



SOLID STATE
4-CHANNEL AMPLIFIER

Model QA—420

SERVICE DATA

— July 1972 —

SUPERSCOPE INC.

8150 VINELAND AVENUE,

SUN VALLEY, CALIFORNIA, USA 91352



TABLE OF CONTENTS

Technical Specifications	1
Alignment Procedure	2
Circuit Board Diagram	2~4
Schematic Diagram	5
Exploded Diagram of The Mechanism	6
Parts List	7~12

TECHNICAL SPECIFICATIONS

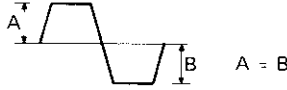
Instantaneous Peak Music Power		Input Impedance	
4-channel operation	56W at 8 ohms	PHONO	47K ohm
2-channel operation	70W at 8 ohms	AUX	100K ohm
E.I.A. Total Music Power		Signal to Noise Ratio (IHF)	
4-channel operation	40W at 8 ohms	PHONO	60 dB
2-channel operation	50W at 8 ohms	AUX	70 dB
Total Music Power (IHF)		Frequency Response (RIAA)	
4-channel operation	30W at 8 ohms		±1 dB
2-channel operation	35W at 8 ohms	Bass Control at 100 Hz	
Continuous Power (R M S)		Treble Control at 10 KHz	
4-channel operation	50W x 4 at 8 ohms		±10 dB
2-channel operation	15W x 15W at 8 ohms	Loudness at 100 Hz	
Total Harmonic Distortion (3W)			+9 dB
Power Bandwidth (THD 1%, IHF)		at 10 KHz	+2.5 dB
Input Sensitivity (5.5W)		Channel Separation at 100 Hz	
PHONO (MAG)	2.5mV		40 dB
(CER)	200mV	at 10 KHz	35 dB
AUX	130mV	Power Requirements	
		Power Voltage	
			AC 120V 50/60 Hz
		Power Consumption	
			100W
		Dimensions	
			4-33/64"(H) x 16-23/32"(W) x 10-33/64"(D)
		Weight	
			16.5 lbs

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

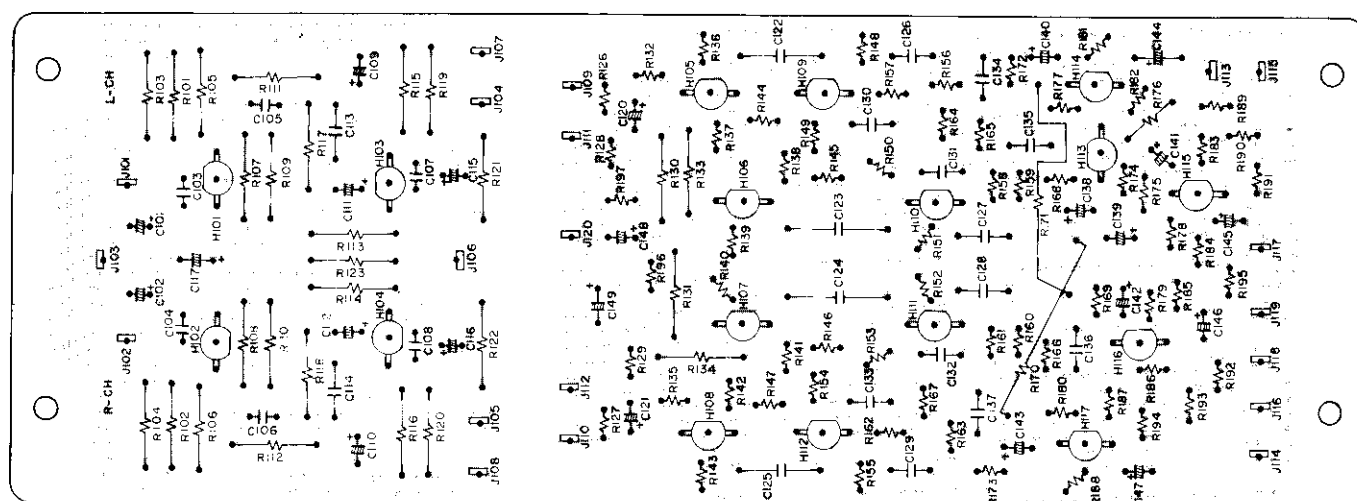
ALIGNMENT PROCEDURE

1. Set the volume control at maximum, BASS TREBLE controls at mechanical center-position, while switching the TAPE MON and LOUDNESS control switches off.
2. Connect 8 ohms dummy load resistor (10 ~ 20W, noninductive preferably) to each FRONT L and R, REAR L and R channel SPEAKERS terminals of the unit.

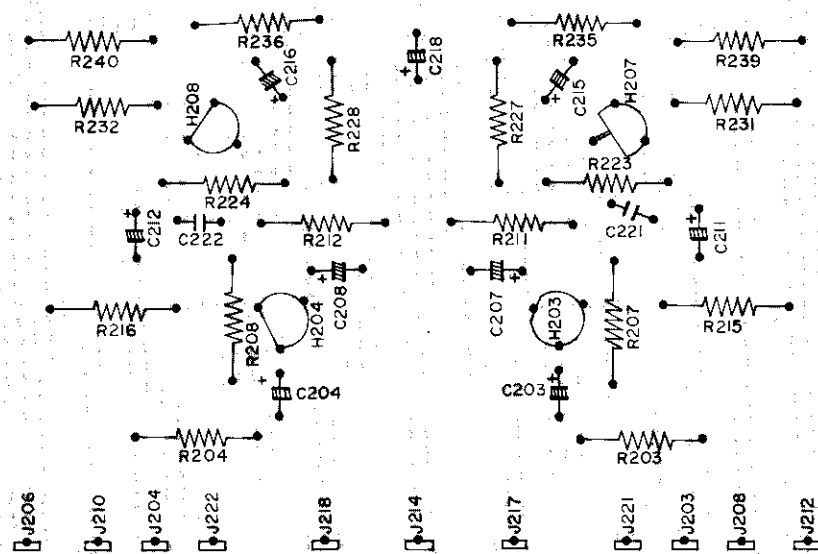
SELECTOR switch in the position "AUX"
MODE Switch in the "4 CH"

Signal Source Connection	Signal Frequency	Indicator Connection	Adjustment
Audio Generator to AUX terminal	1,000 Hz	Oscilloscope to output terminal	Gradually increase output level of the audio generator and adjust, R451, R452, R453 and R454 for symmetrical clipping level. 

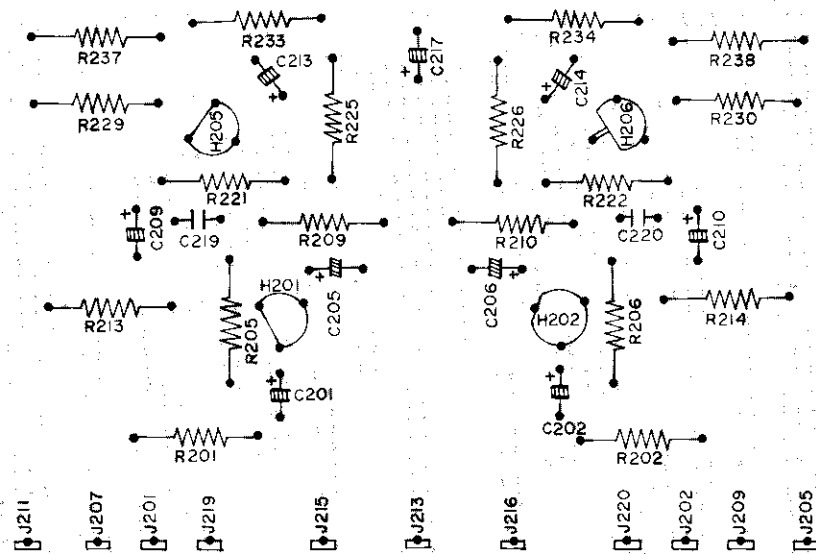
CIRCUIT BOARD DIAGRAM (TOP VIEW)



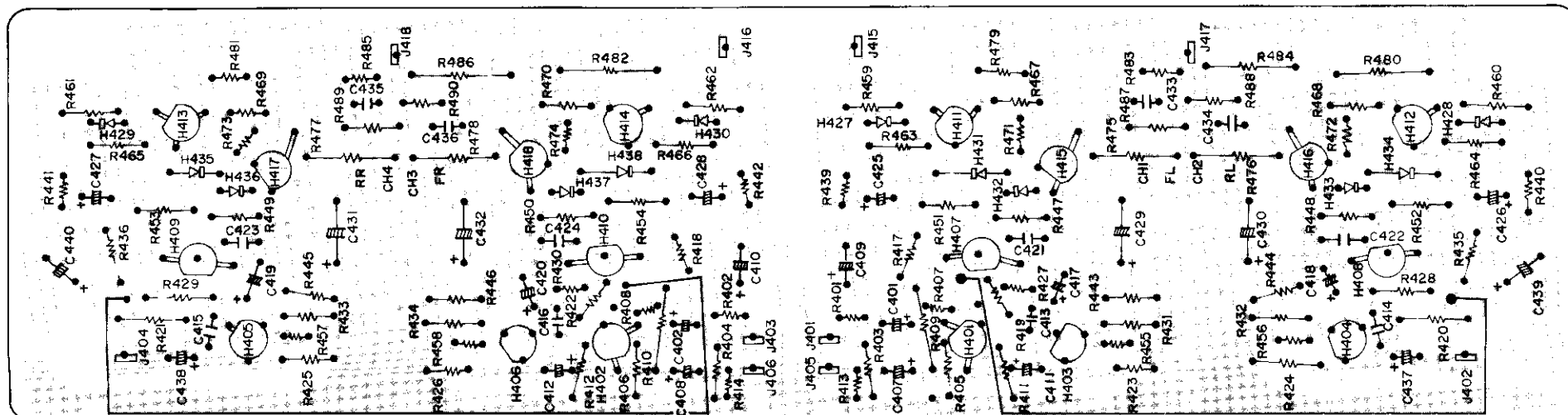
EQ Amp. and SQ Decoder Block



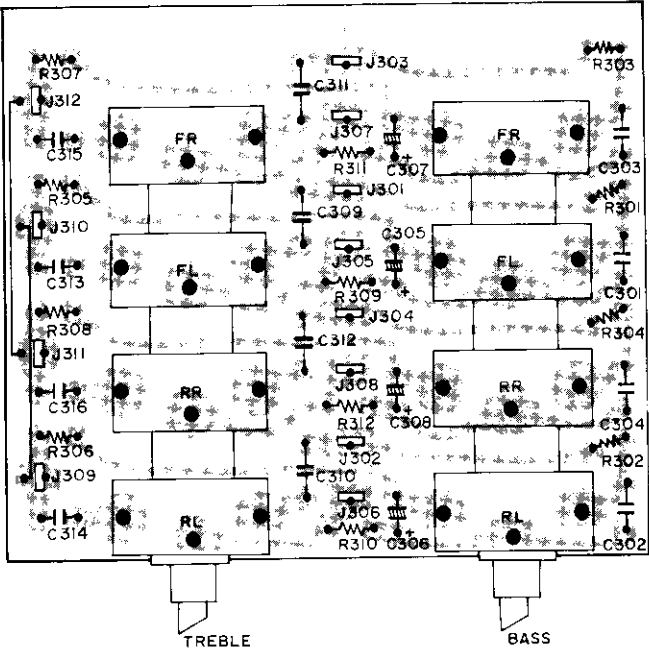
Pre-amp. Block (Right F,R Channel)



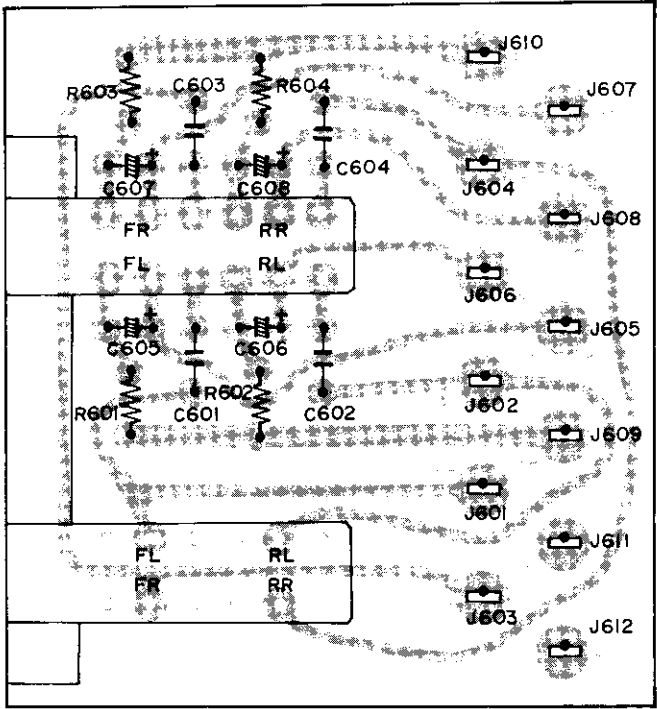
Pre-amp. Block (Left F,R Channel)



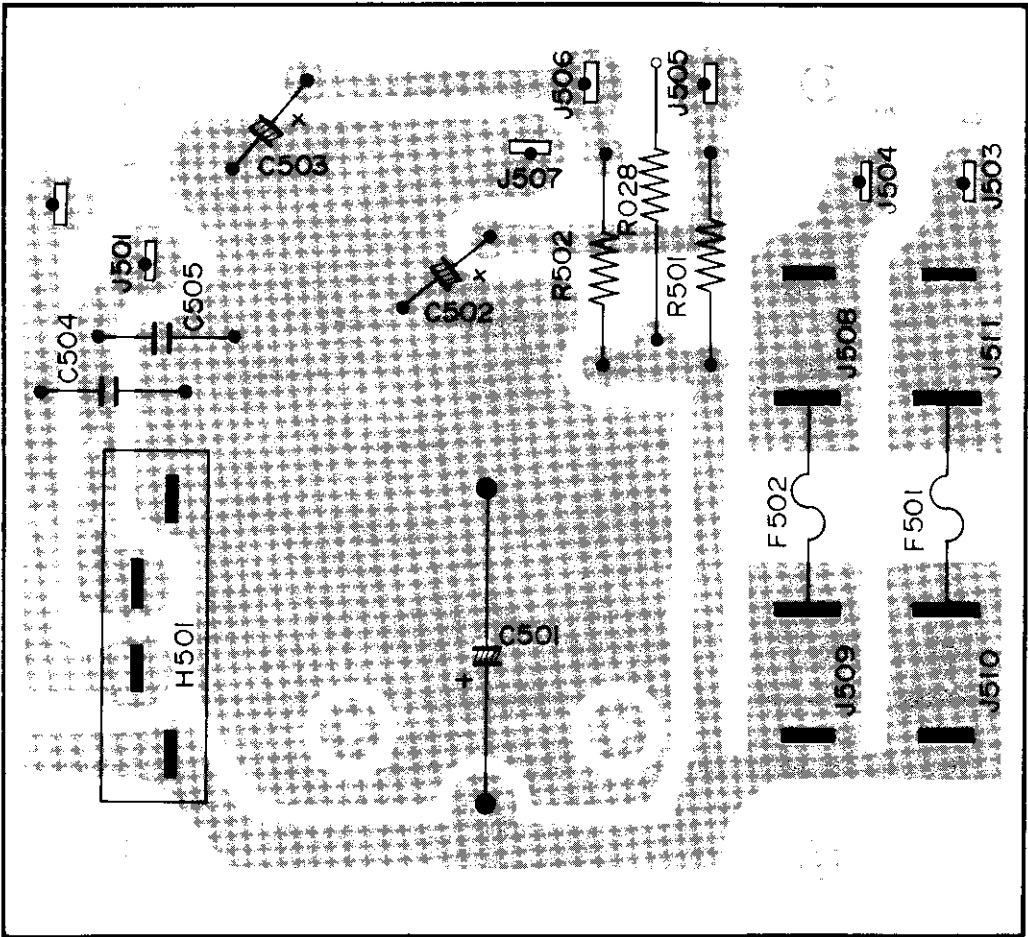
Main Amp. Block



Tone Amp. Block



Loudness and Tape Monitor Block



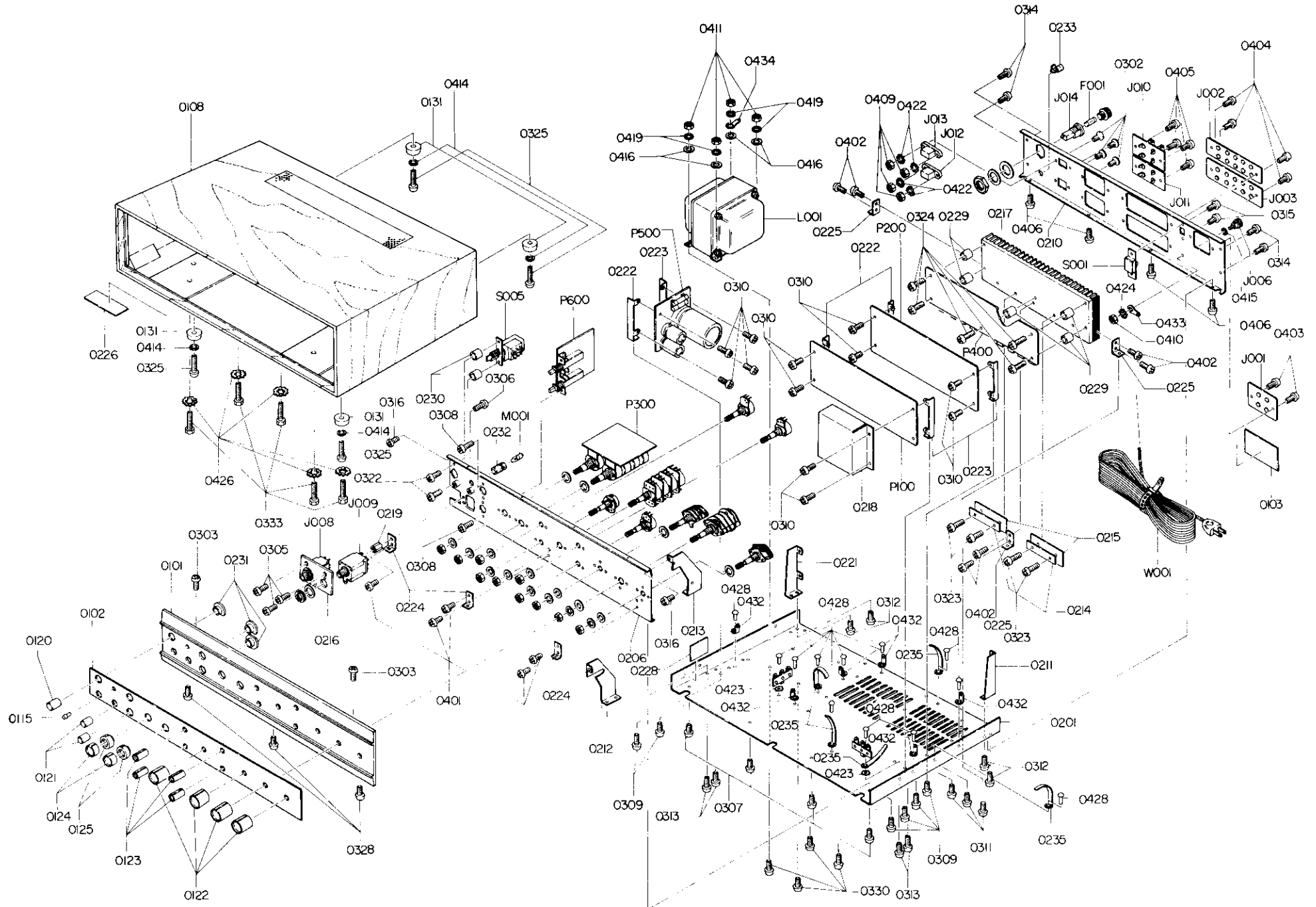
Power Source Block

5



EXPLODED DIAGRAM OF THE MECHANISM

QA-420



PARTS LIST

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
MECHANICAL PARTS			0401	51570306B	P. Tapt Screw x 5
*	286506340	Escutheon Assembly	0402	51570306B	P. Tapt Screw x 6
0101	286506301	Escutheon	0403	51570306B	P. Tapt Screw x 2
0102	286506302	Escutheon	0404	51570306B	P. Tapt Screw x 4
0115	284505301	Cover	0405	51570306B	P. Tapt Screw x 4
0231	282225902	Bush x 3	0406	51570306B	P. Tapt Screw x 4
0103	286526501	Indicator	0409	53112603E	Hexagon Nut x 4
0108	286506450	Case K	0410	53110303E	Hexagon Nut
0109	286506401	Case	0411	53110403E	Hexagon Nut x 4
0110	257000301	Punched Plate	0414	54020301E	Flat Washer P x 4
0120	286515401	Knob (Power)	0415	54020301E	Flat Washer P
0121	286515402	Knob (Loudness, Tape Mon) x 2	0416	54020401E	Flat Washer P x 4
0122	286415404	Knob (Selector, Mode, Synthesizer, Volume) x 4	0419	54040402A	Spring Washer x 4
0123	286315401	Knob (Front, Rear) x 4	0422	54052600R	T.L. Washer OR x 4
0124	286315402	Knob (Bass, Treble) x 2	0423	54050300R	T.L. Washer OR x 2
0125	286315403	Knob (Bass, Treble) x 2	0424	54050300R	T. L. Washer OR
0131	286405701	Leg x 4	0426	54080400R	T. L. Washer RR x 5
0201	284510502	Chassis	0428	55060305 I	T. R. Rivet x 12
0206	286516050	Bracket K	0432	62031340W	Lug x 6
0207	284516001	Bracket	0433	62031340W	Lug
0208	286510101	Support x 2	0434	62041760W	Lug
0210	284516002	Bracket	ELECTRICAL PARTS		
0211	284516003	Bracket	P100	YD2865001	P.C. Board
0212	284516005	Bracket	RESISTORS		
0213	284516006	Bracket	All resistors are $\pm 10\%$ 1/4W and carbon type, unless otherwise indicated.		
0214	284500501	Clamper x 2	R101	RT1010214	1 K Ω
0215	284511801	Spacer x 2	R102	RT1010214	1 K Ω
0216	284512001	Insulator	R103	RT1056314	56 K Ω
0217	284526701	Heat Sink	R104	RT1056314	56 K Ω
0218	284510901	Shield	R105	RT1047114	470 Ω
0219	284510101	Support	R106	RT1047114	470 Ω
0221	269216002	Bracket	R107	RT1015414	150 K Ω
0222	326716003	Bracket x 3	R108	RT1015414	150 K Ω
0223	326716004	Bracket x 3	R109	RT1015514	1.5 M Ω
0224	326716005	Bracket x 3	R110	RT1015514	1.5 M Ω
0225	326716005	Bracket x 3	R111	RT0518314	18 K Ω , $\pm 5\%$, 1/4W
0226	257886101	Caution Label	R112	RT0518314	18 K Ω , $\pm 5\%$, 1/4W
0228	280312001	Insulator	R113	RT1068214	6.8 K Ω
0229	203410101	Support x 5	R114	RT1068214	6.8 K Ω
0230	380205501	Collar x 2	R115	RT1010214	1 K Ω
0232	306925901	Bush	R116	RT1010214	1 K Ω
0233	145525901	Bush	R117	RT0524414	240 K Ω $\pm 5\%$, 1/4W
0235	138200503	Clamper x 5	R118	RT0524414	240 K Ω , $\pm 5\%$, 1/4W
0302	51042608E	F.H.M. Screw x 4	R119	RT1010414	100 K Ω
0303	51102605E	B.H.M. Screw x 2	R120	RT1010414	100 K Ω
0305	51060304A	P.H.M. Screw x 3	R121	RT1010214	1 K Ω
0306	51060304A	P.H.M. Screw	R122	RT1010214	1 K Ω
0307	51060305A	P.H.M. Screw x 4	R123	RT1022114	220 K Ω
0308	51060305A	P.H.M. Screw x 2	R126	RT0591314	91 K Ω , $\pm 5\%$, 1/4W
0309	51060305A	P.H.M. Screw x 6	R127	RT0591314	91 K Ω , $\pm 5\%$, 1/4W
0310	51060305A	P.H.M. Screw x 12	R128	RT1056414	560 K Ω
0311	51060305A	P.H.M. Screw x 3	R129	RT1056414	560 K Ω
0312	51060305A	P.H.M. Screw x 4	R130	RT1015414	150 K Ω
0313	51060305A	P.H.M. Screw x 4	R131	RT1015414	150 K Ω
0314	51060305E	P.H.M. Screw x 4	R132	RT1012214	1.2 K Ω
0315	51060305E	P.H.M. Screw x 2	R133	RT1012214	1.2 K Ω
0316	51060305A	P.H.M. Screw x 2	R134	RT1012214	1.2 K Ω
0322	51060310A	P.H.M. Screw x 2	R135	RT1012214	1.2 K Ω
0323	51060310A	P.H.M. Screw x 4	R136	RT1047214	4.7 K Ω
0324	51060314A	P.H.M. Screw x 5	R137	RT1047214	4.7 K Ω
0325	51100320A	B.H.M. Screw x 4	R138	RT1047214	4.7 K Ω
0328	51100305E	B.H.M. Screw x 3			
0330	51060408A	P.H.M. Screw x 4			
0333	52010420A	H. Head Bolt x 5			

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
R139	RT1047214	4.7 K Ω	C108	DD1620001	Cer., 20pF, $\pm 10\%$
R140	RT1047214	4.7 K Ω	C109	EA3360109	Elect., 33 μ F, 10V
R141	RT1047214	4.7 K Ω	C110	EA3360109	Elect., 33 μ F, 10V
R142	RT1047214	4.7 K Ω			
R143	RT1047214	4.7 K Ω	C111	EA4750359	Elect., 4.7 μ F, 35V
R144	RT0522314	22 K Ω , $\pm 5\%$, 1/4W	C112	EA4750359	Elect., 4.7 μ F, 35V
R145	RT0527314	27 K Ω , $\pm 5\%$, 1/4W	C113	DF1618301	Mylar, 0.018 μ F, $\pm 10\%$
R146	RT0527314	27 K Ω , $\pm 5\%$, 1/4W	C114	DF1618301	Mylar, 0.018 μ F, $\pm 10\%$
R147	RT0522314	22 K Ω , $\pm 5\%$, 1/4W	C115	EA3350509	Elect., 3.3 μ F, 50V
R148	RT1022214	2.2 K Ω	C116	EA3350509	Elect., 3.3 μ F, 50V
R149	RT1022214	2.2 K Ω	C117	EA2270259	Elect., 220 μ F, 25V
R150	RT1022214	2.2 K Ω	C120	EA4750359	Elect., 4.7 μ F, 35V
R151	RT1022214	2.2 K Ω	C121	EA4750359	Elect., 4.7 μ F, 35V
R152	RT1022214	2.2 K Ω	C122	DF1556305	Mylar, 0.056 μ F, $\pm 5\%$, 50V
R153	RT1022214	2.2 K Ω	C123	DF1622405	Mylar, 0.22 μ F, $\pm 10\%$, 50V
R154	RT1022214	2.2 K Ω	C124	DF1622405	Mylar, 0.22 μ F, $\pm 10\%$, 50V
R155	RT1022214	2.2 K Ω	C125	DF1556305	Mylar, 0.0056 μ F, $\pm 5\%$, 50V
R156	RT0530214	3 K Ω , $\pm 5\%$, 1/4W	C126	DF1556205	Mylar, 0.0056 μ F, $\pm 5\%$, 50V
R157	RT0524314	24 K Ω , $\pm 5\%$, 1/4W	C127	DF1522305	Mylar, 0.022 μ F, $\pm 5\%$, 50V
R158	RT0524314	24 K Ω , $\pm 5\%$, 1/4W	C128	DF1522305	Mylar, 0.022 μ F, $\pm 5\%$, 50V
R159	RT0530214	3 K Ω , $\pm 5\%$, 1/4W	C129	DF1556205	Mylar, 0.0056 μ F, $\pm 5\%$, 50V
R160	RT0530214	3 K Ω , $\pm 5\%$, 1/4W	C130	DF1512205	Mylar, 0.0012 μ F, $\pm 5\%$, 50V
R161	RT0524314	24 K Ω , $\pm 5\%$, 1/4W	C131	DF1547205	Mylar, 0.0047 μ F, $\pm 5\%$, 50V
R162	RT0524314	24 K Ω , $\pm 5\%$, 1/4W	C132	DF1547205	Mylar, 0.0047 μ F, $\pm 5\%$, 50V
R163	RT0530214	3 K Ω , $\pm 5\%$, 1/4W	C133	DF1512205	Mylar, 0.0012 μ F, $\pm 5\%$, 50V
R164	RT0518314	18 K Ω , $\pm 5\%$, 1/4W	C134	DF1510205	Mylar, 0.001 μ F, $\pm 5\%$, 50V
R165	RT0515314	15 K Ω , $\pm 5\%$, 1/4W	C135	DF1556205	Mylar, 0.0056 μ F, $\pm 5\%$, 50V
			C136	DF1556205	Mylar, 0.0056 μ F, $\pm 5\%$, 50V
R166	RT0515314	15 K Ω , $\pm 5\%$, 1/4W	C137	DF1510205	Mylar, 0.001 μ F, $\pm 5\%$, 50V
R167	RT0518314	18 K Ω , $\pm 5\%$, 1/4W	C138	EA3350509	Elect., 3.3 μ F, 50V
R168	RT0568314	68 K Ω , $\pm 5\%$, 1/4W	C139	EA3350509	Elect., 3.3 μ F, 50V
R169	RT0568314	68 K Ω , $\pm 5\%$, 1/4W	C140	EA1050509	Elect., 1 μ F, 50V
R170	RT0568314	68 K Ω , $\pm 5\%$, 1/4W	C141	EA1050509	Elect., 1 μ F, 50V
R171	RT0568314	68 K Ω , $\pm 5\%$, 1/4W	C142	EA1050509	Elect., 1 μ F, 50V
R172	RT0591314	91 K Ω , $\pm 5\%$, 1/4W	C143	EA1050509	Elect., 1 μ F, 50V
R173	RT0591314	91 K Ω , $\pm 5\%$, 1/4W	C144	EA1060259	Elect., 10 μ F, 25V
R174	RT1012514	1.2 K Ω	C145	EA1060259	Elect., 10 μ F, 25V
R175	RT0530314	30 K Ω , $\pm 5\%$, 1/4W	C146	EA1060259	Elect., 10 μ F, 25V
R176	RT1012314	12 K Ω	C147	EA1060259	Elect., 10 μ F, 25V
R177	RT1022514	2.2 M Ω	C148	EA4760109	Elect., 47 μ F, 10V
R178	RT1022514	2.2 M Ω	C149	EA2270259	Elect., 220 μ F, 25V

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
J108	YP1000099	Plug	C210	EA3350509	Elect., 3.3μF, 50V
J109	YP1000099	Plug	C211	EA3350509	Elect., 3.3μF, 50V
J110	YP1000099	Plug	C212	EA3350509	Elect., 3.3μF, 50V
J111	YP1000099	Plug	C213	EA3350509	Elect., 3.3μF, 50V
J112	YP1000099	Plug	C214	EA3350509	Elect., 3.3μF, 50V
J113	YP1000099	Plug	C215	EA3350509	Elect., 3.3μF, 50V
J114	YP1000099	Plug	C216	EA3350509	Elect., 3.3μF, 50V
J115	YP1000099	Plug	C217	EA2270259	Elect., 220μF, 25V
J116	YP1000099	Plug	C218	EA2270259	Elect., 220μF, 25V
J117	YP1000099	Plug	C219	DD1582001	Cer., 82pF, ±5%
J118	YP1000099	Plug	C220	DD1582001	Cer., 82pF, ±5%
J119	YP1000099	Plug	C221	DD1582001	Cer., 82pF, ±5%
J120	YP1000099	Plug	C222	DD1582001	Cer., 82pF, ±5%
P200	YD2845002	P.C. Board			
		RESISTORS			SEMICONDUCTORS
		All resistors are ±10%, 1/4W and carbon type, unless otherwise indicated.	H201	HT306441C	Transistor, 2SC644(T)
R201	RT1056214	5.6 KΩ	H202	HT306441C	Transistor, 2SC644(T)
R202	RT1056214	5.6 KΩ	H203	HT306441C	Transistor, 2SC644(T)
R203	RT1056214	5.6 KΩ	H204	HT306441C	Transistor, 2SC644(T)
R204	RT1056214	5.6 KΩ	H205	HT308281C	Transistor, 2SC828(R)
R205	RN1015514	1.5 MΩ	H206	HT308281C	Transistor, 2SC828(R)
R206	RN1015514	1.5 MΩ	H207	HT308281C	Transistor, 2SC828(R)
R207	RN1015514	1.5 MΩ	H208	HT308281C	Transistor, 2SC828(R)
R208	RN1015514	1.5 MΩ			
R209	RT1056214	5.6 KΩ	J201	YP1000091	Plug
R210	RT1056214	5.6 KΩ	J202	YP1000091	Plug
R211	RT1056214	5.6 KΩ	J203	YP1000091	Plug
R212	RT1056214	5.6 KΩ	J204	YP1000091	Plug
R213	RT1010214	1 KΩ	J205	YP1000091	Plug
R214	RT1010214	1 KΩ	J206	YP1000091	Plug
R215	RT1010214	1 KΩ	J207	YP1000091	Plug
R216	RT1010214	1 KΩ	J208	YP1000091	Plug
R221	RN1010514	1 MΩ	J209	YP1000091	Plug
R222	RN1010514	1 MΩ	J210	YP1000091	Plug
R223	RN1010514	1 MΩ	J211	YP1000091	Plug
R224	RN1010514	1 MΩ	J212	YP1000091	Plug
R225	RT1056214	5.6 KΩ	J213	YP1000091	Plug
R226	RT1056214	5.6 KΩ	J214	YP1000091	Plug
R227	RT1056214	5.6 KΩ	J215	YP1000091	Plug
R228	RT1056214	5.6 KΩ			
R229	RT1068114	680Ω	P300	YD2845003	P.C. Board
R230	RT1068114	680Ω			RESISTORS
R231	RT1068114	680Ω			All resistors are ±10%, 1/4W and carbon type, unless otherwise indicated.
R232	RT1068114	680Ω	R301	RT1068214	6.8 KΩ
R233	RT1010214	1 KΩ	R302	RT1068214	6.8 KΩ
R234	RT1010214	1 KΩ	R303	RT1068214	6.8 KΩ
R235	RT1010214	1 KΩ	R304	RT1068214	6.8 KΩ
R236	RT1010214	1 KΩ	R305	RT1012214	1.2 KΩ
R237	RT1068314	68 KΩ	R306	RT1012214	1.2 KΩ
R238	RT1068314	68 KΩ	R307	RT1012214	1.2 KΩ
R239	RT1068314	68 KΩ	R308	RT1012214	1.2 KΩ
R240	RT1068314	68 KΩ	R309	RT1056214	5.6 KΩ
C201	EA3350509	Elect., 3.3μF, 50V	R310	RT1056214	5.6 KΩ
C202	EA3350509	Elect., 3.3μF, 50V	R311	RT1056214	5.6 KΩ
C203	EA3350509	Elect., 3.3μF, 50V	R312	RT1056214	5.6 KΩ
C204	EA3350509	Elect., 3.3μF, 50V	R313	RU0503002	Variable, 50 KΩ(D)
C205	EA3350509	Elect., 3.3μF, 50V	R314	RU0503002	Variable, 50 KΩ(D)
C206	EA3350509	Elect., 3.3μF, 50V			
C207	EA3350509	Elect., 3.3μF, 50V	C301	DF1722301	Mylar, 0.02μF, ±20%
C208	EA3350509	Elect., 3.3μF, 50V	C302	DF1722301	Mylar, 0.02μF, ±20%
C209	EA3350509	Elect., 3.3μF, 50V	C303	DF1722301	Mylar, 0.02μF, ±20%
		CAPACITORS	C304	DF1722301	Mylar, 0.02μF, ±20%
			C305	EM2240251	Elect., 0.22μF, 25V

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
C306	EM2240251	Elect., 0.22 μ F, 25V	R440	RT1033114	330 Ω
C307	EM2240251	Elect., 0.22 μ F, 25V	R441	RT1033114	330 Ω
C308	EM2240251	Elect., 0.22 μ F, 25V	R442	RT1033114	330 Ω
C309	DF1722201	Mylar, 0.0022 μ F, $\pm$ 20%	R443	RT1082214	8.2 K Ω
C310	DF1722201	Mylar, 0.0022 μ F, $\pm$ 20%	R444	RT1082214	8.2 K Ω
C311	DF1722201	Mylar, 0.0022 μ F, $\pm$ 20%	R445	RT1082214	8.2 K Ω
C312	DF1722201	Mylar, 0.0022 μ F, $\pm$ 20%	R446	RT1082214	8.2 K Ω
C313	DF1715301	Mylar, 0.015 μ F, $\pm$ 20%	R447	RT1010414	100 K Ω
C314	DF1715301	Mylar, 0.015 μ F, $\pm$ 20%	R448	RT1010414	100 K Ω
C315	DF1715301	Mylar, 0.015 μ F, $\pm$ 20%	R449	RT1010414	100 K Ω
C316	DF1715301	Mylar, 0.015 μ F, $\pm$ 20%	R450	RT1010414	100 K Ω
J301	YP1000099	Plug	R451	RA0104006	Semi Fixed, 100 K Ω , $\pm$ 30%
J302	YP1000099	Plug	R452	RA0104006	Semi Fixed, 100 K Ω , $\pm$ 30%
J303	YP1000099	Plug	R453	RA0104006	Semi Fixed, 100 K Ω , $\pm$ 30%
J304	YP1000099	Plug	R454	RA0104006	Semi Fixed, 100 K Ω , $\pm$ 30%
J305	YP1000099	Plug	R455	RT0510314	10 K Ω , $\pm$ 5%, 1/4W
J306	YP1000099	Plug	R456	RT0510314	10 K Ω , $\pm$ 5%, 1/4W
J307	YP1000099	Plug	R457	RT0510314	10 K Ω , $\pm$ 5%, 1/4W
J308	YP1000099	Plug	R458	RT0510314	10 K Ω , $\pm$ 5%, 1/4W
J309	YP1000099	Plug	R459	RT1039214	3.9 K Ω
J310	YP1000099	Plug	R460	RT1039214	3.9 K Ω
J311	YP1000099	Plug	R461	RT1039214	3.9 K Ω
J312	YP1000099	Plug	R462	RT1039214	3.9 K Ω
P400	YD2845004	P.C. Board	R463	RT1018114	180 Ω
		MISCELLANEOUS	R462	RT1018114	180 Ω
		RESISTORS	R465	RT1018114	180 Ω
		All resistors are $\pm$ 10%, 1/4W and carbon type unless otherwise indicated.	R466	RT1018114	180 Ω
R401	RT1010214	1 K Ω	R467	RC1022112	Solid, 220 Ω , $\pm$ 10%, 1/2W
R402	RT1010214	1 K Ω	R468	RC1022112	Solid, 220 Ω , $\pm$ 10%, 1/2W
R403	RT1010414	100 K Ω	R469	RC1022112	Solid, 220 Ω , $\pm$ 10%, 1/2W
R404	RT1010414	100 K Ω	R470	RC1022112	Solid, 220 Ω , $\pm$ 10%, 1/2W
R405	RT1022414	220 K Ω	R471	RC1022012	Solid, 22 Ω , $\pm$ 10%, 1/2W
R406	RT1022414	220 K Ω	R472	RC1022012	Solid, 22 Ω , $\pm$ 10%, 1/2W
R407	RT1033414	330 K Ω	R473	RC1022012	Solid, 22 Ω , $\pm$ 10%, 1/2W
R408	RT1033414	330 K Ω	R474	RC1022012	Solid, 22 Ω , $\pm$ 10%, 1/2W
R409	RT1068214	6.8 K Ω	R475	RC1022112	Solid, 220 Ω , $\pm$ 10%, 1/2W
R410	RT1068214	6.8 K Ω	R476	RC1022112	Solid, 220 Ω , $\pm$ 10%, 1/2W
R411	RT1068214	6.8 K Ω	R477	RC1022112	Solid, 220 Ω , $\pm$ 10%, 1/2W
R412	RT1068214	6.8 K Ω	R478	RC1022112	Solid, 220 Ω , $\pm$ 10%, 1/2W
R413	RT1010414	100 K Ω	R479	GR1000501	Wire Wound, 0.5 Ω $\pm$ 10%, 1W
R414	RT1010414	100 K Ω	R480	GR1000501	Wire Wound, 0.5 Ω $\pm$ 10%, 1W
R417	RT1056214	5.6 K Ω	R481	GR1000501	Wire Wound, 0.5 Ω $\pm$ 10%, 1W
R418	RT1056214	5.6 K Ω	R482	GR1000501	Wire Wound, 0.5 Ω $\pm$ 10%, 1W
R419	RN1010514	1 M Ω	R483	GR1000501	Wire Wound, 0.5 Ω $\pm$ 10%, 1W
R420	RN1010514	1 M Ω	R484	GR1000501	Wire Wound, 0.5 Ω $\pm$ 10%, 1W
R421	RN1010514	1 M Ω	R485	GR1000501	Wire Wound, 0.5 Ω $\pm$ 10%, 1W
R422	RN1010514	1 M Ω	R486	GR1000501	Wire Wound, 0.5 Ω $\pm$ 10%, 1W
R423	RT1082314	82 K Ω	R487	RC1010012	Solid, 10 Ω , $\pm$ 10%, 1/2W
R424	RT1082314	82 K Ω	R488	RC1010012	Solid, 10 Ω , $\pm$ 10%, 1/2W
R425	RT1082314	82 K Ω	R489	RC1010012	Solid, 10 Ω , $\pm$ 10%, 1/2W
R426	RT1082314	82 K Ω	R490	RC1010012	Solid, 10 Ω , $\pm$ 10%, 1/2W
R427	RT1056214	5.6 K Ω			CAPACITORS
R428	RT1056214	5.6 K Ω	C401	EA3350509	Elect., 3.3 μ F, 50V
R429	RT1056214	5.6 K Ω	C402	EA3350509	Elect., 3.3 μ F, 50V
R430	RT1056214	5.6 K Ω	C407	EA1060259	Elect., 10 μ F, 25V
R431	RT1056114	560 Ω	C408	EA1060259	Elect., 10 μ F, 25V
R432	RT1056114	560 Ω	C409	EA2270259	Elect., 220 μ F, 25V
R433	RT1056114	560 Ω	C410	EA2270259	Elect., 220 μ F, 25V
R434	RT1056114	560 Ω	C411	EA3350509	Elect., 3.3 μ F, 50V
R435	RT1056214	5.6 K Ω	C412	EA3350509	Elect., 3.3 μ F, 50V
R436	RT1056214	5.6 K Ω	C413	DD1630001	Cer., 30pF, $\pm$ 10%
R439	RT1033114	330 Ω	C414	DD1630001	Cer., 30pF, $\pm$ 10%
			C415	DD1630001	Cer., 30pF, $\pm$ 10%
			C416	DD1630001	Cer., 30pF, $\pm$ 10%
			C417	EA1060259	Elect., 10 μ F, 25V
			C418	EA1060259	Elect., 10 μ F, 25V
			C419	EA1060259	Elect., 10 μ F, 25V

REF. DESIG.	PARTS NO.	DESCRIPTION	REF. DESIG.	PART No.	DESCRIPTION
C420	EA1060259	Elect., 10 μ F, 25V	J404	YP1000039	Plug
C421	DD1510101	Cer., 100pF, $\pm$ 5%	J405	YP1000039	Plug
C422	DD1510101	Cer., 100pF, $\pm$ 5%	J406	YP1000039	Plug
C423	DD1510101	Cer., 100pF, $\pm$ 5%	J415	YP1000039	Plug
C424	DD1510101	Cer., 100pF, $\pm$ 5%	J416	YP1000039	Plug
C425	EA3360259	Elect., 33 μ F, 25V	J417	YP1000039	Plug
C426	EA3360259	Elect., 33 μ F, 25V	J418	YP1000039	Plug
C427	EA3360259	Elect., 33 μ F, 25V			
C428	EA3360259	Elect., 33 μ F, 25V	P500	YD2845005	P.C. Board
C429	EA4770259	Elect., 470 μ F, 25V			
C430	EA4770259	Elect., 470 μ F, 25V			
C431	EA4770259	Elect., 470 μ F, 25V	R501	RC1082112	RESISTORS Solid, 820 Ω , $\pm$ 10%, 1/2W
C432	EA4770259	Elect., 470 μ F, 25V	R502	RC1039112	Solid, 390 Ω , $\pm$ 10%, 1/2W
C433	DF1747301	Mylar, 0.047 μ F, $\pm$ 20%			
C434	DF1747301	Mylar, 0.047 μ F, $\pm$ 20%			
					CAPACITORS
C435	DF1747301	Mylar, 0.047 μ F, $\pm$ 20%	C501	EB4780351	Elect., 4700 μ F, 35V
C436	DF1747301	Mylar, 0.047 μ F, $\pm$ 20%	C502	EA4770259	Elect., 470 μ F, 25V
C437	EA3350509	Elect., 33 μ F, 50V	C503	EA4770259	Elect., 470 μ F, 25V
C438	EA3350509	Elect., 3.3 μ F, 50V	C504	DF1710401	Mylar, 0.1 μ F, 50V
C439	EA3360259	Elect., 33 μ F, 25V	C505	DF1710401	Mylar, 0.1 μ F, 50V
C440	EA3360259	Elect., 33 μ F, 25V			
		SEMICONDUCTORS			SEMICONDUCTOR
H401	HT306441A	Transistor, 2SC644R	H501	HD2000510	Diode, 5B-2
H402	HT306441A	Transistor, 2SC644R			
H403	HT308281C	Transistor, 2SC828R	F501	FS1020004	MISCELLANEOUS Fuse
H404	HT308281C	Transistor, 2SC828R	F502	FS1020004	Fuse
H405	HT308281C	Transistor, 2SC828R	J501	YP1000099	Plug
H406	HT308281C	Transistor, 2SC828R	J502	YP1000099	Plug
H407	HT313181R	Transistor, 2SC1318R	J503	YP1000099	Plug
H408	HT313181R	Transistor, 2SC1318R	J504	YP1000099	Plug
H409	HT313181R	Transistor, 2SC1318R	J505	YP1000099	Plug
H410	HT313181R	Transistor, 2SC1318R	J506	YP1000099	Plug
H411	HT313181R	Transistor, 2SC1318R	J507	YP1000099	Plug
			J508	YJ0800017	Fuse Socket
H412	HT313181R	Transistor, 2SC1318R	J509	YJ0800017	Fuse Socket
H413	HT313181R	Transistor, 2SC1318R	J510	YJ0800017	Fuse Socket
H414	HT313181R	Transistor, 2SC1318R			
H415	HT107201R	Transistor, 2SA720R	J511	YJ0800017	Fuse Socket
H416	HT107201R	Transistor, 2SA720R			
H417	HT107201R	Transistor, 2SA720R	P600	YD2845006	P.C. Board
H418	HT107201R	Transistor, 2SA720R			
H419	HT403171P	Transistor, 2SD317P			RESISTORS
H420	HT403171P	Transistor, 2SD317P	R601	RT1015214	Carbon, 1.5 K Ω , $\pm$ 10%, 1/4W
H421	HT403171P	Transistor, 2SD317P	R602	RT1015214	Carbon, 1.5 K Ω , $\pm$ 10%, 1/4W
			R603	RT1015214	Carbon, 1.5 K Ω , $\pm$ 10%, 1/4W
H422	HT403171P	Transistor, 2SD317P	R604	RT1015214	Carbon, 1.5 K Ω , $\pm$ 10%, 1/4W
H423	HT403171P	Transistor, 2SD317P			
H424	HT403171P	Transistor, 2SD317P			CAPACITORS
H425	HT403171P	Transistor, 2SD317P	C601	DD1533101	Cer., 330pF
H426	HT403171P	Transistor, 2SD317P	C602	DD1533101	Cer., 330pF
H427	HV0000705	Varistor, S-3016R	C603	DD1533101	Cer., 330pF
			C604	DD1533101	Cer., 330pF
H428	HV0000705	Varistor, S-3016R	C605	EM2240251	Elect., 0.22 μ F, 25V
H429	HV0000705	Varistor, S-3016R	C606	EM2240251	Elect.,

REF. DESIG.	PART NO.	DESCRIPTION	REF. DESIG.	PART NO.	DESCRIPTION
J609	YP1000099	Plug	W001	YC0240006	AC Cord
J610	YP1000099	Plug	W002	YW2845001	Wire Material
J611	YP1000099	Plug	W003	YX2845001	Wire Material
J612	YP1000099	Plug	S001	SS0202017	Slide Switch (MAG/CER)
			S002	SR0403009	Rotary Switch (MODE)
			S003	SR1203006	Rotary Switch
			S004	SR0402007	Rotary Switch
			S005	SP0201011	Pushswitch
		RESISTORS	L001	TS1760701	Power Transf.
R001	RN1010514	Carbon, 1 M Ω , $\pm 10\%$, 1/4W	M001	IN 1008012	Pilot Lamp (8V)
R002	RN1010514	Carbon, 1 M Ω , $\pm 10\%$, 1/4W	J001	YT0204003	Terminal (PHONO,TUNER Input)
R003	RT1027314	Carbon, 27 K Ω , $\pm 10\%$, 1/4W	J002	YT0210002	Terminal (FRONT Input)
R004	RT1027314	Carbon, 27 K Ω , $\pm 10\%$, 1/4W	J003	YT0210002	Terminal (REAR Input)
R019	RG0104001	Variable 100 K Ω (A), $\pm 20\%$	J004	YL0103003	Terminal (3P)
R020	RK0104012	Variable, 100 K Ω (A), $\pm 20\%$	J006	YL0301020	Terminal (Earth)
R021	RK0104012	Variable, 100 K Ω (B), $\pm 20\%$	J007	YL0103001	Terminal (AC)
R022	RK0104012	Variable, 100 K Ω (B), $\pm 20\%$	J008	YJ0100055	Jack (Phone)
R023	RK0104012	Variable, 100 K Ω (B), $\pm 20\%$	J009	YJ0100055	Jack (Phone)
R024	RC1015112	Solid, 150 Ω , $\pm 10\%$, 1/2W	J010	YT0304004	Terminal (FRONT Spk.)
R025	RC1015112	Solid, 150 Ω , $\pm 10\%$, 1/2W	J011	YT0304004	Terminal (REAR Spk.)
R026	RC1015112	Solid, 150 Ω , $\pm 10\%$, 1/2W	J012	YJ0400018	Jack (AC Outlet)
R027	RC1015112	Solid, 150 Ω , $\pm 10\%$, 1/2W	J013	YJ0400018	Jack (AC Outlet)
R028	RJ 1047002	Oxide, 47 Ω , $\pm 10\%$, 2W	J014	YJ0800012	Socket (Fuse Holder)
R029	GT0522501	Solid, 2.2 M Ω , $\pm 5\%$, 1W	J015	YP1000097	Plug
		CAPACITORS	J016	YP1000097	Plug
C001	DD1582001	Cer., 82pF, $\pm 5\%$	J017	YP1000097	Plug
C002	DD1582001	Cer., 82pF, $\pm 5\%$	J018	YP1000097	Plug
C003	DF1747351	Mylar, 0.047 μ F, DC600V			
C004	DK1810301	Cer., 0.01 μ F, +100% - 0%			
C005	DK1810301	Cer., 0.01 μ F, +100% - 0%			
		MISCELLANEOUS			
F001	FS1020004	Fuse (2A)			