

SUPERSCOPE®

STEREO RECEIVER

Model R-350 (e)

SERVICE DATA

— Sep. 1973 —

SUPERSCOPE INC.

8150 VINELAND AVENUE,
SUN VALLEY, CALIFORNIA 91352 · U.S.A.

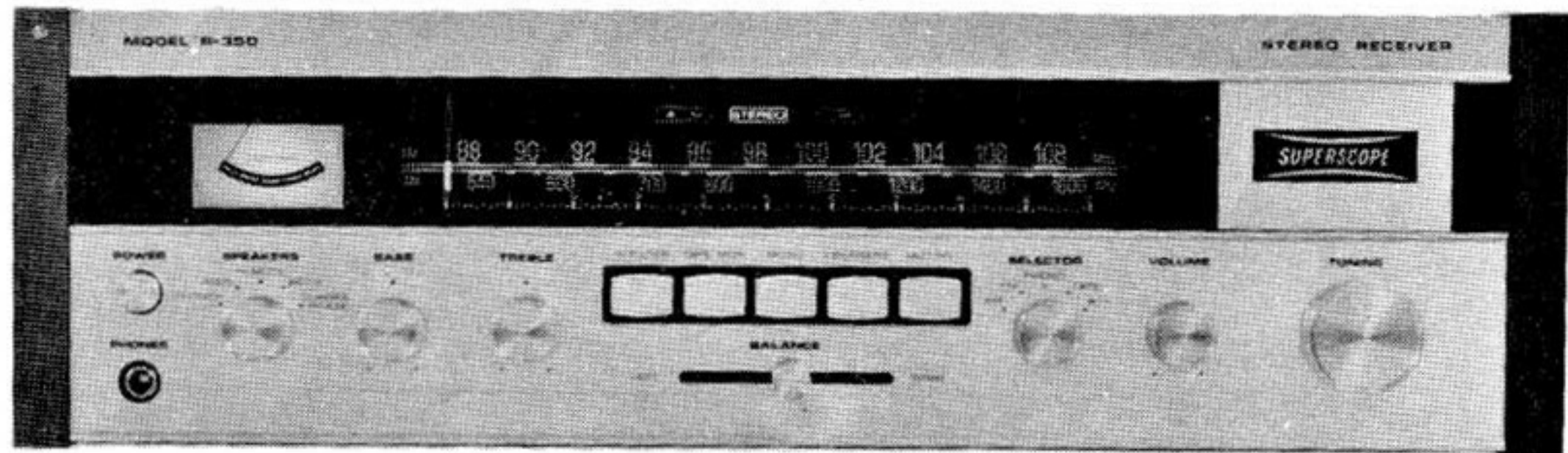


TABLE OF CONTENTS

Technical Specifications	1
Alignment Procedure	2 ~ 4
Circuit Board Diagram	4 ~ 6
Schematic Diagram	7
Exploded Diagram of The Mechanism	8
Parts List	9 ~ 15
Voltage Conversion	16

TECHNICAL SPECIFICATIONS

AUDIO CIRCUITS:

Instantaneous Peak Music Power 80 Watts at 8Ω
E.I.A. Total Music Power 55 Watts at 8Ω
Total Music Power (IHF) 45 Watts at 8Ω
Continuous Power (RMS) **20+20 Watts at 8Ω**
High-level hum and noise (ref. 20 Watts at 8Ω) . . . -77 dB
Phono hum and noise 1.5 μV equivalent input
Dynamic range (phono input to tape recording
output) 96 dB
I.M. Distortion (SMPTE) , at rated power 1%
Distortion decreases as output is lowered
Total Harmonic Distortion, at rated power . . 1% Maximum
Distortion decreases as output is lowered
Power Bandwidth (IHF) for 1% THD . . 20 Hz to 40,000 Hz
Damping Factor (ref. 8Ω) Greater than 45
Frequency Response
through Phono 1.0 dB
Input Sensitivity (for 20 Watts at 8Ω)
High-level 150 mV
Phono (1,000 Hz) 2 mV
Input Impedance
High-level 100 KΩ
Phono 47 KΩ
Channel Separation 20 Hz to 20,000 Hz . . 35 dB Minimum

FM SECTIONS:

IHF Usable Sensitivity 3.0 μV
Selectivity 50 dB
Noise Quieting -60 dB at 1,000 μV
Total Harmonic Distortion, 400 Hz,
100% Mod Mono: 0.2% Stereo: 0.5%
Frequency Response (ref. 75 μ sec. for U.S.A. 50μ sec.
for EUR. de-emphasis) ±1 dB 50 Hz to 15 kHz
Stereo Separation 1,000 Hz 40 dB
Sub Carrier (38 kHz) Suppression 60 dB

AM SECTIONS:

Selectivity 18 dB
Image rejection ratio (1,400 kHz) 40 dB
Band width (-6 dB) 6 kHz

GENERAL:

Power Requirements . . . 110, 120, 220, 240V AC 50/60 Hz
Power Consumption 140 Watts
Dimensions - Width 16-15/16"
- Height 4-13/16"
- Depth 11-5/16"
Weight 20.2 lbs

* These specifications and exterior designs may be changed for improvement without notice.

ALIGNMENT PROCEDURE

1. Set the volume control at maximum, bass, treble and balance controls at mechanical center position, speakers switch in the position "MAIN", while switching the tape monitor, high filter and loudness switches off.
2. Connect 8 ohms dummy load resistor (30–50W, non-inductive preferably) to each R and L channel "MAIN" output terminals of the unit.

FM ALIGNMENT PROCEDURE

(Selector switch in the position "FM")

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Dial Setting of the Unit	Adjustment
	FM IF ALIGNMENT				
1	Sweep Generator to pointⒹ	10.7 MHz Marker at 10.6,	Oscilloscope to pointⒸthrough a diode	Quiet point on band	L105 for maximum and symmetry response
2		10.7 and 10.8 MHz	Oscilloscope to pointⒺ(J120)		L107 for straight and symmetrical S-sharp response
3	Repeat step 1 and 2				
FM RF ALIGNMENT					
1	RF generator to FM Antenna terminals through matching network (300 ohms balanced)	87 MHz	VTVM to R or L channel output terminals	87 MHz tuning closed	L103 for maximum
2		109 MHz		109 MHz tuning gang open	C187 for maximum
3		90 MHz		90 MHz	L101, L102 for maximum
4		106 MHz		106 MHz	CF-1, CF-2 for maximum
5	Repeat step 1 ~ 4				
6	Check overall response curve and repeat above steps as necessary to obtain maximum sensitivity.				
7	No connection	No signal	D.C. VTVM 1 Volt range to Ⓔ(J120)	—	L107 secondary core (upper) for No Voltage reading
8	RF generator to FM antenna terminals through matching network (300 ohms balanced) output 1mV (IHF)	98 MHz	Distortion meter toⒺ(J120)	98 MHz	L107 primary core (bottom) for minimum distortion
9		98 MHz	—	98 MHz	L108 for the maximum deflection of FM signal strength meter M001
MUTING CIRCUIT ALIGNMENT					
1	RF generator to FM antenna terminals through matching network (300 ohms balanced) output 25μV (I.H.F.M.)	98 MHz	VTVM to R or L channel output terminals (J004)	98 MHz	R153 for the threshold level of 25μV (during this adjustment turn the muting push switch "ON")

MULTIPLEX ALIGNMENT PROCEDURE

(Selector switch in the position "FM", mode switch in the position "STEREO")

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Dial Setting of the Unit	Adjustment
1	RF generator to FM antenna terminals through matching network (300 ohms balanced) FM stereo simulator RF signal output 1mV (I.H.F.M.)	Pilot (19 KHz)	VTVM to pointⒻ	98 MHz	L109 for maximum
2					L110 for maximum
3		Stereo left (1,000 Hz)	VTVM to the right channel output terminal (J008)		R161, L110 for minimum
4		Stereo right (1,000 Hz)	VTVM to the left channel output terminal (J008)		
5	Repeat step 3 and 4				

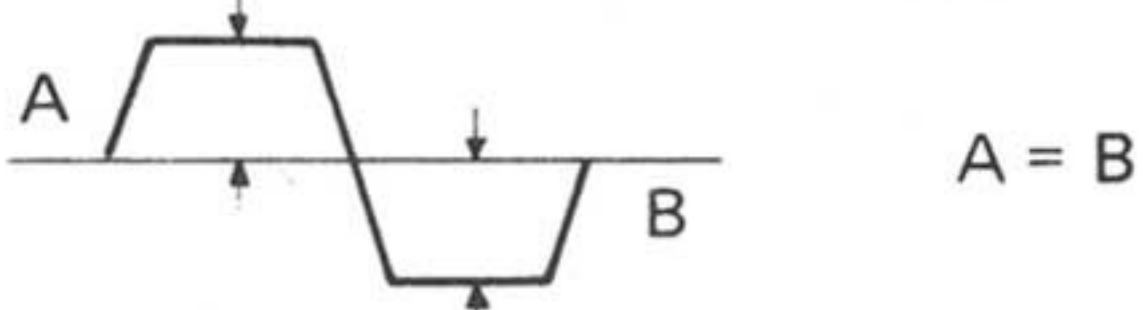
AM ALIGNMENT PROCEDURE

(Selector Switch in the position "AM")

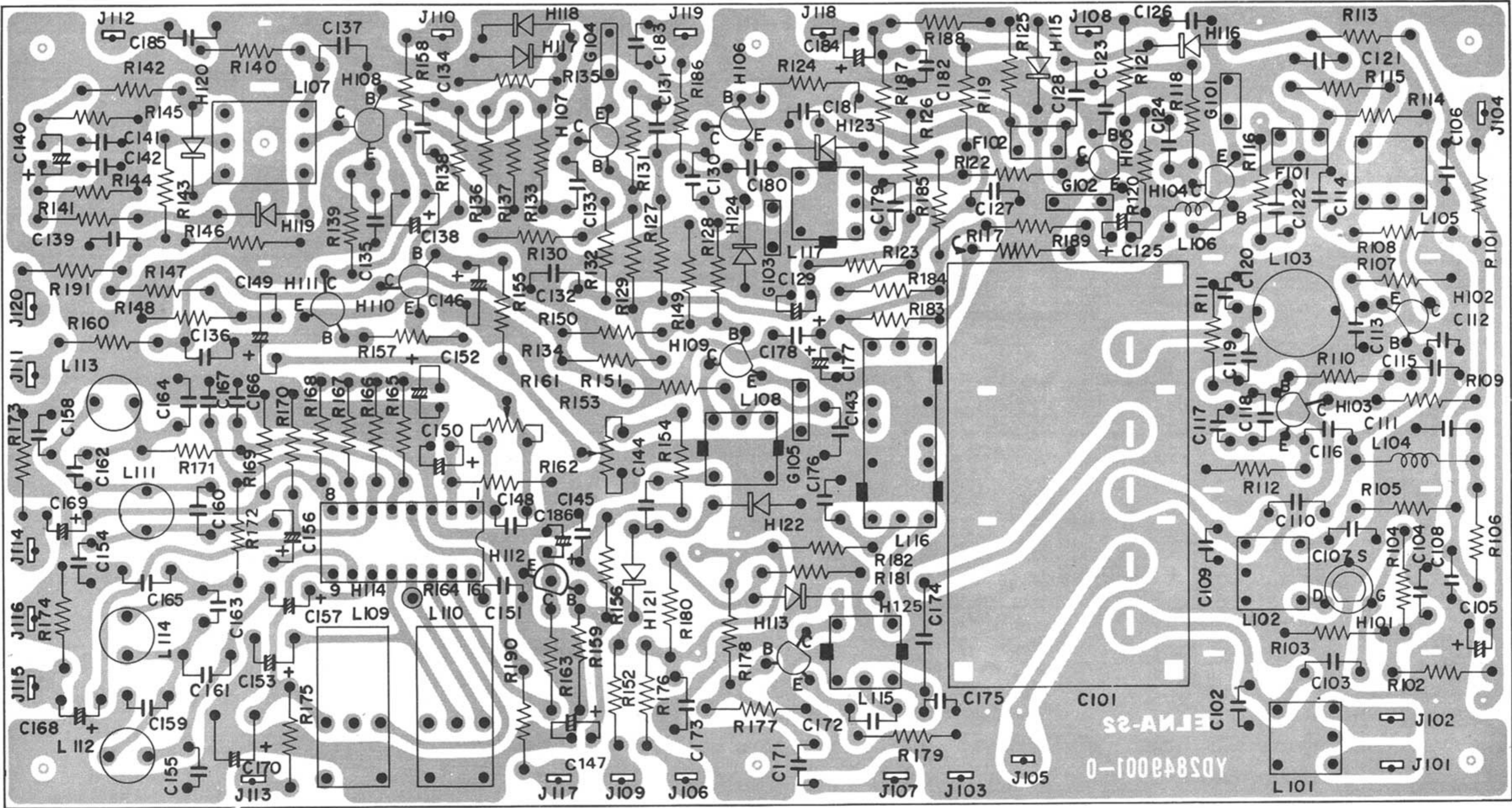
Step	Signal Source Connection	Signal Frequency	Indicator Connection	Dial Setting of the Unit	Adjustment
AM IF ALIGNMENT					
1	Sweep generator to point J105	Marker 455 KHz	Oscilloscope to pointⒷ	Quiet point on band	L116, L117 for maximum and Symmetrical response
2	Repeat 1				
AM RF ALIGNMENT					
1	RF generator to a test loop or a short wire placed near the ferrite-rod AM antenna	525 KHz	VTVM to R or L channel output terminals	525 KHz tuning closed	L115 for maximum
2		1,650 KHz		1,650 KHz tuning gang open	CA-2 for maximum
3		600 KHz		600 KHz	L001 for maximum
4		1,400 KHz		1,400 KHz	CA-1 for maximum
5	Repeat step 1 ~ 4 as necessary to obtain maximum sensitivity				

AUDIO ALIGNMENT PROCEDURE

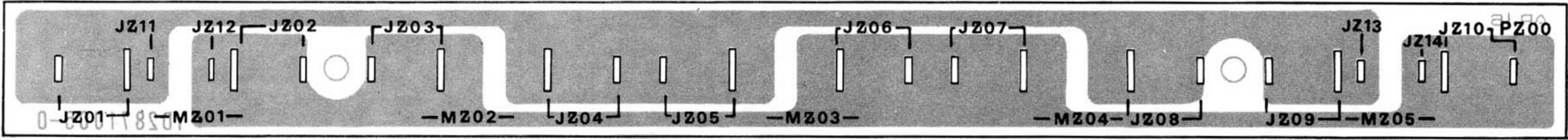
(Selector Switch in the position "AUX")

Step	Signal Source Connection	Signal Frequency	Indicator Connection	Adjustment
1	Audio generator to AUX terminal	1,000 Hz	Oscilloscope to output terminals	Gradually increase output level of the audio generator and adjust. R723 and R724 for symmetrical clipping level. 
2	Connect a VTVM to J713 (+) and J715 (-) and adjust the trimming resistor R723 until the VTVM reads 10mV DC. For the other channel connect the VTVM to J714 (+) and J716 (-) and adjust the R724 for the same reading (20mA ~ 30mA at no signal).			

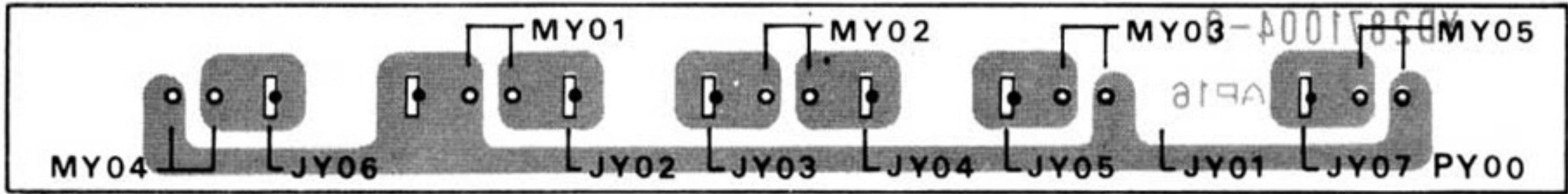
CIRCUIT BOARD DIAGRAM (TOP VIEW)



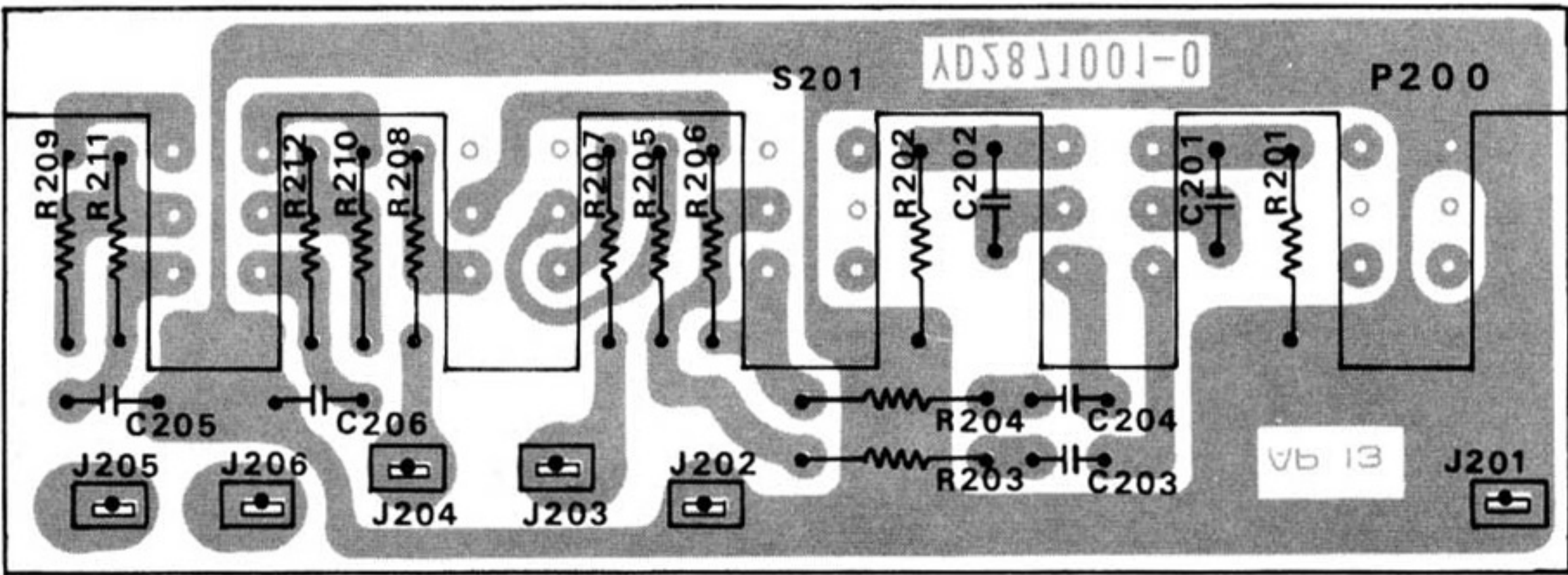
FM/AM Tuner Block P100



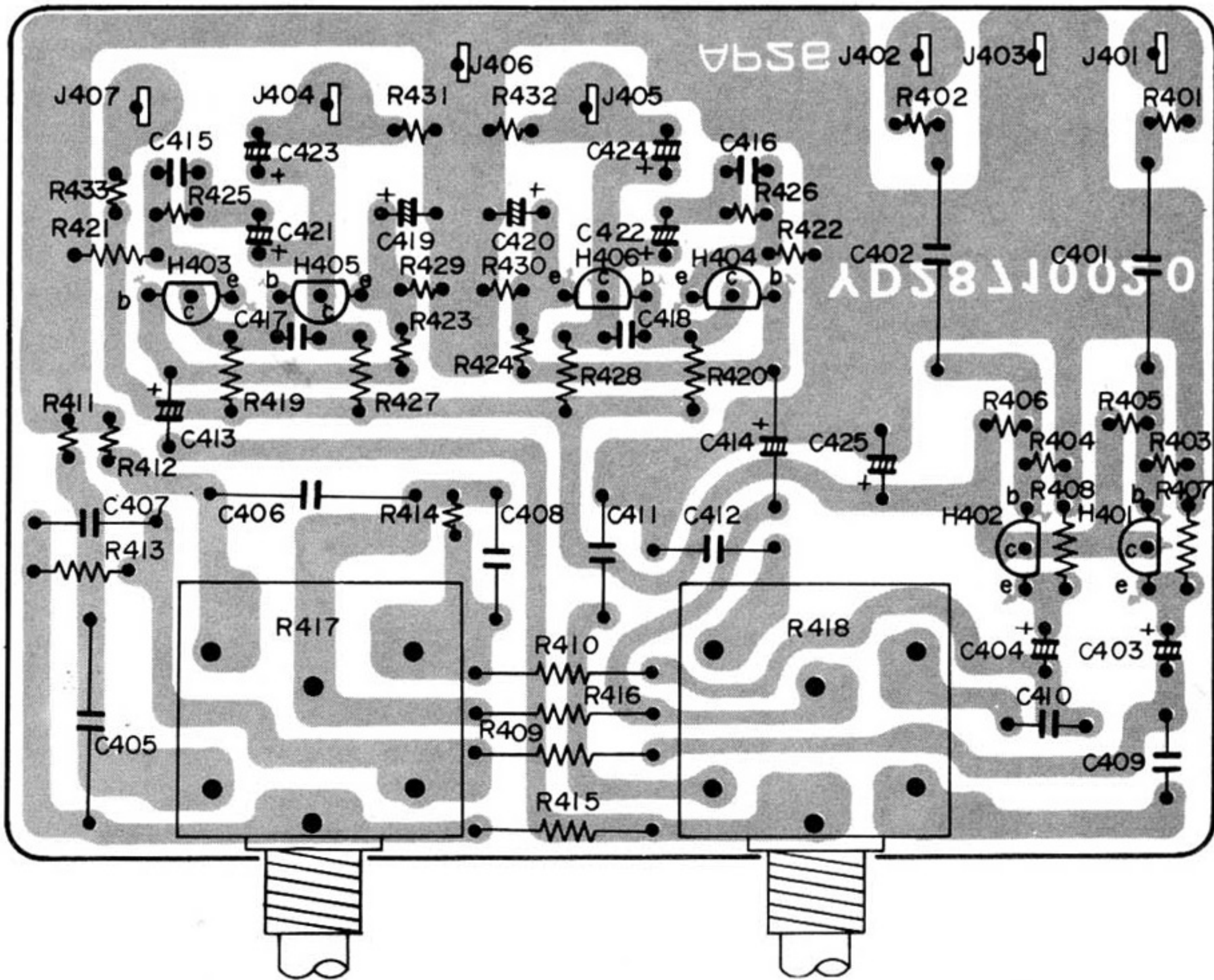
Dial Lamp Block PZ00



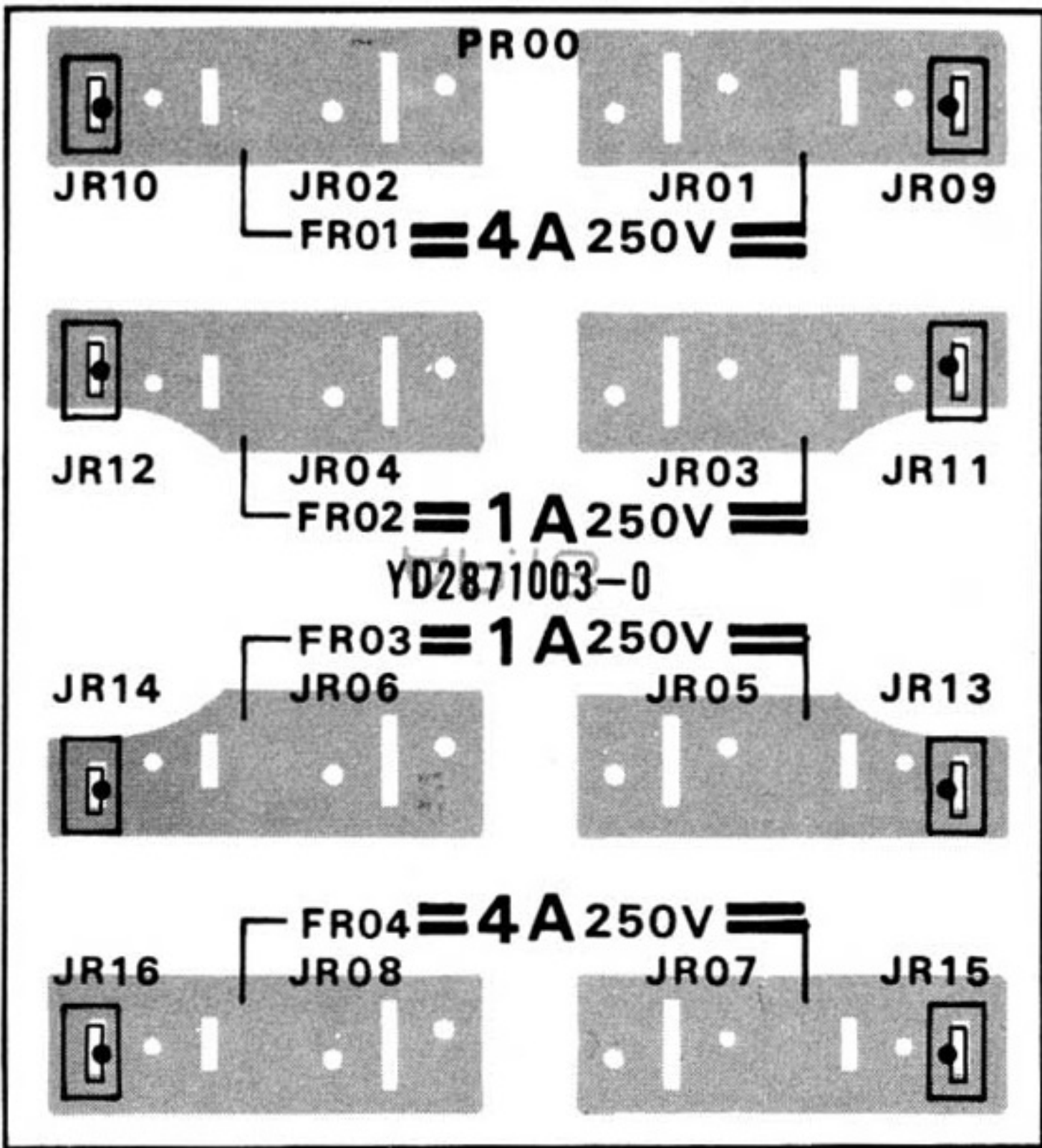
Indicator Lamp Block PY00



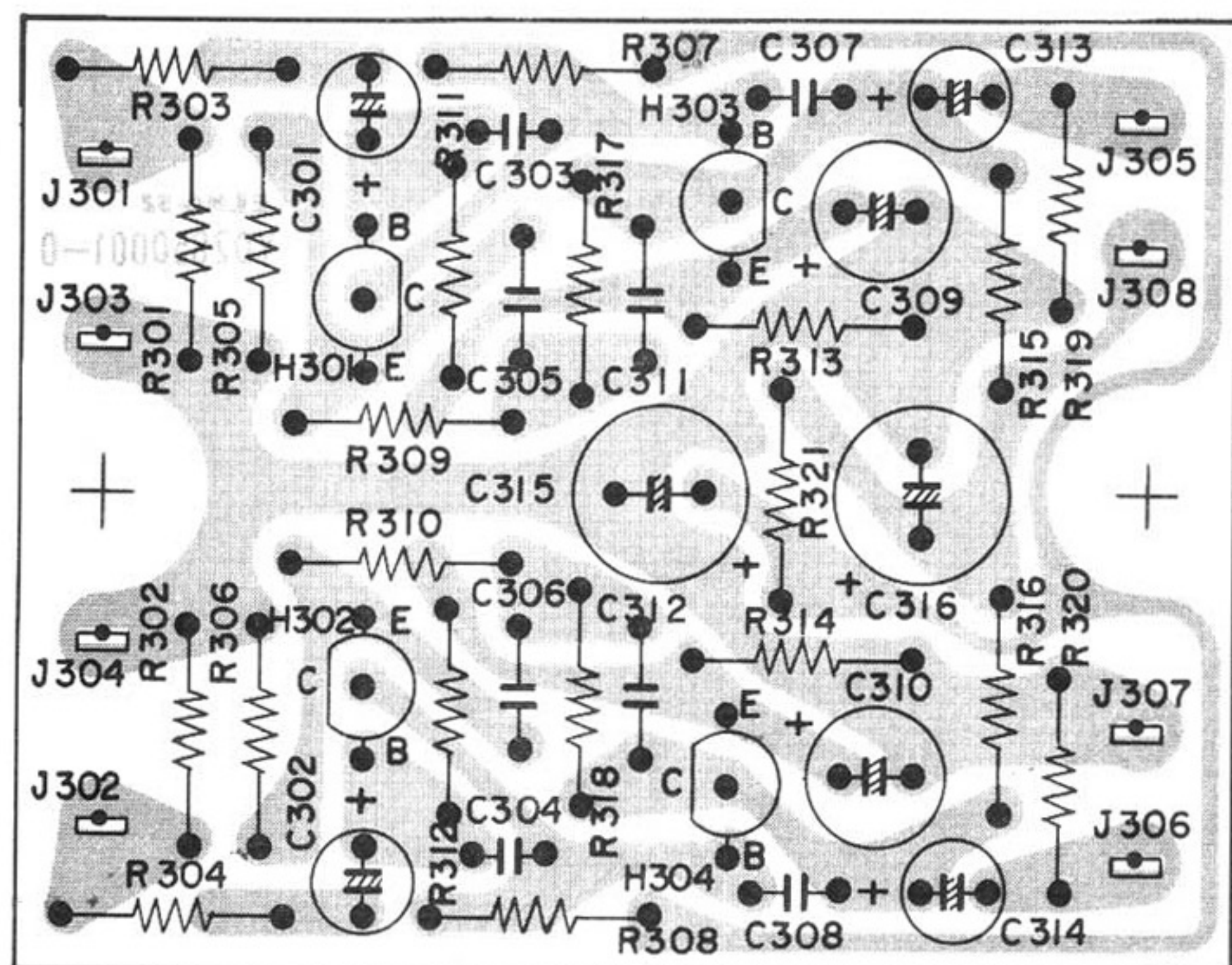
Switch Block P200
(FM, AM, Mono, High Filter and Muting)



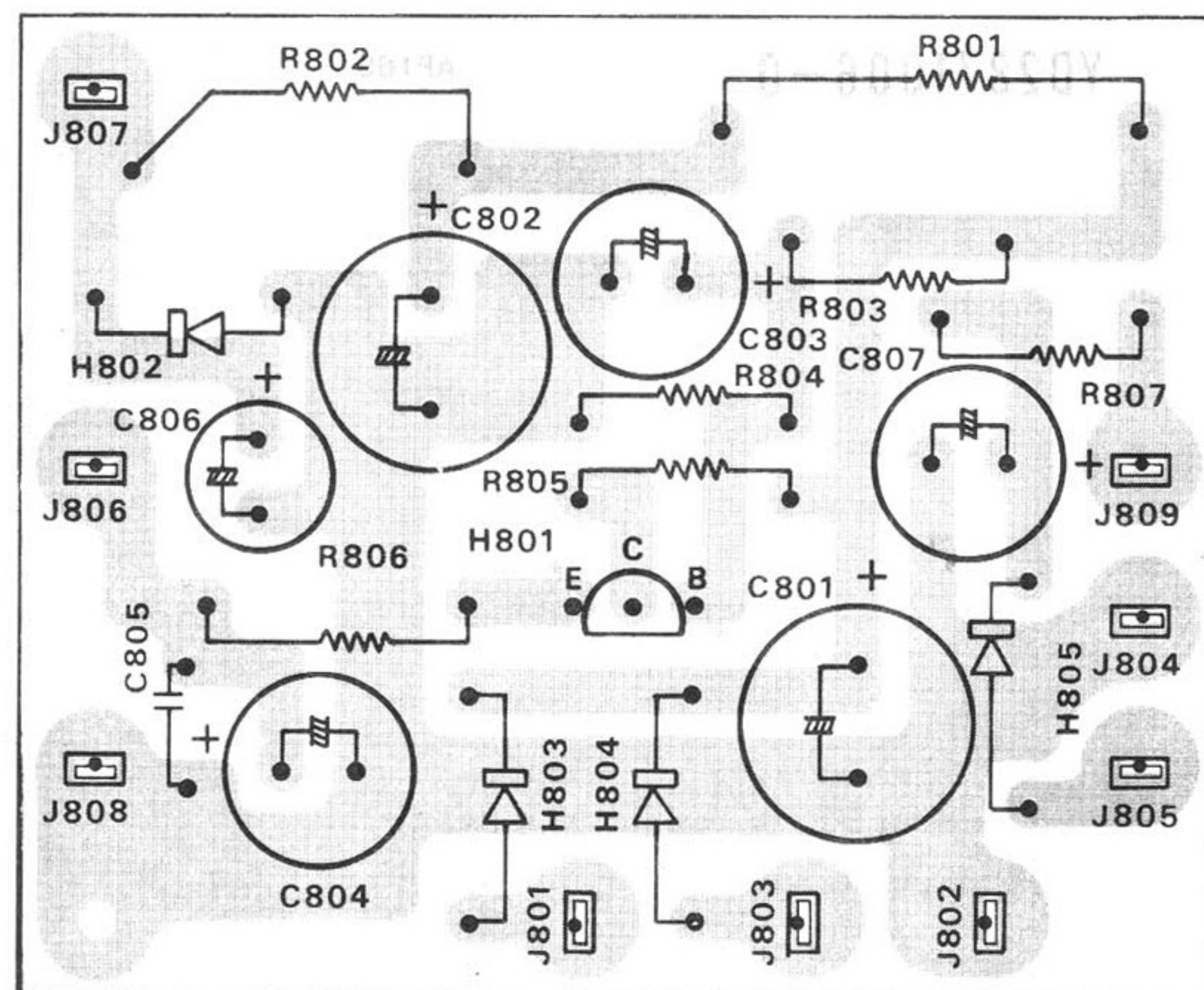
Tone Amp. Block P400



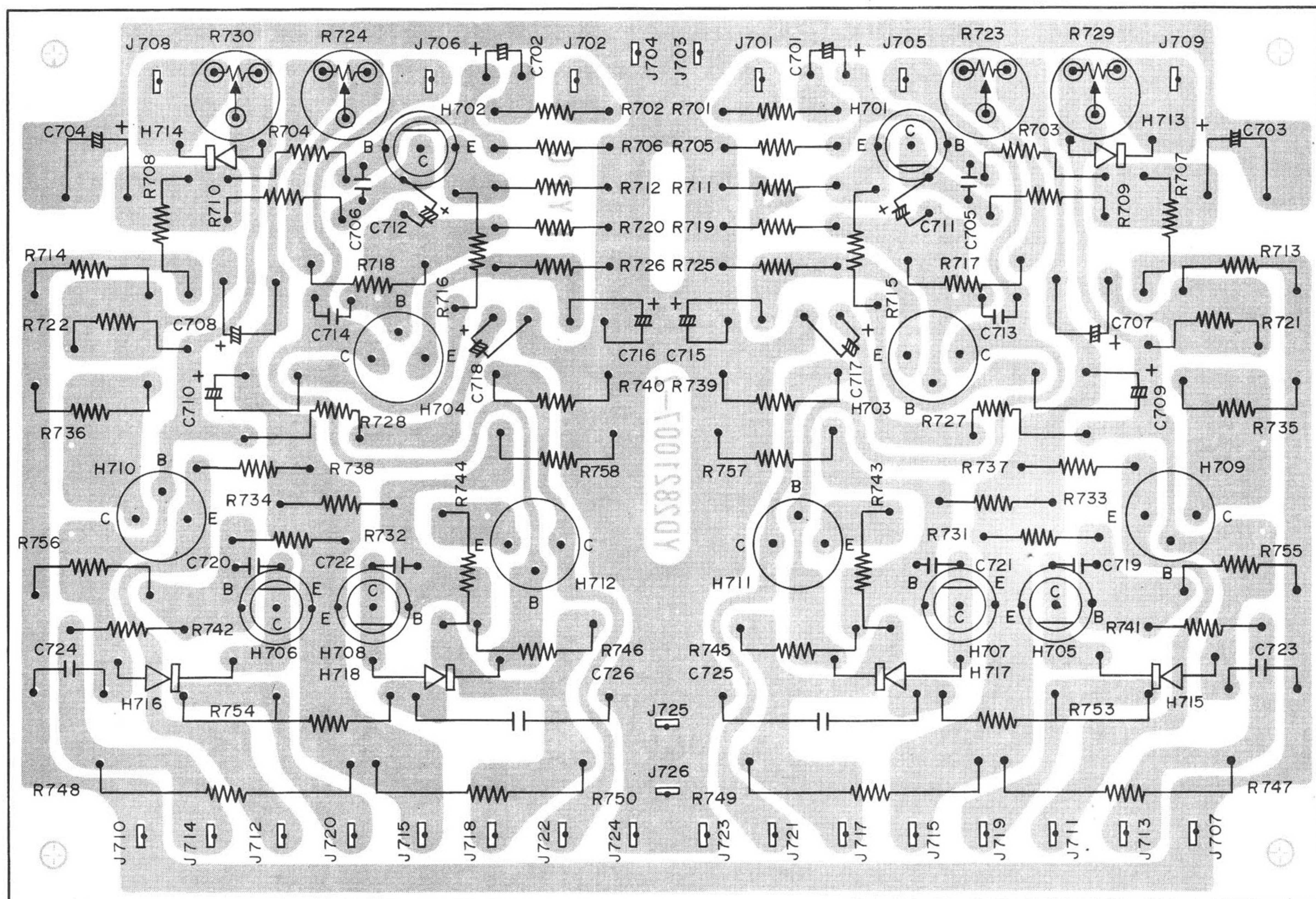
Fuse Block PR00



EQ. Amp. Block P300

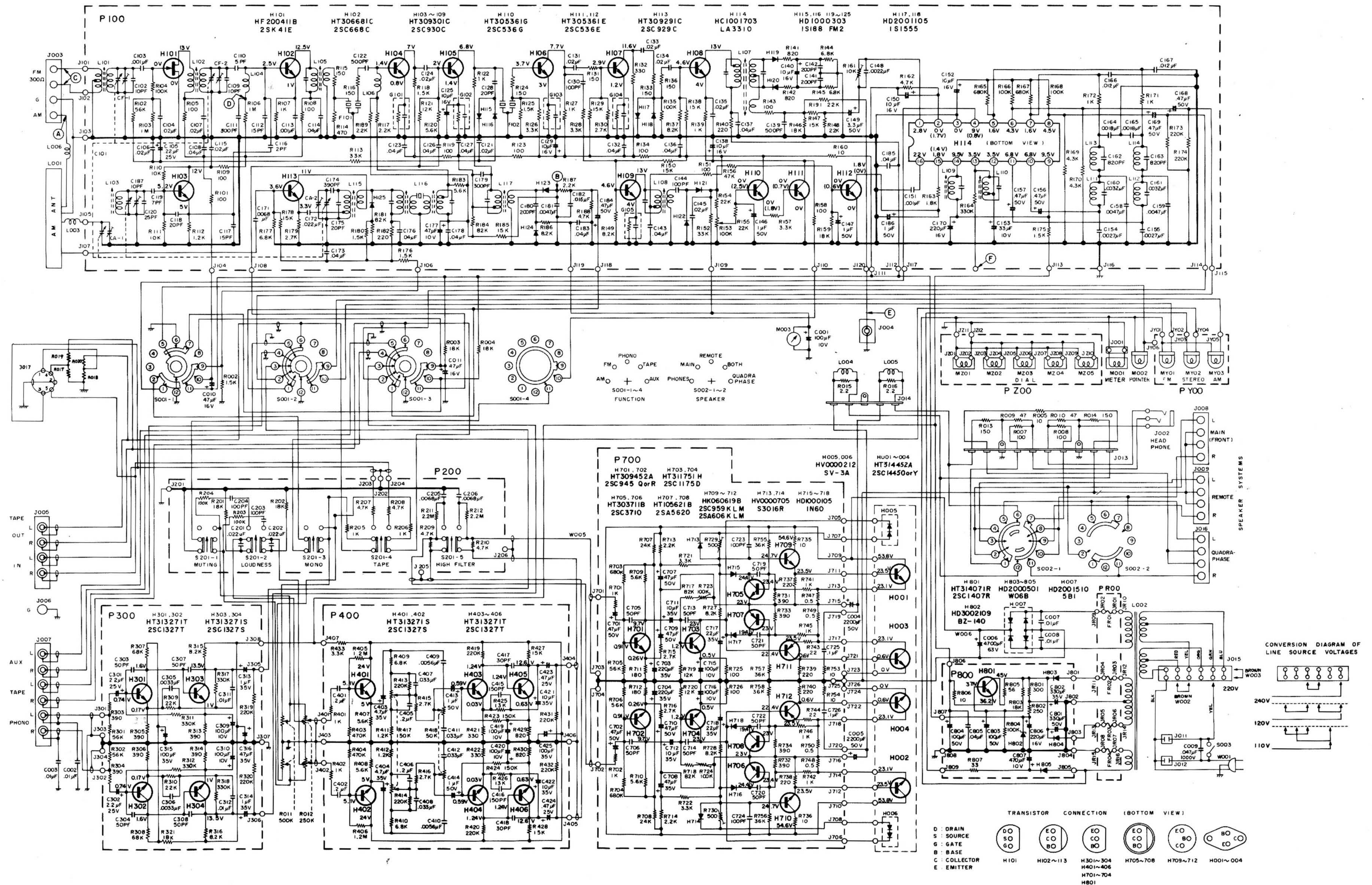


Power Source Block P800

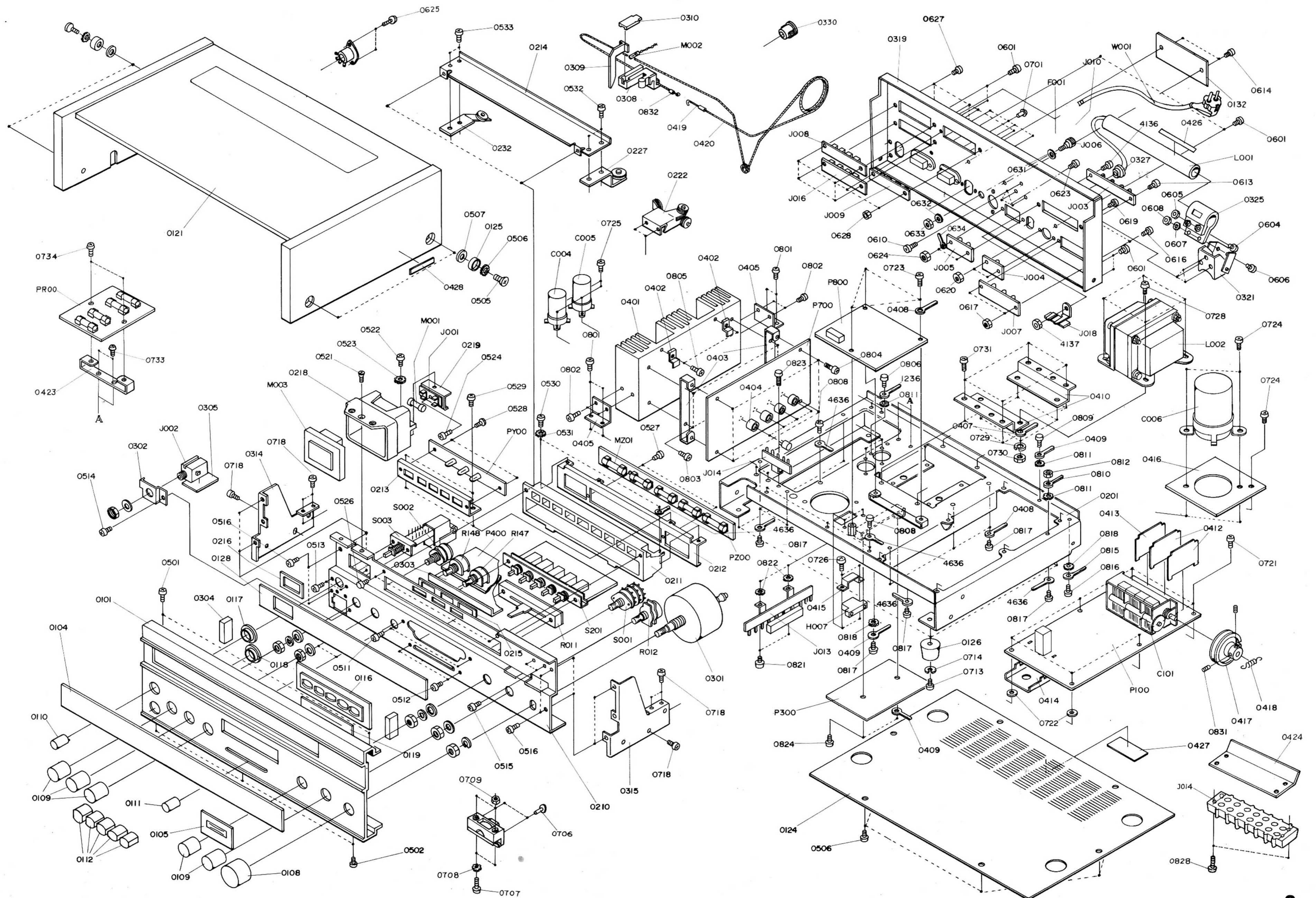


Main Amp. Block P700

SCHEMATIC DIAGRAM



EXPLODED DIAGRAM OF THE MECHANISM



PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
A	287106340	Front Panel Assembly	R111	RT0510314	10K Ω
0101	287106301	Escutcheon	R112	RT0512214	1.2K Ω
0104	287115801	Window	R113	RT0533314	33K Ω
0105	287325150	Badge	R114	RT0547114	470 Ω
0116	287325905	Bush	R115	RT0515114	150 Ω
0117	281825905	Bush	R116	RT0515114	150 Ω
0118	273125901	Bush	R117	RT0522214	2.2K Ω
0119	287210701	Sheet	R118	RT0515214	1.5K Ω
			R119	RT0510114	100 Ω
			R120	RT0556214	5.6K Ω
B	287116040	Bracket Assembly			
0128	287130201	Dial	R121	RT0512314	12K Ω
0210	287116002	Bracket	R122	RT0510214	1K Ω
0211	287127401	Reflector	R123	RT0510114	100 Ω
0214	287105101	Guide	R124	RT0515114	150 Ω
0215	287112201	Sticker	R125	RT0515214	1.5K Ω
0216	287105302	Cover	R126	RT0533214	3.3K Ω
0305	116812002	Insulator	R127	RT0510214	1K Ω
0526	51042606A	F.H.M. Screw x 2	R128	RT0533214	3.3K Ω
			R129	RT0515314	15K Ω
			R130	RT0527214	2.7K Ω
C	287106440	Case Assembly			
0121	287106450	Case	R131	RT0515114	150 Ω
0428	287286102	Label	R132	RT0533114	330 Ω
			R133	RT0515114	150 Ω
			R134	RT0510114	100 Ω
D	287310340	Pointer Assembly	R135	RT0510414	100K Ω
0308	281810301	Pointer	R136	RT0515114	150 Ω
0309	287310301	Pointer	R137	RT0582214	8.2K Ω
0310	281805301	Cover	R138	RT0515314	15K Ω
M002	IN1008030	Lamp	R139	RT0510214	1K Ω
			R140	RT0522114	220 Ω
E	120200640	String Assembly			
0419	120225801	Hook	R141	RT0582114	820 Ω
0420	72080802A	String	R142	RT0582114	820 Ω
			R143	RT0510114	100 Ω
			R144	RT0568214	6.8K Ω
			R145	RT0568214	6.8K Ω
F	281915940	Drum Assembly	R146	RT0518314	18K Ω
0417	281915901	Drum	R147	RT0510314	10K Ω
0418	71101569M	Spring	R148	RT0522314	22K Ω
0831	51650304D	Set Screw H.P. x 2	R149	RT0582214	8.2K Ω
			R150	RT0515314	15K Ω
G	287116042	Rear Panel Assembly			
0319	287116004	Bracket	R151	RT0510114	100 Ω
0701	55060365S	T.R. Rivet x 4	R152	RT0533314	33K Ω
J011	YJ0400018	Jack	R153	RA0104015	Trimming, 100K Ω (B)
J012	YJ0400018	Jack	R154	RT0522314	22K Ω
			R155	RT0522314	22K Ω
			R156	RT0547314	47K Ω
			R157	RT0533214	3.3K Ω
H	287125740	Lid Assembly	R158	RT0510114	100 Ω
0124	287125701	Lid	R159	RT0518314	18K Ω
0427	257886101	Label	R160	RT0510014	10 Ω
P100	YD2849001	P.W. Board, Tuner	R161	RA0103020	Trimming, 10K Ω (B)
	ZZ2873801	P.W. Board Assembly	R162	RT0547214	4.7K Ω
			R163	RT0518214	1.8K Ω
			R164	RC0533412	330K Ω $\pm 5\%$, $\frac{1}{2}W$
			R165	RT0568414	680K Ω
			R166	RT0510414	100K Ω
			R167	RT0568414	680K Ω
			R168	RT0510414	100K Ω
			R169	RT0543214	4.3K Ω
			R170	RT0543214	4.3K Ω
			R171	RT0510214	1K Ω
			R172	RT0510214	1K Ω
			R173	RT0522414	220K Ω
			R174	RT0522414	220K Ω
			R175	GJ0515201	1.5K Ω $\pm 5\%$, 1W
			R176	RT0515214	1.5K Ω
R101	RT0510114	100 Ω			
R102	RT0556314	56K Ω			
R103	RT0510514	1M Ω			
R104	RT0510414	100K Ω			
R105	RT0510114	100 Ω			
R106	RT0510514	1M Ω			
R107	RT0510214	1K Ω			
R108	RT0510114	100 Ω			
R109	RT0510114	100 Ω			
R110	RT0510314	10K Ω			

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
R177	RT0547214	4.7K Ω	C151	DF1610201	Film, 0.001 μ F $\pm$ 10%
R178	RT0527314	27K Ω	C152	EA1060169	Electroly, 10 μ F, 16V
R179	RT0527214	2.7K Ω	C153	EA3360109	Electroly, 33 μ F, 10V
R180	RT0515214	1.5K Ω	C154	DF1627201	Film, 0.0027 μ F $\pm$ 10%
R181	RT0582314	82K Ω	C155	DF1627201	Film, 0.0027 μ F $\pm$ 10%
R182	RT0522114	220 Ω	C156	EA4740501	Electroly, 0.47 μ F, 50V
R183	RT0556214	5.6K Ω	C157	EA4740501	Electroly, 0.47 μ F, 50V
R184	RT0582314	82K Ω	C158	DF1647201	Film, 0.0047 μ F $\pm$ 10%
R185	RT0515314	15K Ω	C159	DF1647201	Film, 0.0047 μ F $\pm$ 10%
R186	RT0582214	8.2K Ω	C160	DF6532201	Film, 0.0032 μ F $\pm$ 5%
R187	RT0522214	2.2K Ω	C161	DF6532201	Film, 0.0032 μ F $\pm$ 5%
R188	RT0547214	4.7K Ω	C162	DF5582101	Film, 820PF $\pm$ 5%
R189	RT0522214	2.2K Ω	C163	DF5582101	Film, 820PF $\pm$ 5%
R191	RT0522314	22K Ω	C164	DF1518205	Film, 0.0018 μ F $\pm$ 10%
CAPACITORS			C165	DF1518205	Film, 0.0018 μ F $\pm$ 10%
C101	CA3240007	Variable, FM-3, AM-2 GANG	C166	DF1512305	Film, 0.012 μ F $\pm$ 10%
C102	DD1210001	Ceramic, 10PF $\pm$ 10%	C167	DF1512305	Film, 0.012 μ F $\pm$ 10%
C103	DK1710201	Ceramic, 0.001 μ F $\pm$ 20%	C168	EA4740501	Electroly, 0.47 μ F, 50V
C104	DK1820302	Ceramic, 0.02 μ F +100%, -0%	C169	EA4740501	Electroly, 0.47 μ F, 50V
C105	EM2240251	Electroly, 0.22 μ F, 25V	C170	EA2270169	Electroly, 220 μ F, 16V
C106	DK1820302	Ceramic, 0.02 μ F +100%, -0%	C171	DF1768201	Film, 0.0068 μ F $\pm$ 20%
C107	DK1820302	Ceramic, 0.02 μ F +100%, -0%	C172	DF1722301	Film, 0.022 μ F $\pm$ 20%
C108	DK1840302	Ceramic, 0.04 μ F +80%, -20%	C173	DF1740301	Film, 0.04 μ F $\pm$ 20%
C109	DD1210001	Ceramic, 10PF $\pm$ 10%	C174	DF6539101	Film, 390PF $\pm$ 5%
C110	DD1105001	Ceramic, 5PF $\pm$ 0.5PF	C175	DD1620001	Ceramic, 20PF $\pm$ 10%
C111	DD1530101	Ceramic, 300PF $\pm$ 5%	C176	DF1740301	Film, 0.04 μ F $\pm$ 20%
C112	DD1615003	Ceramic, 15PF $\pm$ 10%	C177	EA4760109	Electroly, 47 μ F, 10V
C113	DK1710201	Ceramic, 0.001 μ F $\pm$ 20%	C178	DK1840302	Ceramic, 0.04 μ F +80%, -20%
C114	DK1840302	Ceramic, 0.04 μ F +80%, -20%	C179	DD1530101	Ceramic, 300PF $\pm$ 5%
C115	DK1820302	Ceramic, 0.02 μ F +100%, -0%	C180	DD1620101	Ceramic, 200PF $\pm$ 10%
C116	DD1102004	Ceramic, 2PF $\pm$ 0.5PF	C181	DF1647201	Film, 0.0047 μ F $\pm$ 10%
C117	DD1615003	Ceramic, 15PF $\pm$ 10%	C182	DF1615301	Film, 0.015 μ F $\pm$ 10%
C118	DD1520001	Ceramic, 20PF $\pm$ 5%	C183	DK1840302	Ceramic, 0.04 μ F +80%, -20%
C119	DD1207003	Ceramic, 7PF $\pm$ 1PF	C184	EA4740501	Electroly, 0.47 μ F, 50V
C120	DD1525002	Ceramic, 25PF $\pm$ 5%	C185	DK1840302	Ceramic, 0.04 μ F +80%, -20%
C121	DK1820302	Ceramic, 0.02 μ F +100%, -0%	C186	EA1050509	Electroly, 1 μ F, 50V
C122	DD1650101	Ceramic, 500PF $\pm$ 10%	C187	CT1100008	Trimming, 10PF
C123	DK1840302	Ceramic, 0.04 μ F +80%, -20%	MISCELLANEOUS		
C124	DK1820302	Ceramic, 0.02 μ F +100%, -0%	G101	BF4030001	Printed Compo., 0.04 μ F + 270 Ω
C125	EA1060169	Electroly, 10 μ F, 16V	G102	BF2230008	Printed Compo., 0.022 μ F + 270 Ω
C126	DK1840302	Ceramic, 0.04 μ F +80%, -20%	G103	BF2230007	Printed Compo., 0.022 μ F + 680 Ω
C127	DK1840302	Ceramic, 0.04 μ F +80%, -20%	G104	BF2230006	Printed Compo., 0.022 μ F + 1K Ω
C128	DD1620001	Ceramic, 20PF $\pm$ 10%	G105	BF2230006	Printed Compo., 0.022 μ F + 1K Ω
C129	EA1060169	Electroly, 10 μ F, 16V	F101	FF1107004	Ceramic Filter, CFS107M
C130	DD1610101	Ceramic, 100PF $\pm$ 10%	F102	FF1107004	Ceramic Filter, CFS107M
C131	DK1820302	Ceramic, 0.02 μ F +100%, -0%	COILS AND TRANSFORMERS		
C132	DK1840302	Ceramic, 0.04 μ F +80%, -20%	L101	LA1004606	Ant. Coil, FM
C133	DK1820302	Ceramic, 0.02 μ F +100%, -0%	L102	LA1027809	RF Coil, FM
C134	DK1820302	Ceramic, 0.02 μ F +100%, -0%	L103	LO1203601	OSC Coil, FM
C135	DK1820302	Ceramic, 0.02 μ F +100%, -0%	L104	LC1751001	Choke Coil, 0.75 μ H
C136	DK1840302	Ceramic, 0.04 μ F +80%, -20%	L105	LI1001601	IFT, FM
C137	DK1840302	Ceramic, 0.04 μ F +80%, -20%	L106	LC1223002	Choke Coil, 22 μ H
C138	EA1060169	Electroly, 10 μ F, 16V	L107	LI1401623	IFT, FM
C139	DD1650101	Ceramic, 500PF $\pm$ 10%	L108	LI1015602	IFT, FM
C140	EA1060169	Electroly, 10 μ F, 16V	L109	LS1031001	MPX Coil, 19 kHz
C141	DD1620101	Ceramic, 200PF $\pm$ 10%	L110	LS1031004	MPX Coil, 38 kHz
C142	DD1620101	Ceramic, 200PF $\pm$ 10%	L111	LC2226004	Choke Coil, 22 mH
C143	DK1840302	Ceramic, 0.04 μ F +80%, -20%	L112	LC2226004	Choke Coil, 22 mH
C144	DD1610101	Ceramic, 100PF $\pm$ 10%	L113	LC2226004	Choke Coil, 22 mH
C145	DK1820302	Ceramic, 0.02 μ F +100%, -0%	L114	LC2226004	Choke Coil, 22 mH
C146	EA1050509	Electroly, 1 μ F, 50V	L115	LO1001042	OSC Coil, AM
C147	EA1050509	Electroly, 1 μ F, 50V	L116	LI1028003	IFT, AM
C148	DF1722201	Film, 0.0022 μ F $\pm$ 20%	L117	LI1001048	IFT, AM
C149	EA3350509	Electroly, 3.3 μ F, 50V			
C150	EA1060169	Electroly, 10 μ F, 16V			

REF. DESIG.	PART NO.	DESCRIPTION
SEMICONDUCTORS		
H101	HF200411B	FET, 2SK41E
H102	HT306681C	Transistor, 2SC668C
H103	HT309301C	Transistor, 2SC930C
H104	HT309301C	Transistor, 2SC930C
H105	HT309301C	Transistor, 2SC930C
H106	HT309301C	Transistor, 2SC930C
H107	HT309301C	Transistor, 2SC930C
H108	HT309301C	Transistor, 2SC930C
H109	HT309301C	Transistor, 2SC930C
H110	HT305361G	Transistor, 2SC536G
H111	HT305361E	Transistor, 2SC536E
H112	HT305361E	Transistor, 2SC536E
H113	HT309291C	Transistor, 2SC929C
H114	HC1001703	IC, LA3310
H115	HD1000303	Diode, 1S188FM2
H116	HD1000303	Diode, 1S188FM2
H117	HD2001105	Diode, 1S1555
H118	HD2001105	Diode, 1S1555
H119	HD1000303	Diode, 1S188FM2
H120	HD1000303	Diode, 1S188FM2
H121	HD1000303	Diode, 1S188FM2
H122	HD1000303	Diode, 1S188FM2
H123	HD1000303	Diode, 1S188FM2
H124	HD1000303	Diode, 1S188FM2
H125	HD1000303	Diode, 1S188FM2
MISCELLANEOUS		
J101 J120	YP1000099	Plug
0412	282110901	Shield x 2
0413	286710901	Shield
0414	285010902	Shield
0810	62031650W	Lug
P300	YD2850001 ZZ2850001	P.W. Board, Phono Amp. P.W. Board Assembly
RESISTORS All resistors are $\pm 5\%$ and $\frac{1}{4}W$.		
R301	RT0556314	56K Ω
R302	RT0556314	56K Ω
R303	RT0539114	390 Ω
R304	RT0539114	390 Ω
R305	RT0539114	390 Ω
R306	RT0539114	390 Ω
R307	RT0568314	68K Ω
R308	RT0568314	68K Ω
R309	RT0522314	22K Ω
R310	RT0522314	22K Ω
R311	RT0533414	330K Ω
R312	RT0533414	330K Ω
R313	RT0539114	390 Ω
R314	RT0539114	390 Ω
R315	RT0582214	8.2K Ω
R316	RT0582214	8.2K Ω
R317	RT0533414	330K Ω
R318	RT0533414	330K Ω
R319	RT0522414	220K Ω
R320	RT0522414	220K Ω
R321	RT0518314	18K Ω
CAPACITORS		
C301	EM2250251	Electroly, 2.2 μF , 25V

REF. DESIG.	PART NO.	DESCRIPTION
C302	EM2250251	Electroly, 2.2 μF , 25V
C303	DD1650001	Ceramic, 50PF $\pm 10\%$
C304	DD1650001	Ceramic, 50PF $\pm 10\%$
C305	DF1633205	Film, 0.0033 μF $\pm 10\%$
C306	DF1633205	Film, 0.0033 μF $\pm 10\%$
C307	DD1650001	Ceramic, 50PF $\pm 10\%$
C308	DD1650001	Ceramic, 50PF $\pm 10\%$
C309	EA1070109	Electroly, 100 μF , 10V
C310	EA1070109	Electroly, 100 μF , 10V
C311	DF1610305	Film, 0.01 μF $\pm 10\%$
C312	DF1610305	Film, 0.01 μF $\pm 10\%$
C313	EV1050351	Electroly, 1 μF , 35V
C314	EV1050351	Electroly, 1 μF , 35V
C315	EA1070359	Electroly, 100 μF , 35V
C316	EA4760359	Electroly, 47 μF , 35V
SEMICONDUCTORS		
H301	HT313271T	Transistor, 2SC1327 T
H302	HT313271T	Transistor, 2SC1327 T
H303	HT313271T	Transistor, 2SC1327 S
H304	HT313271T	Transistor, 2SC1327 S
MISCELLANEOUS		
J301 J308	YP1000094	Plug
0804 1236	51100305A 62031650W	B.H.M. Screw x 4 Lug
P700	YD2821007 ZZ2871807	P.W. Board, Main Amp. P.W. Board, Assembly
RESISTORS All resistors are $\pm 5\%$ and $\frac{1}{4}W$, unless otherwise indicated.		
R701	RT0510214	1K Ω
R702	RT0510214	1K Ω
R703	RT0568414	680K Ω
R704	RT0568414	680K Ω
R705	RT0556314	56K Ω
R706	RT0556314	56K Ω
R707	RT0524314	24K Ω
R708	RT0524314	24K Ω
R709	RT0556214	5.6K Ω
R710	RT0556214	5.6K Ω
R711	RT0518114	180 Ω
R712	RT0518114	180 Ω
R713	RC1022212	2.2K Ω $\pm 10\%$, $\frac{1}{2}W$
R714	RC1022212	2.2K Ω $\pm 10\%$, $\frac{1}{2}W$
R715	RT0527214	2.7K Ω
R716	RT0527214	2.7K Ω
R717	RT0582314	82K Ω
R718	RT0582314	82K Ω
R719	RT0512314	12K Ω
R720	RT0512314	12K Ω
R721	RC1033212	3.3K Ω $\pm 10\%$, $\frac{1}{2}W$
R722	RC1033212	3.3K Ω $\pm 10\%$, $\frac{1}{2}W$
R723	RA0104012	Trimming, 100K Ω (B)
R724	RA0104012	Trimming, 100K Ω (B)
R725	RT0510114	100 Ω
R726	RT0510114	100 Ω
R727	RT0582214	8.2K Ω
R728	RT0582214	8.2K Ω
R729	RA0501005	Trimming, 500 Ω (B)
R730	RA0501005	Trimming, 500 Ω (B)

REF. DESIG.	PART NO.	DESCRIPTION			REF. DESIG.	PART NO.	DESCRIPTION		
R731	GF0539114	390Ω			H712	HT106061M	Transistor,	2SA606	
R732	GF0539114	390Ω			H713	HV0000705	Varistor,	S3016R	
R733	GF0539114	390Ω			H714	HV0000705	Varistor,	S3016R	
R734	GF0539114	390Ω			H715	HD1000105	Diode,	1N60	
R735	GF0510014	10Ω			H716	HD1000105	Diode,	1N60	
R736	GF0510014	10Ω			H717	HD1000105	Diode,	1N60	
R737	GF0522114	220Ω			H718	HD1000105	Diode,	1N60	
R738	GF0522114	220Ω					MISCELLANEOUS		
R739	GF0522114	220Ω			0404	281811806	Spacer	x 4	
R740	GF0522114	220Ω			J701				
					J726	YP1000091	Plug		
R741	GF0510214	1KΩ							
R742	GF0510214	1KΩ			0401	282126701	Heat-Sink		
R743	GF0522014	22Ω			0402	282026702	Heat-Sink	x 2	
R744	GF0522014	22Ω			0403	286716001	Bracket	x 2	
R745	GF0510214	1KΩ			0405	287116008	Bracket	x 2	
R746	GF0510214	1KΩ							
R747	RW1000503	0.5Ω	±10%,	3W	0802	51380306P	P. Tapt Screw	x 4	
R748	RW1000503	0.5Ω	±10%,	3W	0803	51380306P	P. Tapt Screw	x 4	
R749	RW1000503	0.5Ω	±10%,	3W	0805	51100308A	B.H.M. Screw	x 2	
R750	RW1000503	0.5Ω	±10%,	3W					
					H001				
R753	RC1010012	10Ω	±10%,	½W	H004	HT314452A	Transistor,	2SC1445 O or Y	
R754	RC1010012	10Ω	±10%,	½W					
R755	RT0536314	36KΩ			H005				
R756	RT0536314	36KΩ			H006	HV0000212	Varistor,	SV-3A	
R757	RT0536314	36KΩ							
R758	RT0536314	36KΩ			P800	YD2871006	P.W. Board, Power Source		
						ZZ2871006	P.W. Board Assembly		
		CAPACITORS					RESISTORS		
C701	EE4740501	Electroly,	0.47μF,	50V	R801	GS1030103	300Ω	±10%,	3W
C702	EE4740501	Electroly,	0.47μF,	50V	R802	GJ1025102	250Ω	±10%,	2W
C703	EA2270359	Electroly,	220μF,	35V	R803	RT0518314	18KΩ	±5%,	¼W
C704	EA2270359	Electroly,	220μF,	35V	R804	RT0510414	100KΩ	±5%,	¼W
C705	DD1650001	Ceramic,	50PF	±10%	R805	RC1056012	56Ω	±10%,	½W
C706	DD1650001	Ceramic,	50PF	±10%	R806	RC1010012	10Ω	±10%,	½W
C707	EA4760509	Electroly,	47μF,	50V	R807	RC1033012	33Ω	±10%,	½W
C708	EA4760509	Electroly,	47μF,	50V					
C709	EA4760509	Electroly,	47μF,	50V					
C710	EA4760509	Electroly,	47μF,	50V					
							CAPACITORS		
C711	EA1060359	Electroly,	10μF,	35V	C801	EA3370509	Electroly,	330μF,	50V
C712	EA1060359	Electroly,	10μF,	35V	C802	EA3370359	Electroly,	330μF,	35V
C713	DD1550050	Ceramic,	50PF	±5%	C803	EA1070509	Electroly,	100μF,	50V
C714	DD1550050	Ceramic,	50PF	±5%	C804	EA1070509	Electroly,	100μF,	50V
C715	EA1070109	Electroly,	100μF,	10V	C805	DK1840302	Ceramic,	0.04μF	+100%, -0%
C716	EA1070109	Electroly,	100μF,	10V	C806	EA2270169	Electroly,	220μF,	16V
C717	EA2260359	Electroly,	22μF,	35V	C807	EA4770109	Electroly,	470μF,	10V
C718	EA2260359	Electroly,	22μF,	35V					
C719	DD1650001	Ceramic,	50PF	±10%					
C720	DD1650001	Ceramic,	50PF	±10%					
							SEMICONDUCTORS		
C721	DD1650001	Ceramic,	50PF	±10%	H801	HT314071R	Transistor,	2SC1407R	
C722	DD1650001	Ceramic,	50PF	±10%	H802	HD3002109	Diode,	BZ-140	
C723	DK1610150	Ceramic,	100PF	±10%	H803	HD2000501	Diode,	W06B	
C724	DK1610150	Ceramic,	100PF	±10%	H804	HD2000501	Diode,	W06B	
C725	DF1710452	Film,	0.1μF	±20%	H805	HD2000501	Diode,	W06B	
C726	DF1710452	Film,	0.1μF	±20%					
		SEMICONDUCTORS					MISCELLANEOUS		
H701	HT309452A	Transistor,	2SC945 Q, R		J801				
H702	HT309452A	Transistor,	2SC945 Q, R		J803	YP1000099	Plug		
H703	HT311751H	Transistor,	2SC1175 D						
H704	HT311751H	Transistor,	2SC1175 D		J804				
H705	HT303711B	Transistor,	2SC371 O		J805	YP1000094	Plug		
H706	HT303711B	Transistor,	2SC371 O						
H707	HT105621B	Transistor,	2SA562						
H708	HT105621B	Transistor,	2SA562						
H709	HT309591M	Transistor,	2SC959						
H710	HT309591M	Transistor,	2SC959						
H711	HT106061M	Transistor,	2SA606						

REF. DESIG.	PART NO.	DESCRIPTION				REF. DESIG.	PART NO.	DESCRIPTION			
J806 J808 J809 0222	YP1000099 YP1000094 287126250	Plug Plug Pulley K				R429 R430	RT0582114 RT0582114	820Ω 820Ω			
0301 0303 0314 0315	287327350 287112001 287316004 287316005	Fly Wheel K Insulator Bracket Bracket				R431 R432 R433	RT0522414 RT0522414 RT0533214	220KΩ 220KΩ 3.3KΩ			
0511 0512 0513 0514 0515 0516 0521 0529	51100305A 51100305A 51100305A 51100305A 51100305A 51100305A 51040306A 51100305A	B.H.M. Screw x 2 B.H.M. Screw x 2 B.H.M. Screw x 2 B.H.M. Screw B.H.M. Screw x 2 B.H.M. Screw x 4 F.H.M. Screw B.H.M. Screw x 2				C401 C402 C403 C404 C405 C406 C407 C408 C409 C410	DF1622405 DF1622405 EA4750359 EA4750359 DF1622405 DF1622405 DF1633305 DF1633305 DF1656205 DF1656205	Film, 0.2μF ±10% Film, 0.2μF ±10% Electroly, 4.7μF, 35V Electroly, 4.7μF, 35V Film, 0.2μF ±10% Film, 0.2μF ±10% Film, 0.033μF ±10% Film, 0.033μF ±10% Film, 0.0056μF ±10% Film, 0.0056μF ±10%			
J005 J007	YT0204003 YT0206003	Terminal, Tape In, Out Terminal, Phono, Tape, Aux				C411 C412 C413 C414 C415 C416 C417 C418 C419 C420	DF1633305 DF1633305 EE1050501 EE1050501 DD1615101 DD1615101 DD1630001 DD1630001 EA1070109 EA1070109	Film, 0.033μF ±10% Film, 0.033μF ±10% Electroly, 1μF, 50V Electroly, 1μF, 50V Ceramic, 150PF ±10% Ceramic, 150PF ±10% Ceramic, 30PF Ceramic, 30PF Electroly, 100μF, 10V Electroly, 100μF, 10V			
S001	SR1105002	Rotary Switch, Selector				C421 C422 C423 C424 C425	EA1060359 EA1060359 EV4740251 EV4740251 EA1070359	Electroly, 10μF, 35V Electroly, 10μF, 35V Electroly, 0.47μF, 25V Electroly, 0.47μF, 25V Electroly, 100μF, 35V			
R002 R003 R004	GT0515212 RT0518314 RT0518314	Resistor, 1.5KΩ ±5%, ½W Resistor, 18KΩ ±5%, ¼W Resistor, 18KΩ ±5%, ¼W				H401 H402 H403 H404 H405 H406	HT313271S HT313271S HT313271T HT313271T HT313271T HT313271T	Transistor, 2SC1327S Transistor, 2SC1327S Transistor, 2SC1327T Transistor, 2SC1327T Transistor, 2SC1327T Transistor, 2SC1327T			
C010 C011	EA4760169 EA4760169	Electroly Cap., 47μF, 16V Electroly Cap., 47μF, 16V				J401 J407	YP1000094	Plug			
R012	RM0254023	Variable Resist, 250KΩ				0302 J002	285027101 YJ0100065	Holder, Headphone Jack, Phone			
P400	YD2871002 ZZ2871002	P.W. Board, Tone P.W. Board, Assembly				R011	RS0504001	Variable Resist., 500KΩ			
R401 R402 R403 R404 R405 R406 R407 R408 R409 R410	RT0510214 RT0510214 RT0547414 RT0547414 RT0512514 RT0512514 RT0556214 RT0556214 RT0568214 RT0568214	1KΩ 1KΩ 470KΩ 470KΩ 1.2MΩ 1.2MΩ 5.6KΩ 5.6KΩ 6.8KΩ 6.8KΩ				S003	SP0301001	Push Switch, Power			
R411 R412 R413 R414 R415 R416 R417 R418 R419 R420	RT0512214 RT0512214 RT0522414 RT0522414 RT0527214 RT0527214 RM0503053 RM0503053 RT0522414 RT0522414	1.2KΩ 1.2KΩ 220KΩ 220KΩ 2.7KΩ 2.7KΩ Variable, 50KΩ (A) Variable, 50KΩ (A) 220KΩ 220KΩ				G001	BF1040001	Printed Compo., 0.1μF/120Ω			
R421 R422 R423 R424 R425 R426 R427 R428	RT0533114 RT0533114 RT0515414 RT0515414 RT0513314 RT0513314 RT0515314 RT0515314	330Ω 330Ω 150KΩ 150KΩ 13KΩ 13KΩ 15KΩ 15KΩ				M003	IM1104207	DC Meter			
						C009	DF1747380	Film Cap., 0.047μF ±20%			
						S002	SR0605010	Rotary Switch			
						0218 0219 0522 0523 0524	285427401 285427101 51100306A 54050300R 51570306B	Reflector Holder B.H.M. Screw T.L. Washer OR P. Tapt Screw			
						J001	YJ0800013	Socket, Lamp			

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
M001	IN1008007	Lamp, Meter	C202	DF1622305	Film, 0.022 μ F $\pm$ 10%
0212	287127101	Holder	C203	DD1510101	Ceramic, 100PF $\pm$ 5%
0527	51570306B	P. Tapt Screw x 2	C204	DD1510101	Ceramic, 100PF $\pm$ 5%
PZ00	YD2871005 ZZ2871005	P.W. Board, Lamp P.W. Board Assembly	C205	DF1668205	Film, 0.0068 μ F $\pm$ 10%
MZ01 } MZ05	IN1008007	MISCELLANEOUS Lamp, Dial	C206	DF1668205	Film, 0.0068 μ F $\pm$ 10%
JZ01 } JZ10	YJ0800017	Socket, Lamp Socket	S201	SP0205001	MISCELLANEOUS Push Switch
JZ11	YP1000094	Plug	J201 } J206	YP1000099	Plug
JZ12	YP1000094	Plug	C002	DK1710301	Ceramic Cap., 0.01 μ F $\pm$ 20%
PY00	YD2871004 ZZ2871004	P.W. Board, Lamp P.W. Board Assembly	C003	DK1710301	Ceramic Cap., 0.01 μ F $\pm$ 20%
MY01	IN1008031	Lamp, FM	0815	62031650W	Lug, Earth x 2
MY02	IN1008031	Lamp, STEREO	J014	YL0105011	Terminal, Speaker Coil
MY03	IN1008031	Lamp, AM	L004	LC2272001	Choke Coil, Speaker
JY01 } JY06	YP1000099	Plug	L005	LC2272001	Choke Coil, Speaker
0213	287127102	Holder	R015	RJ1002201	Resistor, 2.2 Ω $\pm$ 10%, 1W
0528	51570306B	P. Tapt Screw x 2	R016	RJ1002201	Resistor, 2.2 Ω $\pm$ 10%, 1W
0530	51100306A	B.H.M. Screw x 2	0327	145525903	Bush, Antenna Lead
0531	54050300R	T.L. Washer OR x 2	0329	282125901	Bush
0227	287126251	Pulley K	0330	284906702	Cap
0232	287126252	Pulley K	0610	51100306S	B.H.M. Screw x 3
0532	51100305A	B.H.M. Screw x 2	0613	51100306S	B.H.M. Screw
0533	51100305A	B.H.M. Screw x 2	0619	51100308S	B.H.M. Screw x 2
P200	YD2871001 ZZ2871001	P.W. Board, Switch P.W. Board Assembly	0620	53110303A	Hexagon Nut x 2
R201	RT0518314	18K Ω	0625	51570306B	P. Tapt Screw x 2
R202	RT0518314	18K Ω	0627	51100308S	B.H.M. Screw x 5
R203	RT0510414	100K Ω	0628	53110303A	Hexagon Nut x 6
R204	RT0510414	100K Ω	0631	54020401E	Flat Washer P
R205	RT0510214	1K Ω	0632	54050400R	T.L. Washer OR
R206	RT0510214	1K Ω	0633	53110403A	Hexagon Nut
R207	RT0547214	4.7K Ω	0634	62041760W	Lug
R208	RT0547214	4.7K Ω	4136	51100308S	B.H.M. Screw
R209	RT0547214	4.7K Ω	0706	55060305S	T.R. Rivet x 2
R210	RT0547214	4.7K Ω	0707	51060316A	P.H.M. Screw x 2
R211	RT0522514	2.2M Ω	0708	54050300R	T.L. Washer x 2
R212	RT0522514	2.2M Ω	0709	53110303A	Hexagon Nut x 2
C201	DF1622305	Film, 0.022 μ F $\pm$ 10%	4137	53110303A	Hexagon Nut
			4138	51100306S	B.H.M. Screw
			L006	LC1154002	Choke Coil, AM Antenna
			J003	YT0104004	Terminal, FM/AM Antenna
			J004	YT0201006	Terminal, Quadra Out
			J006	YL0301021	Terminal, Ground
			J008	YT0304001	Terminal, Speaker (Main)
			J009	YT0304001	Terminal, Speaker (Remote)
			J015	YL0106004	Terminal, AC Line Selecter
			J016	YT0304001	Terminal, Spkr Quadraphase
			J017	YJ1100001	Socket
			J018	YL0102003	Terminal, 2P
			W001	YC0190003	AC Cord
			R017	RT0510414	100K Ω $\pm$ 5%, $\frac{1}{4}$ W
			R018	RT0510414	100K Ω $\pm$ 5%, $\frac{1}{4}$ W
			R019	RT0533414	330K Ω $\pm$ 5%, $\frac{1}{4}$ W
			R020	RT0533414	330K Ω $\pm$ 5%, $\frac{1}{4}$ W
			L001	LF1120024	Antenna Coil, AM
			0321	257816052	Bracket K
			0325	281927103	Holder
			0604	51100310S	B.H.M. Screw x 2
			0605	53110303E	Hexagon Nut x 2
			0606	51100308S	B.H.M. Screw x 2

REF. DESIG.	PART NO.	DESCRIPTION
0607	54050300R	T.L. Washer OR x 2
0608	53110303E	Hexagon Nut x 2
L003	LC1332002	Choke Coil, AM Antenna
H007	HD2001510	Diode, 5B1
C007	DK1810351	Ceramic Cap., 0.01 μ F +100%, -0%
C008	DK1810351	Ceramic Cap., 0.01 μ F +100%, -0%
J013	YL0110002	Terminal, 10P
R005	GS1010020	Resistor, 10 Ω $\pm$ 10%, 20W
R007	RJ1010102	Resistor, 100 Ω $\pm$ 10%, 2W
R008	RJ1010102	Resistor, 100 Ω $\pm$ 10%, 2W
R009	RJ1047001	Resistor, 47 Ω $\pm$ 10%, 1W
R010	RJ1047001	Resistor, 47 Ω $\pm$ 10%, 1W
R013	GJ0515102	Resistor, 150 Ω $\pm$ 5%, 2W
R014	GJ0515102	Resistor, 150 Ω $\pm$ 5%, 2W
4636	138200503	Clamper x 8
0407	282100501	Clamper
0408	287100501	Clamper x 6
W002	YB0007001	Wire Material
W003	YB0007001	Wire Material
W004	YB0027001	Wire Material
PR00	YD2871003 ZZ2871803	P.W. Board, Fuse P.W. Board Assembly
JR01 { JR08	YJ0800020	Socket
JR09 { JR16	YP1000099	Plug
W005	YX2871001	Wire Material
W006	YW2871002	Wire Material
0126	287205701	Leg x 4
0201	287110550	Chassis K
0423	285416003	Bracket
0424	286412001	Insulator
0409	138200503	Clamper x 3
0410	287116011	Bracket x 2
0415	281900501	Clamper
0416	287116010	Bracket
0601	51100306S	B.H.M. Screw x 6
0616	51100303S	B.H.M. Screw x 2
0617	53110303A	Hexagon Nut x 2
0623	51100308S	B.H.M. Screw x 2
0624	53110303A	Hexagon Nut x 2
0713	51060418A	P.H.M. Screw x 4
0714	54040402A	Spring Washer x 4
0718	51570306B	P. Tapt Screw x 6
0721	51570306B	P. Tapt Screw x 6
0722	59030808P	Washer x 2
0723	51100305A	B.H.M. Screw x 3
0724	51570306B	P. Tapt Screw x 3
0725	51570306B	P. Tapt Screw x 4
0726	51570306B	P. Tapt Screw x 2
0728	51100410A	B.H.M. Screw x 4
0729	54040402A	Spring Washer x 4
0730	53110403A	Hexagon Nut x 4
0731	51570306B	P. Tapt Screw x 4
0733	51570306B	P. Tapt Screw x 2
0801	51570306B	P. Tapt Screw x 4

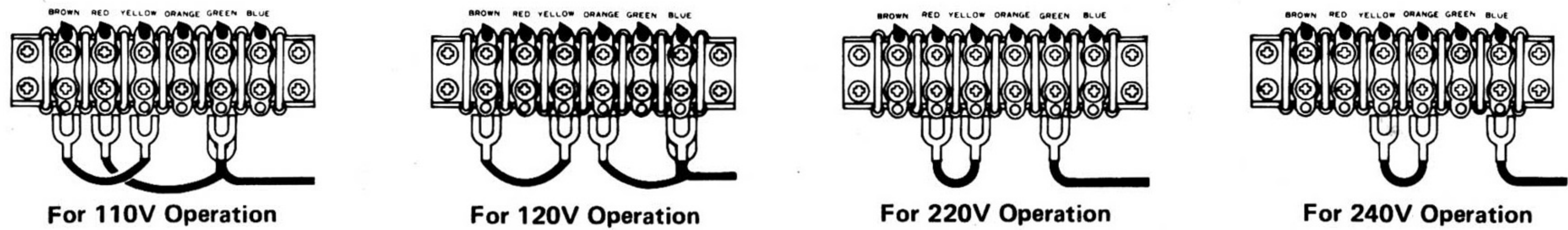
REF. DESIG.	PART NO.	DESCRIPTION
0808	51570306B	P. Tapt Screw x 4
0809	51570306B	P. Tapt Screw x 2
0811	54050300R	T.L. Washer OR x 3
0812	53110303A	Hexagon Nut
0816	51570306B	P. Tapt Screw x 2
0817	51570306B	P. Tapt Screw x 9
0818	54050300R	T.L. Washer OR x 3
0821	51570306B	P. Tapt Screw x 2
0822	54050300R	T.L. Washer OR x 2
0823	51570306B	P. Tapt Screw
0824	51100305A	B.H.M. Screw x 2
0734	51100305A	B.H.M. Screw x 2
0828	51570312B	P. Tapt Screw x 2
FR01	FS1040001	Fuse, 4A
FR02	FS1010001	Fuse, 1A
FR03	FS1010001	Fuse, 1A
FR04	FS1040001	Fuse, 4A
C004	EC2280502	Electroly Cap., 2200 μ F, 50V
C005	EC2280502	Electroly Cap., 2200 μ F, 50V
C006	EC4780632	Electroly Cap., 4700 μ F, 63V
L002	TS1850206	Power Transf.
0108	287615401	Knob
0109	287615406	Knob x 5
0110	287615409	Knob
0111	287615410	Knob
0112	287227001	Button x 5
0124	287125701	Lid
0125	287225902	Bush x 4
0132	287126502	Indicator
0304	287311801	Spacer x 2
0426	250626506	Indicator, Do not use as handle
0501	51040305A	F.H.M. Screw x 2
0502	51100305A	B.H.M. Screw x 3
0504	51100305S	B.H.M. Screw x 6
0505	51120418S	T.H.M. Screw x 4
0506	54050400R	T.L. Washer OR x 5
0507	54020601A	Flat Washer P x 4
0614	51100306S	B.H.M. Screw x 2
0832	56382540G	Eyelet
5836	282112001	Insulator
0902	287185121	Instructions
0903	281885108	Instructions
0904	287685103	Instructions, Important
0905	287185603	Schematic Diagram
0911	952301511	Serial NO Card x 4
0913	901453535	Polyethylen Bag
0914	901183001	Polyethylen Bag x 2
0916	956000004	Hang Tag
0919	286480401	Sleeve
0921	273182101	Silicagel
0923	287180101	Packing Case
0924	287180102	Packing Case
0925	287280301	Partitioner x 2x 2
0926	287180701	Reinforcement x 2
0927	281905601	Buffer
0929	ZA0200008	Ext. Antenna

VOLTAGE CONVERSION

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

To convert the unit to the required voltage, change the jumper wires as illustrated .

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



Voltage conversion Chart