



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) ± 1 dB
Aux (20Hz - 20kHz) ± 1 dB
Input Sensitivity and Impedance
Phono 2.5mV/50k Ω
TAPE/DAT-VIDEO 150mV/50k Ω
Tuner/CD 150mV/50k Ω

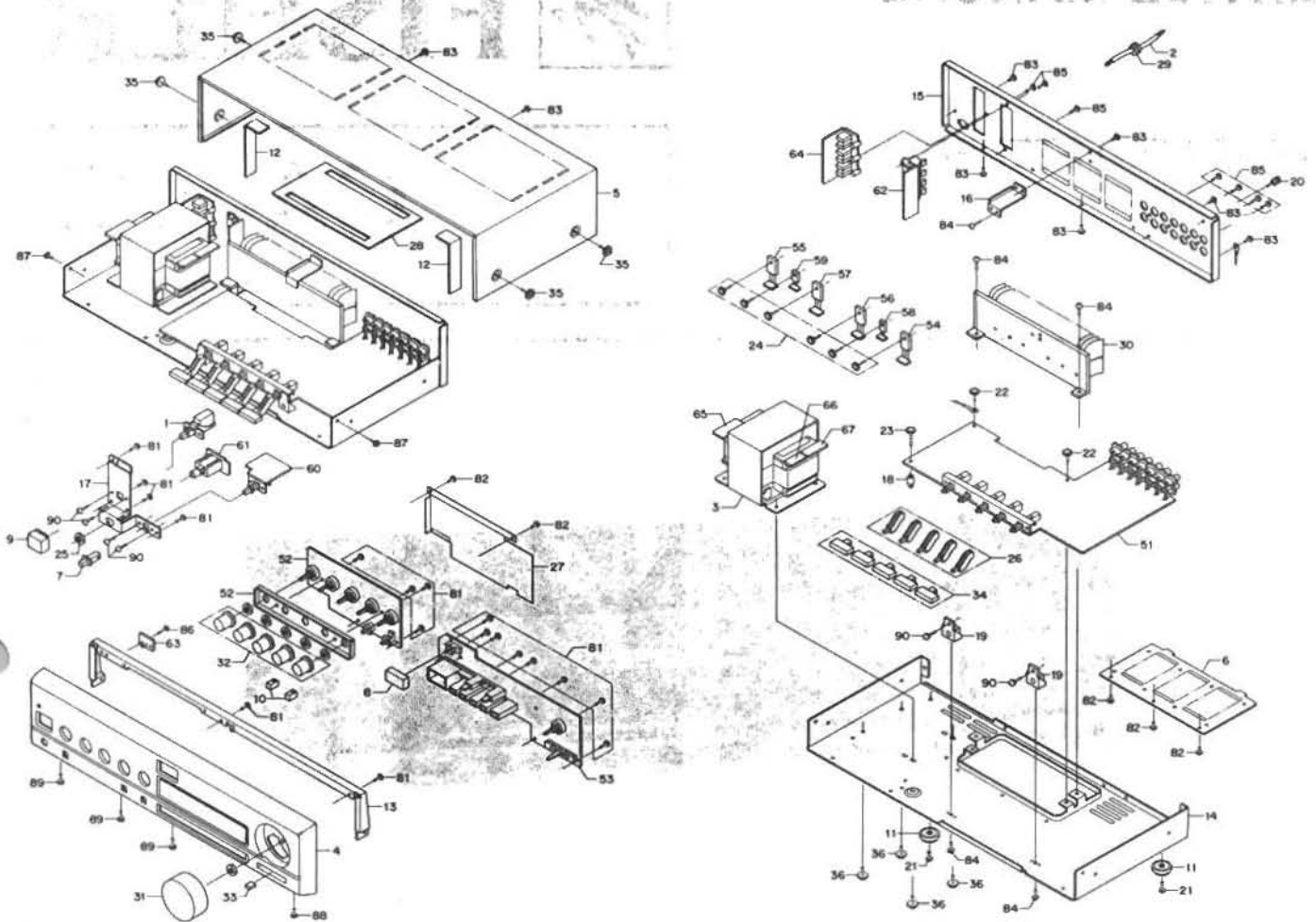
Phono Max. Input Capability 120mV
MULTI-Tone Controls
SUPER BASS (63Hz) ± 10 dB
BASS (250Hz) ± 10 dB
MIDDLE (1kHz) ± 10 dB
TREBLE (4kHz) ± 10 dB
SUPER TREBLE (16kHz) ± 10 dB
Loudness Contour (100Hz/10kHz) + 8dB/ + 4dB
Hum & Noise (DIN)
Phono 65dB
TAPE/DAT-VIDEO 85dB
Tuner/CD 85dB

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
PACKAGE			
	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
ACCESSORIES			
	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
CABINET			
	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.

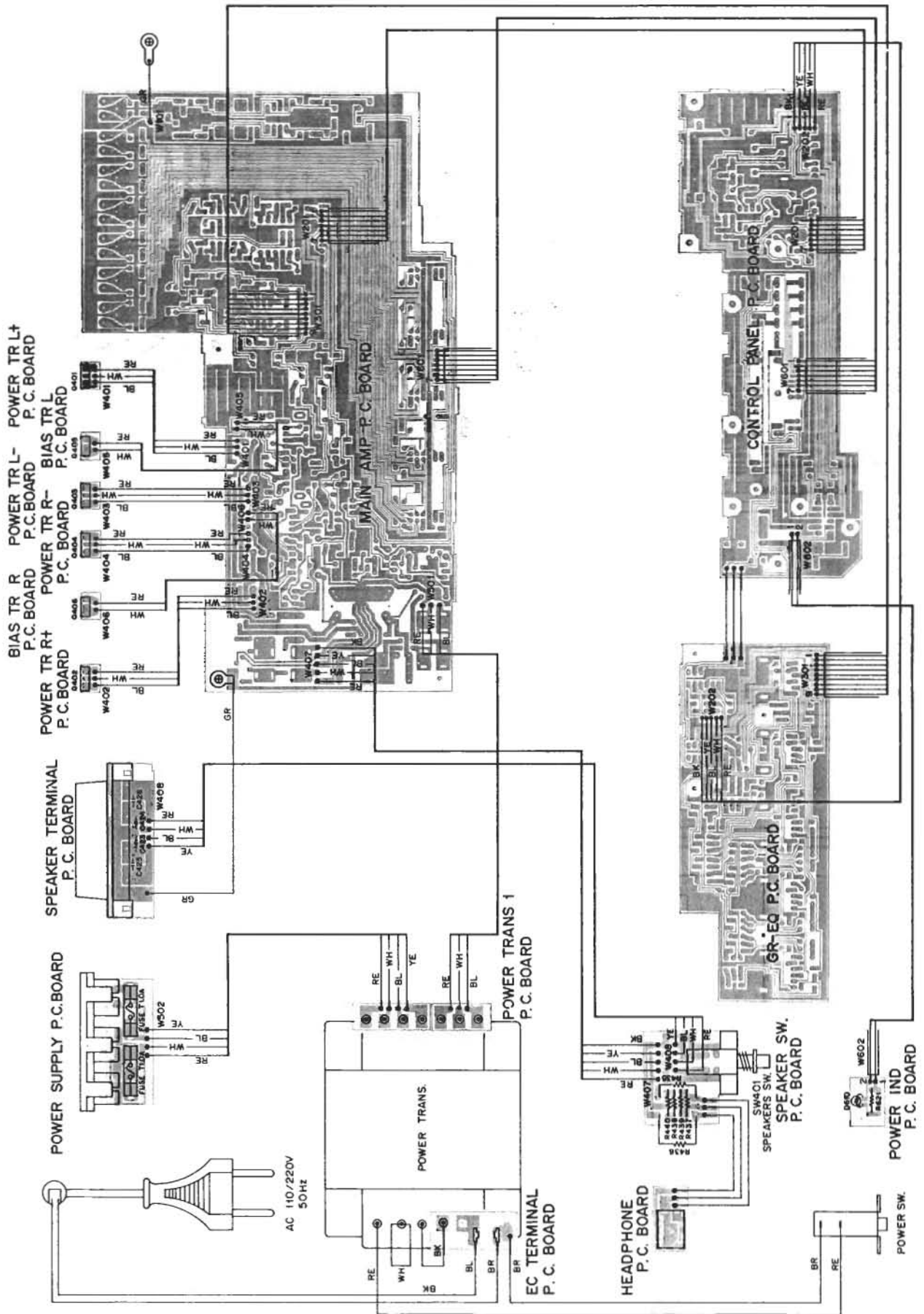
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , 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.

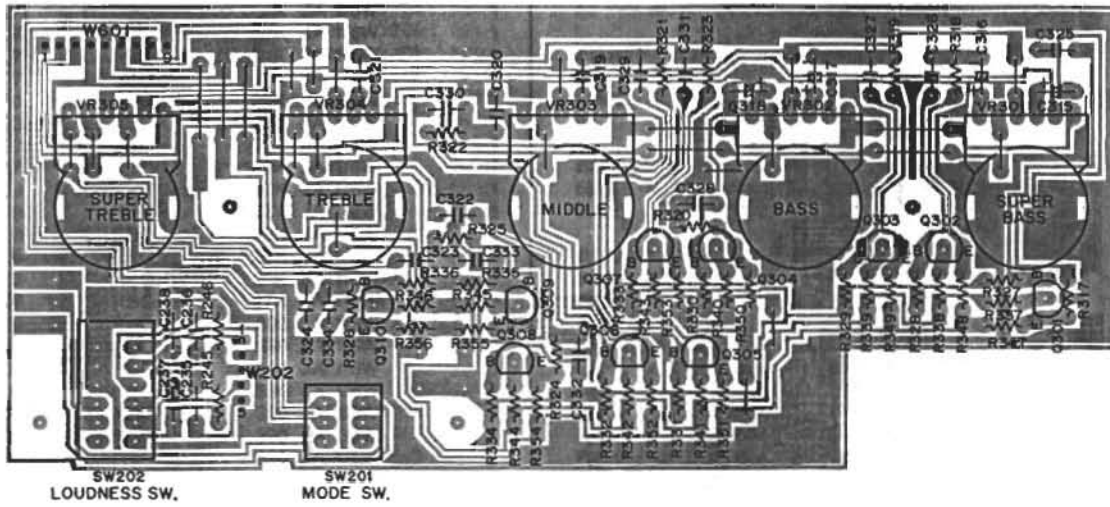
P.C.BOARD PARTS LIST (Continued)

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				
R320	401 028 0001	CARBON	910 JA 1/6W	1				
R321	401 024 9305	CARBON	1.2K JA 1/6W	1	POWER TR L - P.C.B. ASSY			
R322	401 024 9305	CARBON	1.2K JA 1/6W	1	56	620 190 6011	Power TR L - P.C.B. Assy	1
R323	401 024 8407	CARBON	1.1K JA 1/6W	1	Q403	405 073 1105	TR 2SB1039-K	1
R324	401 024 8407	CARBON	1.1K JA 1/6W	1	or	405 073 1006	TR 2SA1039-L	1
R325	401 024 8407	CARBON	1.1K JA 1/6W	1				
R326	401 024 8407	CARBON	1.1K JA 1/6W	1	POWER TR R - P.C.B. ASSY			
R327	401 025 8703	CARBON	220K JA 1/6W	1	57	620 190 6028	Power TR R - P.C.B. Assy	1
R328	401 025 8703	CARBON	220K JA 1/6W	1	Q404	405 073 1105	TR 2SB1039-K	1
R329	401 024 7707	CARBON	100K JA 1/6W	1	or	405 073 1006	TR 2SA1039-L	1
R330	401 024 7707	CARBON	100K JA 1/6W	1				
R331	401 027 0309	CARBON	47K JA 1/6W	1	BIAS TR LEFT P.C.B. ASSY			
R332	401 027 0309	CARBON	47K JA 1/6W	1	58	620 190 6035	Bias TR Left P.C.B. Assy	1
R333	401 026 7408	CARBON	39K JA 1/6W	1	Q405	405 026 0803	TR 2SD947	1
R334	401 026 7408	CARBON	39K JA 1/6W	1				
R335	401 026 1307	CARBON	27K JA 1/6W	1	BIAS TR RIGHT P.C.B. ASSY			
R336	401 026 1307	CARBON	27K JA 1/6W	1	59	620 190 6042	Bias TR Right P.C.B. Assy	1
R337	401 026 6639	CARBON	390 JA 1/6W	1	Q406	405 026 0803	TR 2SD947	1
R338	401 026 6609	CARBON	390 JA 1/6W	1				
R339	401 026 6609	CARBON	390 JA 1/6W	1	SPEAKER SWITCH P.C.B. ASSY			
R340	401 026 6609	CARBON	390 JA 1/6W	1	60	620 190 6059	Speaker Switch P.C.B. Assy	1
R341	401 026 6609	CARBON	390 JA 1/6W	1	SW401	620 016 5815	Switch Push 1 Key	1
R342	401 026 6609	CARBON	390 JA 1/6W	1	W408	620 182 9457	Wire 4 Parallel	1
R343	401 026 6609	CARBON	390 JA 1/6W	1	R435	401 061 2604	OXIDE-MT 330 JB 1W	1
344	401 026 6609	CARBON	390 JA 1/6W	1	R436	401 061 2604	OXIDE-MT 330 JB 1W	1
R345	401 026 6609	CARBON	390 JA 1/6W	1	R437	401 017 0807	CARBON 270 JA 1/4W	1
R346	401 026 6609	CARBON	390 JA 1/6W	1	R438	401 017 0807	CARBON 270 JA 1/4W	1
R347	401 024 7400	CARBON	10K JA 1/6W	1	R439	401 017 0807	CARBON 270 JA 1/4W	1
R348	401 024 7400	CARBON	10K JA 1/6W	1	R440	401 017 0807	CARBON 270 JA 1/4W	1
R349	401 024 7400	CARBON	10K JA 1/6W	1				
R350	401 024 7400	CARBON	10K JA 1/6W	1	H.P JACK P.C.B. ASSY			
R351	401 024 7400	CARBON	10K JA 1/6W	1	61	620 190 6066	H.P Jack P.C.B. Assy	1
R352	401 024 7400	CARBON	10K JA 1/6W	1		620 190 5564	Jack 3P	1
R353	401 024 7400	CARBON	10K JA 1/6W	1				
R354	401 024 7400	CARBON	10K JA 1/6W	1	SPEAKER TERMINAL P.C.B. ASSY			
R355	401 024 7400	CARBON	10K JA 1/6W	1	62	620 190 6073	Speaker Terminal P.C.B. Assy	1
R356	401 024 7400	CARBON	10K JA 1/6W	1		620 022 5151	4P Push Terminal	1
					W409	620 020 5887	Connector 1P Assy	1
					C423	403 069 1207	CERAMIC 1000P K 50V	1
					C424	403 069 1207	CERAMIC 1000P K 50V	1
					C425	403 069 1207	CERAMIC 1000P K 50V	1
					C426	403 069 1207	CERAMIC 1000P K 50V	1
CONTROL PANEL P.C.B. ASSY					POWER IND. P.C.B. ASSY			
53	620 190 5984	Control Panel P.C.B. Assy		1	63	620 190 6080	Power IND. P.C.B. Assy	1
	620 188 0960	Reflector		1	D610	407 108 6000	LED SLP-644B-41	1
	411 021 1202	SCR S-TPG BIN 2X8		3	R621	401 020 2003	CARBON 4.7K JA 1/4W	1
SW203	620 190 5472	Push Switch 1 Key (Source Direct SW.)		1				
VR201	620 191 9806	Slide Volume (W-200kn)		1	POWER SUPPLY P.C.B. ASSY			
VR202	620 190 5038	Volume (B-50kx2)		1	64	620 190 6097	Power Supply P.C.B. Assy	1
W202	620 024 1991	Wire 5 Parallel		1		620 017 2721	Fuse Clip	4
W602	620 191 0421	Jumper		1		620 017 7153	Socket 2P	1
D601	407 102 7706	LED SEL2813A		1		620 017 7160	Socket 2P	1
D602	407 102 7706	LED SEL2813A		1		620 017 7177	Socket 2P	1
D603	407 102 7706	LED SEL2813A		1	△	423 005 0507	FUSE 250V T1A	2
D604	407 102 7706	LED SEL2813A		1				
D605	407 102 7706	LED SEL2813A		1	EC TERMINAL P.C.B. ASSY			
D606	407 102 7706	LED SEL2813A		1	65	620 190 6103	EC Terminal P.C.B. Assy	1
D607	407 102 7706	LED SEL2813A		1		620 022 2587	EC Terminal 1P	2
D608	407 035 3400	LED SLP-673B-51		1		620 031 4763	Wire Wrap Terminal	1
D609	407 035 3400	LED SLP-673B-51		1				
R213	401 024 7004	CARBON 1K JA 1/6W		1	POWER TRANS P.C.B. ASSY			
R214	401 024 7004	CARBON 1K JA 1/6W		1	66	620 190 6110	Power Trans P.C.B. Assy	1
R601	401 014 4105	CARBON 1.5K JA 1/4W		1	W5D1	620 024 2011	Wire 3 Parallel	1
R603	401 014 4105	CARBON 1.5K JA 1/4W		1				
R605	401 014 4105	CARBON 1.5K JA 1/4W		1	POWER TRANS 2 P.C.B. ASSY			
R607	401 014 4105	CARBON 1.5K JA 1/4W		1	67	620 190 6165	Power Trans 2 P.C.B. Assy	1
R609	401 014 4105	CARBON 1.5K JA 1/4W		1	W502	620 024 2066	Wire 4 Parallel	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				
					NOTES:			
POWER TR L + P.C.B. ASSY					1.	Parts order must contain Model Number, Part Number and Description.		
54	620 190 5991	Power TR L + P.C.B. Assy		1	2.	Ordering quantity of screws and resistors must be multiple of 10 pcs.		
Q401	405 073 1303	TR 2SD1311-K		1				
or	405 073 1204	TR 2SD1311-L		1				
POWER TR R + P.C.B. ASSY								
55	620 190 6004	Power TR R + P.C.B. Assy		1				
Q402	405 073 1303	TR 2SD1311-K		1				

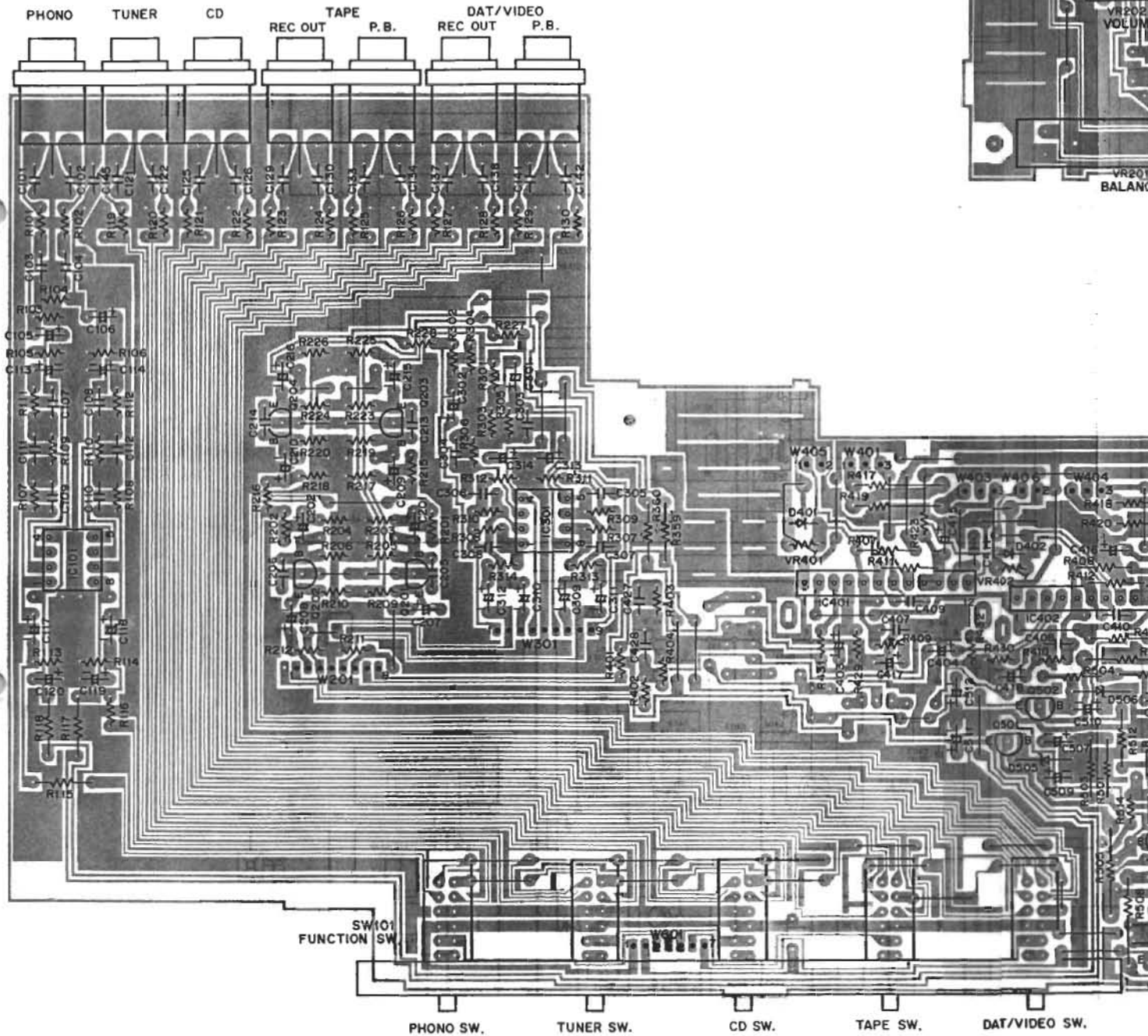
POINT TO POINT WIRING DIAGRAM



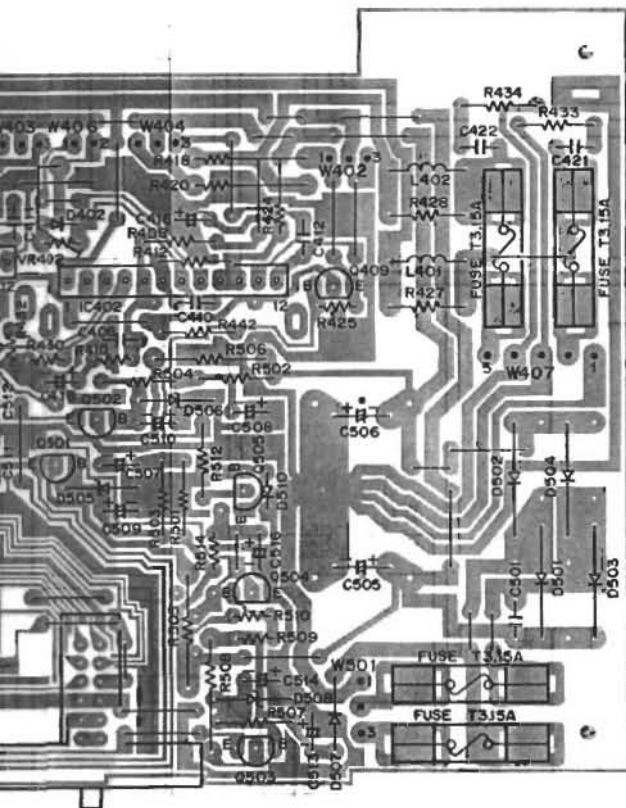
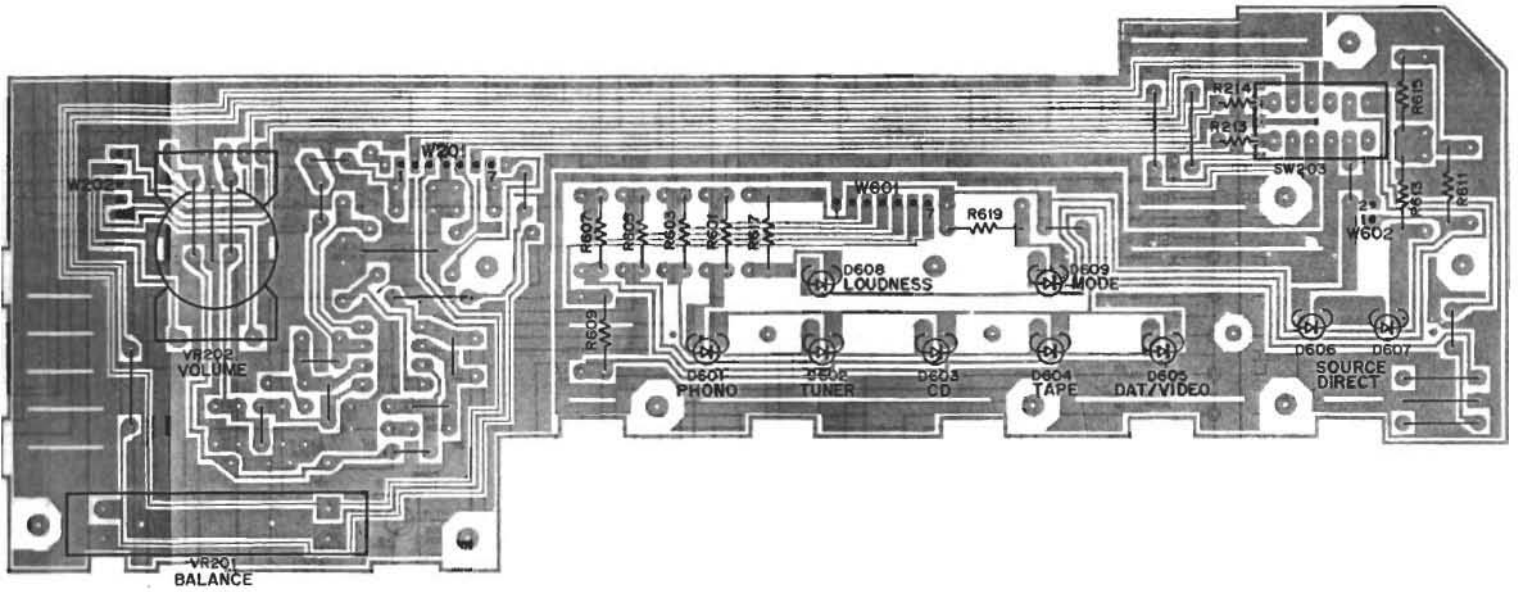
GRAPHIC EQUALIZER PRINTED CIRCUIT BOARD (BOTTOM VIEW)



MAIN AMP PRINTED CIRCUIT BOARD (BOTTOM VIEW)

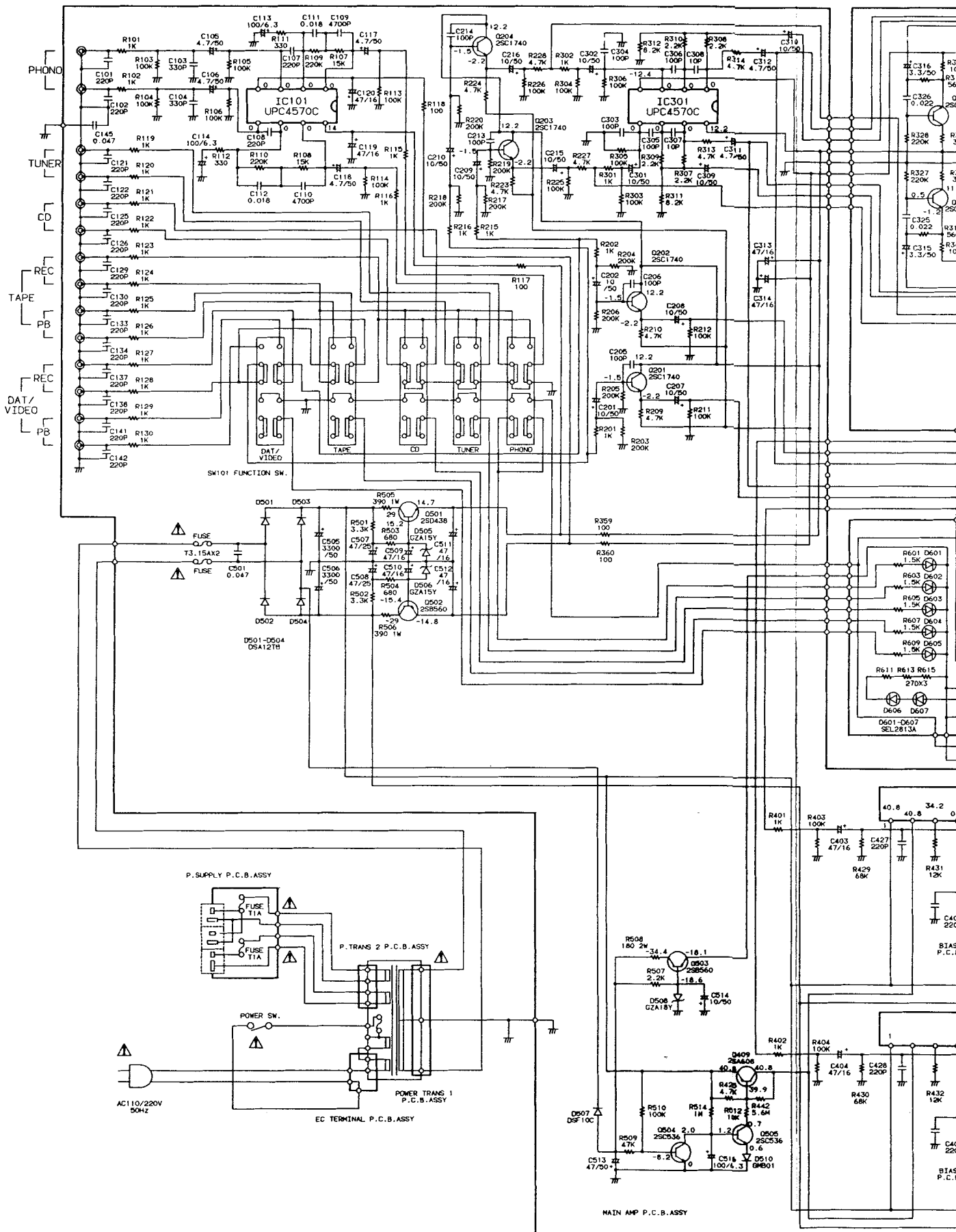


CONTROL PANEL PRINTED CIRCUIT BOARD (BOTTOM VIEW)

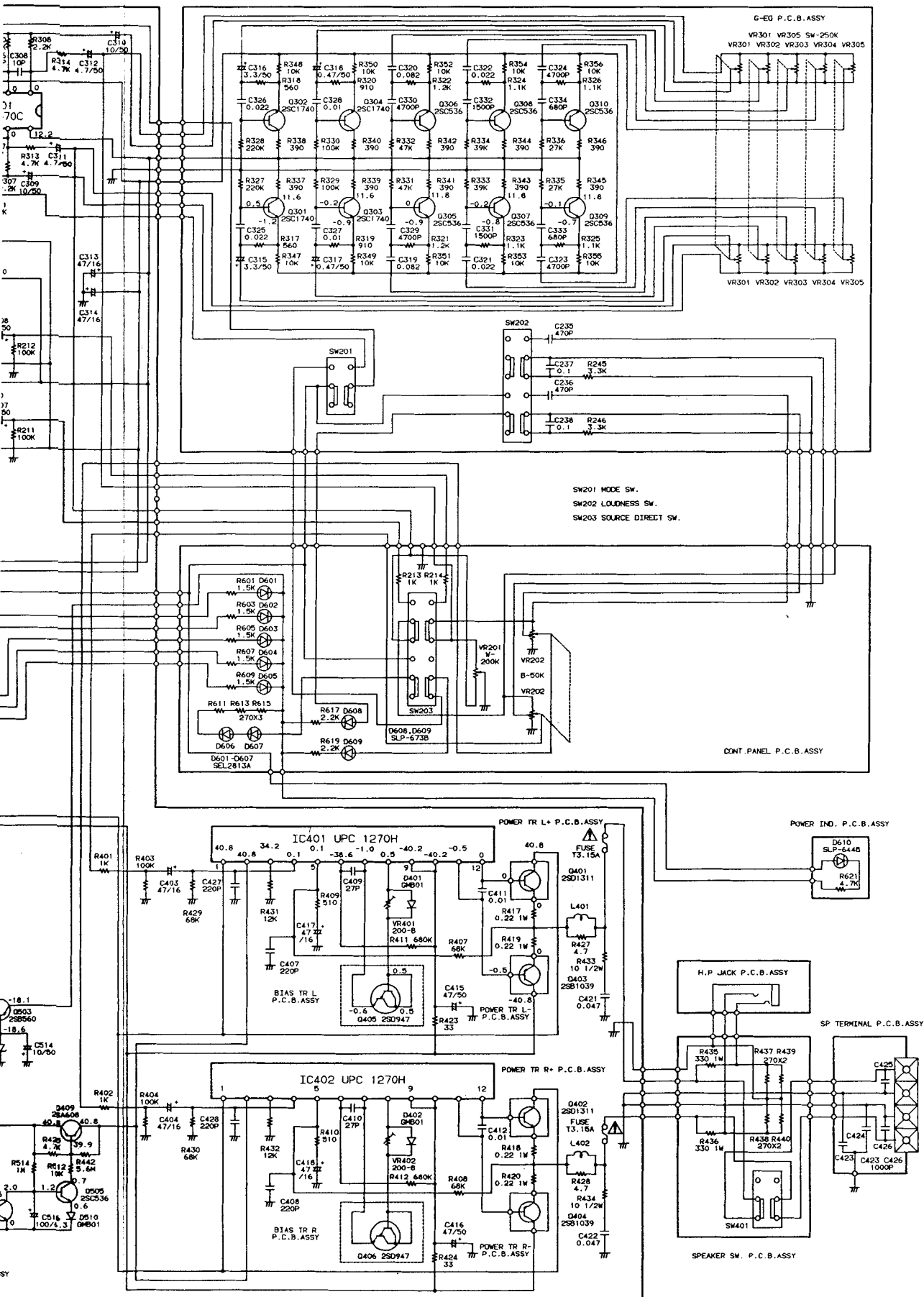


DAT/VIDEO SW.




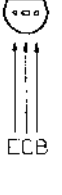



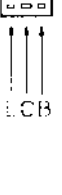


SCHEMATIC DIAGRAM



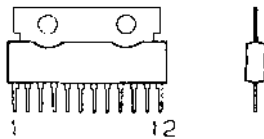
SCHEMATIC DIAGRAM



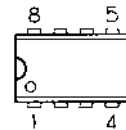
IC & TRANSISTOR LEAD IDENTIFICATION

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

UPC1270H FRONT/SIDE VIEWS

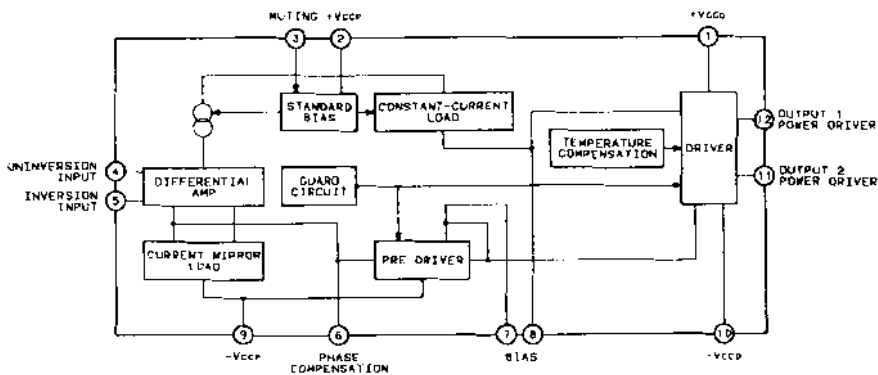


UPC4570C TOP VIEW

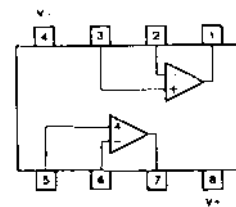


IC BLOCK DIAGRAM

UPC1270H BLOCK DIAGRAM



UPC4570C BLOCK DIAGRAM





FISHER

FISHER Hi-Fi Europa Vertriebs GmbH

Stahlgruberring 4 Tel: 089/420 45-0
8000 München 82 Tlx: 524033

Technisches Labor/ Durchwahl -120/121
Qualitätskontrolle

Funkstörmeßlabor -127/128

Service-Zentrale

Color TV -166

Hi-Fi/Audio -168

Video -172

Autoradio -170

Ersatzteillager -155/156

Techn. Schulung -174

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

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.