SERVICE MANUAL

FISHER®

INTEGRATED STEREO AMPLIFIER

CA-856

(U.S.A.)

132 311 21

SPECIFICATIONS

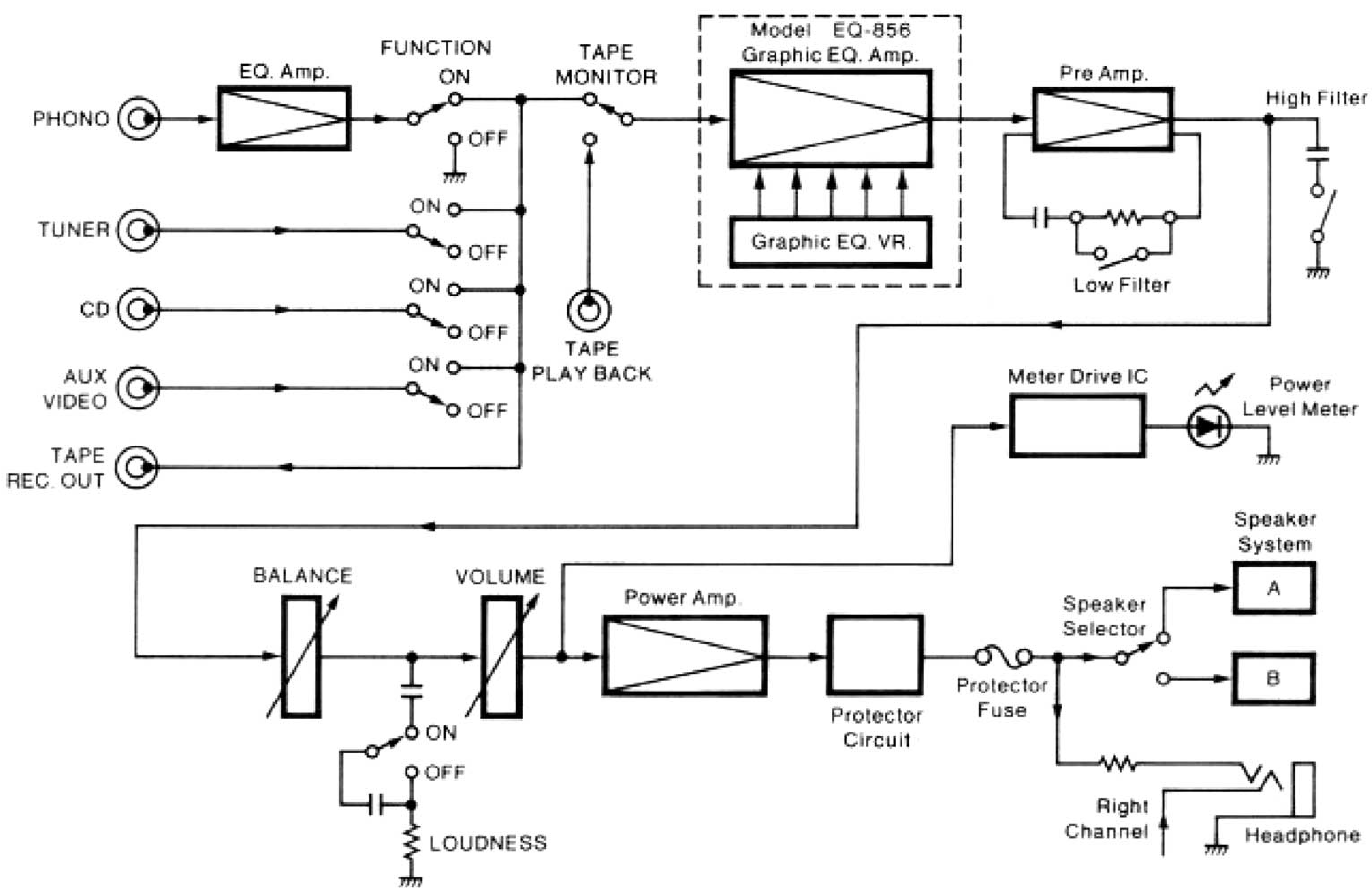
POWER AMPLIFIER SECTION	
Minimum RMS sine wave power per channel within stated bandwidth at no more than stated distortion and with 8-ohm load	100 Watts
Power Bandwidth	20 Hz – 20 kHz
Total Harmonic Distortion	0.09 %
I.M. Distortion	0.09 %
Speaker Damping	> 20
PREAMPLIFIER SECTION	
Frequency Response	
Phono (RIAA)	±1 dB
Video/Aux (20 Hz – 20 kHz)	±1 dB
Input Sensitivity and Impedance	
Phono	2.5 mV/50 kΩ
Tape Monitor	150 mV/50 kΩ
Tuner/Video/Aux/CD	150 mV/50 kΩ
Phono Max. Input Capability	150 mV
High Filter (Above 7 kHz)	–6 dB/Oct.
Subsonic Filter (Below 30 Hz)	–12 dB/Oct.
Loudness Contour (100 Hz/10 kHz)	+8 dB/+4 dB
Hum & Noise (IHF Short Circuit, A Network)	
Phono	65 dB
Tape Monitor	85 dB
Tuner/Video/Aux/CD	85 dB
GENERAL	
Power Requirements (50/60 Hz)	120 VAC ±10 %
Power Consumption	470 Watts
AC Outlets	1
Dimensions (W x H x D)	17.33" x 4.25" x 12.4"
Weight (approx.)	16.5 lbs.

– Specifications subject to change without notice.–

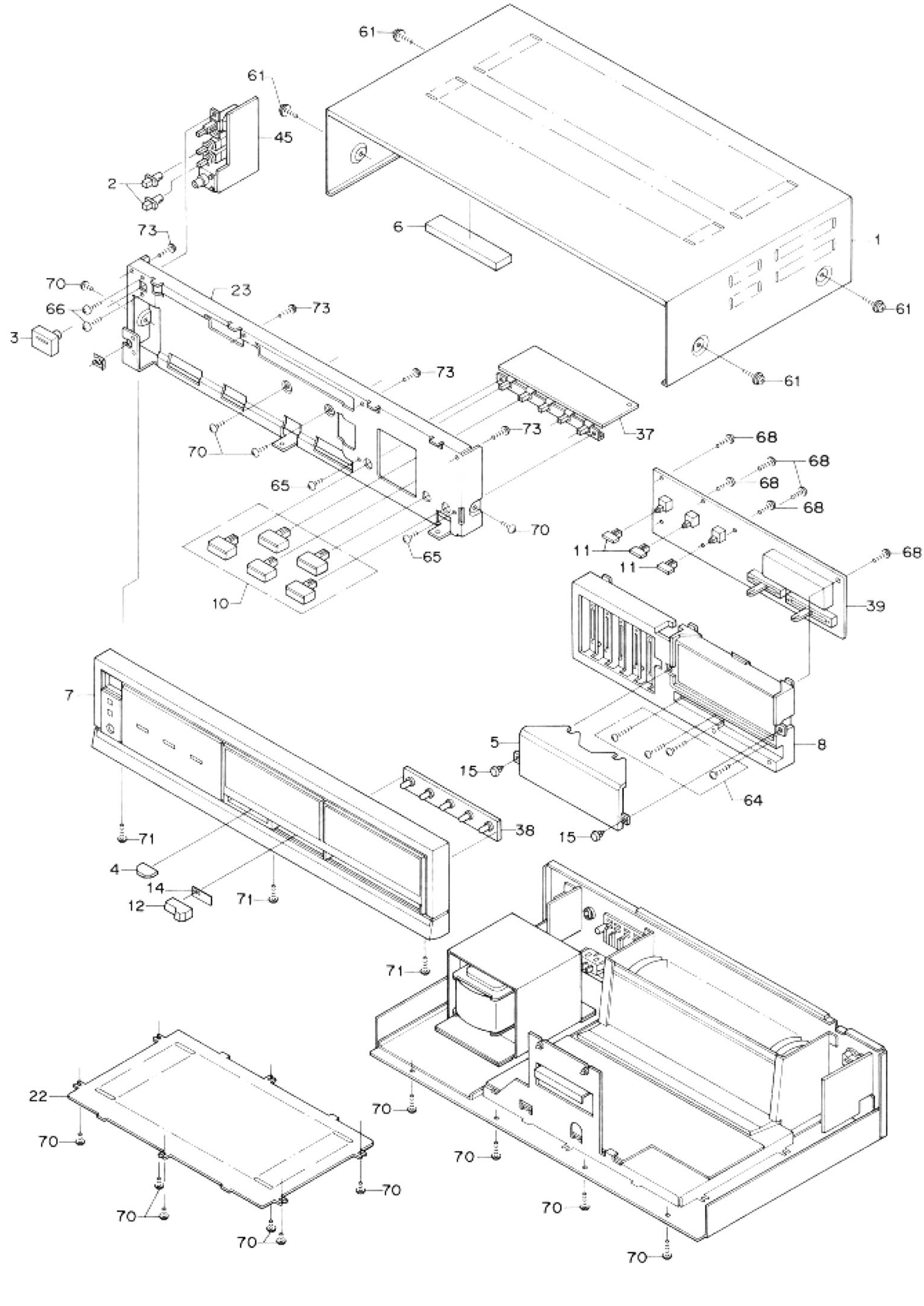
WM-17776

CONTENTS

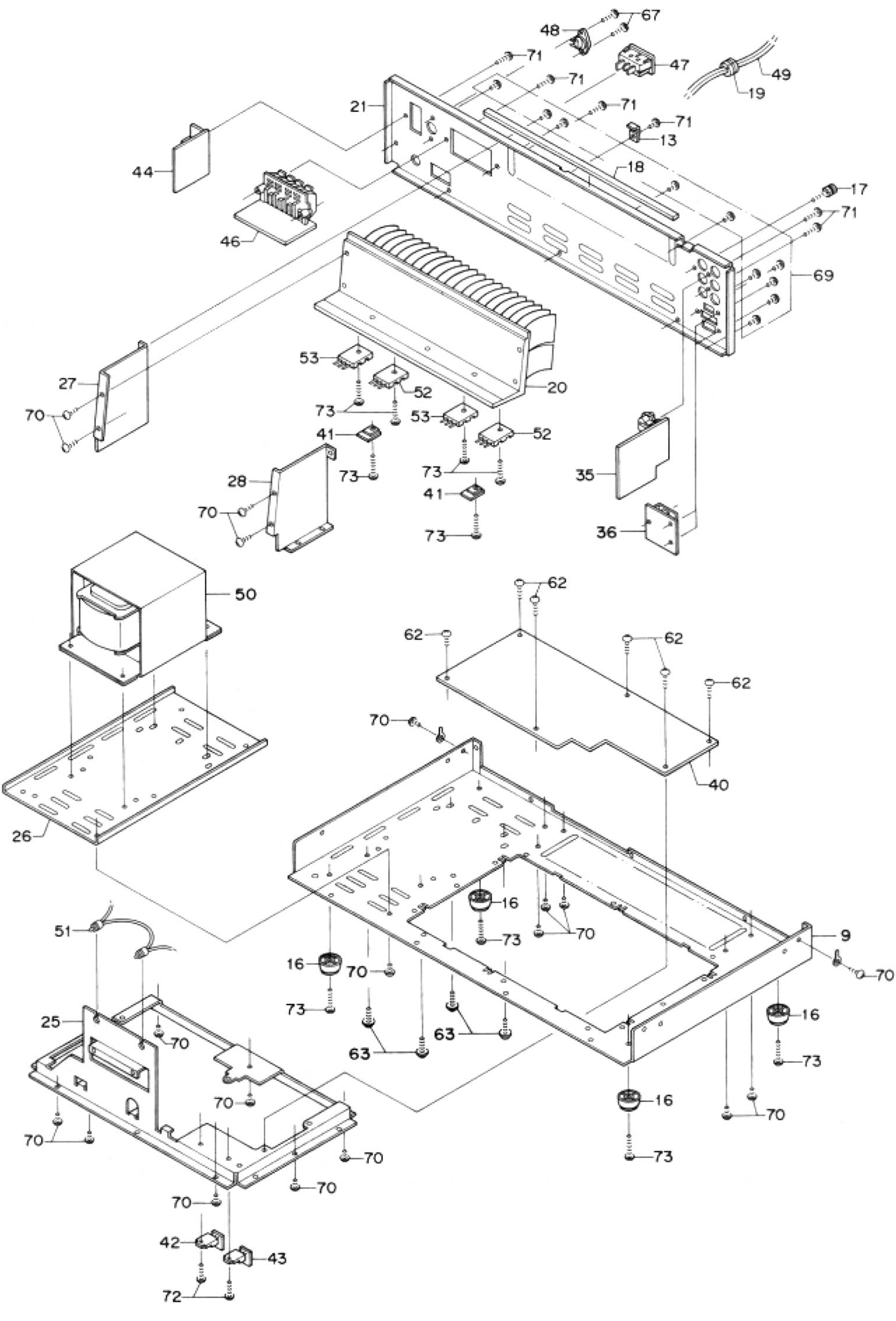
FUNCTIONAL BLOCK DIAGRAM



CABINET & CHASSIS EXPLODED VIEW (1)



CABINET & CHASSIS EXPLODED VIEW (2)



CABINET & CHASSIS PARTS LIST

Ref. No.	Part No.	Description	Q'ty
	PACKING PARTS LIST		
	131-6-3009-36331	Pad (Sleeve)	1
	131-6-3069-16350	Patching Sheet	1
	141-6-1469-04000	Case Styrofoam (Left)	1
	141-6-1469-04001	Case Styrofoam (Right)	1
	141-6-2519-22290	Sheet Polyethylene	1
	ACCESSORIES PARTS LIST		
	4-2442-00030	Antenna FM	1
	131-2-7103-40808	Label (100W)	1
	131-6-2719-10401	Bag Fan	1
	131-6-4159-31000	Note	1
	131-6-4159-34100	Notes	1
	131-6-4159-40600	Catalog (VTR)	1
	131-6-4319-10802	Service Station List	1
	131-6-4519-14400	Warranty Card	1
	131-6-4939-00200	Customer Card	1
	141-2-1729-00500	Holder Antenna	1
	141-6-4419-23821	Label Bar Code	1
	142-6-4119-33119	Explanatory Booklet	1
	CABINET & CHASSIS PARTS LIST		
	4-2379-21520	Terminal Lug	2
	4-2379-21522	Terminal Lug	1
	131-2-7103-26100	Label	1
	131-2-7103-46700	Label (UL Caution)	1
	141-2-4729-04200	Lug	1
1	131-2-1410-35400	Cover	1
2	131-2-1601-69601	Knob (Speaker Selector)	2
3	131-2-1601-93300	Knob (Power)	1
4	131-2-1601-93400	Knob (Balance)	1
5	131-2-3608-16405	Filter	1
6	131-2-5205-33300	Cushion	1
7	141-0-1129-25101	Cabinet Front Assy	1
	141-2-1129-51900	Cabinet Front	1
	141-2-1319-52300	Window	1
	141-2-1449-61252	Plate Front	1
	141-2-1449-65007	Plate Decorate	1
8	141-0-3519-26400	Mount P.C.B. Assy	1
	141-2-1449-65108	Screen LED	1
	141-2-3519-83100	Mount P.C.B.	1
9	141-2-3119-30100	Chassis	1
10	141-2-1659-63400	Knob Push (Function)	5
11	141-2-1659-77800	Knob Push (High, Low, Loudness)	3
12	141-2-1659-63601	Knob Slide (Volume)	1
13	141-2-3159-03300	Bracket Cover	1
14	141-2-4469-55500	Cushion	1
15	131-2-4221-00600	Rivet	2
16	131-2-1801-14100	Leg	4
17	131-2-4201-17800	Screw Ground	1
18	131-2-5205-15800	Cushion	1
19	131-2-6111-11300	Bushing (3p-4)	1
20	131-2-6201-37900	Heat Sink	1
21	141-2-1219-39404	Panel Rear	1
22	141-2-1259-10700	Bottom Cover	1
23	141-2-2149-30200	Panel Front	1
25	141-2-3129-06500	Sub Chassis	1
26	141-2-3159-05200	Metal Reinforce	1
27	141-2-3889-05400	Bracket Mount Heat Sink (Left)	1
28	141-2-3889-05401	Bracket Mount Heat Sink (Right)	1

Ref. No.	Part No.	Description	Q'ty
	ELECTRICAL PARTS LIST		
35	141-0-1939-18361	Phono EQ. P.C.B. Assy	1
36	141-0-1939-18371	Input P.C.B. Assy	1
37	141-0-1939-18381	Function P.C.B. Assy	1
38	141-0-1939-18391	Function LED P.C.B. Assy	1
39	141-0-1939-18351	Pre Amplifier P.C.B. Assy	1
40	141-0-1939-18403	Main P.C.B. Assy	1
41	141-0-1939-18410	Bias P.C.B. Assy	2
42	141-0-1939-18420	Transistor + P.C.B. Assy	1
43	141-0-1939-18430	Transistor – P.C.B. Assy	1
44	141-0-1939-18440	Terminal P.C.B. Assy	1
45	141-0-1939-18450	Power Switch P.C.B. Assy	1
46	141-0-1939-18460	Speaker Out P.C.B. Assy	1
47	⚠ 4-2352-01320	AC Socket W/polarity (AC Outlet)	1
48	⚠ 4-2352-01550	DIN Socket 2P (Power Supply)	1
49	⚠ 4-2432-00363	Power Cord	1
50	⚠ 4-2512-24701	Power Trans	1
51	4-6129-70660	Lamp	1
52	4-2039-72111	Transistor, 2SC 3280 (Q1, Q2)	2
or	4-2039-72772	Transistor, 2SD 1717 (Q1, Q2)	2
53	4-2039-72121	Transistor, 2SA 1301 (Q3, Q4)	2
or	4-2039-72762	Transistor, 2SB 1162 (Q3, Q4)	2
	SCREW PARTS LIST		
61	141-2-4219-38400	Screw, Bind Hd. Tapping-B, +M4.0x8 Sems	4
62	131-2-4201-25201	Screw, Brazier Hd. Tapping-B, +M3.0x8 Sems	6
63	141-2-4219-43300	Screw, Bind Hd. Tapping-C, +M4.0x10 Sems	4
64	101-3-1302-00418	Screw, Pan Hd., +M2.0x4	4
65	101-3-1303-00611	Screw, Pan Hd., +M3.0x6	2
66	131-3-1303-00611	Screw, Pan Hd. C SW, +M3.0x6	2
67	143-3-1303-00818	Screw, Pan Hd. Tapping-B, +M3.0x8	2
68	143-3-1902-60811	Screw, Brazier Hd. Tapping-B, +M2.6x8	6
69	143-3-1903-00618	Screw, Brazier Hd. Tapping-B, +M3.0x6	10
70	143-3-1903-00611	Screw, Brazier Hd. Tapping-B, +M3.0x6	33
71	143-3-1903-00818	Screw, Brazier Hd. Tapping-B, +M3.0x8	9
72	143-3-1903-00811	Screw, Brazier Hd. Tapping-B, +M3.0x8	2
73	143-3-1903-01011	Screw, Brazier Hd. Tapping-B, +M3.0x10	14
R601	402 013 8903	SOLID 3.9M K- 1/2W	1
R602	402 013 8903	SOLID 3.9M K- 1/2W	1

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 ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, 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.

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 the position marked 0 (minimum).
- IDLING CURRENT ADJUSTMENT VR401/VR402 (on the Main P.C.Board) setting to mechanical center position.
- 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 5 minutes before attempting this adjustment.

LEFT AMPLIFIER

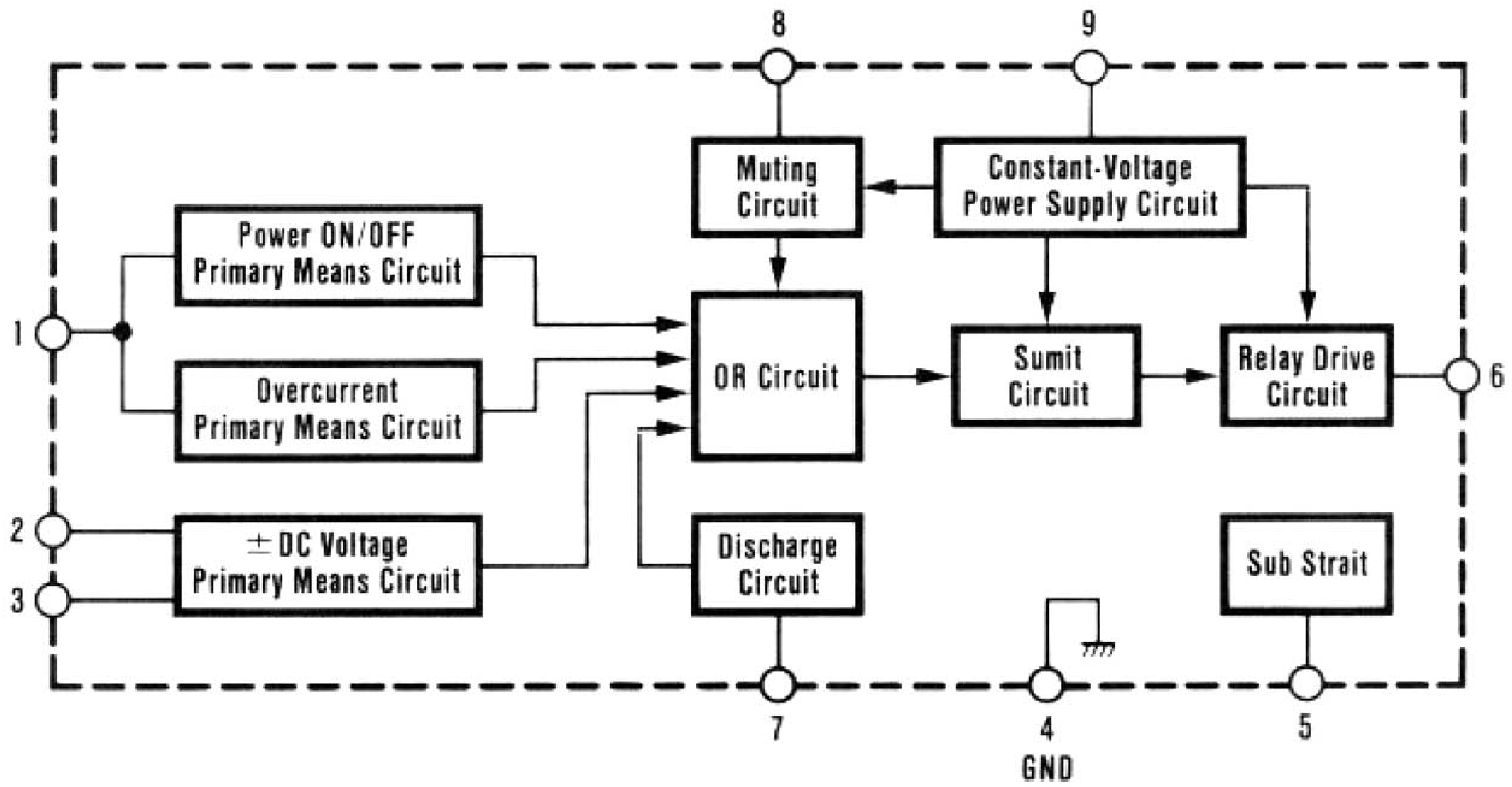
1) Connect the DC Voltmeter between Pins T413 and T415 on the Main P.C.Board.
2) Adjust the VR401 for an indication of 7mV on the DC Voltmeter.

RIGHT AMPLIFIER

1) Connect the DC Voltmeter between Pins T414 and T416 on the Main P.C.Board.
2) Adjust the VR402 for an indication of 7mV on the DC Voltmeter.

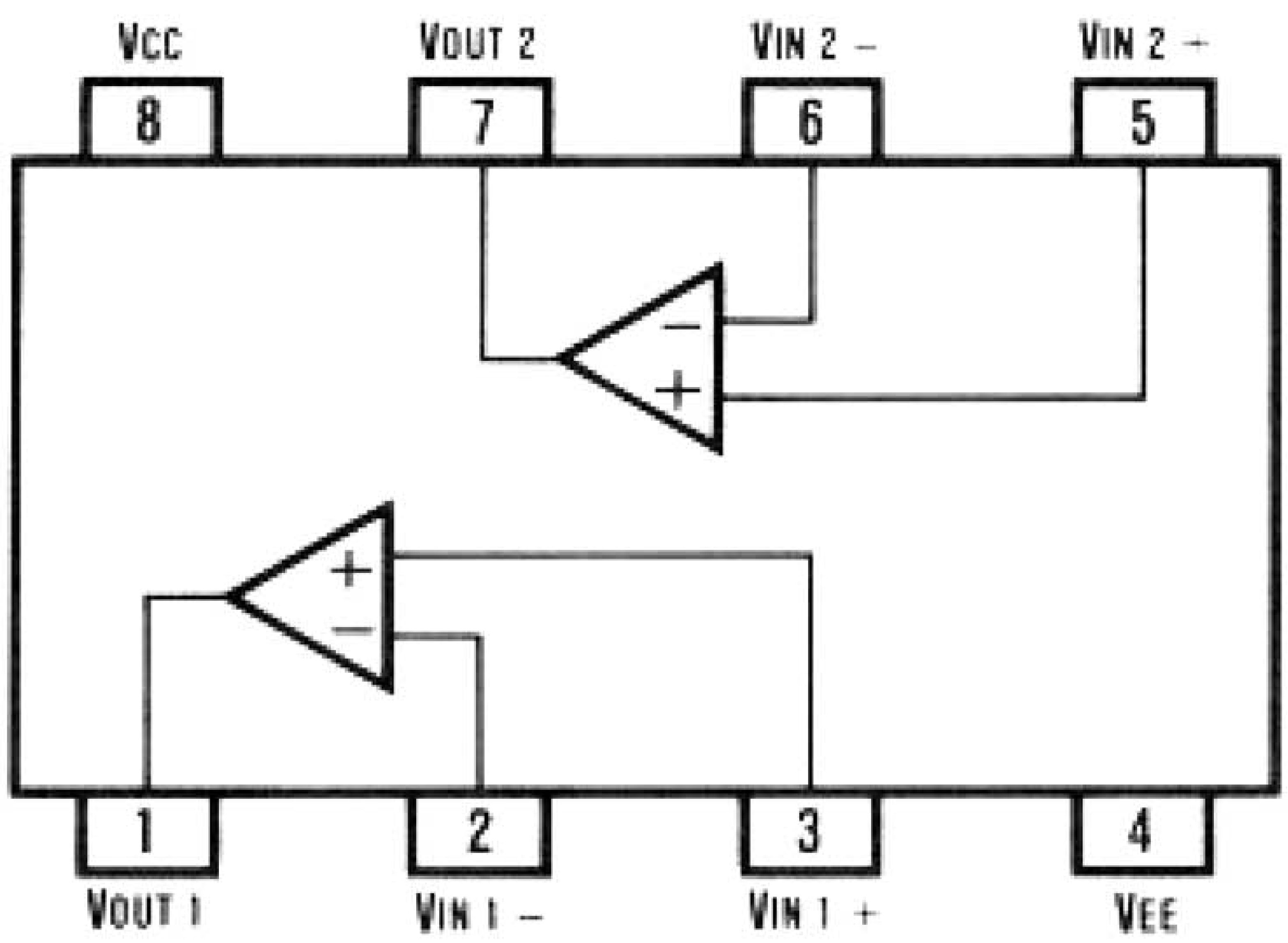
INTEGRATED CIRCUIT BLOCK DIAGRAM

RELAY DRIVING IC TA 7317 P

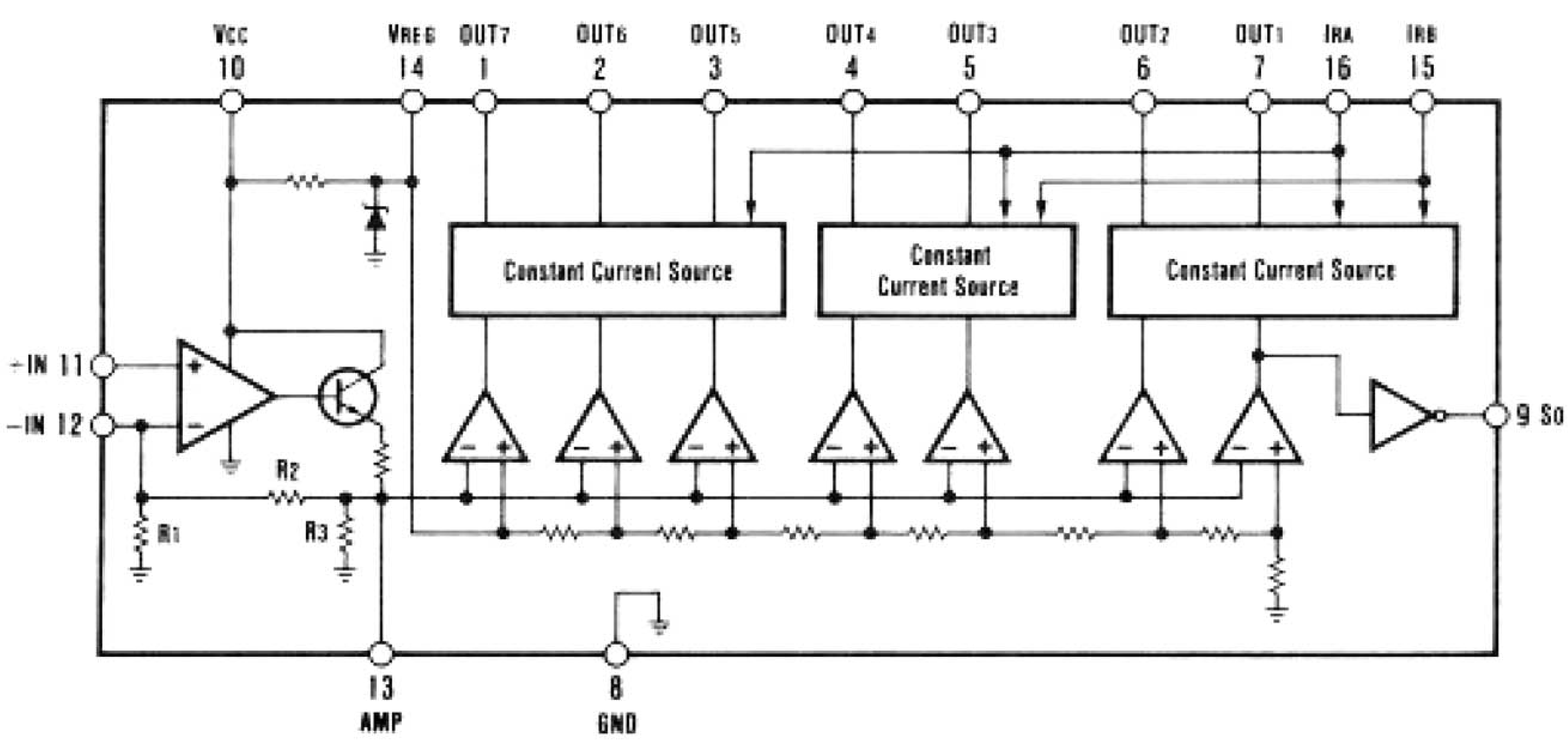


INTEGRATED CIRCUIT BLOCK DIAGRAM (Continued)

PHONO EQUALIZER AMP IC LA 6458 DS



POWER LEVEL METER DRIVE AMP IC IR 2E29



P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description				Q'ty
	PHONO EQ. P.C.B. ASSY					
35	141-0-1939-18361	Phono EQ. P.C.B. Assy				1
	4-2262-30430	Phono EQ. P.C.B.				1
CN104	4-2369-73970	Plug 3P				1
	4-2352-01780	Pin Jack 6P (Phono, CD, Video/Aux)				1
	CAPACITORS					
C101	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C102	CD4-7-5250-0001V	Electrolytic	4.7μF	25V		1
C103	CC2-2-1500-KD00C	Ceramic	220pF	50V	±10%	1
C104	CC2-2-1500-KD00C	Ceramic	220pF	50V	±10%	1
C105	CC1-0-1500-KD00C	Ceramic	100pF	50V	±10%	1
C106	CC1-0-1500-KD00C	Ceramic	100pF	50V	±10%	1
C107	CD4-7-663A-0001V	Electrolytic	47μF	6.3V		1
C108	CD4-7-663A-0001V	Electrolytic	47μF	6.3V		1
C109	CM4-7-2500-K00SV	Mylar	0.0047μF	50V	±10%	1
C110	CM4-7-2500-K00SV	Mylar	0.0047μF	50V	±10%	1
C111	CM1-8-3500-K00SV	Mylar	0.018μF	50V	±10%	1
C112	CM1-8-3500-K00SV	Mylar	0.018μF	50V	±10%	1
C113	CC2-2-3500-ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
C114	CC2-2-3500-ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
C115	CD4-7-6160-0001V	Electrolytic	47μF	16V		1
C116	CD4-7-6160-0001V	Electrolytic	47μF	16V		1
C117	CC2-2-3500-ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
C118	CC2-2-3500-ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
C119	CC2-2-3500-ZG00C	Ceramic	0.022μF	50V	+80,-20%	1
	SEMICONDUCTOR					
IC101	206-5-2726-45810	IC, LA 6458 DS				1
	RESISTORS					
R101	401 024 7004	CARBON 1K JA 1/6W				1
R102	401 024 7004	CARBON 1K JA 1/6W				1
R103	401 024 7707	CARBON 100K JA 1/6W				1
R104	401 024 7707	CARBON 100K JA 1/6W				1
R105	401 024 7707	CARBON 100K JA 1/6W				1
R106	401 024 7707	CARBON 100K JA 1/6W				1
R107	401 026 0607	CARBON 270 JA 1/6W				1
R108	401 026 0607	CARBON 270 JA 1/6W				1
R109	401 025 1902	CARBON 15K JA 1/6W				1
R110	401 025 1902	CARBON 15K JA 1/6W				1
R111	401 025 8703	CARBON 220K JA 1/6W				1
R112	401 025 8703	CARBON 220K JA 1/6W				1
R113	401 025 7805	CARBON 2.2K JA 1/6W				1
R114	401 025 7805	CARBON 2.2K JA 1/6W				1
R115	401 012 4107	CARBON 100 JA 1/4W				1
R116	401 012 4107	CARBON 100 JA 1/4W				1
	INPUT P.C.B. ASSY					
36	141-0-1939-18371	Input P.C.B. Assy				1
	4-2262-30440	Input P.C.B.				1
CA101	4-2359-76787	Connector 2P Assy				1
CN101	4-2369-73970	Plug 3P (Tuner Socket)				1
CN102	4-2369-75580	Plug 5P (Deck Socket)				1
CN103	4-2369-76000	Plug 7P (Equalizer Socket)				1
	141-2-3889-05300	Bracket Connect P.C.B.				1
	CAPACITORS					
C120	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C121	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1
C122	CI1-0-3250-MF00R	Boundary	0.01μF	25V	±20%	1

Ref. No.	Part No.	Description				Q'ty
	FUNCTION P.C.B. ASSY					
37	141-0-1939-18381	Function P.C.B. Assy				1
	4-2262-30450	Function P.C.B.				1
SW201	4-2319-79660	Push Switch 5Key (Function/Tape Monitor)				1
CN201	4-2369-74210	Plug 2P				1
	CAPACITORS					
C201	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C202	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C203	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
C204	CD1-0-5500-0001V	Electrolytic	1μF	50V		1
	RESISTORS					
R201	401 024 7707	CARBON 100K JA 1/6W				1
R202	401 024 7707	CARBON 100K JA 1/6W				1
R203	401 016 3809	CARBON 2.2K JA 1/4W				1
R204	401 025 7805	CARBON 2.2K JA 1/6W				1
R205	401 023 1706	CARBON 820 JA 1/4W				1
R206	401 025 1605	CARBON 1.5K JA 1/6W				1
R207	401 026 9600	CARBON 470 JA 1/6W				1
R208	401 020 0801	CARBON 470 JA 1/4W				1
	FUNCTION LED P.C.B. ASSY					
38	141-0-1939-18391	Function LED P.C.B. Assy				1
	4-2262-30460	Function LED P.C.B.				1
	SEMICONDUCTORS					
D201	DYY--SLR-54VT-	L.E.D., SLR 54 VT (Tape Monitor)				1
D202	DYY--SLR-54PT-	L.E.D., SLR 54 PT (Video/Aux)				1
D203	DYY--SLR-54PT-	L.E.D., SLR 54 PT (CD)				1
D204	DYY--SLR-54PT-	L.E.D., SLR 54 PT (Tuner)				1
D205	DYY--SLR-54PT-	L.E.D., SLR 54 PT (Phono)				1
	PRE AMPLIFIER P.C.B. ASSY					
39	141-0-1939-18351	Pre Amplifier P.C.B. Assy				1
	4-2262-30470	Pre Amplifier P.C.B.				1
VR301	4-2229-75980	Slide Volume (W-200kΩ, Balance)				1
VR302	4-2229-76220	Slide Volume (A-100kΩ x2, Volume)				1
SW301	4-2319-77780	Switch Push 1Key (Subsonic Filter)				1
SW302	4-2319-77780	Switch Push 1Key (High Filter)				1
SW303	4-2319-77780	Switch Push 1Key (Loudness)				1
CA301	4-2352-02030	Connector 7P Assy				1
CA302	4-2359-79328	Connector 2P Assy				1
CA303	4-2359-76594	Connector 3P Assy				1
CA304	4-2359-76638	Connector 2P Assy				1
	141-2-2419-34300	Mount LED				1
	141-2-3769-18600	Spacer LED				1
	CAPACITORS					
C301	CC3-3-1500-KD00C	Ceramic	330pF	50V	±10%	1
C302	CC3-3-1500-KD00C	Ceramic	330pF	50V	±10%	1
C303	CD2-2-4500-0001V	Electrolytic	0.22μF	50V		1
C304	CD2-2-4500-0001V	Electrolytic	0.22μF	50V		1
C305	CD2-2-4500-0001V	Electrolytic	0.22μF	50V		1
C306	CD2-2-4500-0001V	Electrolytic	0.22μF	50V		1
C307	CD1-0-6160-0001V	Electrolytic	10μF	16V		1
C308	CD1-0-6160-0001V	Electrolytic	10μF	16V		1
C309	CC1-0-1500-KD00C	Ceramic	100pF	50V	±10%	1
C310	CC1-0-1500-KD00C	Ceramic	100pF	50V	±10%	1
C311	CM2-2-3500-J00BV	Mylar	0.022μF	50V	±5%	1
C312	CM2-2-3500-J00BV	Mylar	0.022μF	50V	±5%	1
C313	CD1-0-5500-0001V	Electrolytic	1μF	50V		1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
C314	CD1-0-5500-0001V	Electrolytic 1μF 50V	1
C315	CD1-0-6160-0001V	Electrolytic 10μF 16V	1
C316	CD1-0-6160-0001V	Electrolytic 10μF 16V	1
C317	CC2-2-1500-KD00C	Ceramic 220pF 50V ±10%	1
C318	CC2-2-1500-KD00C	Ceramic 220pF 50V ±10%	1
C319	CM3-9-3500-J00TV	Mylar 0.039μF 50V ±5%	1
C320	CM3-9-3500-J00TV	Mylar 0.039μF 50V ±5%	1
C321	CD1-0-5500-0002V	Electrolytic 1μF 50V	1
C322	CD1-0-5500-0002V	Electrolytic 1μF 50V	1
C323	CD1-0-6160-0002V	Electrolytic 10μF 16V	1
C324	CD1-0-6160-0002V	Electrolytic 10μF 16V	1
C325	CD1-0-6160-0002V	Electrolytic 10μF 16V	1
C326	CD1-0-6160-0002V	Electrolytic 10μF 16V	1
C327	CD1-0-6160-0002V	Electrolytic 10μF 16V	1
C328	CD1-0-6160-0002V	Electrolytic 10μF 16V	1
C329	CC4-7-0500-KD00C	Ceramic 47pF 50V ±10%	1
C330	CC4-7-0500-KD00C	Ceramic 47pF 50V ±10%	1

SEMICONDUCTORS

Ref. No.	Part No.	Description	Q'ty
D301	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D302	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D303	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D304	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D305	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D306	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D307	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D308	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D309	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D310	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D311	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D312	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D313	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
D314	D00--SLP-273B-	L.E.D., SLP 273 B (Power Level Meter)	1
IC301	206-5-2726-45810	IC, LA 6458 DS	1
IC302	4-2069-73580	IC, IR 2 E 29	1
IC303	4-2069-73580	IC, IR 2 E 29	1

RESISTORS

Ref. No.	Part No.	Description	Q'ty
R301	401 012 5708	CARBON 1K JA 1/4W	1
R302	401 012 5708	CARBON 1K JA 1/4W	1
R303	401 016 5803	CARBON 220K JA 1/4W	1
R304	401 016 5803	CARBON 220K JA 1/4W	1
R305	401 020 2904	CARBON 47K JA 1/4W	1
R306	401 020 2904	CARBON 47K JA 1/4W	1
R307	401 017 2801	CARBON 27K JA 1/4W	1
R308	401 017 2801	CARBON 27K JA 1/4W	1
R309	401 022 4104	CARBON 68K JA 1/4W	1
R310	401 022 4104	CARBON 68K JA 1/4W	1
R311	401 016 5803	CARBON 220K JA 1/4W	1
R312	401 016 5803	CARBON 220K JA 1/4W	1
R313	401 012 5708	CARBON 1K JA 1/4W	1
R314	401 012 5708	CARBON 1K JA 1/4W	1
R315	401 012 8105	CARBON 100K JA 1/4W	1
R316	401 012 8105	CARBON 100K JA 1/4W	1
R317	401 012 4503	CARBON 100 JA 1/4W	1
R318	401 012 4503	CARBON 100 JA 1/4W	1
R319	401 025 7805	CARBON 2.2K JA 1/6W	1
R320	401 016 3809	CARBON 2.2K JA 1/4W	1
R321	401 022 3107	CARBON 6.8K JA 1/4W	1
R322	401 022 3107	CARBON 6.8K JA 1/4W	1
R323	401 024 7004	CARBON 1K JA 1/6W	1
R324	401 024 7004	CARBON 1K JA 1/6W	1
R325	401 026 1000	CARBON 2.7K JA 1/6W	1
R326	401 026 1000	CARBON 2.7K JA 1/6W	1
R327	401 027 8602	CARBON 8.2K JA 1/6W	1
R328	401 027 8602	CARBON 8.2K JA 1/6W	1
R329	401 026 9907	CARBON 4.7K JA 1/6W	1
R330	401 026 9907	CARBON 4.7K JA 1/6W	1
R331	401 025 5207	CARBON 1.8M JA 1/6W	1
R332	401 025 5207	CARBON 1.8M JA 1/6W	1
R333	401 024 7707	CARBON 100K JA 1/6W	1
R334	401 024 7707	CARBON 100K JA 1/6W	1
R335	401 024 7004	CARBON 1K JA 1/6W	1
R336	401 024 7004	CARBON 1K JA 1/6W	1

MAIN P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
40	141-0-1939-18403	Main P.C.B. Assy	1
	4-2262-30040	Main P.C.B.	1
VR401	4-2222-01280	Potentiometer (B-100Ω)	1
VR402	4-2222-01280	Potentiometer (B-100Ω)	1
RE401	4-2329-70440	Relay	1
L401	4-2552-00650	AF Coil (2μH)	1
L402	4-2552-00650	AF Coil (2μH)	1
CN401	4-2369-73410	Plug 7P	1
CN402	4-2362-00770	Plug 2P	1
CN403	4-2369-74200	Plug 2P	1
	⚠ 4-2342-00320	Fuse 5.0A	2
	4-2359-23000	Fuse Holder	4
	111-2-6220-11100	Wire Wrap Terminal	15
	141-2-4359-46300	Plate Sever	1
	141-2-4729-07100	Wire Band	1

CAPACITORS

Ref. No.	Part No.	Description	Q'ty
C401	CC4-7-1500-KD00C	Ceramic 470pF 50V ±10%	1
C402	CC4-7-1500-KD00C	Ceramic 470pF 50V ±10%	1
C403	CD4-7-5250-0001V	Electrolytic 4.7μF 25V	1
C404	CD4-7-5250-0001V	Electrolytic 4.7μF 25V	1
C405	CC1-0-1500-KD00C	Ceramic 100pF 50V ±10%	1
C406	CC1-0-1500-KD00C	Ceramic 100pF 50V ±10%	1
C407	CC1-0-1500-KD00C	Ceramic 100pF 50V ±10%	1
C408	CC1-0-1500-KD00C	Ceramic 100pF 50V ±10%	1
C409	CD2-2-763A-0001V	Electrolytic 220μF 6.3V	1
C410	CD2-2-763A-0001V	Electrolytic 220μF 6.3V	1
C411	CM1-0-4500-J00TV	Mylar 0.1μF 50V ±5%	1
C412	CM1-0-4500-J00TV	Mylar 0.1μF 50V ±5%	1
C413	4-2239-71190	Capacitor 27pF 500V ±10%	1
C414	4-2239-71190	Capacitor 27pF 500V ±10%	1
C415	4-2239-72020	Ceramic 3pF 500V ±0.5pF	1
C416	4-2239-72020	Ceramic 3pF 500V ±0.5pF	1
C417	4-2239-71120	Capacitor 18pF 500V ±10%	1
C418	4-2239-71120	Capacitor 18pF 500V ±10%	1
C419	CD1-0-5500-0001V	Electrolytic 1μF 50V	1
C420	CD1-0-5500-0001V	Electrolytic 1μF 50V	1
C421	4-2239-72120	Ceramic 220pF 500V ±10%	1
C422	4-2239-72120	Ceramic 220pF 500V ±10%	1
C423	4-2239-72120	Ceramic 220pF 500V ±10%	1
C424	4-2239-72120	Ceramic 220pF 500V ±10%	1
C425	CD4-7-6101-0001V	Electrolytic 47μF 100V	1
C426	CD4-7-6101-0001V	Electrolytic 47μF 100V	1
C427	CD4-7-6101-0001V	Electrolytic 47μF 100V	1
C428	CD4-7-6101-0001V	Electrolytic 47μF 100V	1
C429	CD1-0-6250-0001V	Electrolytic 10μF 25V	1
C431	CM3-9-3500-K00SV	Mylar 0.039μF 50V ±10%	1
C432	CM3-9-3500-K00SV	Mylar 0.039μF 50V ±10%	1
C441	CC1-0-3501-YEY0C	Ceramic 0.01μF 500V +100 -0%	1
C442	CC1-0-3501-YEY0C	Ceramic 0.01μF 500V +100 -0%	1
C443	CC1-0-3501-YEY0C	Ceramic 0.01μF 500V +100 -0%	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
C444	CC1-0-3501-YEY0C	Ceramic	0.01µF	500V	+100,-0%	1
C445	4-2239-72420	Electrolytic	6800µF	73V		1
C446	4-2239-72420	Electrolytic	6800µF	73V		1
C447	CC1-0-3501-YEY0C	Ceramic	0.01µF	500V	+100,-0%	1
C448	CC1-0-3501-YEY0C	Ceramic	0.01µF	500V	+100,-0%	1
C449	CC1-0-3501-YEY0C	Ceramic	0.01µF	500V	+100,-0%	1
C450	CC1-0-3501-YEY0C	Ceramic	0.01µF	500V	+100,-0%	1
C451	CD1-0-8350-0001V	Electrolytic	1000µF	35V		1
C452	CD1-0-8350-0001V	Electrolytic	1000µF	35V		1
C453	CD1-0-7250-0001V	Electrolytic	100µF	25V		1
C454	CD1-0-7250-0001V	Electrolytic	100µF	25V		1
C455	CD1-0-6250-0001V	Electrolytic	10µF	25V		1
C456	CD1-0-6250-0001V	Electrolytic	10µF	25V		1
C457	CD1-0-5500-0001V	Electrolytic	1µF	50V		1
C458	CB1-0-7160-0000V	None-polar	100µF	16V		1
C460	CD2-2-6160-0001V	Electrolytic	22µF	16V		1
C461	CD4-7-4500-0001V	Electrolytic	0.47µF	50V		1
	SEMICONDUCTORS					
D401	202-5-9040-44210	Diode, DS 442				1
D402	202-5-9040-44210	Diode, DS 442				1
D403	202-5-9040-44210	Diode, DS 442				1
D404	202-5-9040-44210	Diode, DS 442				1
D405	202-5-9040-44210	Diode, DS 442				1
D406	202-5-9040-44210	Diode, DS 442				1
D407	202-5-1410-00110	Diode, GMA 01				1
D408	202-5-1410-00110	Diode, GMA 01				1
D410	202-5-3210-18011	Zener Diode, GZA 18X				1
D411	4-2029-73840	Diode, 30D 2				1
D412	4-2029-73840	Diode, 30D 2				1
D413	4-2029-73840	Diode, 30D 2				1
D414	4-2029-73840	Diode, 30D 2				1
D415	202-5-0220-01010	Diode, DSF 10 C				1
or	4-2029-73870	Diode, 11E 2				1
D416	202-5-0220-01010	Diode, DSF 10 C				1
or	4-2029-73870	Diode, 11E 2				1
D417	202-5-0220-01010	Diode, DSF 10 C				1
or	4-2029-73870	Diode, 11E 2				1
D418	202-5-0220-01010	Diode, DSF 10 C				1
or	4-2029-73870	Diode, 11E 2				1
D419	202-5-0220-01010	Diode, DSF 10 C				1
or	4-2029-73870	Diode, 11E 2				1
D420	202-5-0220-01010	Diode, DSF 10 C				1
or	4-2029-73870	Diode, 11E 2				1
D421	202-5-3210-16011	Zener Diode, GZA 16X				1
D422	202-5-3210-16011	Zener Diode, GZA 16X				1
IC401	4-2069-73810	IC, TA 7317 P				1
Q401	203-5-7230-60860	Transistor, 2SA 608				1
Q402	203-5-7230-60860	Transistor, 2SA 608				1
Q403	203-5-5251-57060	Transistor, 2SC 1570				1
Q404	203-5-5251-57060	Transistor, 2SC 1570				1
Q405	203-5-5251-57060	Transistor, 2SC 1570				1
Q406	203-5-5251-57060	Transistor, 2SC 1570				1
Q407	TMM--2SC1-583-F	Transistor, 2SC 1583				1
Q408	TMM--2SC1-583-F	Transistor, 2SC 1583				1
Q409	203-5-6931-20980	Transistor, 2SA 1209				1
Q410	203-5-6931-20980	Transistor, 2SA 1209				1
Q411	203-5-5632-91180	Transistor, 2SC 2911				1
Q412	203-5-5632-91180	Transistor, 2SC 2911				1
Q413	203-5-5143-11780	Transistor, 2SC 3117				1
Q414	203-5-5143-11780	Transistor, 2SC 3117				1
Q415	203-5-4711-24980	Transistor, 2SA 1249				1
Q416	203-5-4711-24980	Transistor, 2SA 1249				1

Ref. No.	Part No.	Description	Q'ty
	RESISTORS		
R401	401 024 7004	CARBON 1K JA 1/6W	1
R402	401 024 7004	CARBON 1K JA 1/6W	1
R403	401 024 7707	CARBON 100K JA 1/6W	1
R404	401 024 7707	CARBON 100K JA 1/6W	1
R405	401 021 0701	CARBON 56 JA 1/4W	1
R406	401 021 0701	CARBON 56 JA 1/4W	1
R407	401 013 6407	CARBON 12K JA 1/4W	1
R408	401 013 6407	CARBON 12K JA 1/4W	1
R409	401 023 2802	CARBON 8.2K JA 1/4W	1
R410	401 023 2802	CARBON 8.2K JA 1/4W	1
R411	401 021 0701	CARBON 56 JA 1/4W	1
R412	401 021 0701	CARBON 56 JA 1/4W	1
R413	401 023 2802	CARBON 8.2K JA 1/4W	1
R414	401 023 2802	CARBON 8.2K JA 1/4W	1
R415	402 015 5603	FUSIBLE RES 82 J- 1/4W	1
R416	402 015 5603	FUSIBLE RES 82 J- 1/4W	1
R417	402 015 4705	FUSIBLE RES 47 J- 1/4W	1
R418	402 015 4705	FUSIBLE RES 47 J- 1/4W	1
R419	401 019 9600	CARBON 47 JA 1/4W	1
R420	401 019 9600	CARBON 47 JA 1/4W	1
R421	401 022 4104	CARBON 68K JA 1/4W	1
R422	401 022 4104	CARBON 68K JA 1/4W	1
R423	401 018 4903	CARBON 33K JA 1/4W	1
R424	401 018 4903	CARBON 33K JA 1/4W	1
R425	401 023 0709	CARBON 82 JA 1/4W	1
R426	401 023 0709	CARBON 82 JA 1/4W	1
R427	402 016 5107	FUSIBLE RES 330 J- 1/2W	1
R428	402 016 5107	FUSIBLE RES 330 J- 1/2W	1
R429	402 015 3708	FUSIBLE RES 2.2 J- 1/4W	1
R430	402 015 3708	FUSIBLE RES 2.2 J- 1/4W	1
R431	402 015 3708	FUSIBLE RES 2.2 J- 1/4W	1
R432	402 015 3708	FUSIBLE RES 2.2 J- 1/4W	1
R433	4-2219-70370	Cement 0.22X2	1
R434	4-2219-70370	Cement 0.22X2	1
R435	402 015 4705	FUSIBLE RES 47 J- 1/4W	1
R436	402 015 4705	FUSIBLE RES 47 J- 1/4W	1
R437	402 015 3005	FUSIBLE RES 10 J- 1/4W	1
R438	402 015 3005	FUSIBLE RES 10 J- 1/4W	1
R439	401 062 2405	OXIDE-MT 4.7K JB 1W	1
R441	401 019 6203	CARBON 4.7 JA 1/4W	1
R442	401 019 6203	CARBON 4.7 JA 1/4W	1
R443	401 058 1207	OXIDE-MT 10 JB 1W	1
R444	401 058 1207	OXIDE-MT 10 JB 1W	1
R445	401 021 4105	CARBON 56K JA 1/4W	1
R446	401 021 4105	CARBON 56K JA 1/4W	1
R447	401 012 8105	CARBON 100K JA 1/4W	1
R448	401 012 8105	CARBON 100K JA 1/4W	1
R451	401 064 6203	OXIDE-MT 10 JB 2W	1
R452	401 064 6203	OXIDE-MT 10 JB 2W	1
R454	402 022 1001	FUSIBLE RES 10 J- 1W	1
R455	401 064 6203	OXIDE-MT 10 JB 2W	1
R457	401 012 5708	CARBON 1K JA 1/4W	1
R458	401 012 5708	CARBON 1K JA 1/4W	1
R459	401 018 2800	CARBON 330 JA 1/4W	1
R460	401 018 2800	CARBON 330 JA 1/4W	1
R463	402 016 2205	FUSIBLE RES 27 J- 1/2W	1
R465	402 015 4903	FUSIBLE RES 5.6 J- 1/4W	1
R466	402 015 4903	FUSIBLE RES 5.6 J- 1/4W	1
R467	401 019 1901	CARBON 3.9K JA 1/4W	1
R468	401 019 1901	CARBON 3.9K JA 1/4W	1
R469	402 015 3104	FUSIBLE RES 100 J- 1/4W	1
R470	401 014 5201	CARBON 15K JA 1/4W	1
R472	401 025 8703	CARBON 220K JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R475	401 020 2904	CARBON 47K JA 1/4W	1
R476	401 012 8105	CARBON 100K JA 1/4W	1
R477	401 018 4903	CARBON 33K JA 1/4W	1
R478	401 021 4105	CARBON 56K JA 1/4W	1
R479	401 014 5201	CARBON 15K JA 1/4W	1
R481	401 026 2700	CARBON 300 JA 1/6W	1
R482	401 026 2700	CARBON 300 JA 1/6W	1

BIAS P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
41	141-0-1939-18410	Bias P.C.B. Assy	2
	4-2262-30050	Bias P.C.B.	1
	SEMICONDUCTORS		
D409	202-5-9040-44210	Diode, DS 442	1
Q417	4-2039-72100	Transistor, 2SD 947	1

TRANSISTOR + P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
41	141-0-1939-18420	Transistor + P.C.B. Assy	1
	4-2262-30060	Transistor + P.C.B.	1
	SEMICONDUCTOR		
Q418	4-2039-71441	Transistor, 2SD 1406	1

TRANSISTOR – P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
42	141-0-1939-18430	Transistor – P.C.B. Assy	1
	4-2262-30070	Transistor – P.C.B.	1
	SEMICONDUCTORS		
Q419	4-2039-72130	Transistor, 2SB 1015	1

TERMINAL P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
44	141-0-1939-18440	Terminal P.C.B. Assy	1
	4-2262-30080	Terminal P.C.B.	1
	⚠ 4-2342-00010	Fuse 1.0A	2
	4-2359-23000	Fuse Holder	4
	⚠ 4-2359-79090	Socket 2P-2 (Power Supply)	1
	111-2-6220-11100	Wire Wrap Terminal	4
	141-2-4359-46300	Plate Sever	1

POWER SWITCH P.C.B ASY

Ref. No.	Part No.	Description	Q'ty
45	141-0-1939-18450	Power Switch P.C.B. Assy	1
	4-2262-30090	Power Switch P.C.B.	1
SW501	⚠ 4-2319-76340	Switch Push Power (Power)	1
SW502	4-2319-77341	Switch Push 1Key (Speaker A)	1
SW503	4-2319-77341	Switch Push 1Key (Speaker B)	1
J501	4-2439-73061	Wire 2 Parallel	1
J502	4-2439-72195	Wire 6 Parallel	1
	⚠ 4-2349-20912	Fuse 5.0A	1
	4-2352-00970	Headphone Jack 3P (Headphones)	1
	4-2359-23000	Fuse Holder	2
	111-2-6220-11100	Wire Wrap Terminal	3
	131-2-6114-00200	Cover Safety	1
	CAPACITOR		
C501	⚠ 4-2239-72340	Capacitor 0.01μF 250V	1
	RESISTORS		
R501	401 068 7701	OXIDE-MT 560 JB 2W	1
R502	401 068 7701	OXIDE-MT 560 JB 2W	1
R503	401 016 2604	CARBON 220 JA 1/4W	1
R504	401 016 2604	CARBON 220 JA 1/4W	1
R505	401 017 0807	CARBON 270 JA 1/4W	1
R506	401 017 0807	CARBON 270 JA 1/4W	1

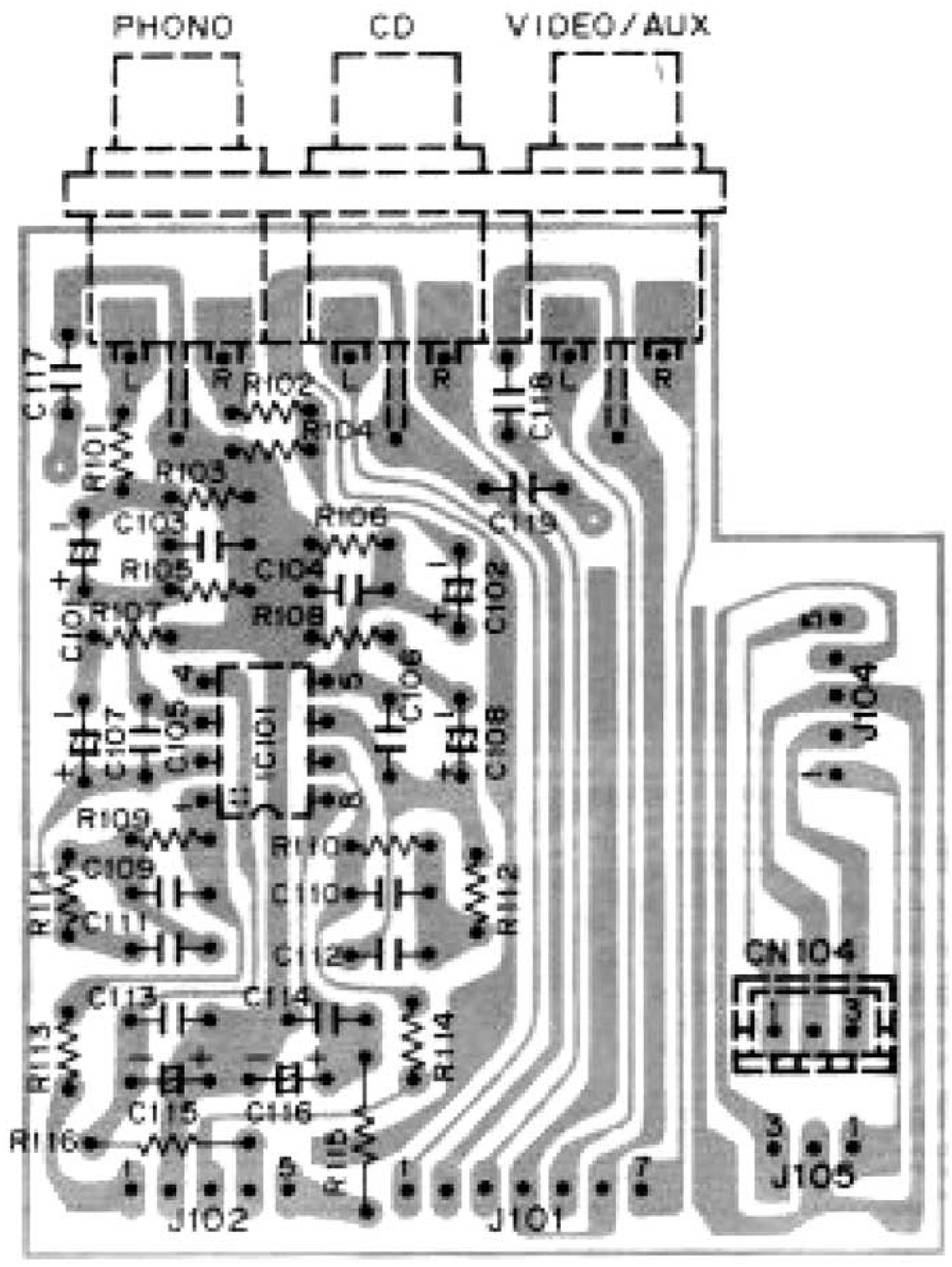
SPEAKER OUT P.C.B. ASSY

Ref. No.	Part No.	Description	Q'ty
46	141-0-1939-18460	Speaker Out P.C.B. Assy	1
	4-2262-30100	Speaker Out P.C.B.	1
J701	4-2439-73062	Wire 2 Parallel	1
	4-2372-01160	Speaker 8P Terminal (Speaker)	1

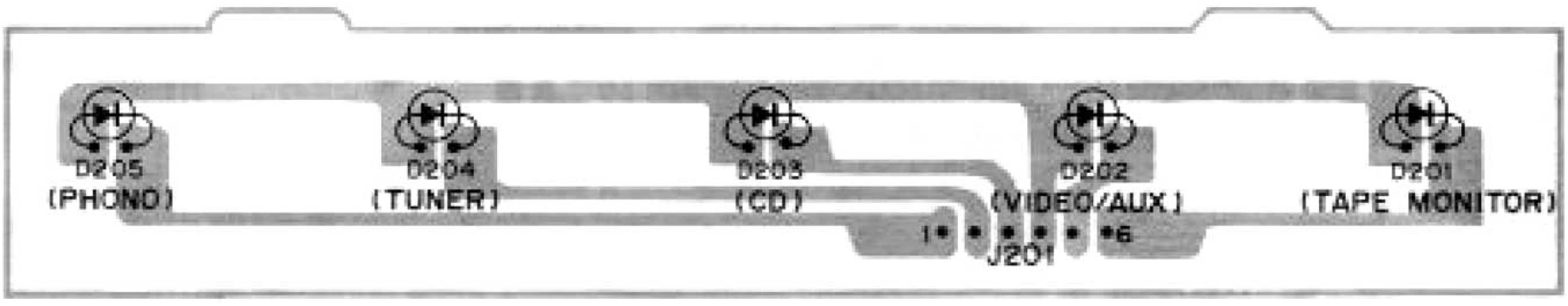
NOTES:

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

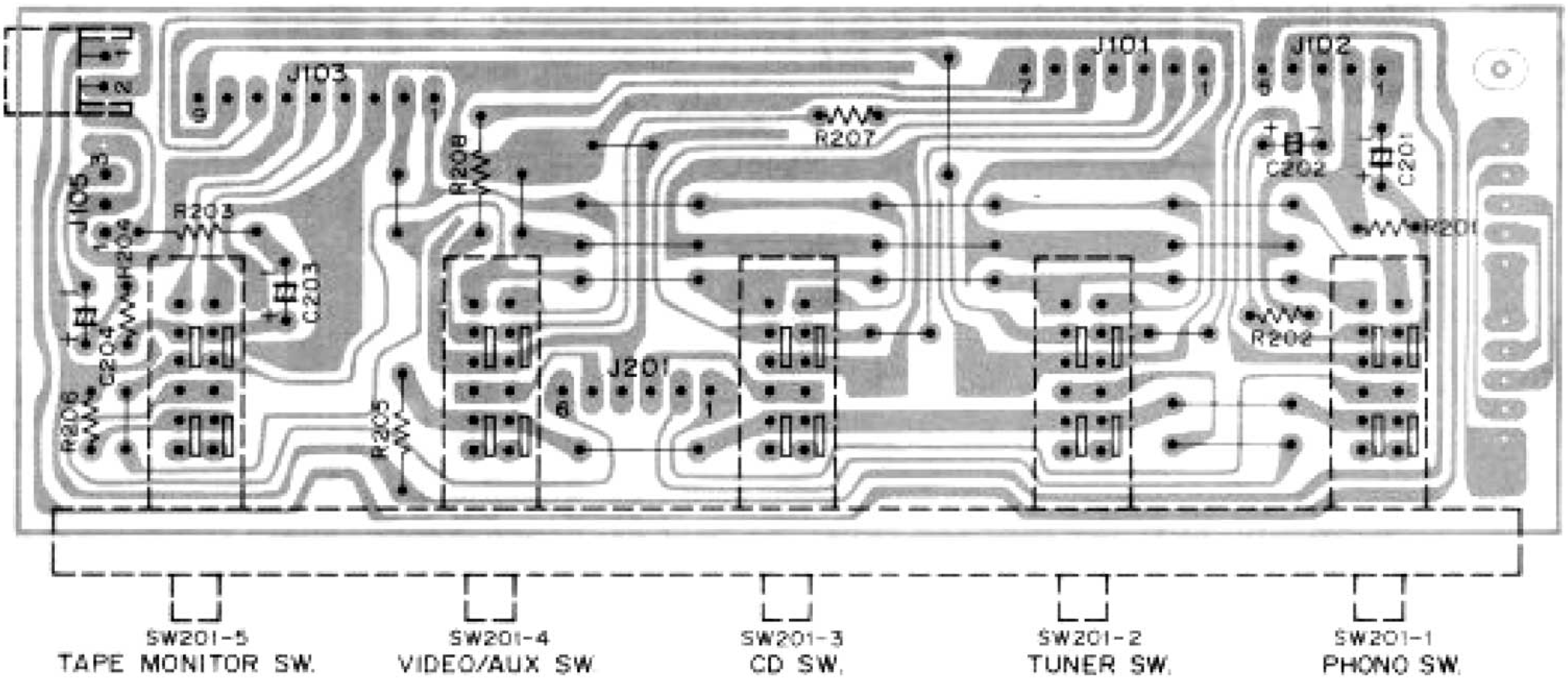
PHONO EQ. P.C.BOARD
(BOTTOM VIEW)



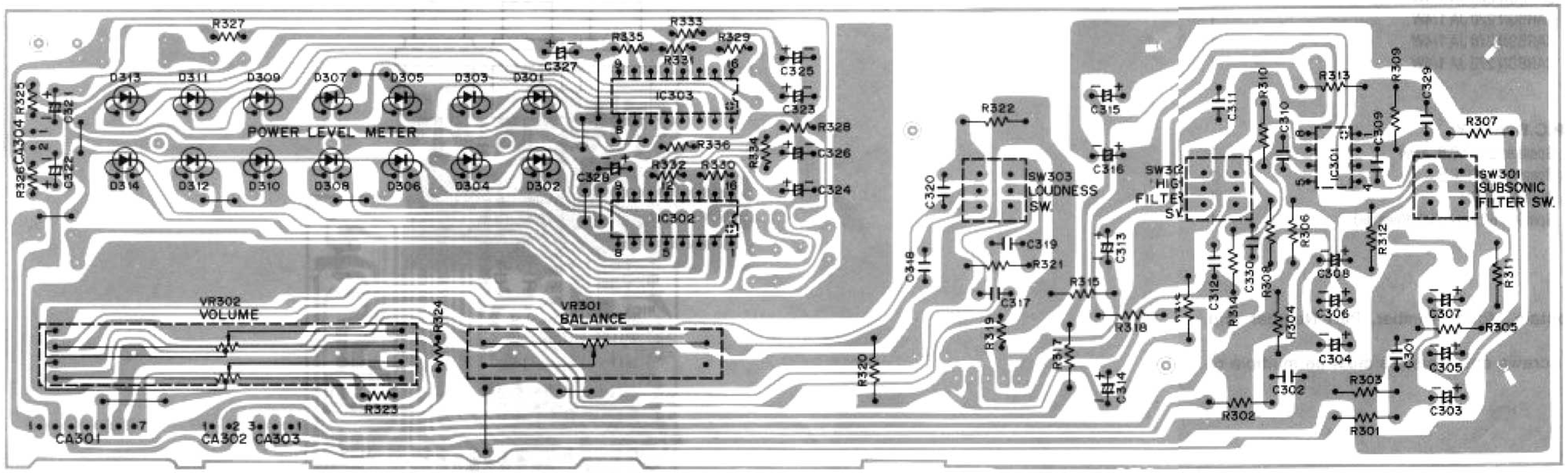
FUNCTION LED P.C.BOARD
(BOTTOM VIEW)



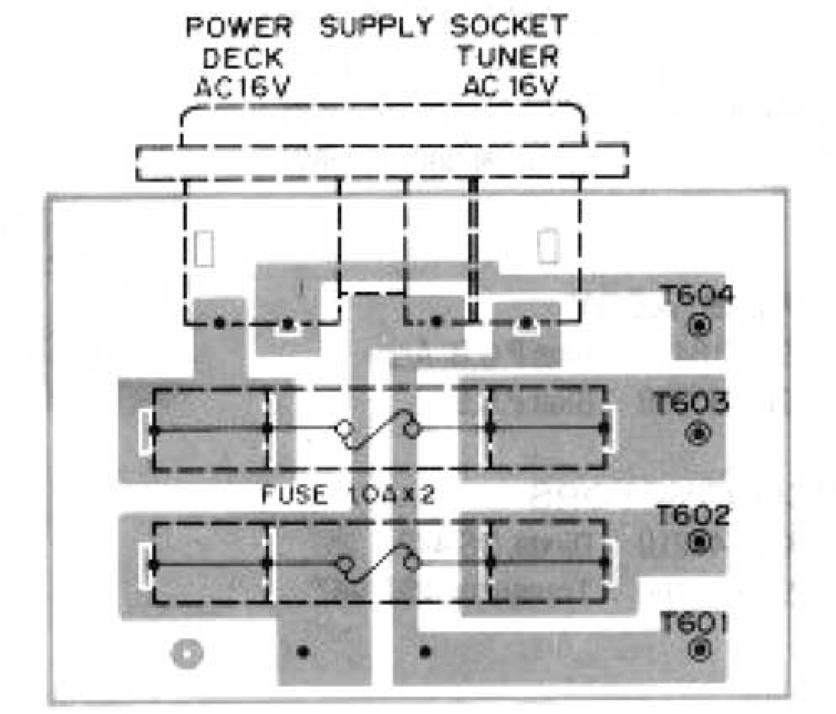
FUNCTION P.C.BOARD
(BOTTOM VIEW)



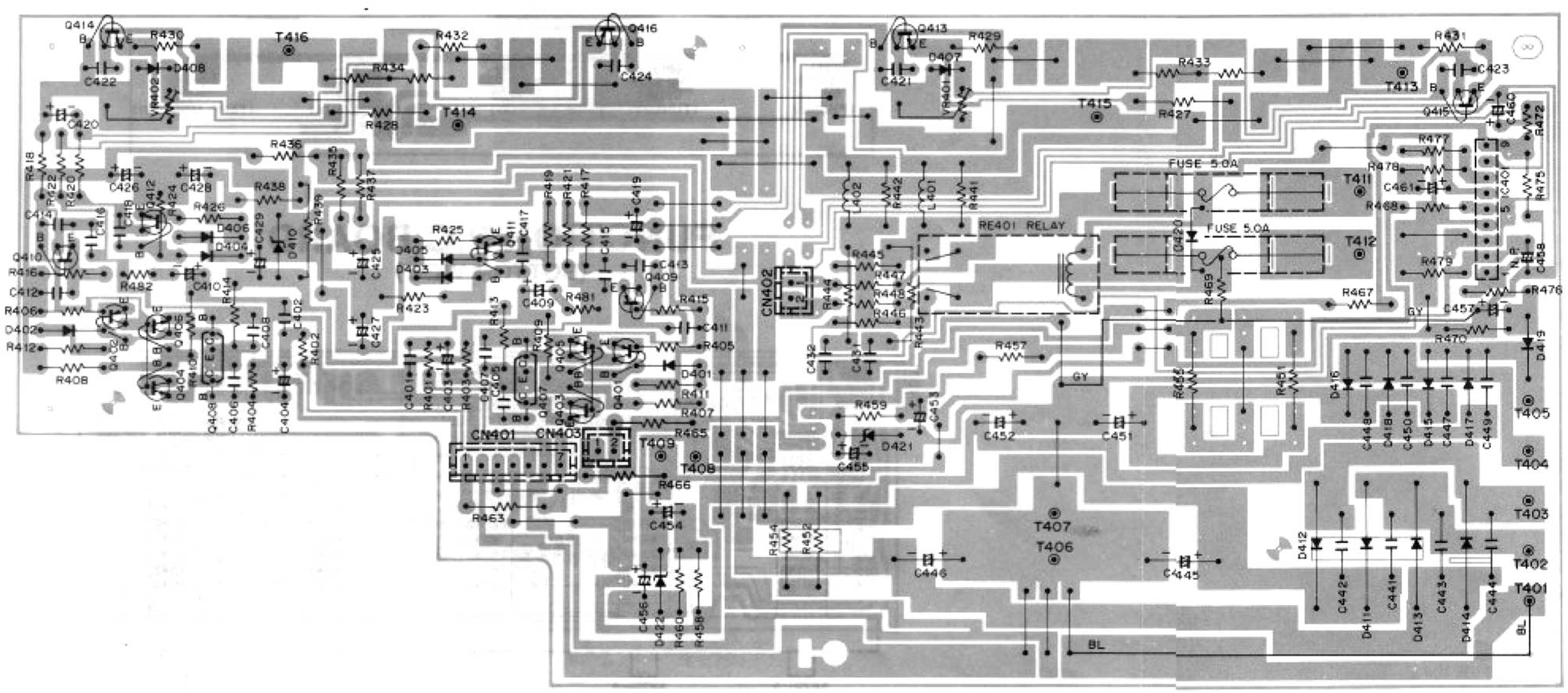
PRE AMPLIFIER P.C.BOARD
(BOTTOM VIEW)



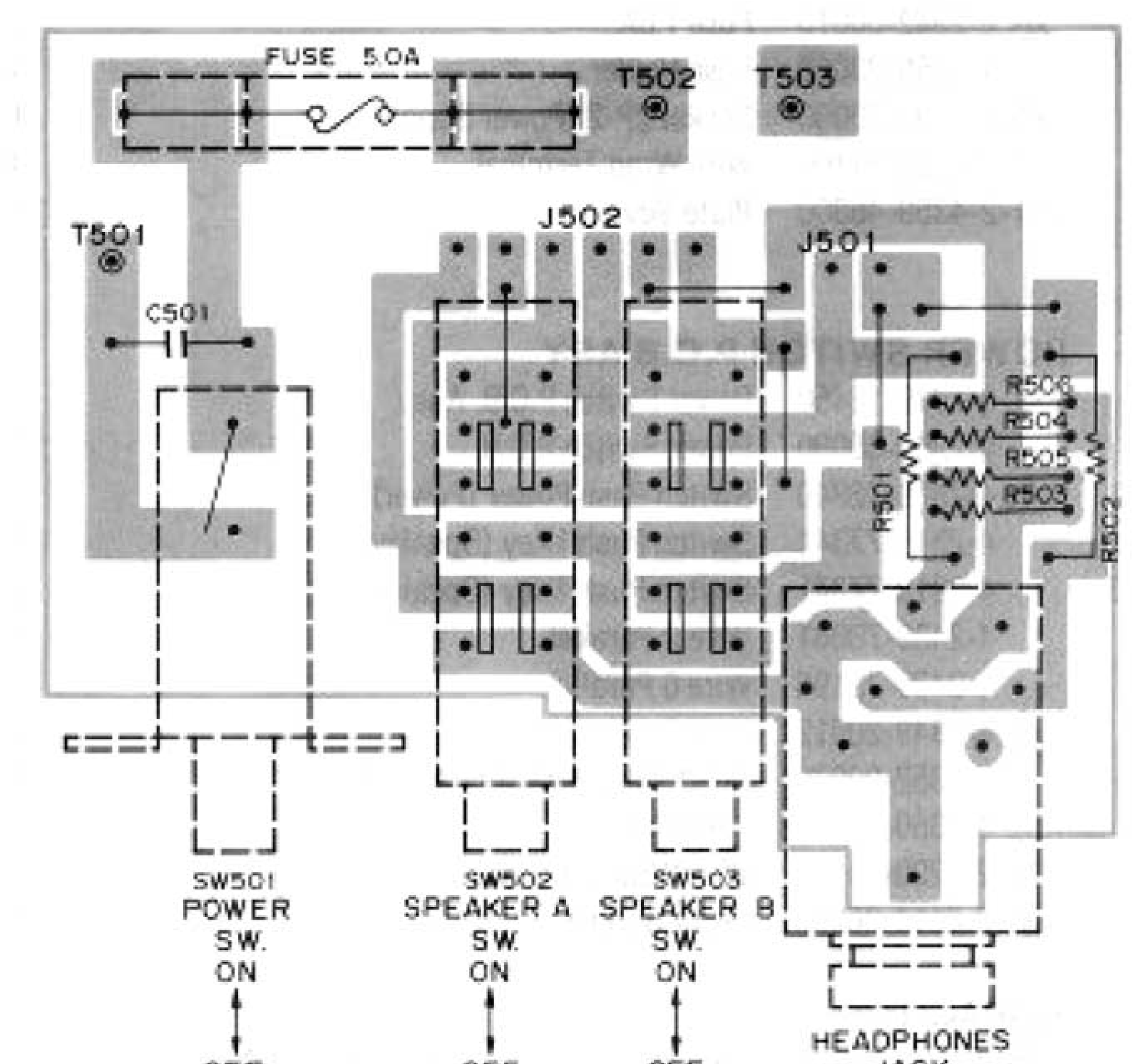
TERMINAL P.C.BOARD
(BOTTOM VIEW)



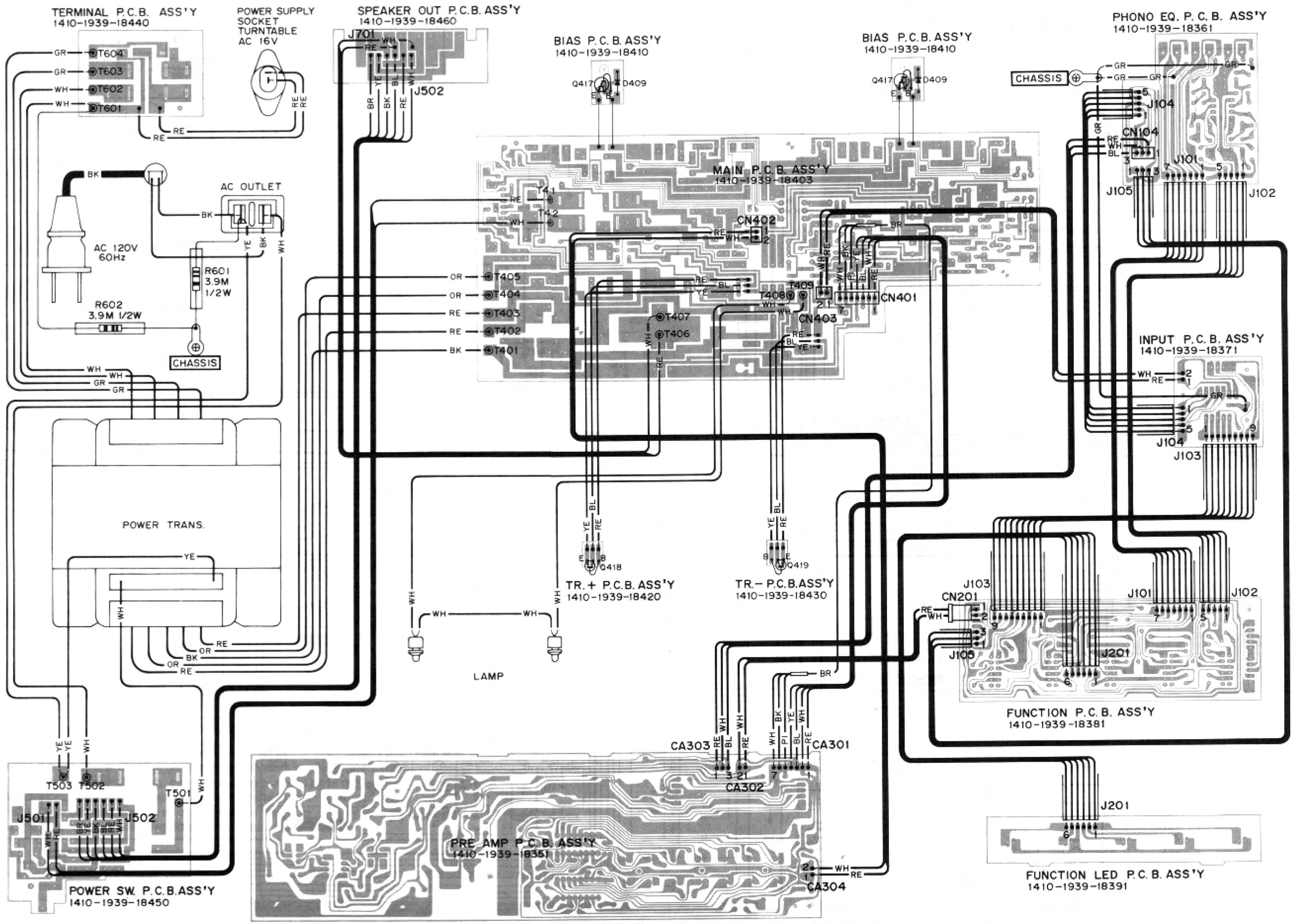
MAIN PRINTED CIRCUIT BOARD
(BOTTOM VIEW)



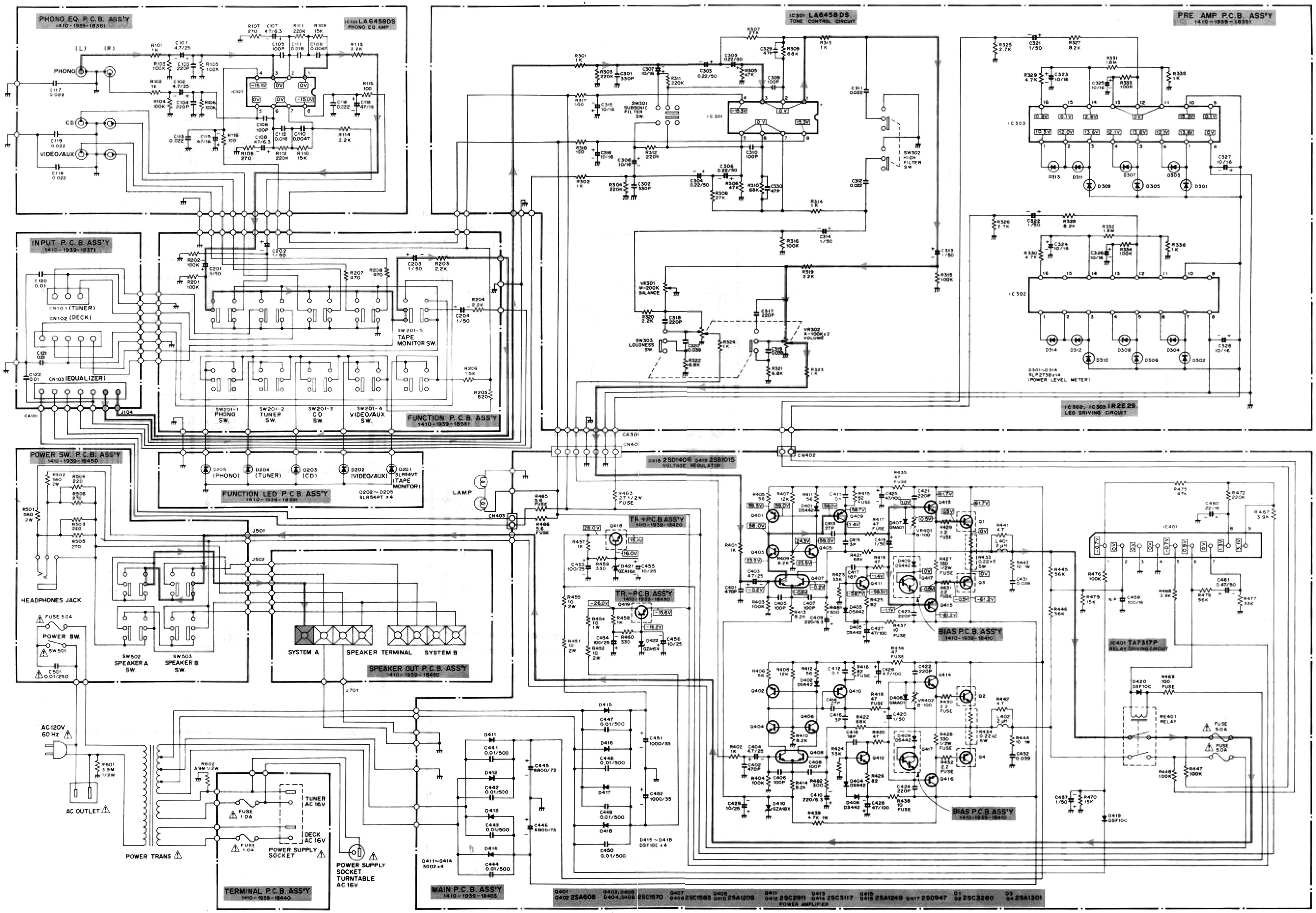
POWER SWITCH P.C.BOARD
(BOTTOM VIEW)



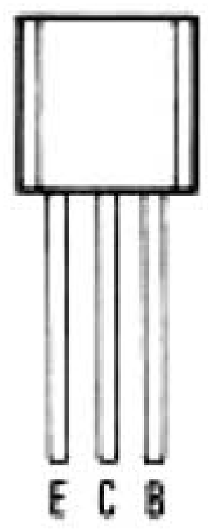
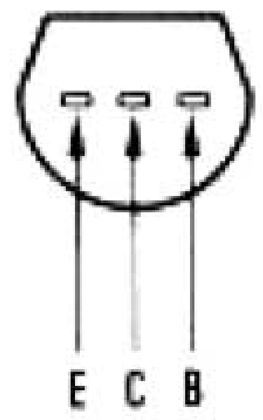
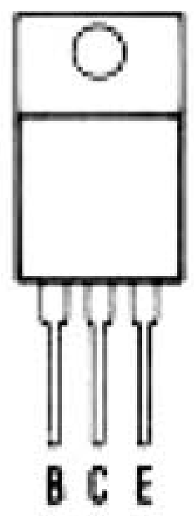
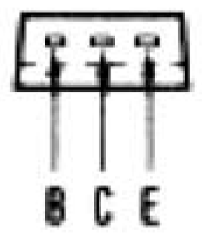
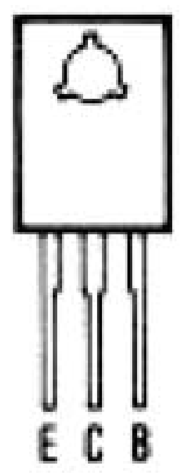
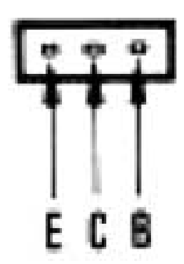
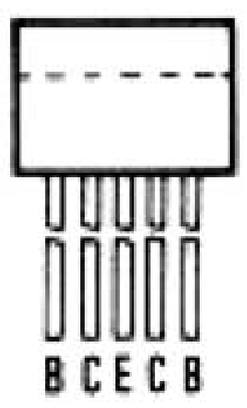
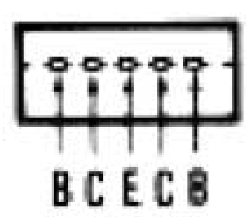
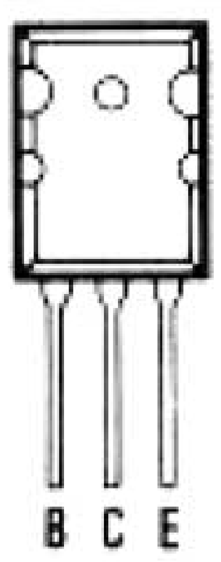
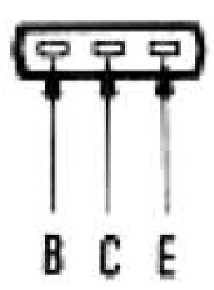
POINT TO POINT WIRING DIAGRAM



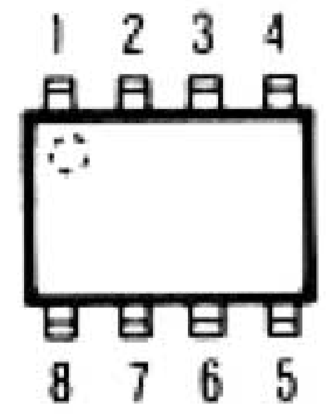
SCHEMATIC DIAGRAM



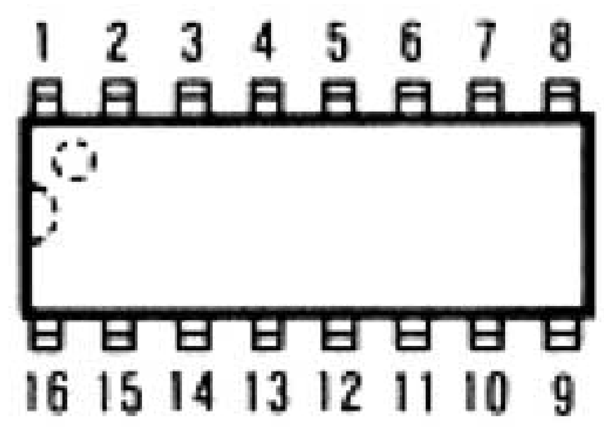
SEMICONDUCTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA 608 2SC 1570		
2SB 1015 2SD 1406		
2SA 1209 2SA 1249 2SC 2911 2SC 3117 2SD 947		
2SC 1583		
2SA 1301 2SC 3280		
TERMINAL NAME		
B → BASE C → COLLECTOR E → EMITTER		

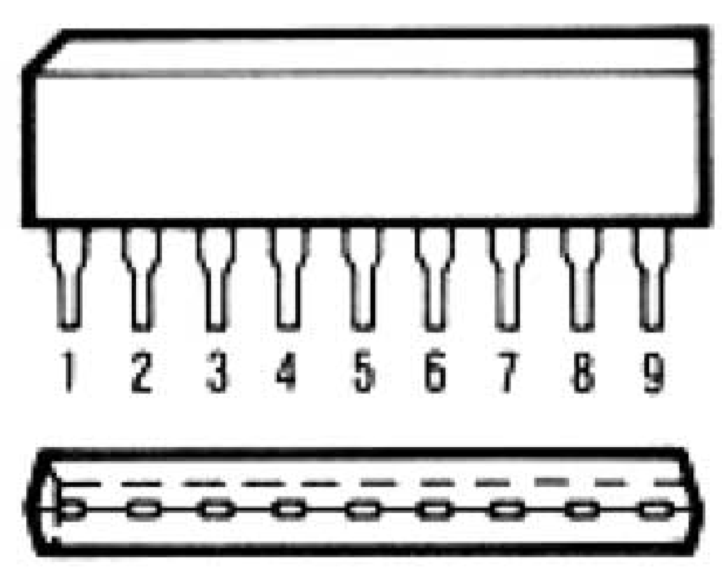
LA 6458 DS BOTTOM VIEW



IR 2E29 BOTTOM VIEW



TA 7317 P FRONT/BOTTOM VIEWS



PRODUCT SAFETY NOTICE

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

NOTES:

1. All resistors values are indicated in "ohm" ($K=10^3$, $M=10^6$)
2. All capacitors values are indicated in "μF" ($P=10^{-12}$)
3. All voltages indicated on the schematics are measured under the following conditions.
   a. Use a V.T.V.M.
   b. All voltages ±10 % with respect to chassis ground.
   c. No signals at input terminals
   d. AC input at 120 volts 60 Hz.
4. This is a basic schematic diagram.

Because Fisher products are subject to continuous improvement. Fisher Corporation reserves the right to make any changes or modifications without notice.

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Printed in Japan May/'86/3,500