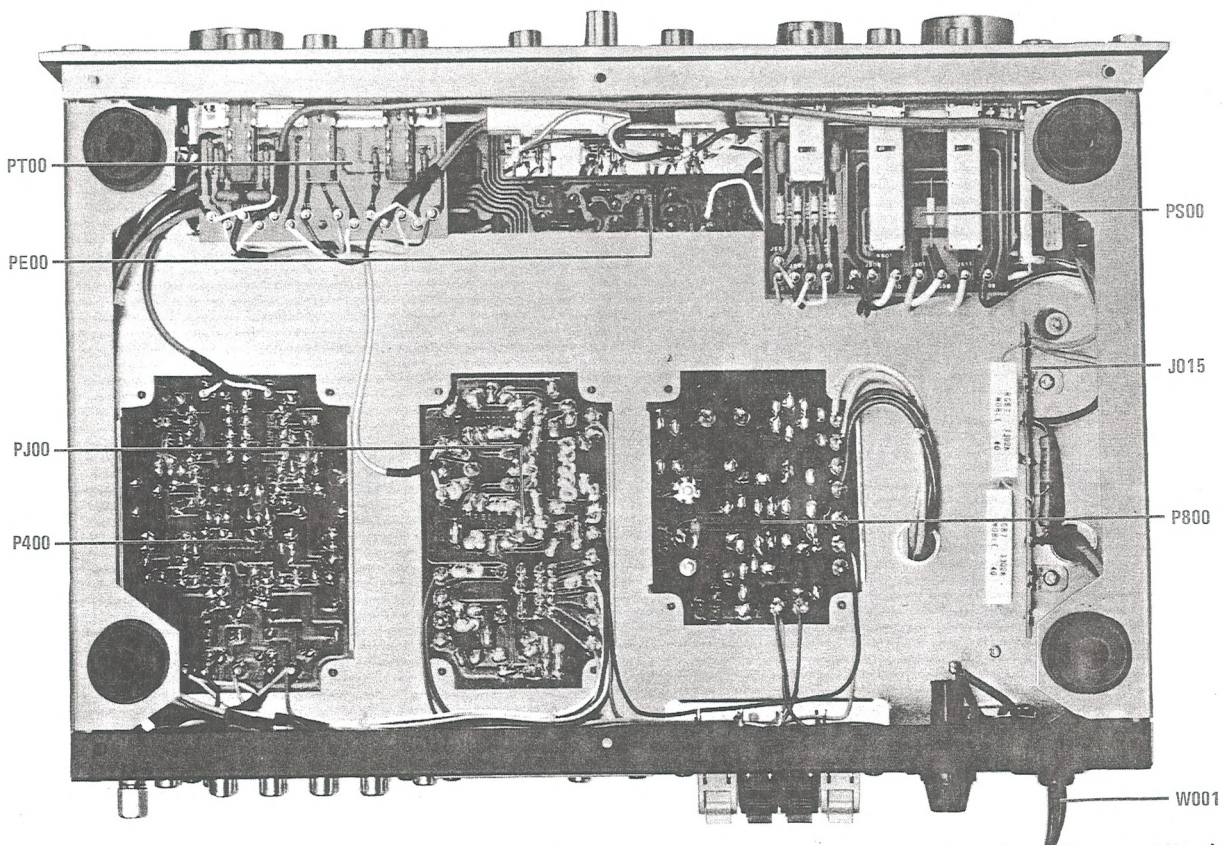


Figure 4. Main Chassis Component Locations (Bottom View)

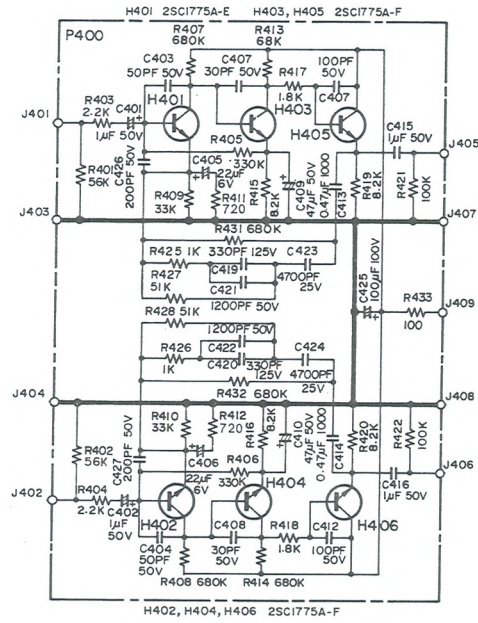


Figure 5. P400-Circuit Diagram

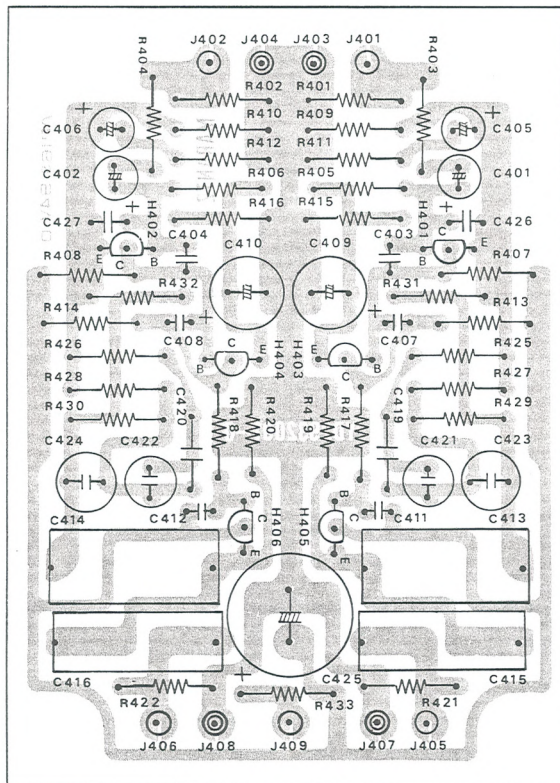


Figure 6. Phono Amp. Assembly P400 Component Locations

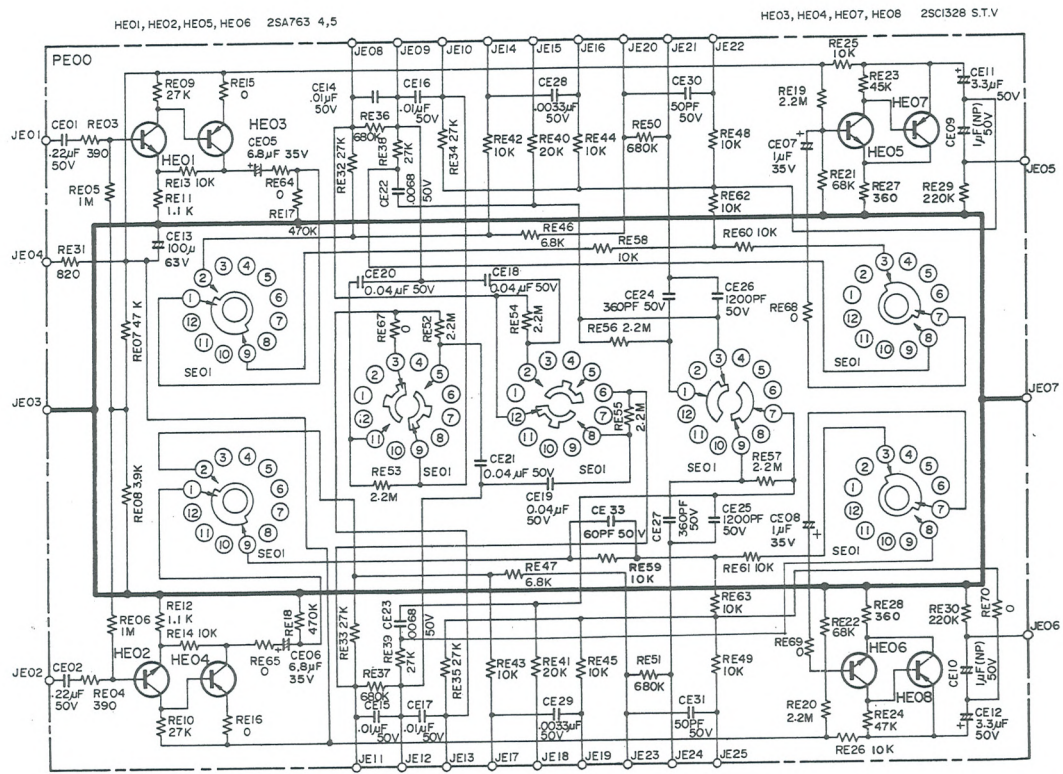


Figure 7. PE00-Circuit Diagram

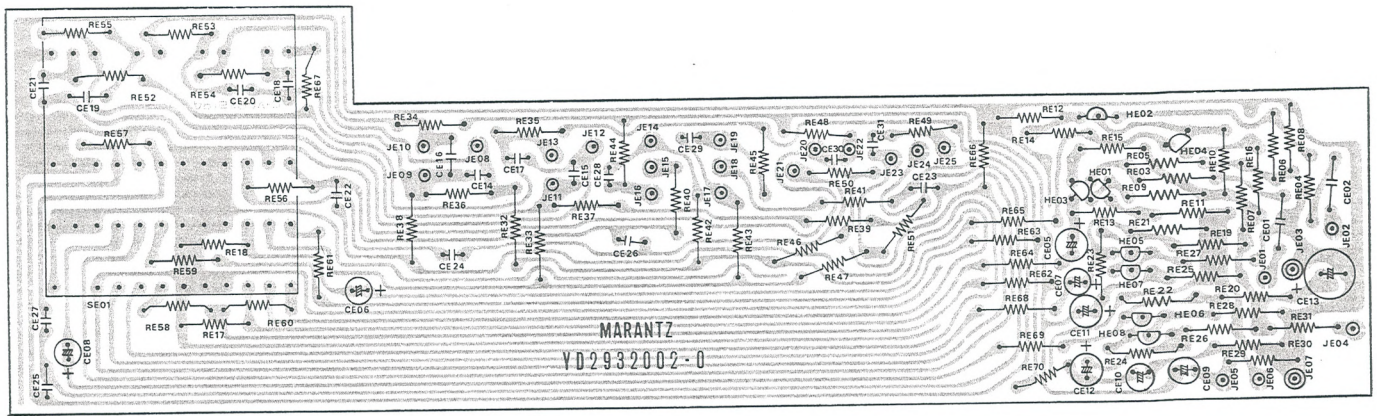


Figure 8. Pre and Tone Amp. Assembly PE00 Component Locations

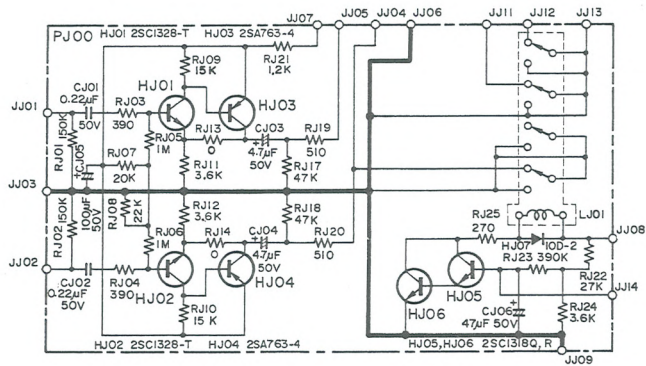


Figure 9. PJ00-Circuit Diagram

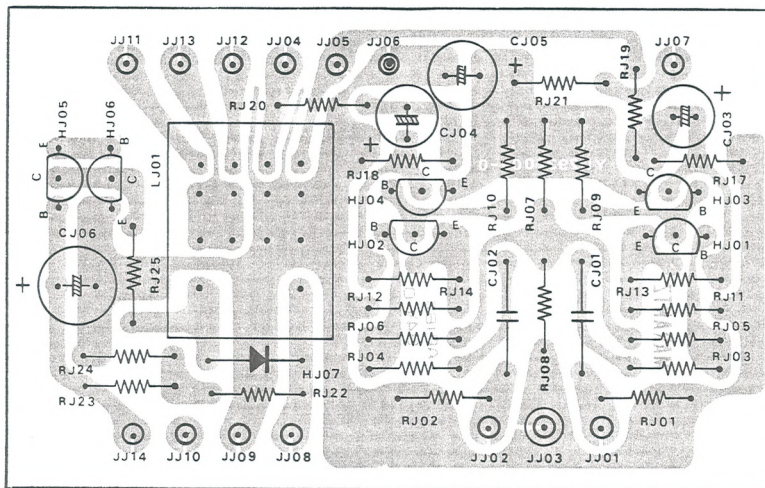


Figure 10. Output Amp. and Relay Circuit Assembly PJ00 Component Locations

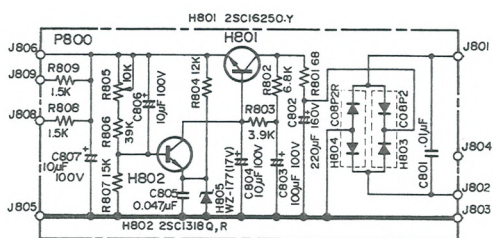


Figure 11. P800-Circuit Diagram

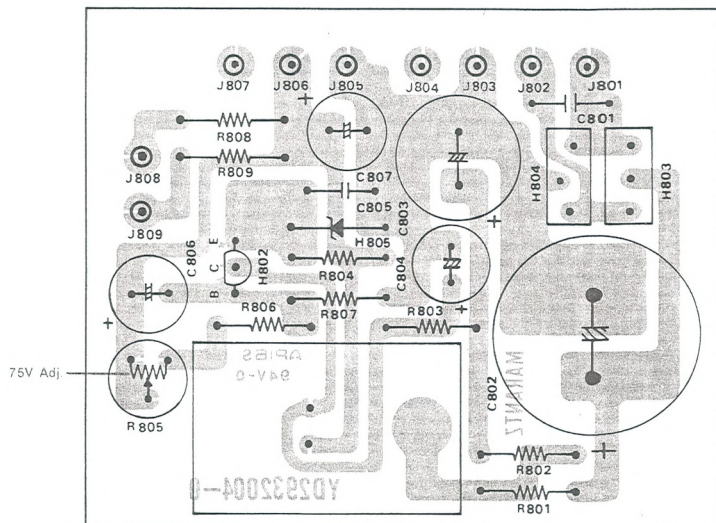


Figure 12. Power Supply Assembly P800 Component Locations

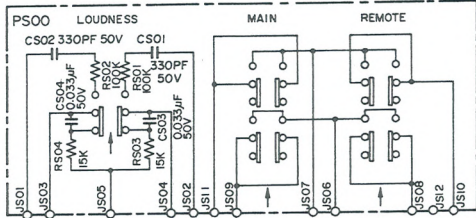


Figure 13. PS00-Circuit Diagram

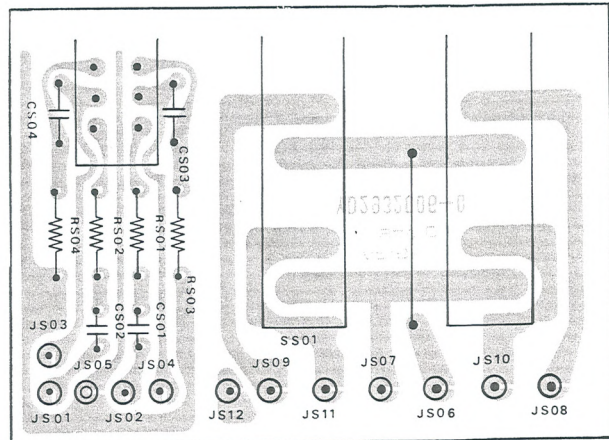


Figure 14. Speaker Switch and Loudness Assembly PS00 Component Locations

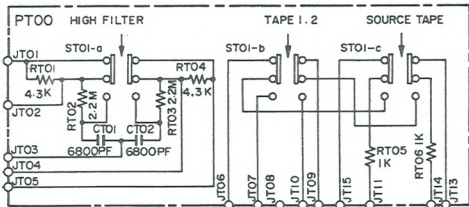


Figure 15. PT00-Circuit Diagram

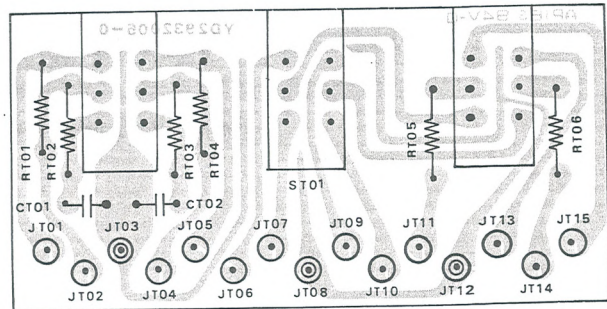


Figure 16. Tape Monitor and High Filter Assembly PT00 Component Locations

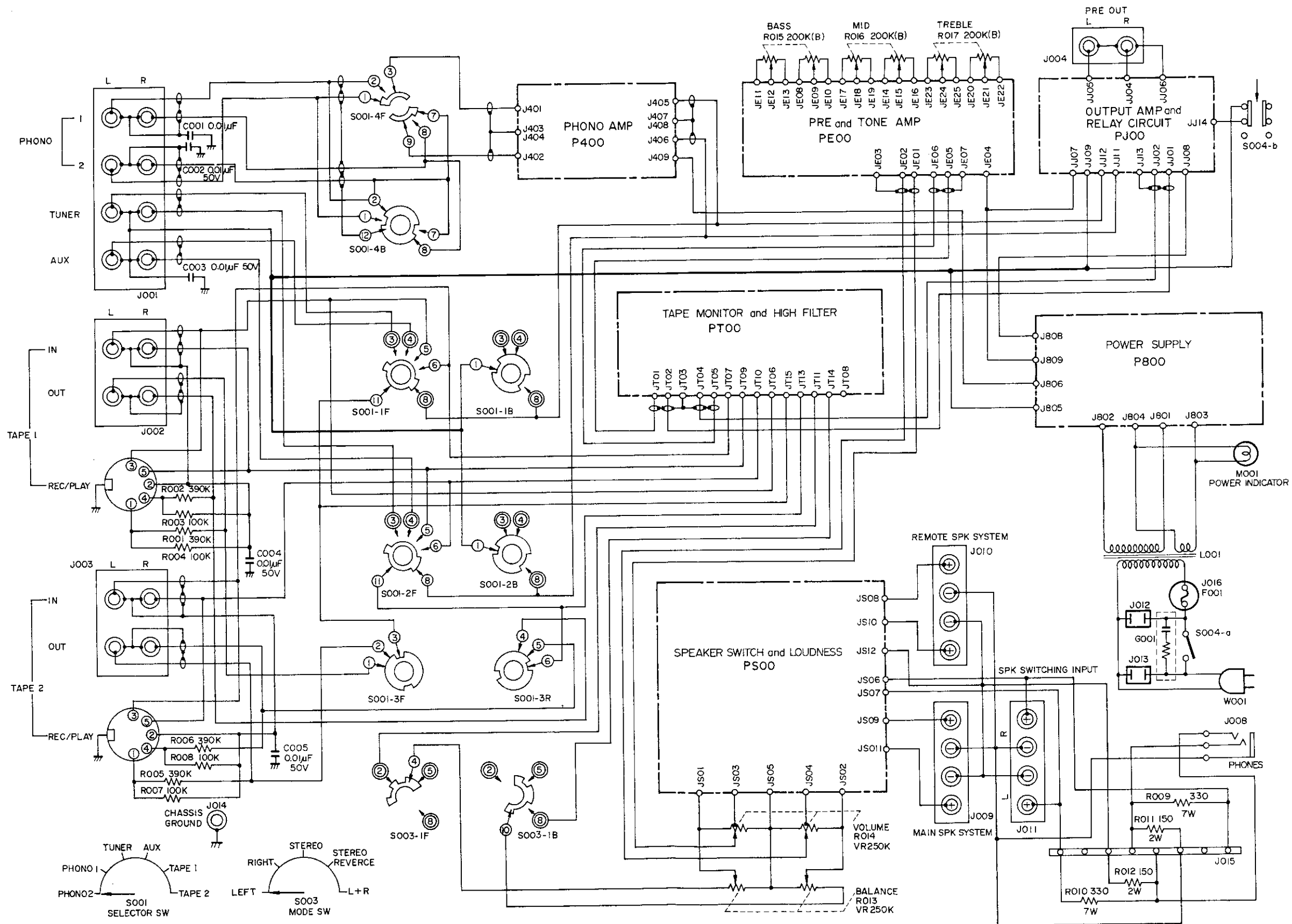
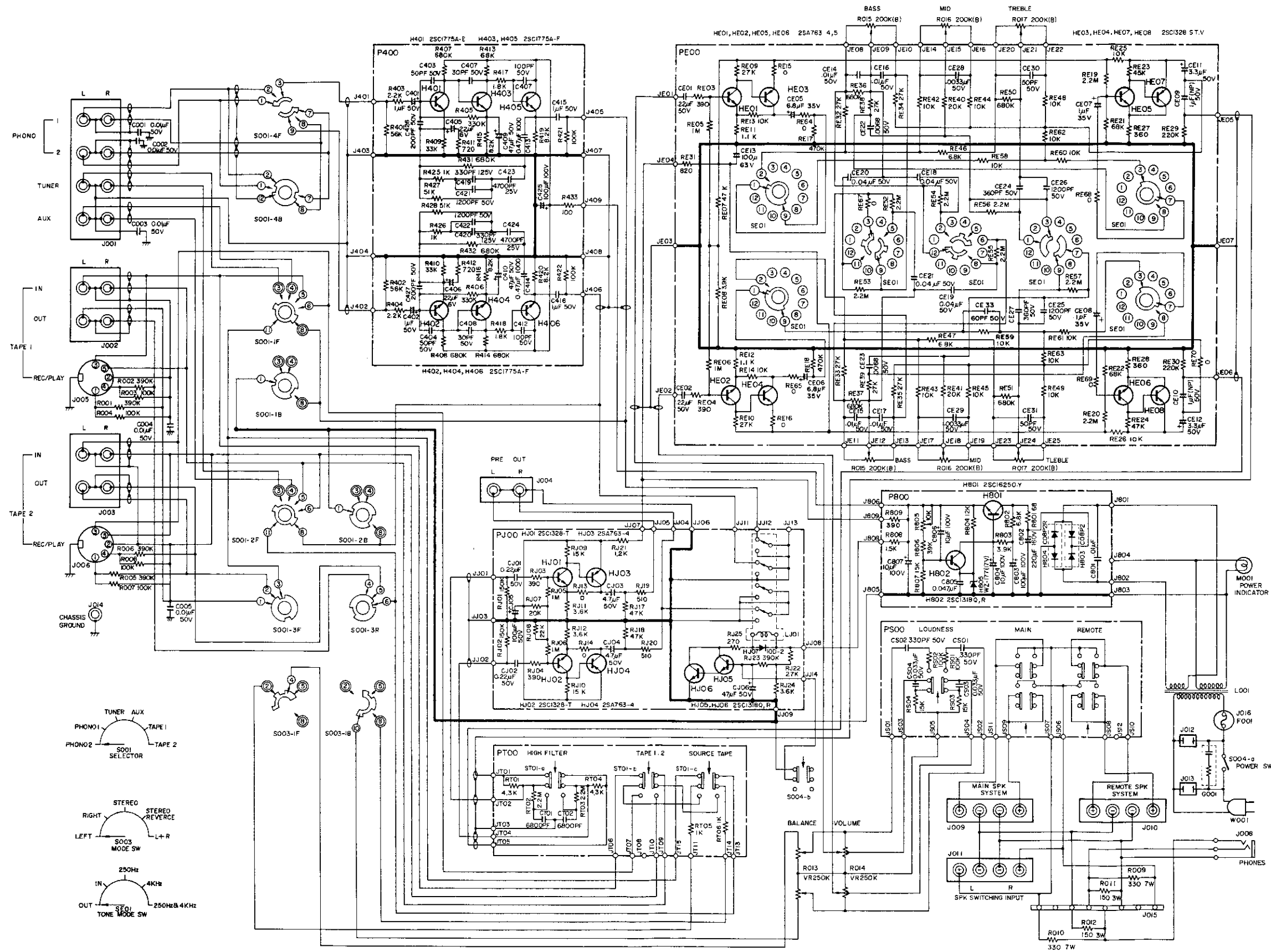


Figure 18. Schematic Diagram for U.S.A. Model



MODEL 3200 NOTE: This circuit diagram applies to units manufactured for the U.S.A. Market.

Figure 19. Circuit Diagram for U.S.A. Model

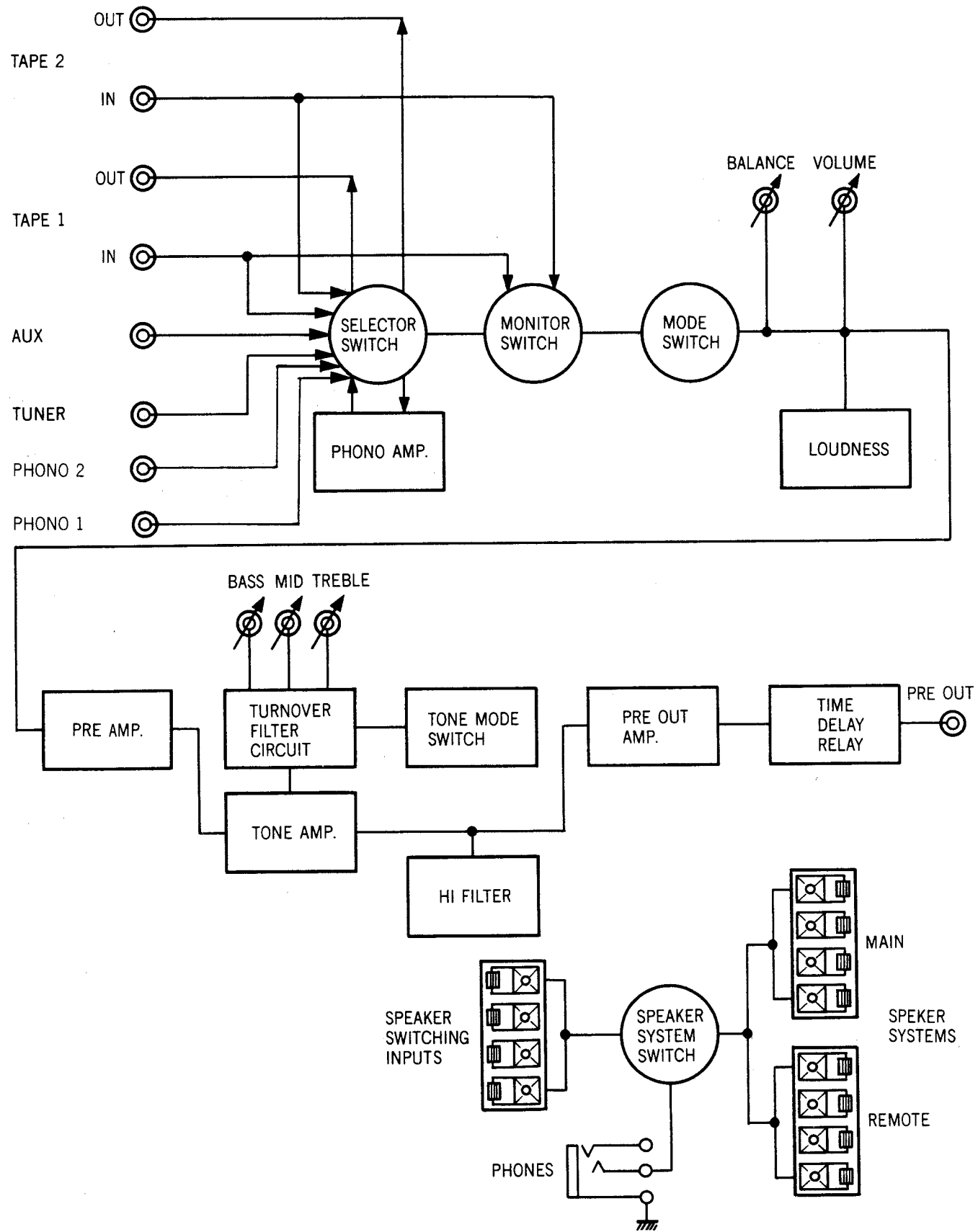


Figure 20. Block Diagram

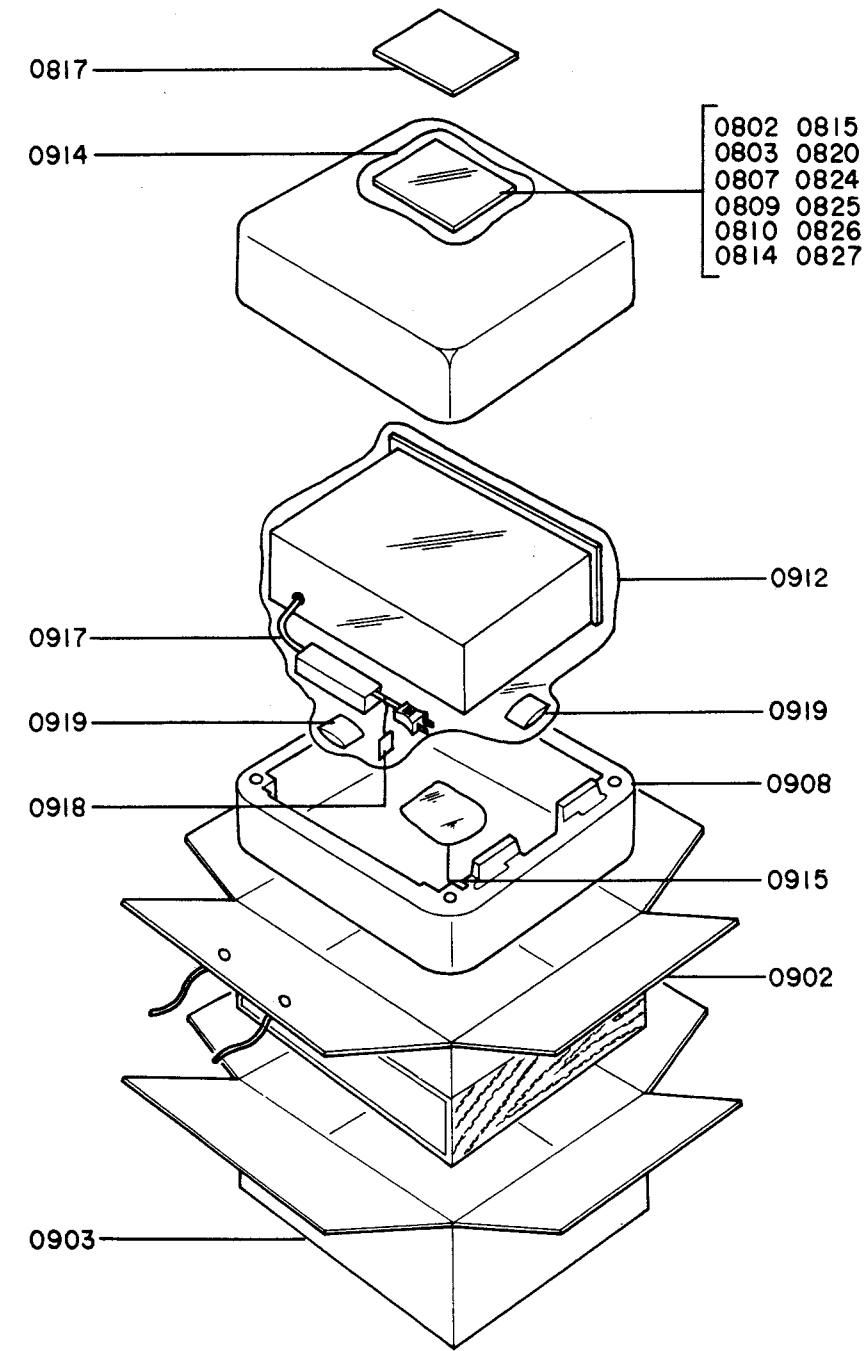


Figure 21. Packing

U: For U.S.A.
C: For Canada
E: For Europe

4. PARTS LIST

REF. DESIG.	QTY.			PART NO.	DESCRIPTION	REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	E				U	C	E		
A	1	1	1	293206340	Front Panel Assembly	0420	2	2	2	51100306A	B.H.M. Screw, B3 x 6
0104	1	1	1	293206301	Escutcheon	0421	2	2	2	51100306A	B.H.M. Screw, B3 x 6
0105	1	1	1	291240101	Frame	0422	1	1	1	293216004	Bracket
0106	1	1	1	293215801	Window	0426	1	1	1	293210901	Shield
0107	3	3	3	285025901	Bush	0427	2	2	2	51100306A	B.H.M. Screw, B3x 6
0108	1	1	1	285425901	Bush	0432	4	4	4	51100306A	B.H.M. Screw, B3 x 6
0109	7	7	7	288625901	Bush						
0111	1	1	1	291205303	Cover	0503	1	1		293216021	Bracket
0112	1	1	1	292630301	Mask	0504			1	293216022	Bracket
0113	1	1	1	289610701	Sheet	0508	6	6	6	51100306S	B.H.M. Screw, B3 x 6
0114	1	1	1	291205301	Cover	0509	8	8	8	53110303A	Hexagon Nut
B	1	1	1	293225740	Top Lid Assembly	0510	8	8	8	51100306S	B.H.M. Screw, B3 x 6
0209	1	1	1	293225701	Lid	0511	6	6	6	51100306S	B.H.M. Screw, B3 x 6
0210	4	4	4	257711807	Spacer	0512	6	6	6	53110303A	Hexagon Nut
C			1	293216040	Rear Panel Assembly	0515	4	4	4	51570306B	P.H. Tapped Screw, P3 x 6ST
0504			1	293216022	Bracket	0516	1	1	1	54050400R	T.L. Washer OR
0521			1	282125901	Bush	0518	1	1	1	62041760W	Lug
0525			2	55060305S	T.R. Rivet	0520	1	1		145525903	Bush, AC Cord
0116	4	4	4	52017039J	H. Head Volt	0522			2	53110303A	Hexagon Nut
0203	2	2	2	282815401	Knob, Selector/Volume	0523			2	54050300R	T.L. Washer OR
0204	2	2	2	282815402	Knob, Tone/Mode	0524			2	51060316A	P.H.M. Screw, P3 x 16
0205	7	7	7	281815401	Knob, Power Switch/Pushswitch	0531			2	51100306S	B.H.M. Screw, B3 x 6
0206	4	4	4	285015401	Knob, Slide Volume	0603	1	1	1	293210501	Chassis
0211	4	4	4	51480406S	B.H.M.Screw, B4 x 6	0609	1	1	1	293216001	Bracket
0213	1	1	1	293225702	Lid	0610	1	1	1	293216002	Bracket
0214	8	8	8	51100406S	B.H.M.Screw, B4 x 6	0612	4	4	4	51100306B	B.H.M. Screw, B3 x 6
0227	4	4	4	293205701	Leg	0613	2	2	2	51570408B	P.H. Tapped Screw, P4 x 8ST
0228	4	4	4	51440410S	B.H.M. Screw, B4 x 10	0614	2	2	2	54040402A	Spring Washer
0302	1			293226501	Indicator	0616	12	12	12	51570306S	P.H. Tapped Screw, P3 x 6ST
0303	1			293226502	Indicator	0617	1	1	1	51100306S	B.H.M. Screw, B3 x 6
0304			1	293226503	Indicator	0618	1	1	1	289010103	Support
0311	2	2	2	51100305S	B.H.M. Screw, B3 x 5	0619	1	1	1	293216003	Bracket
0312	1	1	1	257886101	Label, Caution	0620	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
0313	1	1	1	257886102	Label, Do not remove cover.	0621	1	1	1	288612009	Insulator
0314	1	1	1	257886103	Label, See marking on bottom.	0622	1	1	1	293210902	Shield
0319	1			951091101	Label, LL No.	0623	2	2	2	51100306S	B.H.M. Screw, B3 x 6
0320	1			282186102	Label, Fuse Caution	0624	2	2	2	51570306S	P.H. Tapped Screw, P3 x 6ST
0321	1			951091102	Label, UL Factory No.	0625	2	2	2	51570306B	P.H. Tapped Screw, P3 x 6ST
0324	1			951110104	Label, UL	0626	2	2	2	54050300R	T.L. Washer OR
0330	1	1	1	290886101	Label, on Power Transf.	0627	1			293216006	Bracket
0331	1			951022101	Label, Fuse Caution	0628			2	51570306B	P.H. Tapped Screw, P3 x 6ST
0403	1	1	1	293216050	Bracket K	0629			2	51062606B	P.H.M. Screw, P2.6 x 6
0407	1	1	1	293216005	Bracket	0631	1	1	1	281826703	Heat-Sink
0408	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST	0632	2	2	2	51100308B	B.H.M. Screw, B3 x 8
0409	1	1	1	291225901	Bush	0633	2	2	2	53110301E	Hexagon Nut
0411	1	1	1	389612003	Insulator	0634	2	2	2	54050300R	T.L. Washer OR
0412	1	1	1	293710901	Shield	0635	2	2	2	54040302N	Spring Washer
0413	2	2	2	51100306A	B.H.M.Screw, B3 x 6	0702	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
0414	1	1	1	293710902	Shield	0703	1	1	1	138200503	Clamper
0415	2	2	2	51100306A	B.H.M. Screw, B3 x 6	0705	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
0416	2	2	2	51100305A	B.H.M. Screw, B3 x 5	0706	1	1	1	138200503	Clamper
0417	6	6	6	51102605A	B.H.M. Screw, B2.6 x 5	0707	1	1	1	62030039W	Lug
0418	2	2	2	51100306A	B.H.M. Screw, B3 x 6	0708	1	1	1	51570306B	P.H. Tapped Screw, P3 x 6ST
						0709			1	293212001	Insulator
						0802	1			293285101	Instructions, Set
						0803	1	1		293285121	Instructions, Set
						0807			1	288685110	Instructions, Leaflet
						0809	1	1		293285601	Schematic Diagram
						0810			1	293285602	Schematic Diagram

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION	REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	E				U	C	E		
0814	1		1	288585108	Instructions, Accessories	C402	1	1	1	EV2250356	Electrolytic, 2.2μF ±20%, 35V
0815		1		293285104	Instructions, Accessories	C403	1	1	1	DD1650001	Ceramic, 50PF ±10%, 50V
0817	1	1	1	281885104	Instructions, Packing	C404	1	1	1	DD1650001	Ceramic, 50PF ±10%, 50V
0820	1	1	1	293285107	Instructions, Mounting Template	C405	1	1	1	EV2260066	Electrolytic, 22μF, 6V
0824	1		1	257785401	Guarantee Card	C406	1	1	1	EV2260066	Electrolytic, 22μF, 6V
0825	1		1	257785102	Instructions, "Important"	C407	1	1	1	DD1630001	Ceramic, 30PF ±10%, 50V
0826	1		1	257781301	Envelope	C408	1	1	1	DD1630001	Ceramic, 30PF ±10%, 50V
0902	1	1	1	293280101	Packing Case, Inner	C409	1	1	1	EA4760509	Electrolytic, 47μF+100%,-10%,50V
0903	1	1	1	293280102	Packing Case, Outer	C410	1	1	1	EA4760509	Electrolytic, 47μF+100%,-10%,50V
0908	2	2	2	293280301	Cushion	C411	1	1	1	DD1610101	Ceramic, 100PF±10%, 50V
0912	1	1	1	901383517	Polyethylene Bag, Set	C412	1	1	1	DD1610101	Ceramic, 100PF±10%, 50V
0914	1	1	1	901302501	Polyethylene Bag, Printed Matter	C413	1	1	1	DF1747403	Film, 0.47μF±20%, 100V
0915	1	1	1	901302501	Polyethylene Bag, Accessories	C414	1	1	1	DF1747403	Film, 0.47μF±20%, 100V
0917	1	1	1	102980401	Sleeve	C415	1	1	1	DF1710552	Film, 1μF±20%, 50V
0918		1		956000004	Hang Tag	C416	1	1	1	DF1710552	Film, 1μF±20%, 50V
0919	2	2	2	273182101	Silicagel	C419	1	1	1	DF6533151	Film, 330PF±5%, 125V
0922	4			952281501	Serial No. Card	C420	1	1	1	DF6533151	Film, 330PF±5%, 125V
0923		4		952301512	Serial No. Card	C421	1	1	1	DF5412201	Film, 1200PF±2%, 50V
0924		4		952301511	Serial No. Card	C422	1	1	1	DF5412201	Film, 1200PF±2%, 50V
P400	1	1	1	YD2932001	PHONO AMP. CIRCUIT BOARD-P400 P.W.Board, Phono Amp. (Print Only)	C423	1	1	1	DF5547201	Film, 4700PF±5%, 25V
	1	1	1	ZZ2932001	P.W. Board Assembly	C424	1	1	1	DF5547201	Film, 4700PF±5%, 25V
					P400-RESISTORS All resistors are ±5% and ¼W, unless otherwise indicated	C425	1	1	1	EA1071001	Electrolytic, 100μF+100%,-10%,100V
R401	1	1	1	RT0556314	56KΩ	C426	1	1	1	BD1620101	Ceramic, 200pF±10%, 50V
R402	1	1	1	RT0556314	56KΩ	C427	1	1	1	DD1620101	Ceramic, 200PF±10%, 50V
R403	1	1	1	RT0522214	2.2KΩ	H401	1	1	1	HT317751F	Transistor, 2SC1775A-F
R404	1	1	1	RT0522214	2.2KΩ	H402	1	1	1	HT317751F	Transistor, 2SC1775A-F
R405	1	1	1	RN0533414	330KΩ	H403	1	1	1	HT317751F	Transistor, 2SC1775A-F
R406	1	1	1	RN0533414	330KΩ	H404	1	1	1	HT317751F	Transistor, 2SC1775A-F
R407	1	1	1	RN0568414	680KΩ	H405	1	1	1	HT317751F	Transistor, 2SC1775A-F
R408	1	1	1	RN0568414	680KΩ	H406	1	1	1	HT317751F	Transistor, 2SC1775A-F
R409	1	1	1	RT0533314	33KΩ	J401					
R410	1	1	1	RT0533314	33KΩ	J409	1	1	1	YP1000113	Plug
R411	1	1	1	RT0272114	720Ω ±2%, ¼W	PE00	1	1	1	YD2932002	P.W. Board, Pre/Tone Amp.(Print Only)
R412	1	1	1	RT0272114	720Ω ±2%, ¼W		1	1	1	ZZ2932002	P.W. Board Assembly
R413	1	1	1	RT0568314	68KΩ						PE00-RESISTORS All resistors are ±5% and ¼W, unless otherwise indicated.
R414	1	1	1	RT0568314	68KΩ	RE03	1	1	1	RT0539114	390Ω
R415	1	1	1	RT0582214	8.2KΩ	RE04	1	1	1	RT0539114	390Ω
R416	1	1	1	RT0582214	8.2KΩ	RE05	1	1	1	RN0510514	1MΩ
R417	1	1	1	RT0518214	1.8KΩ	RE06	1	1	1	RN0510514	1MΩ
R418	1	1	1	RT0518214	1.8KΩ	RE07	1	1	1	RN0547314	47KΩ
R419	1	1	1	RT0582214	8.2KΩ	RE08	1	1	1	RN0539214	3.9KΩ
R420	1	1	1	RT0582214	8.2KΩ	RE09	1	1	1	RT0527314	27KΩ
R421	1	1	1	RT0510414	100KΩ	RE10	1	1	1	RT0527314	27KΩ
R422	1	1	1	RT0510414	100KΩ	RE11	1	1	1	RT0511214	1.1KΩ
R425	1	1	1	RT0510214	1KΩ	RE12	1	1	1	RT0511214	1.1KΩ
R426	1	1	1	RT0510214	1KΩ	RE13	1	1	1	RT0510314	10KΩ
R427	1	1	1	RT0551314	51KΩ	RE14	1	1	1	RT0510314	10KΩ
R428	1	1	1	RT0551314	51KΩ	RE15	1	1	1	RC0000012	0Ω
R431	1	1	1	RT0568414	680KΩ	RE16	1	1	1	RC0000012	0Ω
R432	1	1	1	RT0568414	680KΩ	RE17	1	1	1	RT0547414	470KΩ
R433	1	1	1	RT0510114	100Ω	RE18	1	1	1	RT0547414	470KΩ
C401	1	1	1	EV2250356	Electrolytic, 2.2μF ±20%, 35V	RE19	1	1	1	RN0522514	2.2MΩ
					P400-CAPACITORS	RE20	1	1	1	RN0522514	2.2MΩ
						RE21	1	1	1	RT0568314	68KΩ
						RE22	1	1	1	RT0568314	68KΩ

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C: For Canada
E: For Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION	REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	E				U	C	E		
RE23	1	1	1	RT0547314	47KΩ	CE15	1	1	1	DF1510301	Film, 0.01μF ±5%, 50V
RE24	1	1	1	RT0547314	47KΩ	CE16	1	1	1	DF1510301	Film, 0.01μF ±5%, 50V
RE25	1	1	1	RT0510314	10KΩ	CE17	1	1	1	DF1510301	Film, 0.01μF ±5%, 50V
RE26	1	1	1	RT0510314	10KΩ	CE18	1	1	1	DF1539301	Film, 0.039μF ±5%, 50V
RE27	1	1	1	RT0536114	360Ω	CE19	1	1	1	DF1539301	Film, 0.039μF ±5%, 50V
RE28	1	1	1	RT0536114	360Ω	CE20	1	1	1	DF1539301	Film, 0.039μF ±5%, 50V
RE29	1	1	1	RT0522414	220KΩ	CE21	1	1	1	DF1539301	Film, 0.039μF ±5%, 50V
RE30	1	1	1	RT0522414	220KΩ	CE22	1	1	1	DF1568205	Film, 0.0068μF ±5%, 50V
RE31	1	1	1	RT0582114	820Ω	CE23	1	1	1	DF1568205	Film, 0.0068μF ±5%, 50V
RE32	1	1	1	RT0527314	27KΩ	CE24	1	1	1	DF1512201	Film, 1200PF ±5%, 50V
RE33	1	1	1	RT0527314	27KΩ	CE25	1	1	1	DD1530102	Ceramic, 300PF ±5%, 50V
RE34	1	1	1	RT0527314	27KΩ	CE26	1	1	1	DD1530102	Ceramic, 300PF ±5%, 50V
RE35	1	1	1	RT0527314	27KΩ	CE27	1	1	1	DF1512201	Film, 1200PF ±5%, 50V
RE36	1	1	1	RT0582414	820KΩ	CE28	1	1	1	DF1633201	Film, 0.0033μF ±10%, 50V
RE37	1	1	1	RT0582414	820KΩ	CE29	1	1	1	DF1633201	Film, 0.0033μF ±10%, 50V
RE38	1	1	1	RT0527314	27KΩ	CE30	1	1	1	DD1650001	Ceramic, 50PF ±10%, 50V
RE39	1	1	1	RT0527314	27KΩ	CE31	1	1	1	DD1650001	Ceramic, 50PF ±10%, 50V
RE40	1	1	1	RT0520314	20KΩ	PE00-SEMICONDUCTORS					
RE41	1	1	1	RT0520314	20KΩ	HE01	1	1	1	HT313283A	Transistor, 2SC1328 S.T.U.
RE42	1	1	1	RT0510314	10KΩ	HE02	1	1	1	HT313283A	Transistor, 2SC1328 S.T.U.
RE43	1	1	1	RT0510314	10KΩ	HE03	1	1	1	HT107632A	Transistor, 2SA763 4.5
RE44	1	1	1	RT0510314	10KΩ	HE04	1	1	1	HT107632A	Transistor, 2SA763 4.5
RE45	1	1	1	RT0510314	10KΩ	HE05	1	1	1	HT313283A	Transistor, 2SC1328 S.T.U.
RE46	1	1	1	RT0568214	6.8KΩ	HE06	1	1	1	HT313283A	Transistor, 2SC1328 S.T.U.
RE47	1	1	1	RT0568214	6.8KΩ	HE07	1	1	1	HT107632A	Transistor, 2SA763 4.5
RE48	1	1	1	RT0510314	10KΩ	HE08	1	1	1	HT107632A	Transistor, 2SA763 4.5
RE49	1	1	1	RT0510314	10KΩ	PE01-MISCELLANEOUS					
RE50	1	1	1	RT0539414	390KΩ	SE01	1	1	1	SR1005009	Rotary Switch
RE51	1	1	1	RT0539414	390KΩ	JE01	1	1	1	YP1000113	Plug
RE52	1	1	1	RT0522514	2.2MΩ	JE25	1	1	1	YP1000113	Plug
RE53	1	1	1	RT0522514	2.2MΩ	PE00-CAPACITORS					
RE54	1	1	1	RT0522514	2.2MΩ	CE01	1	1	1	DF1722401	Film, 0.22μF ±20%, 50V
RE55	1	1	1	RT0522514	2.2MΩ	CE02	1	1	1	DF1722401	Film, 0.22μF ±20%, 50V
RE56	1	1	1	RT0522514	2.2MΩ	PE00-SEMICONDUCTORS					
RE57	1	1	1	RT0522514	2.2MΩ	RJ01	1	1	1	RT0515414	150KΩ
RE58	1	1	1	RT0210314	10KΩ ±2%, ¼W	RJ02	1	1	1	RT0515414	150KΩ
RE59	1	1	1	RT0210314	10KΩ ±2%, ¼W	RJ03	1	1	1	RT0539114	390KΩ
RE60	1	1	1	RT0210314	10KΩ ±2%, ¼W	RJ04	1	1	1	RT0539114	390KΩ
RE61	1	1	1	RT0210314	10KΩ ±2%, ¼W	RJ05	1	1	1	RN0510514	1MΩ
RE62	1	1	1	RT0210314	10KΩ ±2%, ¼W	RJ06	1	1	1	RN0510514	1MΩ
RE63	1	1	1	RT0210314	10KΩ ±2%, ¼W	RJ07	1	1	1	RN0520314	20KΩ
RE64	1	1	1	RC0000012	0Ω, ¼W	RJ08	1	1	1	RN0522314	22KΩ
RE65	1	1	1	RC0000012	0Ω, ¼W	RJ09	1	1	1	RN0515314	15KΩ
RE66	1	1	1	RC0000012	0Ω, ¼W	RJ10	1	1	1	RN0515314	15KΩ
RE67	1	1	1	RC0000012	0Ω, ¼W	OUTPUT AMP./RELAY CIRCUIT BOARD-PJ00					
RE68	1	1	1	RC0000012	0Ω, ¼W	PJ00	1	1	1	YD2932003	P.W. Board, Output Amp./Relay
RE69	1	1	1	RC0000012	0Ω, ¼W					ZZ2932003	P.W. Board Assembly (Print Only)
RE70	1	1	1	RC0000012	0Ω, ¼W	RJ00-RESISTORS					
CE05	1	1	1	EV6850356	Electrolytic, 6.8μF ±20%, 35V	All resistors are ±5% and ¼W, unless otherwise indicated.					
CE06	1	1	1	EV6850356	Electrolytic, 6.8μF ±20%, 35V	RJ11	1	1	1	RT0536214	3.6KΩ
CE07	1	1	1	EV1050356	Electrolytic, 1μF ±20%, 35V	RJ12	1	1	1	RT0536214	3.6KΩ
CE08	1	1	1	EV1050356	Electrolytic, 1μF ±20%, 35V	RJ13	1	1	1	RC0000012	0Ω
CE09	1	1	1	EQ4750161	Electrolytic, 4.7μF ±30%, 16V	RJ14	1	1	1	RC0000012	0Ω
CE10	1	1	1	EQ4750161	Electrolytic, 4.7μF ±30%, 16V	RJ17	1	1	1	RT0547314	47KΩ
CE11	1	1	1	EV3350356	Electrolytic, 3.3μF ±20%, 35V	RJ18	1	1	1	RT0547314	47KΩ
CE12	1	1	1	EV3350356	Electrolytic, 3.3μF ±20%, 35V	RJ19	1	1	1	RT0551114	510Ω
CE13	1	1	1	EA1070631	Electrolytic, 100μF +100%, -0%, 63V	RJ20	1	1	1	RT0551114	510Ω
CE14	1	1	1	DF1510301	Film, 0.01μF ±5%, 50V	RJ21	1	1	1	GU0512212	1.2KΩ
						RJ22	1	1	1	RT0527314	27KΩ
						RJ23	1	1	1	RT0539414	390KΩ

REF. DESIG.	QTY.			PART NO.	DESCRIPTION	REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	E				U	C	E		
RJ24	1	1	1	RT0536214	3.6KΩ	CJ01	1	1	1	DF1722405	Film, 0.22μF ±20%, 50V
RJ25	1	1	1	GF0527112	270Ω ±5%, ¼W	CJ02	1	1	1	DF1722405	Film, 0.22μF ±20%, 50V
						CJ03	1	1	1	EE4750504	Electrolytic, 4.7μF ±20%, 50V
						CJ04	1	1	1	EE4750504	Electrolytic, 4.7μF ±20%, 50V
						CJ05	1	1	1	EA1070509	Electrolytic, 100μF +100%, -10%, 50V
						CJ06	1	1	1	EA4760509	Electrolytic, 47μF +100%, -10%, 50V
						PJ00-CAPACITORS					
						HJ01	1	1	1	HT313281T	Transistor, 2SC1328-T
						HJ02	1	1	1	HT313281T	Transistor, 2SC1328-T
						HJ03	1	1	1	HT107631B	Transistor, 2SA763-4
						HJ04	1	1	1	HT107631B	Transistor, 2SA763-4
						HJ05	1	1	1	HT313182Q	Transistor, 2SC1318 Q,R
						HJ06	1	1	1	HT313182Q	Transistor, 2SC1318 Q, R
						HJ07	1	1	1	HD2000110	Diode, 10D-2
						PJ00-SEMICONDUCTORS					
						LJ01	1	1	1	LY4048002	Relay, 48V
						JJ01	1	1	1	YP1000113	Plug
						JJ09	1	1	1	YP1000113	Plug
						JJ11	1	1	1	YP1000113	Plug
						JJ14	1	1	1	YP1000113	Plug
						PJ00-MISCELLANEOUS					
						P800	1	1	1	YD2932004	P.W. Board, Power Supply (Print Only)
										ZZ2932004	P.W. Board Assembly
						POWER SUPPLY CIRCUIT BOARD-P800					
						P800-RESISTORS					
						R801	1	1	1	GF0568014	68Ω ±5%, ¼W
						R802	1	1	1	RT0568214	6.8KΩ ±5%, ¼W
						R803	1	1	1	RT0539214	3.9KΩ ±5%, ¼W
						R804	1	1	1	GF0512312	12KΩ ±5%, ¼W
						R805	1	1	1	RA0103020	Trimming, 10KΩ
						R806	1	1	1	RT0539314	39KΩ ±5%, ¼W
						R807	1	1	1	RT0515314	15KΩ ±5%, ¼W
						R808	1	1	1	GF0515212	1.5KΩ ±5%, ¼W
						R809	1	1	1	GF0539112	390Ω ±5%, ¼W
						P800-CAPACITORS					
						C801	1	1	1	DK1810351	Ceramic, 0.01μF ±30%
						C802	1	1	1	EB2271601	Electrolytic, 220μF, 160V
						C803	1	1	1	EA1071001	Electrolytic, 100μF, 100V
						C804	1	1	1	EA1061001	Electrolytic, 10μF, 100V
						C805	1	1	1	DF1747305	Film, 0.047μF, ±20%
						C806	1	1	1	EA1061001	Electrolytic, 10μF, 100V
						C807	1	1	1	EA1061001	Electrolytic, 10μF, 100V
						P800-SEMICONDUCTORS & PLUGS					
						H801	1	1	1	HT316252A	Transistor, 2SC1625 O,Y
						H802	1	1	1	HT313182Q	Transistor, 2SC1318 Q,R
						H803	1	1	1	HD2001810	Diode, C08P2 Black
						H804	1	1	1	HD2001910	Diode, C08P2R Green
						H805	1	1	1	HD3003009	Diode, WZ-177 (17V)
						J801	1	1	1	YP1000114	Plug
						J806	1	1	1	YP1000114	Plug

REF. DESIG.	QTY.			PART NO.	DESCRIPTION	REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	E				U	C	E		
J808	1	1	1	YP1000114	Plug	PS00	1	1	1	YD2932006	P.W. Board, Speaker Switch/Loudness (Print Only)
J809	1	1	1	YP1000114	Plug					ZZ2932006	P.W. Board Assembly
						SPEAKER SWITCH/LOUDNESS CIRCUIT BOARD-PS00					
						PS00-RESISTORS & CAPACITORS					
						RS01	1	1	1	RT0510414	Resistor, 100KΩ ±5%, ¼W
						RS02	1	1	1	RT0510414	Resistor, 100KΩ ±5%, ¼W
						RS03	1	1	1	RT0515314	Resistor, 15KΩ ±5%, ¼W
						RS04	1	1	1	RT0515314	Resistor, 15KΩ ±5%, ¼W
						CS01	1	1	1	DD1533101	Ceramic Cap., 330PF±10%, 50V
						CS02	1	1	1	DD1533101	Ceramic Cap., 330PF±10%, 50V
						CS03	1	1	1	DF1633305	Film Cap., 0.033μF±10%, 50V
						CS04	1	1	1	DF1633305	Film Cap., 0.033μF±10%, 50V
						PS00-MISCELLANEOUS					
						SS01	1	1	1	SP0403010	Pushswitch, Loudness/Speaker
						JS01	1	1	1	YP1000113	Plug
						JS12	1	1	1	YP1000113	Plug
						TAPE MONITOR/HI					

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	QTY.			PART NO.	DESCRIPTION
	U	C	E		
R011	1	1	1	GJ0515102	150Ω ±10%, 2W
R012	1	1	1	GJ0515102	150Ω ±10%, 2W
R013	1	1	1	RS0254006	Variable, 250KΩ, Balance
R014	1	1	1	RM0254028	Variable, 250KΩ, Master Volume
R015	1	1	1	RS0204001	Variable, 200KΩ(B), Bass
R016	1	1	1	RS0204001	Variable, 200KΩ(B), Mid
R017	1	1	1	RS0204001	Variable, 200KΩ(B), Treble
GENERAL CAPACITORS					
C001	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C002	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C003	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C004	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C005	1	1	1	DK1710301	Ceramic, 0.01μF ±20%, 50V
C006		1		DF1722380	Film, 0.022μF ±20%
GENERAL MISCELLANEOUS					
G001	1	1		BF1040003	Printed Comp.
M001	1	1	1	IN1008030	Lamp, Pilot (8V)
F001	1	1		FS1005009	Fuse, 0.5A, UL
F001		1		FS1005090	Fuse, 0.5A, DIN
S001	1	1	1	SR0706001	Rotary Switch, Selector
S003	1	1	1	SR0205008	Pushswitch, Mode
S004	1	1	1	SP0402012	Pushswitch, Power
L001	1	1		TS1570112	Power Transf.
L001		1		TS1570113	Power Transf.
J001	1	1	1	YT0208006	Terminal, Phono/Aux/Tuner
J002	1	1	1	YT0204008	Terminal, Tape 1 In/Out
J003	1	1	1	YT0204008	Terminal, Tape 2 In/Out
J004	1	1	1	YT0202011	Terminal, Pre Out
J005	1	1	1	YJ1100016	Socket, Tape 1, DIN
J006	1	1	1	YJ1100016	Socket, Tape 2, DIN
J008	1	1	1	YJ0100098	Jack, Phone
J009	1	1	1	YT0304012	Terminal, Speaker
J010	1	1	1	YT0304012	Terminal, Speaker
J011	1	1	1	YT0304012	Terminal, Speaker Switching
J012	1	1	1	YJ0400056	Socket, AC Outlet
J013	1	1	1	YJ0400056	Socket, AC Outlet
J014	1	1	1	YT0101005	Terminal, Chassis Ground
J015	1	1	1	YL0108001	Terminal, 8P (UL)
J016	1	1		YJ0800012	Socket, Fuse Holder
J017		1		BY0314001	Terminal, Voltage Conversion
J016		1		YJ0800022	Fuse Holder, DIN
J018		1		YJ0800009	Socket, Fuse Holder (DIN)
J019		1		YJ0800009	Socket, Fuse Holder (DIN)
J020		1		YL0102003	Terminal, 2P
F002		1		FS2005003	Fuse, 0.5A
F003		1		FS1005090	Fuse, 0.5A
F004		1		FS1005090	Fuse, 0.5A
	1	1	1	293285501	Service Manual

5. TECHNICAL SPECIFICATIONS

Input Sensitivity for 1.5V Output at 1kHz	PHONO: (1.5-2.3) mV
	AUX: (150-230) mV
	TAPE: (150-230) mV
Total Harmonic Distortion (20Hz~20kHz)	≤0.1% at 3V
	≤1.0% at 7V
Intermodulation Distortion	≤0.1% at 3V
Frequency Response at ±1.0dB	AUX: ≥(20~70) kHz
	PHONO: ≥(30~15) kHz
Phono Overload Input Voltage for 1.0% THD	≥200mV at 1kHz
Phono Dynamic Range	≥90dB
Tone Control Action	BASS: 10dB at 100Hz
	TREBLE: 10dB at 10kHz
	MID: 7dB at 700Hz
Hum & Noise	Maximum Volume: ≤0.3mV
	Minimum Volume: ≤0.08mV
Equivalent Input Noise (PHONO)	≤2.5μV
Input Impedance at 1kHz	PHONO: 47KΩ
	AUX: 47KΩ
Output Impedance at 1kHz	600Ω
Power Requirements	120V, 50/60Hz
Power Consumption	(9±2)W
Dimensions	
Panel Width	14-3/4 inches
Height	4-3/4 inches
Depth	9-1/16 inches
Weight-Unit Alone	11.8 lbs
-Packed for Shipment	16.0 lbs

SERVICE INFORMATION FOR EUROPEAN MODEL

The information contained herein includes the rear panel and main chassis component locations, voltage conversion, circuit diagram and technical specifications. For the alignment procedures, test equipments, and repairing hints, refer to the original service manual.

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Main Chassis Component Locations (Top View)	24
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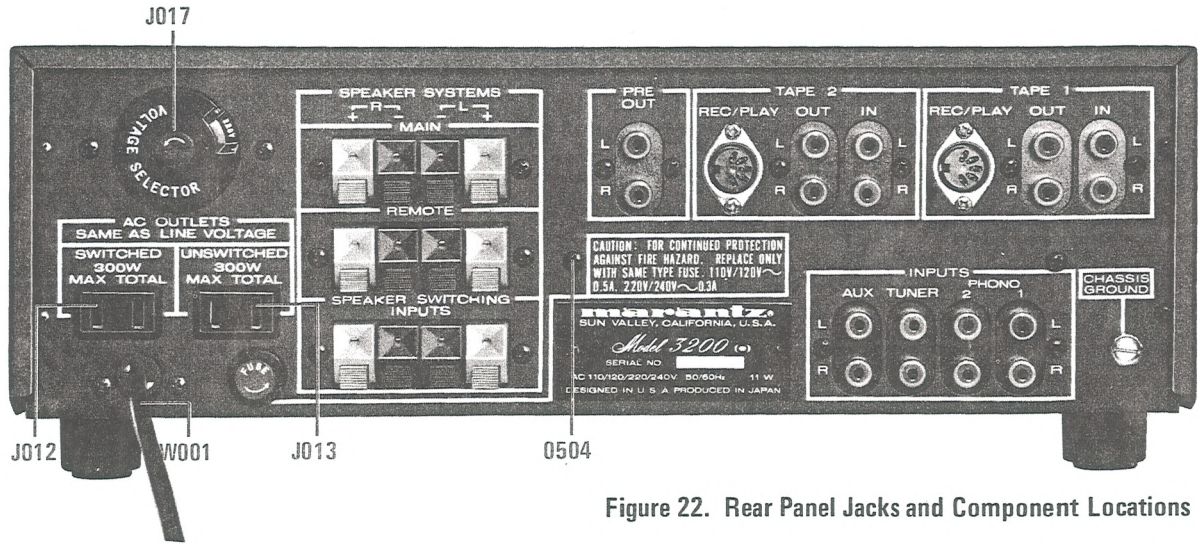


Figure 22. Rear Panel Jacks and Component Locations

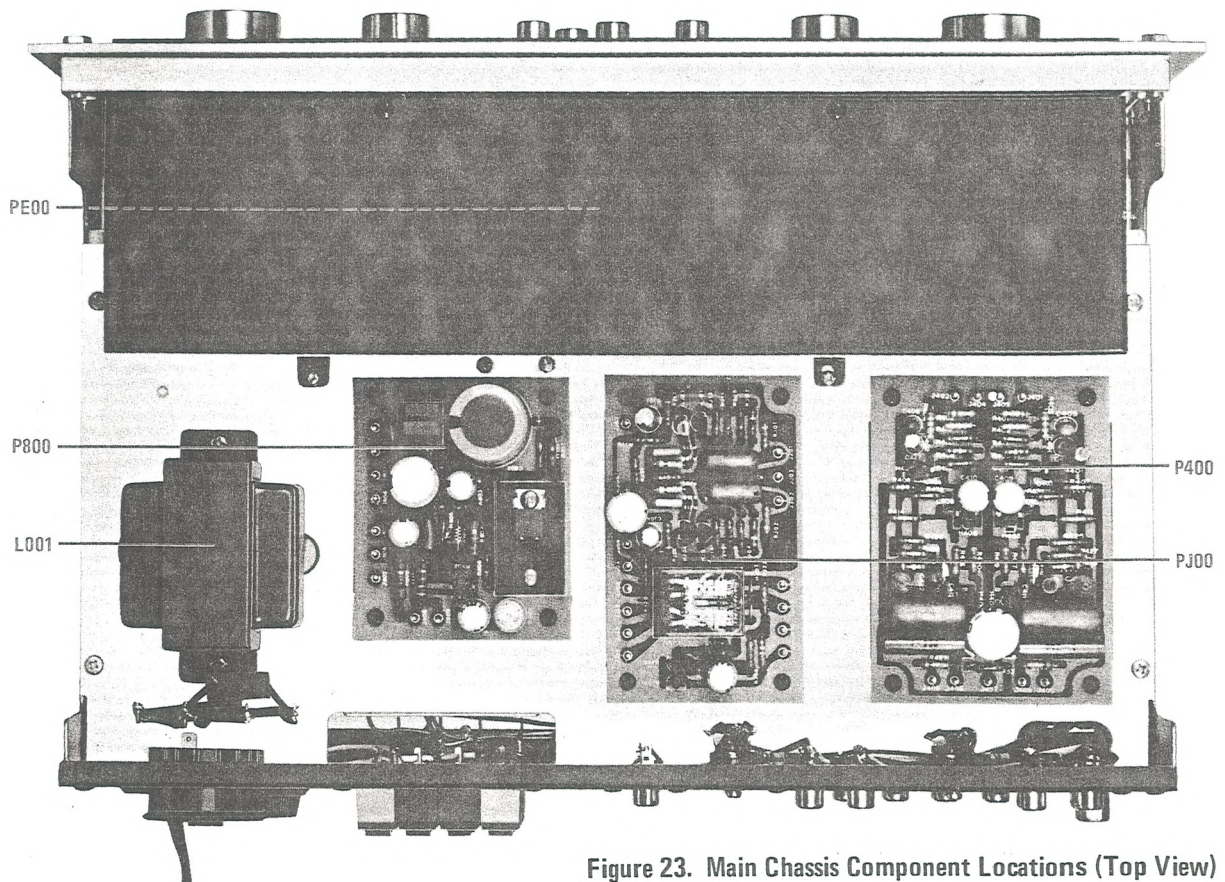


Figure 23. Main Chassis Component Locations (Top View)

VOLTAGE CONVERSION

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

To convert the unit to a different power source voltage, change the plug as illustrated in Figure 24.

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

NOTE

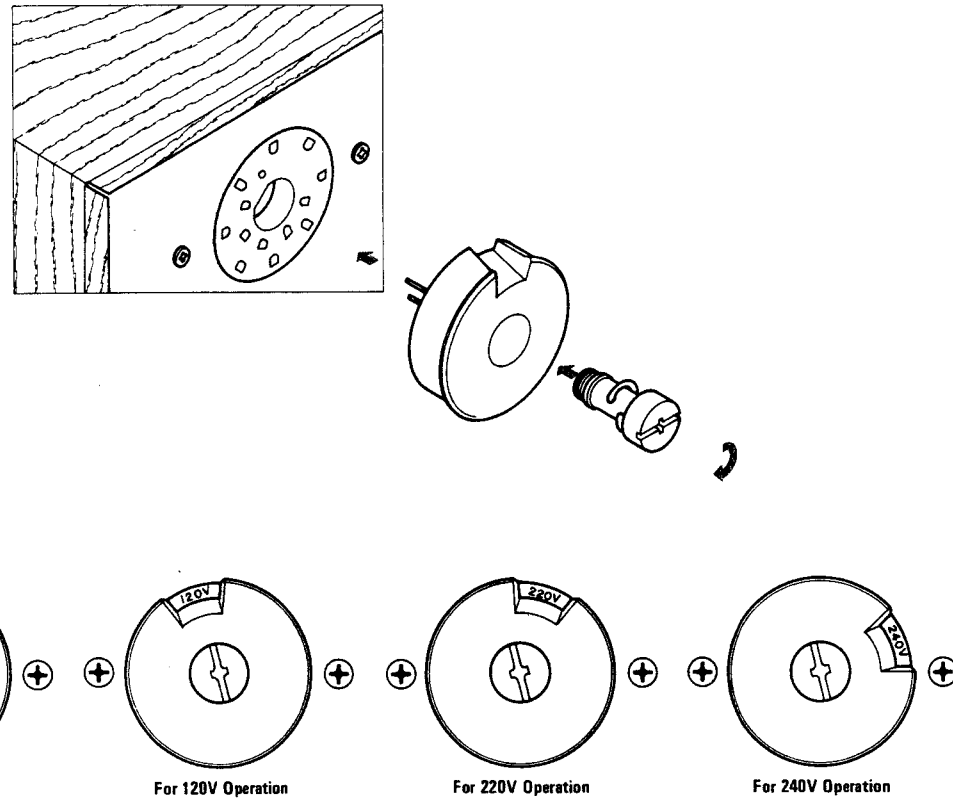


Figure 24. Voltage Conversion Chart

TECHNICAL SPECIFICATIONS

Input Sensitivity for 1.5V Output at 1kHz	PHONO: (1.5—2.3) mV
	AUX: (150—230) mV
	TAPE: (150—230) mV
Total Harmonic Distortion (20Hz~20kHz)	≤0.1% at 3V
	≤1.0% at 7V
Intermodulation Distortion	≤0.1% at 3V
Frequency Response at ±1.0dB	AUX: ≥(20~70) kHz
	PHONO: ≥(30~15) kHz
Phono Overload Input Voltage for 1.0% THD	≥200mV at 1kHz
Phono Dynamic Range	≥90dB
Tone Control Action	BASS: 10dB at 100Hz
	TREBLE: 10dB at 10kHz
	MID: 7dB at 700Hz
Hum & Noise	Maximum Volume: ≤0.3mV
	Minimum Volume: ≤0.08mV
Equivalent Input Noise (PHONO)	≤2.5μV
Input Impedance at 1kHz	PHONO: 47KΩ
	AUX: 47KΩ
Output Impedance at 1kHz	600Ω
Power Requirements	220V~, 50/60Hz
Power Consumption	(9±2)W
Dimensions	
Panel Width	360 mm
Height	120 mm
Depth	280 mm
Weight-Unit Alone	5.25Kg
-Packed for Shipment	7.25Kg