



## INTEGRATED STEREO AMPLIFIER

# CA-520

( EUROPE/SPAIN )



132 348 40

## SPECIFICATIONS

### POWER AMPLIFIER SECTION

Minimum RMS sine wave power per channel  
within stated bandwidth at no more than stated  
distortion and with 8-ohm load ..... 35W (DIN)  
Frequency Bandwidth ..... 20Hz - 20kHz  
Total Harmonic Distortion ..... 0.5%  
I.M. Distortion ..... 0.5%  
Speaker Damping ..... > 20

### PREAMPLIFIER SECTION

Frequency Response  
Phono (RIAA) ..... ± 1dB  
Aux (20Hz - 20kHz) ..... ± 1dB  
Input Sensitivity and Impedance  
Phono ..... 2.5mV/50kΩ  
TAPE/DAT-VIDEO ..... 150mV/50kΩ  
Tuner/CD ..... 150mV/50kΩ

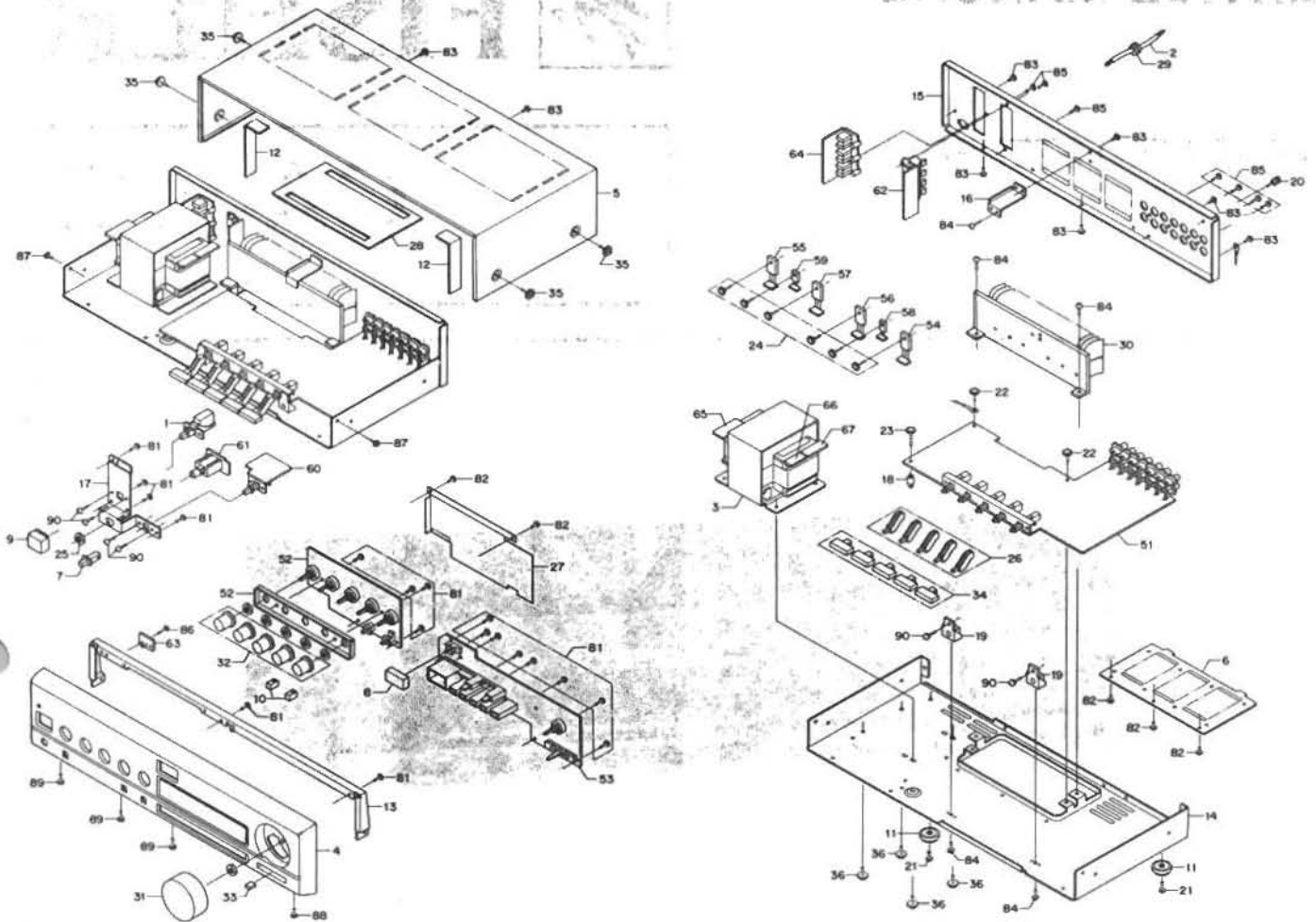
Phono Max. Input Capability ..... 120mV  
MULTI-Tone Controls  
SUPER BASS (63Hz) ..... ± 10dB  
BASS (250Hz) ..... ± 10dB  
MIDDLE (1kHz) ..... ± 10dB  
TREBLE (4kHz) ..... ± 10dB  
SUPER TREBLE (16kHz) ..... ± 10dB  
Loudness Contour (100Hz/10kHz) ..... + 8dB/ + 4dB  
Hum & Noise (DIN)  
Phono ..... 65dB  
TAPE/DAT-VIDEO ..... 85dB  
Tuner/CD ..... 85dB

### GENERAL

Power Requirements (50Hz) ..... 220V  
Power Consumption ..... 185W  
Dimensions (WxHxD) ..... 400 x 91.5 x 214mm  
Weight (approx.) ..... 4.1kg

- Specifications and design are subject to change without notice. -

## CABINET & CHASSIS EXPLODED VIEW



## POWER AMPLIFIER ADJUSTMENT

### BEFORE ADJUSTMENT

Unplug the AC power cord and set the front panel controls as follows:

- Power Switch to OFF position.
- Set the SPEAKERS Switch to the OFF position.
- Turn the MASTER VOLUME Control to minimum.
- Connect the AC power cord and Power Switch to the ON position.

### IDLING CURRENT ADJUSTMENT

This adjustment is very sensitive to changes in ambient temperature. Allow set to operate for 2 minutes before attempting this alignment.

#### LEFT AMPLIFIER

1. Connect the DC Voltmeter between the Right lead of R417 ("●" mark) and Left lead of R419 ("●" mark) on the Main P.C. Board.
2. Adjust the VR401 for an indication of  $3\text{mV} \pm 0.5\text{mV}$  on the DC Voltmeter.

#### RIGHT AMPLIFIER

1. Connect the DC Voltmeter between the Left lead of R418 ("●" mark) and Right lead of R420 ("●" mark) on the Main P.C. Board.
2. Adjust the VR402 for an indication of  $3\text{mV} \pm 0.5\text{mV}$  on the DC Voltmeter.

# CABINET & CHASSIS PARTS LIST

Ref. No.	Part No.	Description	Q'ty
<b>PACKAGE</b>			
	620 190 4376	Box Corrugate-Exp.	1
	620 189 9900	Pad Right	1
	620 189 9917	Pad Left	1
	620 059 6596	Patching Sheet	1
	620 062 0543	Serial No. Sheet	2
	620 148 8029	Sheet Polyethylene	1
<b>ACCESSORIES</b>			
	620 057 8783	Bag Fan	1
	620 062 0543	Serial No. Sheet	1
	620 152 2624	Certificate Card	1
	620 190 7742	Explanatory Booklet	1
<b>CABINET</b>			
	620 062 0543	Serial No. Sheet	1
	620 125 8424	Wire Band	10
1	△ 620 015 2341	Switch Push Power	1
2	△ 620 023 7567	Power Cord	1
3	△ 620 190 4833	Power Trans	1
4	620 190 4338	Cabinet Front Assy	1
5	620 045 5787	Cover	1
6	620 189 9658	Cover Bottom	1
7	620 046 2716	Knob (Speakers)	1
8	620 189 9665	Knob (Source Direct)	1
9	620 046 5366	Knob (Power)	1
10	620 046 6417	Knob Push (Mode/Loudness)	2
11	620 047 3842	Leg	2
12	620 048 4541	Metal Reinforce	2
13	620 189 9719	Metal Reinforce	1
14	620 189 9726	Chassis	1
15	620 189 9788	Panel Rear	1
16	620 050 2740	M.Mount Heat Sink	1
17	620 189 9818	Metal Mount Switch	1
18	620 050 4225	Mount P.C.B.	1
19	620 188 0939	Mount P.C.B.	2
20	620 051 2152	Screw Ground	1
21	620 051 3692	Screw, Brazier Hd. Tapp.-B. + M3.0X6	2
22	620 051 3708	Screw, Brazier Hd. Tapp.-B. + M3.0X8	2
23	620 051 3715	Screw, Brazier Hd. Tapp.-B. + M3.0X14	1
24	620 051 3746	Screw	6
25	620 051 4903	NUT	1
26	620 188 0946	Shaft (Function)	5
27	620 191 0797	Plate Shield	1
28	620 053 0705	Plate Sever	1
29	620 053 2136	Bushing (Power Cord)	1
30	620 189 9870	Plate Heat Sink	1
31	620 190 4406	Knob Volume Assy	1
32	620 191 1442	Knob Balance (Tone)	5
33	620 109 6460	Knob Slide VR (Balance)	1
34	620 188 1431	Knob (Function)	5
35	620 122 9738	Screw, Bind Hd. Tapping-B. + M3.0X8	4
36	620 123 0833	Screw, Bind Hd. Tapping-C. + M4.0X10	4
51	620 190 5960	Main Amplifier P.C.B. Assy	1
52	620 190 5977	Graphic Equalizer P.C.B. Assy	1
53	620 190 5984	Control Panel P.C.B. Assy	1
54	620 190 5991	Power TR L + P.C.B. Assy	1
55	620 190 6004	Power TR R + P.C.B. Assy	1
56	620 190 6011	Power TR L - P.C.B. Assy	1
57	620 190 6028	Power TR R - P.C.B. Assy	1
58	620 190 6035	Bias TR Left P.C.B. Assy	1
59	620 190 6042	Bias TR Right P.C.B. Assy	1
60	620 190 6059	Speaker Switch P.C.B. Assy	1
61	620 190 6066	H.P Jack P.C.B. Assy	1
62	620 190 6073	Speaker Terminal P.C.B. Assy	1
63	620 190 6080	Power IND. P.C.B. Assy	1
64	620 190 6097	Power Supply P.C.B. Assy	1
65	620 190 6103	EC Terminal P.C.B. Assy	1
66	620 190 6110	Power Trans P.C.B. Assy	1
67	620 190 6165	Power Trans 2 P.C.B. Assy	1
81	411 020 5706	SCR S-TPG BRZ 2.6X8	18
82	411 020 7700	SCR S-TPG BRZ 3X6	5
83	411 099 9704	SCR S-TPG BRZ 3X6	8
84	411 020 8004	SCR S-TPG BRZ 3X8	5
85	411 099 9803	SCR S-TPG BRZ 3X8	7
86	411 021 1202	SCR S-TPG BIN 2X8	1
87	411 021 5705	SCR S-TPG BIN 3X6	2

Ref. No.	Part No.	Description	Q'ty
88	411 021 5903	SCR S-TPG BIN 3X6	1
89	411 021 6603	SCR S-TPG BIN 3X8	3
90	411 045 6702	SCR PAN + SW 3X8	6

**NOTES:**

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

**PRODUCT SAFETY NOTICE**

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  $\Delta$  in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with  $\Delta$ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

# P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
<b>MAIN AMPLIFIER P.C.B. ASSY</b>							
51	620 190 5960	Main Amplifier P.C.B. Assy	1	C117	403 051 2106	ELECT 4.7U M 50V	1
	620 017 2448	Pin Jack 4P	2	C118	403 051 2106	ELECT 4.7U M 50V	1
	620 017 2561	Pin Jack 6P	1	C119	403 044 0300	ELECT 47U M 16V	1
	620 017 2721	Fuse Clip	8	C120	403 044 0300	ELECT 47U M 16V	1
	620 022 3454	Terminal Lug	1	C121	403 018 8509	CERAMIC 220P K 50V	1
	620 053 9548	Plate Heat Sink	2	C122	403 018 8509	CERAMIC 220P K 50V	1
Δ	423 006 8700	FUSE 250V T3.15A	4	C125	403 018 8509	CERAMIC 220P K 50V	1
	411 021 2506	SCR S-TPG BIN 2.6X5	4	C126	403 018 8509	CERAMIC 220P K 50V	1
L401	620 027 1240	AF Coil	1	C129	403 018 8509	CERAMIC 220P K 50V	1
L402	620 027 1240	AF Coil	1	C130	403 018 8509	CERAMIC 220P K 50V	1
SW101	620 190 5489	Push Switch 5 Key (Function SW.)	1	C133	403 018 8509	CERAMIC 220P K 50V	1
VR401	620 004 7319	Semi Fixed 200	1	C134	403 018 8509	CERAMIC 220P K 50V	1
VR402	620 004 7319	Semi Fixed 200	1	C137	403 018 8509	CERAMIC 220P K 50V	1
W101	620 020 5887	Connector 1P Assy	1	C138	403 018 8509	CERAMIC 220P K 50V	1
W201	620 055 5029	Jumper	1	C141	403 018 8509	CERAMIC 220P K 50V	1
W301	620 190 7902	Jumper	1	C142	403 018 8509	CERAMIC 220P K 50V	1
W401	620 190 7827	Wire 4S Parallel	1	C145	403 074 2701	CERAMIC 0.047U Z 50V	1
W402	620 190 7827	Wire 4S Parallel	1	C201	403 049 5508	ELECT 10U M 50V	1
W403	620 190 7827	Wire 4S Parallel	1	C202	403 049 5508	ELECT 10U M 50V	1
W404	620 190 7827	Wire 4S Parallel	1	C205	403 068 9402	CERAMIC 100P K 50V	1
W405	620 190 7834	Wire 2S Parallel	1	C206	403 068 9402	CERAMIC 100P K 50V	1
W406	620 190 7834	Wire 2S Parallel	1	C207	403 049 5508	ELECT 10U M 50V	1
W407	620 191 0360	Wire 5S Parallel	1	C208	403 049 5508	ELECT 10U M 50V	1
W601	620 190 7919	Jumper	1	C209	403 049 5508	ELECT 10U M 50V	1
IC101	409 057 4403	IC UPC4570C	1	C210	403 049 5508	ELECT 10U M 50V	1
IC301	409 057 4403	IC UPC4570C	1	C213	403 068 9402	CERAMIC 100P K 50V	1
	409 018 4503	IC LA6458DS	1	C214	403 068 9402	CERAMIC 100P K 50V	1
IC401	409 056 5302	IC UPC1270H	1	C215	403 049 5508	ELECT 10U M 50V	1
IC402	409 056 5302	IC UPC1270H	1	C216	403 049 5508	ELECT 10U M 50V	1
Q201	405 030 8000	TR 2SC1740SLN-R	1	C301	403 049 5508	ELECT 10U M 50V	1
or	405 030 8109	TR 2SC1740SLN-S	1	C302	403 049 5508	ELECT 10U M 50V	1
Q202	405 030 8000	TR 2SC1740SLN-R	1	C303	403 009 8105	CERAMIC 100P K 50V	1
or	405 030 8109	TR 2SC1740SLN-S	1	C304	403 009 8105	CERAMIC 100P K 50V	1
Q203	405 030 8000	TR 2SC1740SLN-R	1	C305	403 009 8105	CERAMIC 100P K 50V	1
or	405 030 8109	TR 2SC1740SLN-S	1	C306	403 009 8105	CERAMIC 100P K 50V	1
Q204	405 030 8000	TR 2SC1740SLN-R	1	C307	403 008 5204	CERAMIC 10P D 50V	1
or	405 030 8109	TR 2SC1740SLN-S	1	C308	403 008 5204	CERAMIC 10P D 50V	1
Q409	405 004 6506	TR 2SA608K-E-NP	1	C309	403 049 5508	ELECT 10U M 50V	1
or	405 004 6605	TR 2SA608K-F-NP	1	C310	403 049 5508	ELECT 10U M 50V	1
Q501	405 023 8307	TR 2SD438-E-MP	1	C311	403 051 2106	ELECT 4.7U M 50V	1
or	405 023 8505	TR 2SD438-F-MP	1	C312	403 051 2106	ELECT 4.7U M 50V	1
Q502	405 007 5100	TR 2SB560-E-MP	1	C313	403 044 0300	ELECT 47U M 16V	1
or	405 007 5308	TR 2SB560-F-MP	1	C314	403 044 0300	ELECT 47U M 16V	1
Q503	405 007 5100	TR 2SB560-E-MP	1	C403	403 044 0300	ELECT 47U M 16V	1
or	405 007 5308	TR 2SB560-F-MP	1	C404	403 044 0300	ELECT 47U M 16V	1
Q504	405 019 1909	TR 2SC536-E-NP	1	C407	403 018 8509	CERAMIC 220P K 50V	1
or	405 019 2708	TR 2SC536-F-NP	1	C408	403 018 8509	CERAMIC 220P K 50V	1
Q505	405 019 6607	TR 2SC536K-E-NP	1	C409	403 020 2809	CERAMIC 27P K 50V	1
or	405 019 6706	TR 2SC536K-F-NP	1	C410	403 020 2809	CERAMIC 27P K 50V	1
D401	407 008 0405	DIODE GMB01	1	C411	403 001 2309	CERAMIC 0.01U N 16V	1
D402	407 008 0405	DIODE GMB01	1	C412	403 001 2309	CERAMIC 0.01U N 16V	1
D501	407 102 3104	DIODE DSA12TB-KC8	1	C415	404 041 2601	ELECT 47U M 50V	1
or	407 113 5708	DIODE DSA12TC-KC8	1	C416	404 041 2601	ELECT 47U M 50V	1
D502	407 102 3104	DIODE DSA12TB-KC8	1	C417	403 044 0300	ELECT 47U M 16V	1
or	407 113 5708	DIODE DSA12TC-KC8	1	C418	403 044 0300	ELECT 47U M 16V	1
D503	407 102 3104	DIODE DSA12TB-KC8	1	C421	403 074 2701	CERAMIC 0.047U Z 50V	1
or	407 113 5708	DIODE DSA12TC-KC8	1	C422	403 074 2701	CERAMIC 0.047U Z 50V	1
D504	407 102 3104	DIODE DSA12TB-KC8	1	C427	403 018 8509	CERAMIC 220P K 50V	1
or	407 113 5708	DIODE DSA12TC-KC8	1	C428	403 018 8509	CERAMIC 220P K 50V	1
D505	407 049 7005	ZENER DIODE GZA15Y-BT	1	C501	404 012 6904	CERAMIC 0.047U Z 150V	1
D506	407 049 7005	ZENER DIODE GZA15Y-BT	1	C505	404 041 6005	ELECT 3300U M 50V	1
D507	407 004 9105	DIODE DSF10C-BT	1	or	404 041 3202	ELECT 3300U M 50V	1
D508	407 049 7807	ZENER DIODE GZA18Y-BT	1	C506	404 041 6005	ELECT 3300U M 50V	1
D510	407 008 0405	DIODE GMB01-BT	1	or	404 041 3202	ELECT 3300U M 50V	1
C101	403 018 8509	CERAMIC 220P K 50V	1	C507	403 047 4305	ELECT 47U M 25V	1
C102	403 018 8509	CERAMIC 220P K 50V	1	C508	403 047 4305	ELECT 47U M 25V	1
C103	403 023 5807	CERAMIC 330P K 50V	1	C509	403 044 0300	ELECT 47U M 16V	1
C104	403 023 5807	CERAMIC 330P K 50V	1	C510	403 044 0300	ELECT 47U M 16V	1
C105	403 051 2106	ELECT 4.7U M 50V	1	C511	403 044 0300	ELECT 47U M 16V	1
C106	403 051 2106	ELECT 4.7U M 50V	1	C512	403 044 0300	ELECT 47U M 16V	1
C107	403 071 6207	CERAMIC 220P K 50V	1	C513	404 041 2601	ELECT 47U M 50V	1
C108	403 071 6207	CERAMIC 220P K 50V	1	C514	403 049 5508	ELECT 10U M 50V	1
C109	403 061 8709	POLYESTER 4700P K 50V	1	C516	403 038 2402	ELECT 100U M 6.3V	1
C110	403 061 8709	POLYESTER 4700P K 50V	1	R101	401 024 7004	CARBON 1K JA 1/6W	1
C111	403 059 0401	POLYESTER 0.018U K 50V	1	R102	401 024 7004	CARBON 1K JA 1/6W	1
C112	403 059 0401	POLYESTER 0.018U K 50V	1	R103	401 024 7707	CARBON 100K JA 1/6W	1
C113	403 038 2402	ELECT 100U M 6.3V	1	R104	401 024 7707	CARBON 100K JA 1/6W	1
C114	403 038 2402	ELECT 100U M 6.3V	1	R105	401 024 7707	CARBON 100K JA 1/6W	1
				R106	401 024 7707	CARBON 100K JA 1/6W	1

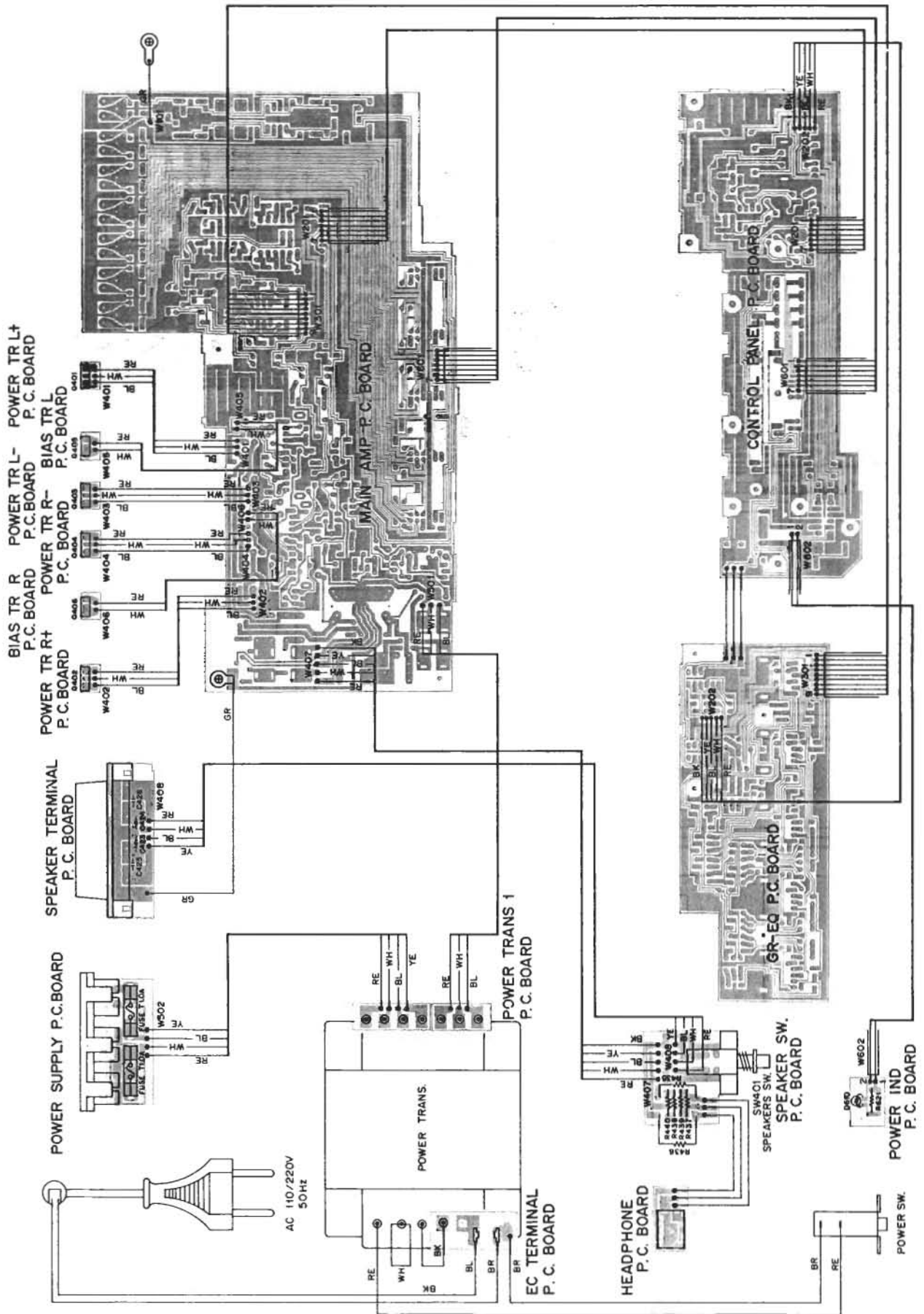
## P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty		
R107	401 025 1902	CARBON	15K JA 1/6W	1	R427	401 019 6203	CARBON	4.7 JA 1/4W	1
R108	401 025 1902	CARBON	15K JA 1/6W	1	R428	401 019 6203	CARBON	4.7 JA 1/4W	1
R109	401 025 8703	CARBON	220K JA 1/6W	1	R429	401 027 5908	CARBON	68K JA 1/6W	1
R110	401 025 8703	CARBON	220K JA 1/6W	1	R430	401 027 5908	CARBON	68K JA 1/6W	1
R111	401 026 3905	CARBON	330 JA 1/6W	1	R431	401 024 9701	CARBON	12K JA 1/6W	1
R112	401 026 3905	CARBON	330 JA 1/6W	1	R432	401 024 9701	CARBON	12K JA 1/6W	1
R113	401 024 7707	CARBON	100K JA 1/6W	1	R433	401 054 7500	OXIDE-MT	10 JB 1/2W	1
R114	401 024 7707	CARBON	100K JA 1/6W	1	R434	401 054 7500	OXIDE-MT	10 JB 1/2W	1
R115	401 012 5708	CARBON	1K JA 1/4W	1	R442	401 021 5805	CARBON	5.6M JA 1/4W	1
R116	401 024 7004	CARBON	1K JA 1/6W	1	R501	401 018 3807	CARBON	3.3K JA 1/4W	1
R117	401 012 4503	CARBON	100 JA 1/4W	1	R502	401 018 3807	CARBON	3.3K JA 1/4W	1
R118	401 012 4503	CARBON	100 JA 1/4W	1	R503	401 022 1905	CARBON	680 JA 1/4W	1
R119	401 024 7004	CARBON	1K JA 1/6W	1	R504	401 022 1905	CARBON	680 JA 1/4W	1
R120	401 024 7004	CARBON	1K JA 1/6W	1	R505	401 061 6503	OXIDE-MT	390 JB 1W	1
R121	401 024 7004	CARBON	1K JA 1/6W	1	R506	401 061 6503	OXIDE-MT	390 JB 1W	1
R122	401 024 7004	CARBON	1K JA 1/6W	1	R507	401 016 3809	CARBON	2.2K JA 1/4W	1
R123	401 024 7004	CARBON	1K JA 1/6W	1	R508	401 066 0407	OXIDE-MT	180 JB 2W	1
R124	401 024 7004	CARBON	1K JA 1/6W	1	R509	401 027 0309	CARBON	47K JA 1/6W	1
R125	401 024 7004	CARBON	1K JA 1/6W	1	R510	401 024 7707	CARBON	100K JA 1/6W	1
R126	401 024 7004	CARBON	1K JA 1/6W	1	R512	401 012 7009	CARBON	10K JA 1/4W	1
R127	401 024 7004	CARBON	1K JA 1/6W	1	R514	401 024 8001	CARBON	1M JA 1/6W	1
R128	401 024 7004	CARBON	1K JA 1/6W	1	<b>GRAPHIC EQUALIZER P.C.B. ASSY</b>				
R129	401 024 7004	CARBON	1K JA 1/6W	1	52	620 190 5977	Graphic Equalizer P.C.B. Assy	1	
R130	401 024 7004	CARBON	1K JA 1/6W	1		620 189 9825	Metal Mount Volume	1	
R201	401 024 7004	CARBON	1K JA 1/6W	1	SW201	620 190 5458	Push Switch 1 Key (Mode SW.)	1	
R202	401 024 7004	CARBON	1K JA 1/6W	1	SW202	620 190 5465	Push Switch 1 Key (Loudness SW.)	1	
R203	401 025 6709	CARBON	200K JA 1/6W	1	VR301	620 190 5021	Volume (SW-250kox2)	1	
R204	401 025 6709	CARBON	200K JA 1/6W	1	VR302	620 190 5021	Volume (SW-250kox2)	1	
R205	401 025 6709	CARBON	200K JA 1/6W	1	VR303	620 190 5021	Volume (SW-250kox2)	1	
R206	401 025 6709	CARBON	200K JA 1/6W	1	VR304	620 190 5021	Volume (SW-250kox2)	1	
R209	401 026 9907	CARBON	4.7K JA 1/6W	1	VR305	620 190 5021	Volume (SW-250kox2)	1	
R210	401 026 9907	CARBON	4.7K JA 1/6W	1	Q301	405 030 8000	TR 2SC1740SLN-R	1	
R211	401 024 7707	CARBON	100K JA 1/6W	1	or	405 030 8109	TR 2SC1740SLN-S	1	
R212	401 024 7707	CARBON	100K JA 1/6W	1	Q302	405 030 8000	TR 2SC1740SLN-R	1	
R215	401 024 7004	CARBON	1K JA 1/6W	1	or	405 030 8109	TR 2SC1740SLN-S	1	
R216	401 024 7004	CARBON	1K JA 1/6W	1	Q303	405 030 8000	TR 2SC1740SLN-R	1	
R217	401 025 6709	CARBON	200K JA 1/6W	1	or	405 030 8109	TR 2SC1740SLN-S	1	
R218	401 025 6709	CARBON	200K JA 1/6W	1	Q304	405 030 8000	TR 2SC1740SLN-R	1	
R219	401 025 6709	CARBON	200K JA 1/6W	1	or	405 030 8109	TR 2SC1740SLN-S	1	
R220	401 025 6709	CARBON	200K JA 1/6W	1	Q305	405 019 2104	TR 2SC536-E-SP	1	
R223	401 026 9907	CARBON	4.7K JA 1/6W	1	or	405 019 2906	TR 2SC536-F-SP	1	
R224	401 026 9907	CARBON	4.7K JA 1/6W	1	Q306	405 019 2104	TR 2SC536-E-SP	1	
R225	401 024 7707	CARBON	100K JA 1/6W	1	or	405 019 2906	TR 2SC536-F-SP	1	
R226	401 024 7707	CARBON	100K JA 1/6W	1	Q307	405 019 2104	TR 2SC536-E-SP	1	
R227	401 026 9907	CARBON	4.7K JA 1/6W	1	or	405 019 2906	TR 2SC536-F-SP	1	
R228	401 026 9907	CARBON	4.7K JA 1/6W	1	Q308	405 019 2104	TR 2SC536-E-SP	1	
R301	401 024 7004	CARBON	1K JA 1/6W	1	or	405 019 2906	TR 2SC536-F-SP	1	
R302	401 024 7004	CARBON	1K JA 1/6W	1	Q309	405 019 2104	TR 2SC536-E-SP	1	
R303	401 024 7707	CARBON	100K JA 1/6W	1	or	405 019 2906	TR 2SC536-F-SP	1	
R304	401 024 7707	CARBON	100K JA 1/6W	1	Q310	405 019 2104	TR 2SC536-E-SP	1	
R305	401 024 7707	CARBON	100K JA 1/6W	1	or	405 019 2906	TR 2SC536-F-SP	1	
R306	401 024 7707	CARBON	100K JA 1/6W	1	C235	403 073 7004	CERAMIC	470P K 50V	1
R307	401 025 7805	CARBON	2.2K JA 1/6W	1	C236	403 073 7004	CERAMIC	470P K 50V	1
R308	401 025 7805	CARBON	2.2K JA 1/6W	1	C237	403 067 5603	MT-COMPO	0.1U J 50V	1
R309	401 025 7805	CARBON	2.2K JA 1/6W	1	C238	403 067 5603	MT-COMPO	0.1U J 50V	1
R310	401 025 7805	CARBON	2.2K JA 1/6W	1	C315	403 050 7805	ELECT	3.3U M 50V	1
R311	401 027 8602	CARBON	8.2K JA 1/6W	1	C316	403 050 7805	ELECT	3.3U M 50V	1
R312	401 027 8602	CARBON	8.2K JA 1/6W	1	C317	403 048 7701	ELECT	0.47U M 50V	1
R313	401 026 9907	CARBON	4.7K JA 1/6W	1	C318	403 048 7701	ELECT	0.47U M 50V	1
R314	401 026 9907	CARBON	4.7K JA 1/6W	1	C319	403 067 8406	MT-COMPO	0.082U J 50V	1
R359	401 012 4503	CARBON	100 JA 1/4W	1	C320	403 067 8406	MT-COMPO	0.082U J 50V	1
R360	401 012 4503	CARBON	100 JA 1/4W	1	C321	403 003 2802	CERAMIC	0.022U K 25V	1
R401	401 024 7004	CARBON	1K JA 1/6W	1	C322	403 003 2802	CERAMIC	0.022U K 25V	1
R402	401 024 7004	CARBON	1K JA 1/6W	1	C323	403 073 8407	CERAMIC	4700P K 50V	1
R403	401 024 7707	CARBON	100K JA 1/6W	1	C324	403 073 8407	CERAMIC	4700P K 50V	1
R404	401 024 7707	CARBON	100K JA 1/6W	1	C325	403 003 2802	CERAMIC	0.022U K 25V	1
R407	401 022 4104	CARBON	68K JA 1/4W	1	C326	403 003 2802	CERAMIC	0.022U K 25V	1
R408	401 022 4104	CARBON	68K JA 1/4W	1	C327	403 002 1905	CERAMIC	0.01U K 25V	1
R409	401 027 1306	CARBON	510 JA 1/6W	1	C328	403 002 1905	CERAMIC	0.01U K 25V	1
R410	401 027 1306	CARBON	510 JA 1/6W	1	C329	403 073 8407	CERAMIC	4700P K 50V	1
R411	401 022 5101	CARBON	680K JA 1/4W	1	C330	403 073 8407	CERAMIC	4700P K 50V	1
R412	401 022 5101	CARBON	680K JA 1/4W	1	C331	403 070 8608	CERAMIC	1500P K 50V	1
R417	401 102 9401	OXIDE-MT	0.22 JB 1W	1	C332	403 070 8608	CERAMIC	1500P K 50V	1
R418	401 102 9401	OXIDE-MT	0.22 JB 1W	1	C333	403 074 9007	CERAMIC	680P K 50V	1
R419	401 102 9401	OXIDE-MT	0.22 JB 1W	1	C334	403 074 9007	CERAMIC	680P K 50V	1
R420	401 102 9401	OXIDE-MT	0.22 JB 1W	1	R245	401 026 4308	CARBON	3.3K JA 1/6W	1
R423	402 041 1808	FUSIBLE RES	33 JA 1/4W	1	R246	401 026 4308	CARBON	3.3K JA 1/6W	1
R424	402 041 1808	FUSIBLE RES	33 JA 1/4W	1	R317	401 027 2303	CARBON	560 JA 1/6W	1
R425	401 026 9907	CARBON	4.7K JA 1/6W	1					

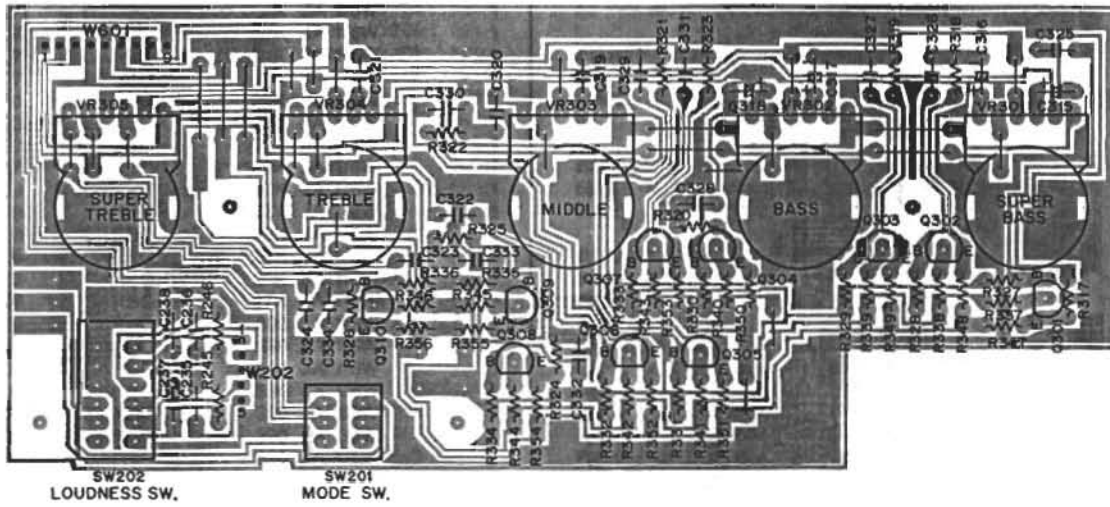
## P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R318	401 027 2303	CARBON 560 JA 1/6W	1	or	405 073 1204	TR 2SD1311-L	1
R319	401 028 0001	CARBON 910 JA 1/6W	1	<b>POWER TR L - P.C.B. ASSY</b>			
R320	401 028 0001	CARBON 910 JA 1/6W	1	56	620 190 6011	Power TR L - P.C.B. Assy	1
R321	401 024 9305	CARBON 1.2K JA 1/6W	1	Q403	405 073 1105	TR 2SB1039-K	1
R322	401 024 9305	CARBON 1.2K JA 1/6W	1	or	405 073 1006	TR 2SA1039-L	1
R323	401 024 8407	CARBON 1.1K JA 1/6W	1	<b>POWER TR R - P.C.B. ASSY</b>			
R324	401 024 8407	CARBON 1.1K JA 1/6W	1	57	620 190 6028	Power TR R - P.C.B. Assy	1
R325	401 024 8407	CARBON 1.1K JA 1/6W	1	Q404	405 073 1105	TR 2SB1039-K	1
R326	401 024 8407	CARBON 1.1K JA 1/6W	1	or	405 073 1006	TR 2SA1039-L	1
R327	401 025 8703	CARBON 220K JA 1/6W	1	<b>BIAS TR LEFT P.C.B. ASSY</b>			
R328	401 025 8703	CARBON 220K JA 1/6W	1	58	620 190 6035	Bias TR Left P.C.B. Assy	1
R329	401 024 7707	CARBON 100K JA 1/6W	1	Q405	405 026 0803	TR 2SD947	1
R330	401 024 7707	CARBON 100K JA 1/6W	1	<b>BIAS TR RIGHT P.C.B. ASSY</b>			
R331	401 027 0309	CARBON 47K JA 1/6W	1	59	620 190 6042	Bias TR Right P.C.B. Assy	1
R332	401 027 0309	CARBON 47K JA 1/6W	1	Q406	405 026 0803	TR 2SD947	1
R333	401 026 7408	CARBON 39K JA 1/6W	1	<b>SPEAKER SWITCH P.C.B. ASSY</b>			
R334	401 026 7408	CARBON 39K JA 1/6W	1	60	620 190 6059	Speaker Switch P.C.B. Assy	1
R335	401 026 1307	CARBON 27K JA 1/6W	1	SW401	620 016 5815	Switch Push 1 Key	1
R336	401 026 1307	CARBON 27K JA 1/6W	1	W408	620 182 9457	Wire 4 Parallel	1
R337	401 026 6639	CARBON 390 JA 1/6W	1	R435	401 061 2604	OXIDE-MT 330 JB 1W	1
R338	401 026 6609	CARBON 390 JA 1/6W	1	R436	401 061 2604	OXIDE-MT 330 JB 1W	1
R339	401 026 6609	CARBON 390 JA 1/6W	1	R437	401 017 0807	CARBON 270 JA 1/4W	1
R340	401 026 6609	CARBON 390 JA 1/6W	1	R438	401 017 0807	CARBON 270 JA 1/4W	1
R341	401 026 6609	CARBON 390 JA 1/6W	1	R439	401 017 0807	CARBON 270 JA 1/4W	1
R342	401 026 6609	CARBON 390 JA 1/6W	1	R440	401 017 0807	CARBON 270 JA 1/4W	1
R343	401 026 6609	CARBON 390 JA 1/6W	1	<b>H.P JACK P.C.B. ASSY</b>			
R344	401 026 6609	CARBON 390 JA 1/6W	1	61	620 190 6066	H.P Jack P.C.B. Assy	1
R345	401 026 6609	CARBON 390 JA 1/6W	1		620 190 5564	Jack 3P	1
R346	401 026 6609	CARBON 390 JA 1/6W	1	<b>SPEAKER TERMINAL P.C.B. ASSY</b>			
R347	401 024 7400	CARBON 10K JA 1/6W	1	62	620 190 6073	Speaker Terminal P.C.B. Assy	1
R348	401 024 7400	CARBON 10K JA 1/6W	1		620 022 5151	4P Push Terminal	1
R349	401 024 7400	CARBON 10K JA 1/6W	1	W409	620 020 5887	Connector 1P Assy	1
R350	401 024 7400	CARBON 10K JA 1/6W	1	C423	403 069 1207	CERAMIC 1000P K 50V	1
R351	401 024 7400	CARBON 10K JA 1/6W	1	C424	403 069 1207	CERAMIC 1000P K 50V	1
R352	401 024 7400	CARBON 10K JA 1/6W	1	C425	403 069 1207	CERAMIC 1000P K 50V	1
R353	401 024 7400	CARBON 10K JA 1/6W	1	C426	403 069 1207	CERAMIC 1000P K 50V	1
R354	401 024 7400	CARBON 10K JA 1/6W	1	<b>POWER IND. P.C.B. ASSY</b>			
R355	401 024 7400	CARBON 10K JA 1/6W	1	63	620 190 6080	Power IND. P.C.B. Assy	1
R356	401 024 7400	CARBON 10K JA 1/6W	1	D610	407 108 6000	LED SLP-644B-41	1
<b>CONTROL PANEL P.C.B. ASSY</b>				R621	401 020 2003	CARBON 4.7K JA 1/4W	1
53	620 190 5984	Control Panel P.C.B. Assy	1	<b>POWER SUPPLY P.C.B. ASSY</b>			
	620 188 0960	Reflector	1	64	620 190 6097	Power Supply P.C.B. Assy	1
	411 021 1202	SCR S-TPG BIN 2X8	3		620 017 2721	Fuse Clip	4
SW203	620 190 5472	Push Switch 1 Key (Source Direct SW.)	1		620 017 7153	Socket 2P	1
VR201	620 191 9806	Slide Volume (W-200k)	1		620 017 7160	Socket 2P	1
VR202	620 190 5038	Volume (B-50kx2)	1		620 017 7177	Socket 2P	1
W202	620 024 1991	Wire 5 Parallel	1	△	423 005 0507	FUSE 250V T1A	2
W602	620 191 0421	Jumper	1	<b>EC TERMINAL P.C.B. ASSY</b>			
D601	407 102 7706	LED SEL2813A	1	65	620 190 6103	EC Terminal P.C.B. Assy	1
D602	407 102 7706	LED SEL2813A	1		620 022 2587	EC Terminal 1P	2
D603	407 102 7706	LED SEL2813A	1		620 031 4763	Wire Wrap Terminal	1
D604	407 102 7706	LED SEL2813A	1	<b>POWER TRANS P.C.B. ASSY</b>			
D605	407 102 7706	LED SEL2813A	1	66	620 190 6110	Power Trans P.C.B. Assy	1
D606	407 102 7706	LED SEL2813A	1	W5D1	620 024 2011	Wire 3 Parallel	1
D607	407 102 7706	LED SEL2813A	1	<b>POWER TRANS 2 P.C.B. ASSY</b>			
D608	407 035 3400	LED SLP-673B-51	1	67	620 190 6165	Power Trans 2 P.C.B. Assy	1
D609	407 035 3400	LED SLP-673B-51	1	W502	620 024 2066	Wire 4 Parallel	1
R213	401 024 7004	CARBON 1K JA 1/6W	1	<b>NOTES:</b>			
R214	401 024 7004	CARBON 1K JA 1/6W	1	1.	Parts order must contain Model Number, Part Number and Description.		
R601	401 014 4105	CARBON 1.5K JA 1/4W	1	2.	Ordering quantity of screws and resistors must be multiple of 10 pcs.		
R603	401 014 4105	CARBON 1.5K JA 1/4W	1				
R605	401 014 4105	CARBON 1.5K JA 1/4W	1				
R607	401 014 4105	CARBON 1.5K JA 1/4W	1				
R609	401 014 4105	CARBON 1.5K JA 1/4W	1				
R611	401 017 0807	CARBON 270 JA 1/4W	1				
R613	401 017 0807	CARBON 270 JA 1/4W	1				
R615	401 017 0807	CARBON 270 JA 1/4W	1				
R617	401 016 3809	CARBON 2.2K JA 1/4W	1				
R619	401 016 3809	CARBON 2.2K JA 1/4W	1				
<b>POWER TR L + P.C.B. ASSY</b>							
54	620 190 5991	Power TR L + P.C.B. Assy	1				
Q401	405 073 1303	TR 2SD1311-K	1				
or	405 073 1204	TR 2SD1311-L	1				
<b>POWER TR R + P.C.B. ASSY</b>							
55	620 190 6004	Power TR R + P.C.B. Assy	1				
Q402	405 073 1303	TR 2SD1311-K	1				

# POINT TO POINT WIRING DIAGRAM

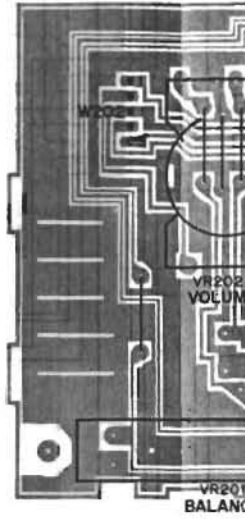
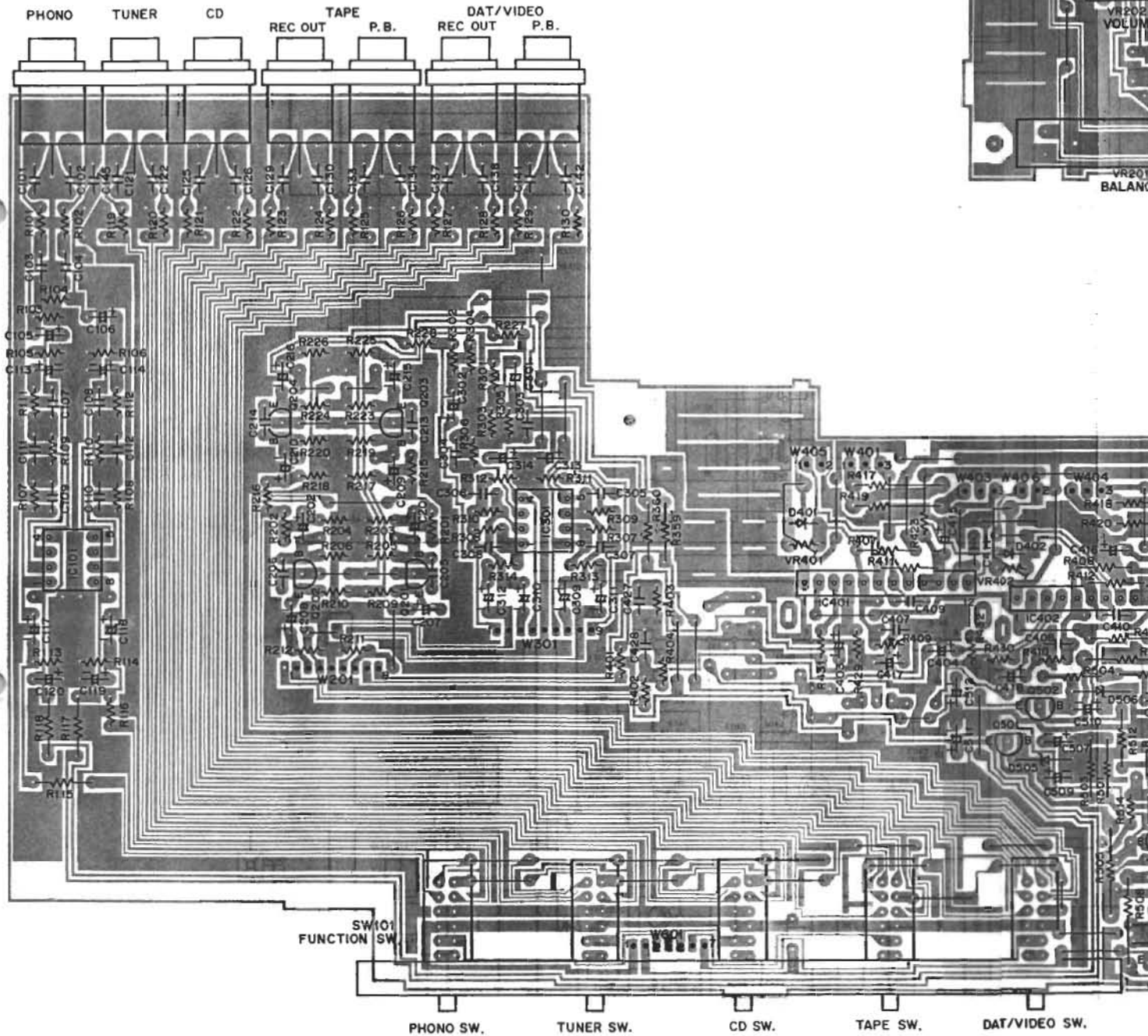


# GRAPHIC EQUALIZER PRINTED CIRCUIT BOARD (BOTTOM VIEW)

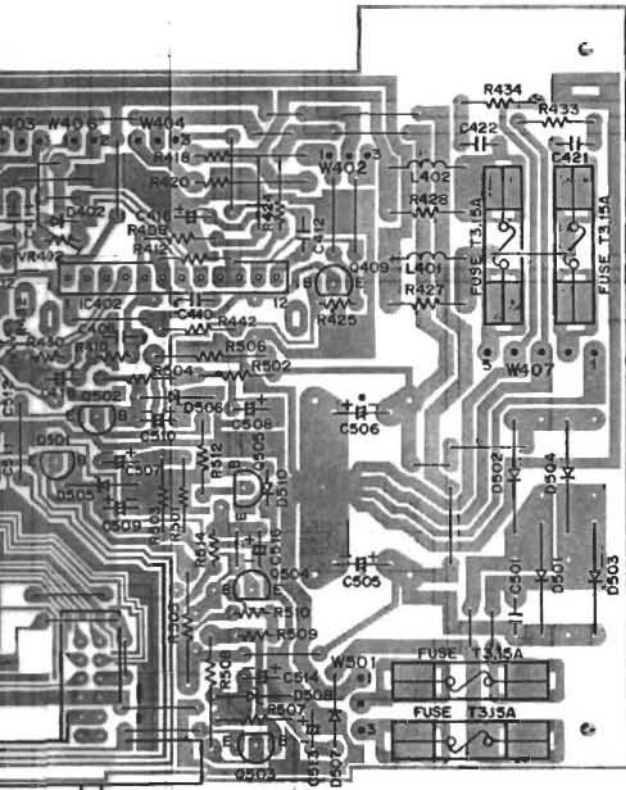
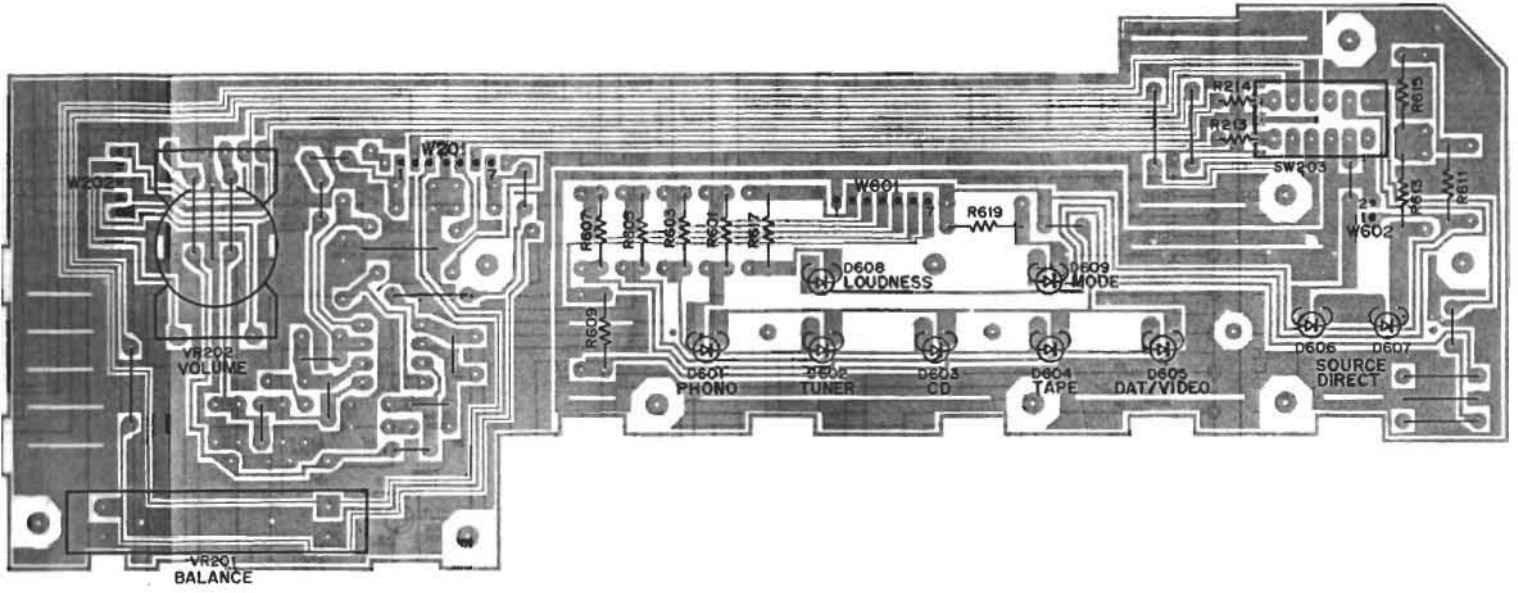




# MAIN AMP PRINTED CIRCUIT BOARD (BOTTOM VIEW)

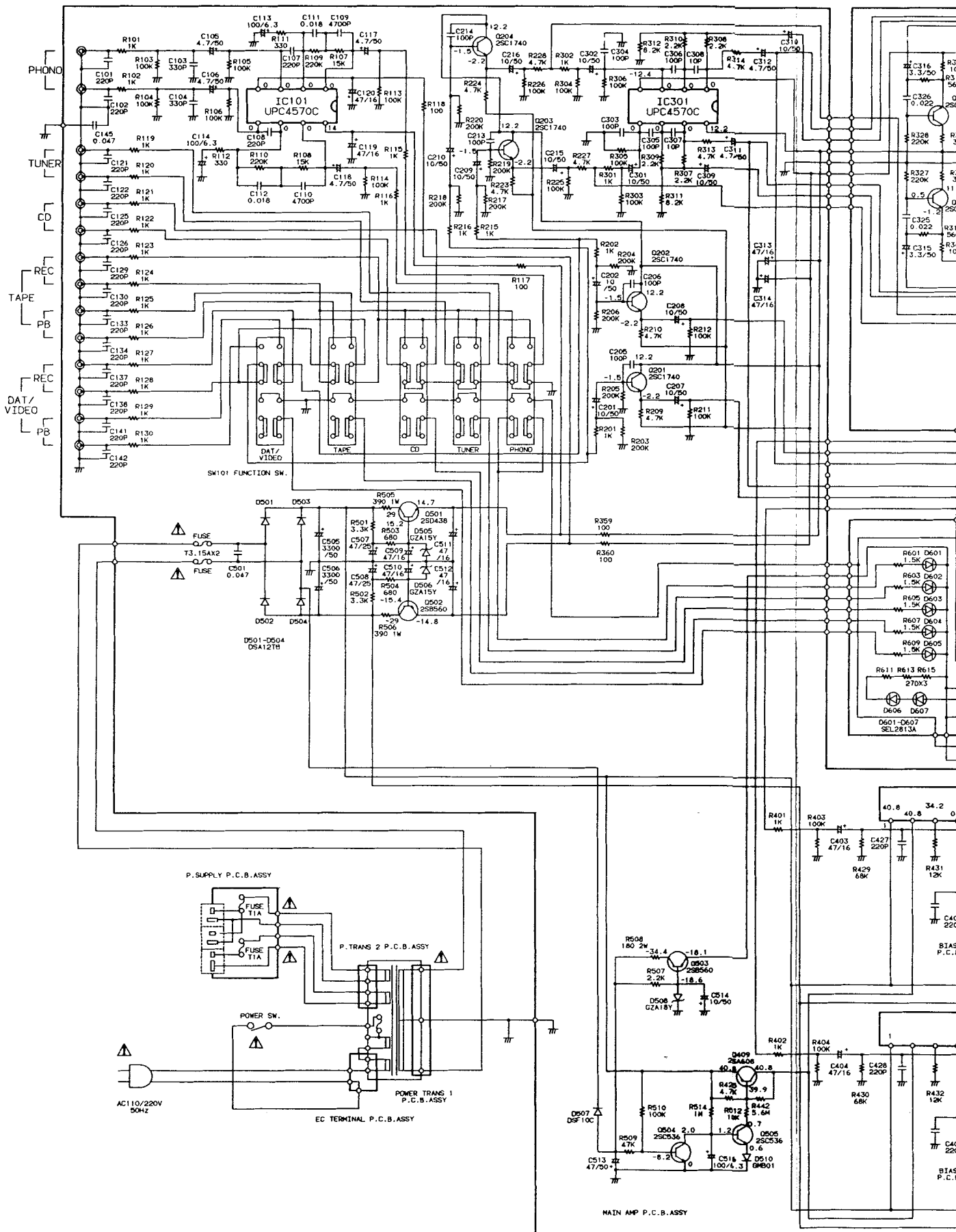


# CONTROL PANEL PRINTED CIRCUIT BOARD (BOTTOM VIEW)

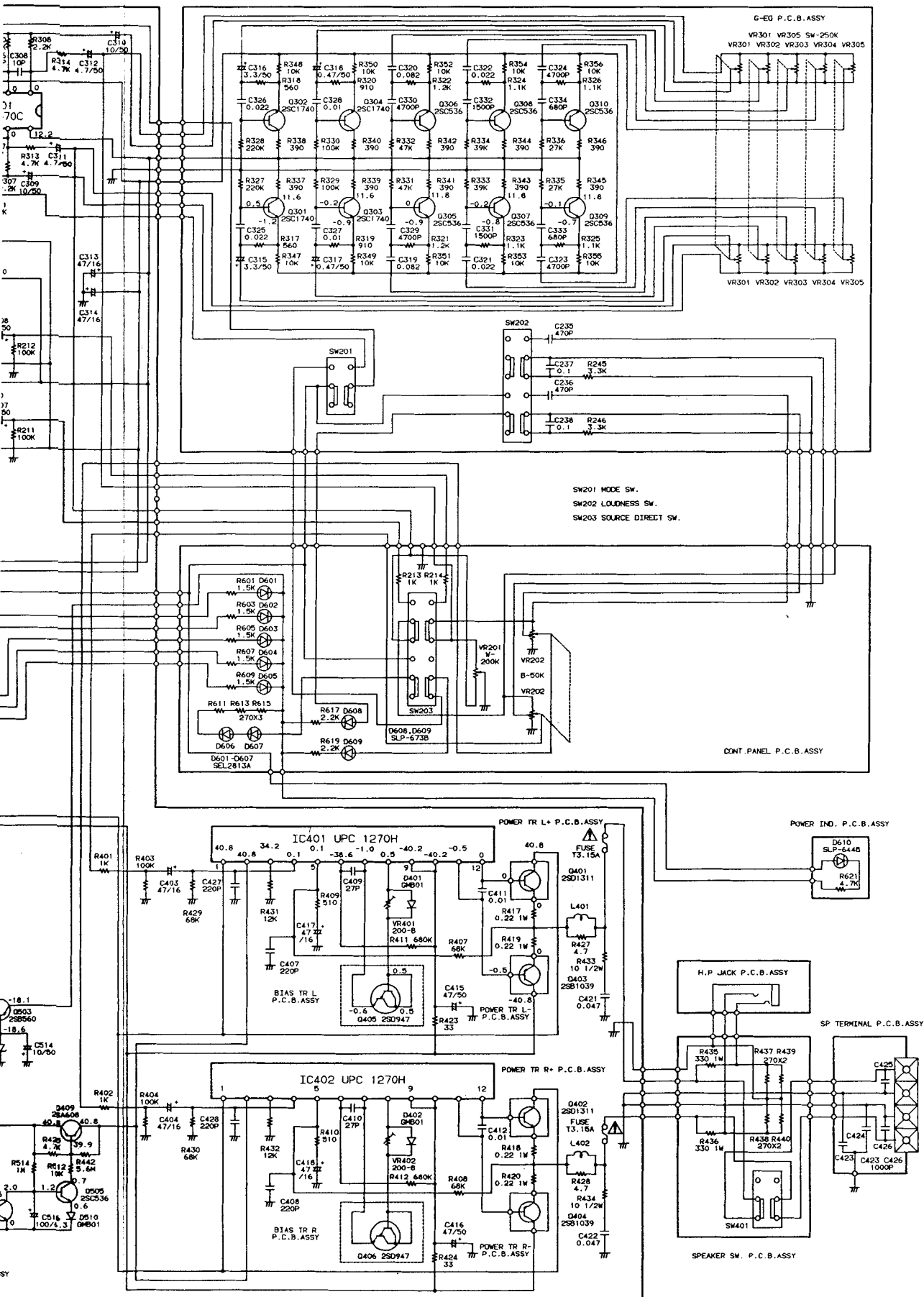


DAT/VIDEO SW.




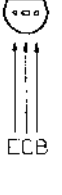



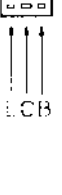


# SCHEMATIC DIAGRAM



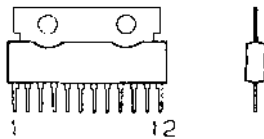
# SCHEMATIC DIAGRAM



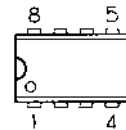
# IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SC1740 2SC536 2SC536			2SB560 2SD438		
2SC536			2SD947		
2SB1039 2SD1311					
<b>TERMINAL NAME</b>					
B → BASE C → COLLECTOR E → EMITTER					

**UPC1270H FRONT/SIDE VIEWS**

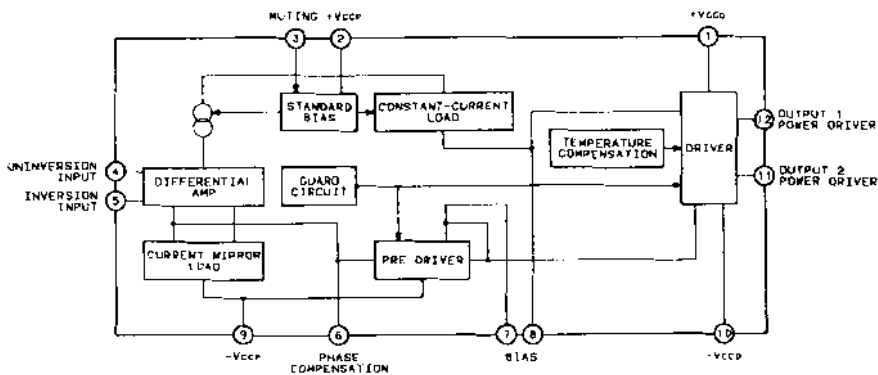


**UPC4570C TOP VIEW**

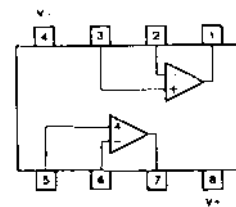


## IC BLOCK DIAGRAM

**UPC1270H BLOCK DIAGRAM**



**UPC4570C BLOCK DIAGRAM**





# FISHER

## FISHER Hi-Fi Europa Vertriebs GmbH

Stahlgruberring 4 8000 München 82	Tel: 089/420 45-0 Tlx: 524033
Technisches Labor/ Qualitätskontrolle	Durchwahl -120/121
Funkstörmeßlabor	-127/128
Service-Zentrale	
Color TV	-166
Hi-Fi/Audio	-168
Video	-172
Autoradio	-170
Ersatzteillager	-155/156
Techn. Schulung	-174

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### Weitere Service-Zentralen in BRD (keine Ersatzteilbestellungen)

Offenbach/ Frankfurt	Frankfurter Straße 121 6050 Offenbach	Tel: 069/88 80 45/48 Tlx: 4 12 558	Hamburg	Spaldingsstraße 1 2000 Hamburg	Tel: 040/23 12 23/24 Tlx: 2 173 839
Military	Frankfurter Straße 121 6050 Offenbach	Tel: 069/88 80 45/48 Tlx: 4 12 558	Ditzingen	Max-Eyth-Straße 11 7257 Ditzingen	Tel: 07156/50 88 Tlx: 7 245 278
Düsseldorf-Erkrath	Albert-Einstein-Straße 8 4006 Erkrath 1	Tel: 0211/200 05-0 Tlx: 8 588 563	Berlin (Fisher Vertragswerkstatt)	Drewitz & Kaulbach Eisenacher Straße 53 1000 Berlin 62	Tel: 030/781 20 01 Tlx: 186 460

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Unser FISHER-Team steht Ihnen jederzeit gerne zur Verfügung. Ersatzteilbestellungen wickeln Sie bitte ausschließlich mit unserer Service-Zentrale München ab.

Senden Sie uns im Garantiefall die ausgefüllte Garantiekarte ein. Bei unverkauften Lagergeräten des Fachhandels gilt als Garantienachweis eine eidesstattliche Versicherung mit eingetragener Modellbezeichnung und Geräte-Nummer oder ein Liefernachweis. Die gleiche Regelung besteht auch für Reparaturaufträge.

Bitte geben Sie unbedingt die Ersatzteil-Nummer und die Modellbezeichnung an.  
Sie sparen so wertvolle Zeit. Vielen Dank.