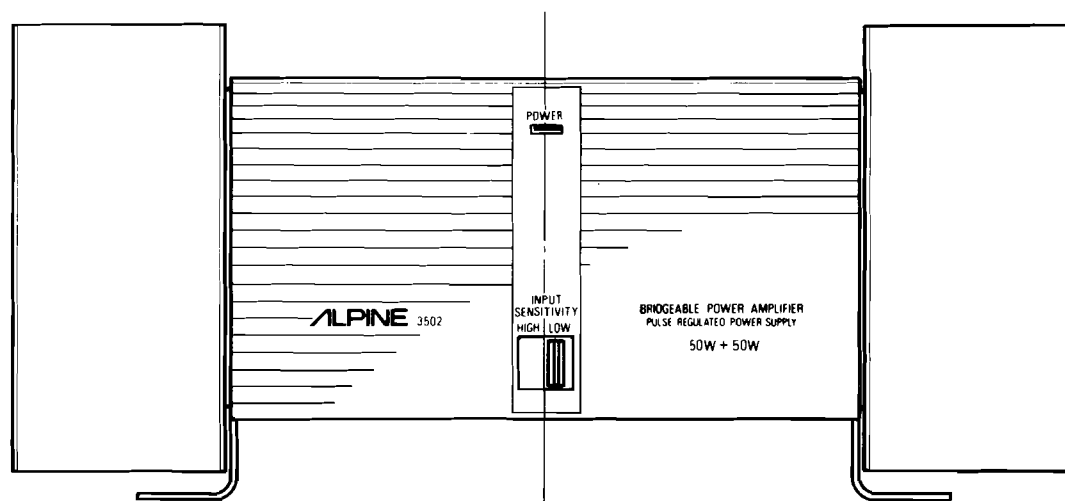


ALPINE SERVICE MANUAL

Bridgeable Power Amplifier



3502

CODE 02

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Specifications

Maximum Power 1 kHz both channels driven (at T.H.D. 0.1% 4-ohm load)	55 W
R.M.S. Power 20 Hz–20 kHz both channels driven (at T.H.D 0.08%, 4-ohm load)	50 W
B.T.L. Output Power 1 kHz (at T.H.D. 0.1% 4-ohm load)	100 W
T.H.D. 20 Hz–20 kHz (at output power of 50 W, 4-ohm load)	0.08 %
Frequency Response (at output power of 1 W, 4-ohm load) –3 dB	
(High)	20 Hz–70 kHz
(Low)	20 Hz–40 kHz
Input Sensitivity (at 50 W, 4-ohm load)	
(High)	500 mV \pm 1 dB
(Low)	1,000 mV \pm 1 dB
Input Impedance	
(High)	10k \pm 2k ohms
(Low)	20k \pm 2k ohms
Damping Factor	40
Signal to Noise Ratio (input short, IHF A-Weighted)	85 dB
Channel Separation (at 1 kHz)	65 dB
Residual Noise	0.8 mV
Load Impedance	4 ohms
Power Source	DC 14.4 V (11 ~ 16 V allowable)
Dimensions (W \times H \times D)	200 \times 90 \times 250 mm
Weight	3.4 kg
Semiconductors	48 Transistors, 2 FETs, 23 Diodes, 6 Zener Diodes, 2 Varistors

Parts Locations and Disassembly Instructions

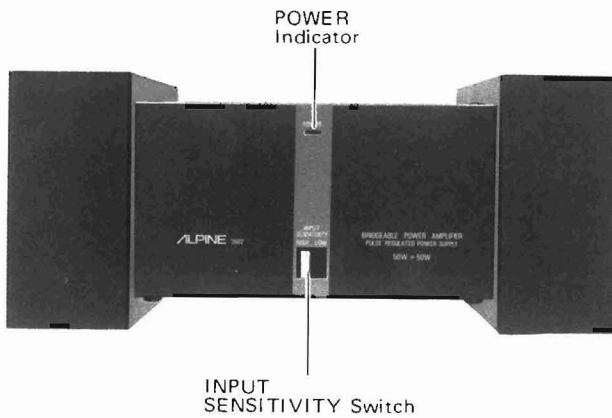


Figure 1

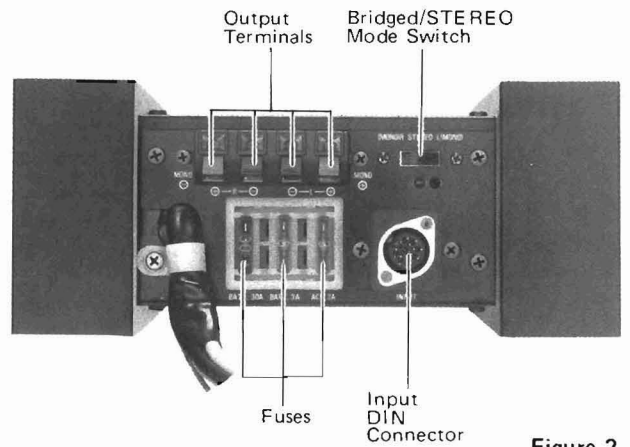


Figure 2

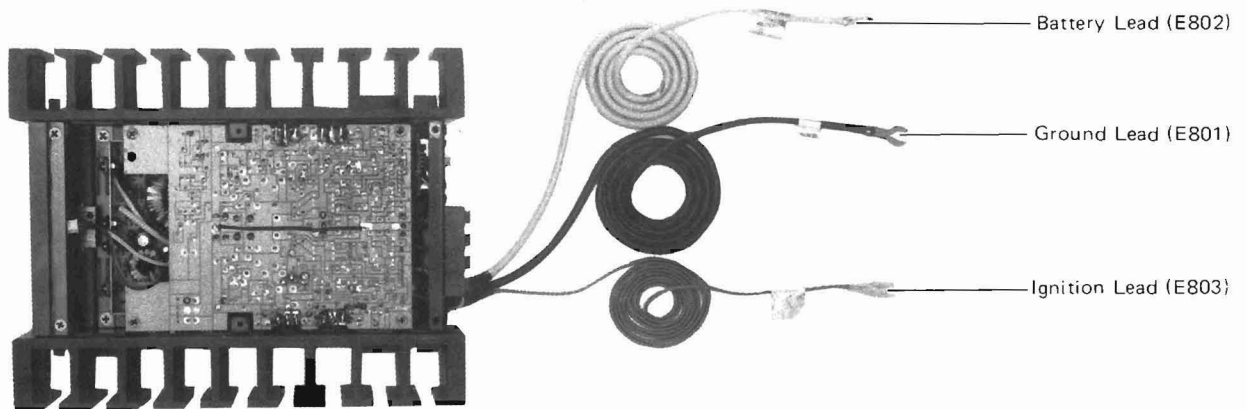


Figure 3

1. Removal of Top Cover

- (1) Remove six screws marked "○" in Figure 4.

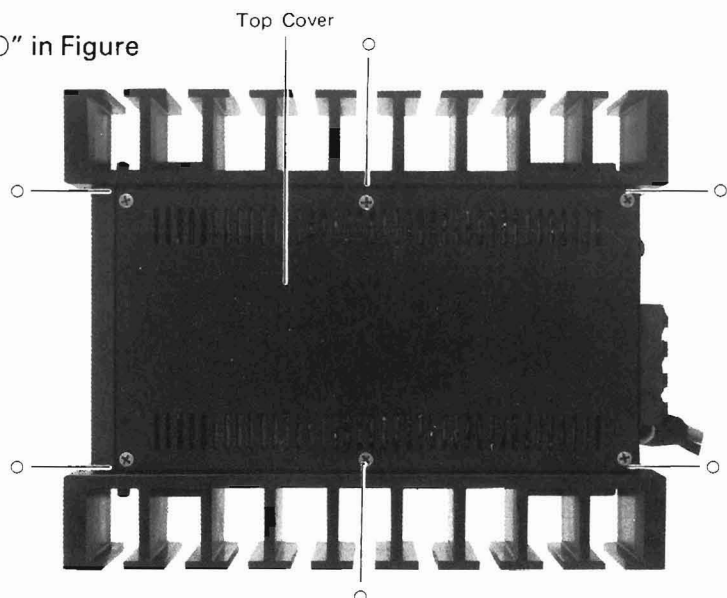


Figure 4

2. Removal of Bottom Cover

- (1) Remove six screws marked "△" in Figure 5.

3. Removal of Front Panel

- (1) After removal of top cover and bottom cover, remove the connector of LED.

4. Removal of Sensitivity Sw. P.C.B.

- (1) After removal of bottom cover and front panel, remove two screws marked "□" in Figure 7.
- (2) Disconnect all wires from the Sw. P.C.B.

5. Removal of Rear Cover

- (1) After removal of top cover and bottom cover, remove ten screws marked "☆" in Figure 7.
- (2) Disconnect all wires from the fuse holder.
- (3) Remove the Rear Cover.

6. Removal of Main Amp P.C.B. with FET P.C.B.

- (1) After removal of top cover, remove four screws marked "★" in Figure 6.
- (2) Remove four solders (a) as shown in Figure 6.
- (3) Disconnect all wires from Main Amp P.C.B.
- (4) Remove two solders (b) as shown in Figure 6.
- (5) Remove the FET P.C.B.

7. Removal of Power Supply P.C.B.

- (1) After removal of bottom cover, remove solder (c) as shown in Figure 7.
- (2) Remove four screws marked "◇" in Figure 7.
- (3) Remove six solders (d) as shown in Figure 7.
- (4) Disconnect all wires from the P.C.B.

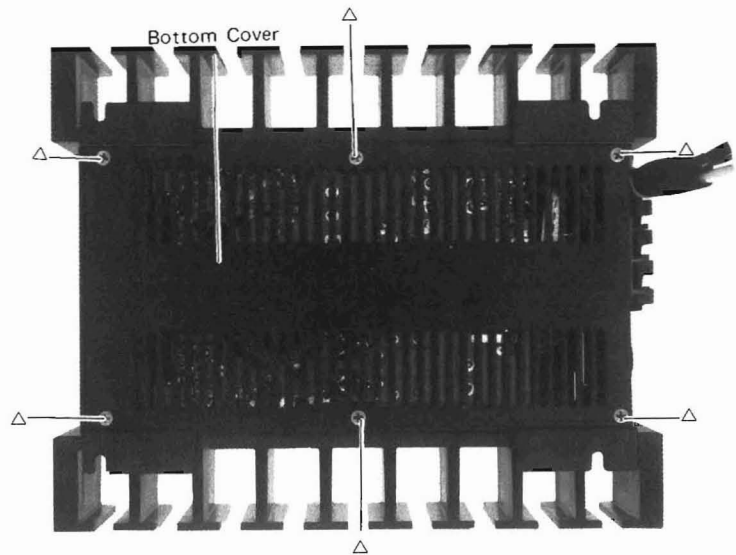


Figure 5

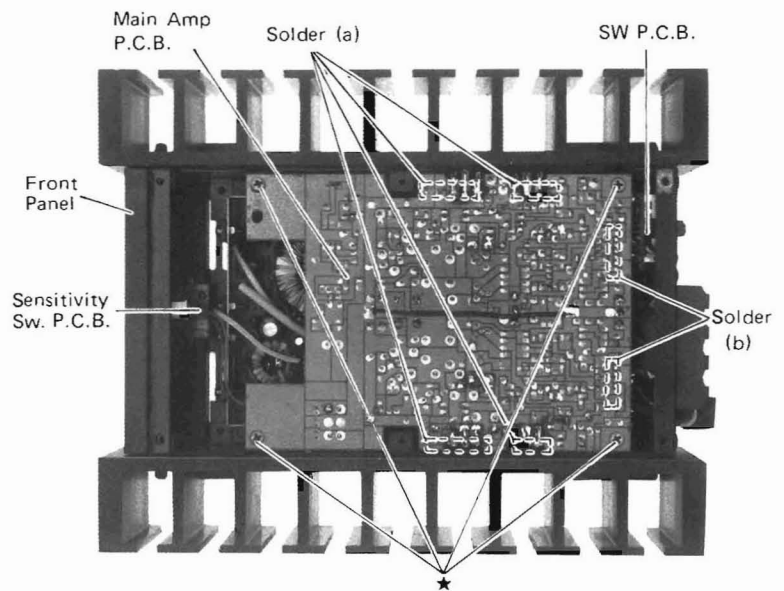


Figure 6

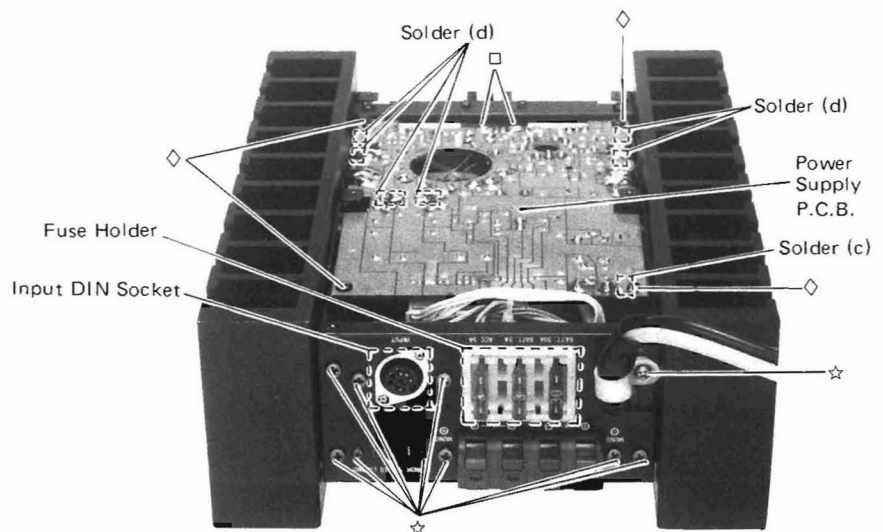


Figure 7

Adjustment Procedures

• Power Supply Voltage Adjustment

(1) Connections

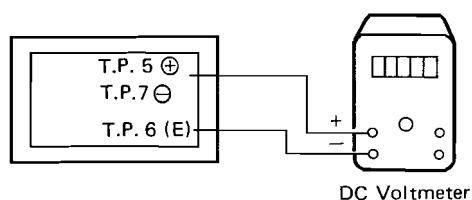


Figure 8

(2) Adjustment Procedures

Adjust solid-state variable resistor VR801 to obtain $+28.25 \pm 0.25\text{V}$ (between T.P. 5 and T.P. 6) on the DC voltmeter, and at the same time to obtain $-28.25 \pm 0.25\text{ V}$ (between T.P. 7 and T.P. 6) on the DC voltmeter.

• Idle Current Adjustment

(1) Connections

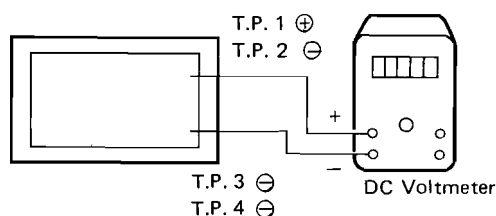


Figure 9

(2) Adjustment Procedures

Adjust the solid-state variable resistor VR103 to obtain 3 mV (between T.P. 1 and T.P. 3) on the DC voltmeter. In the same manner, adjust the VR104 to also obtain 3 mV (between T.P. 2 and T.P. 4) on the DC voltmeter. When rotating the variable resistor counterclockwise, the idle current increases.

- Idle current = $3\text{ (mV)} \div 0.2\text{ (ohm)} = 15\text{ (mA)}$

• Offset Voltage Adjustment

(1) Connections

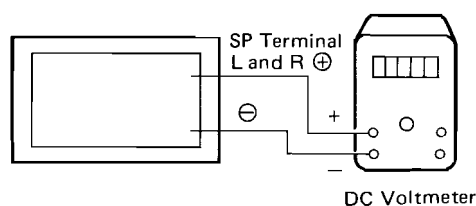


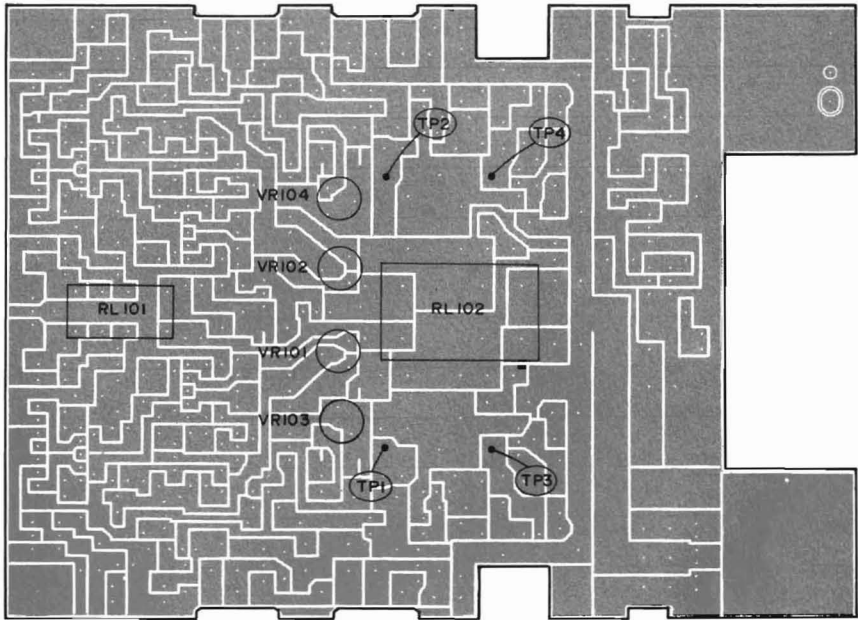
Figure 10

(2) Adjustment Procedures

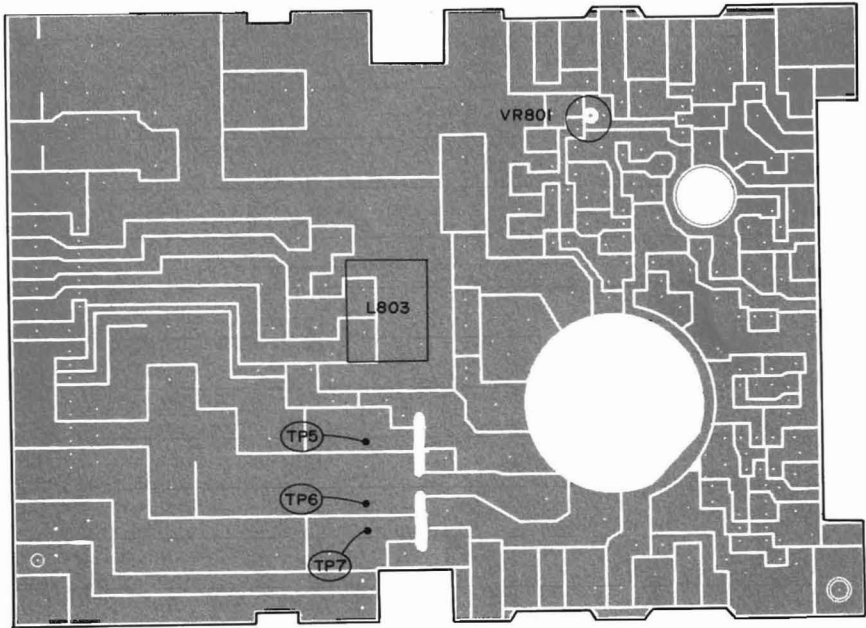
Adjust the solid-state variable resistor VR101 to obtain $0 \pm 3\text{ mV}$ at L channel S.P. terminal (\oplus, \ominus) on the DC voltmeter. In the same manner, adjust the VR102 to obtain $0 \pm 3\text{ mV}$ at R channel S.P. terminal (\oplus, \ominus) on the DC voltmeter.

Adjustment Locations

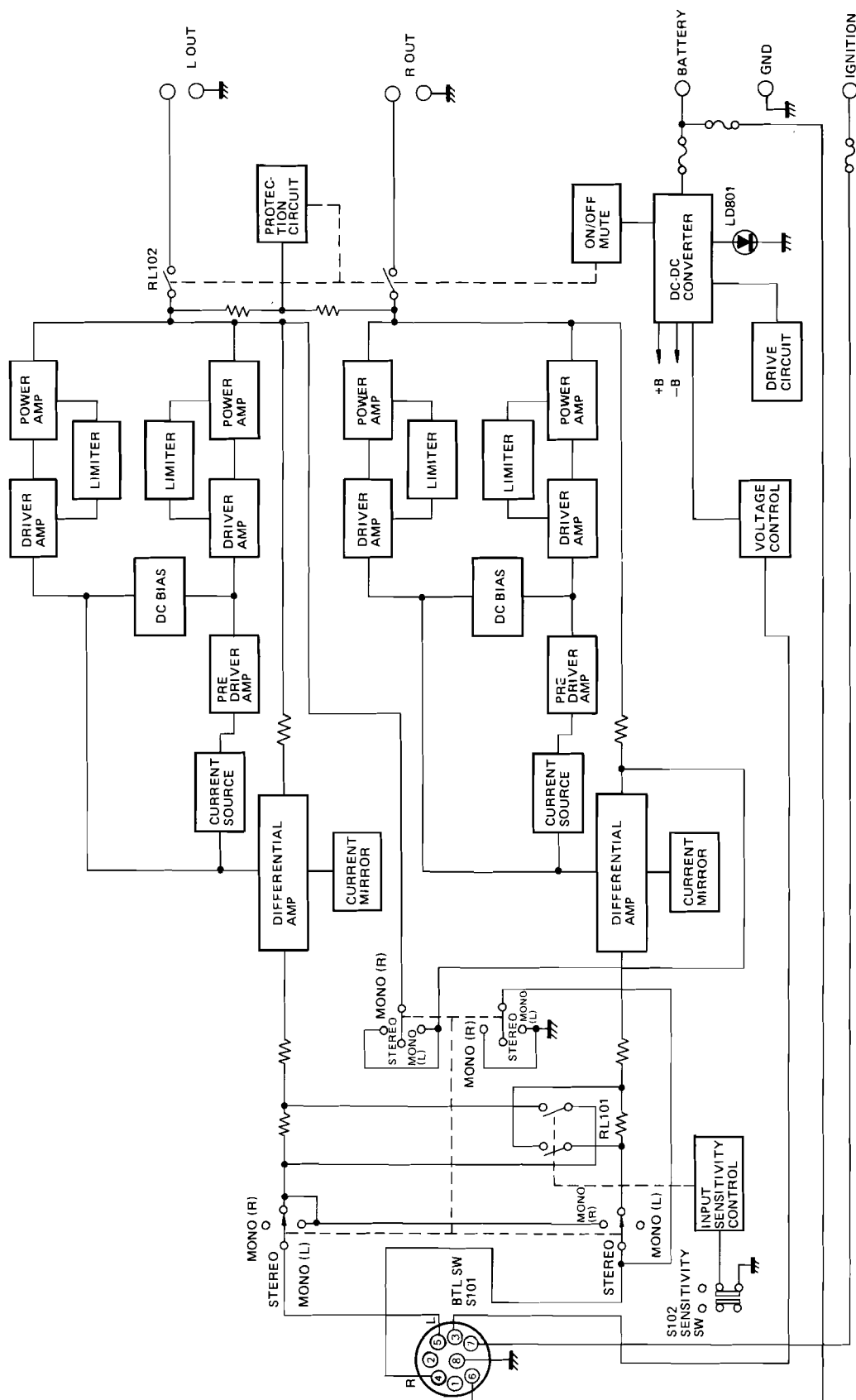
Main Amp P.C. Board (Top View)



Power Supply P.C. Board (Top View)

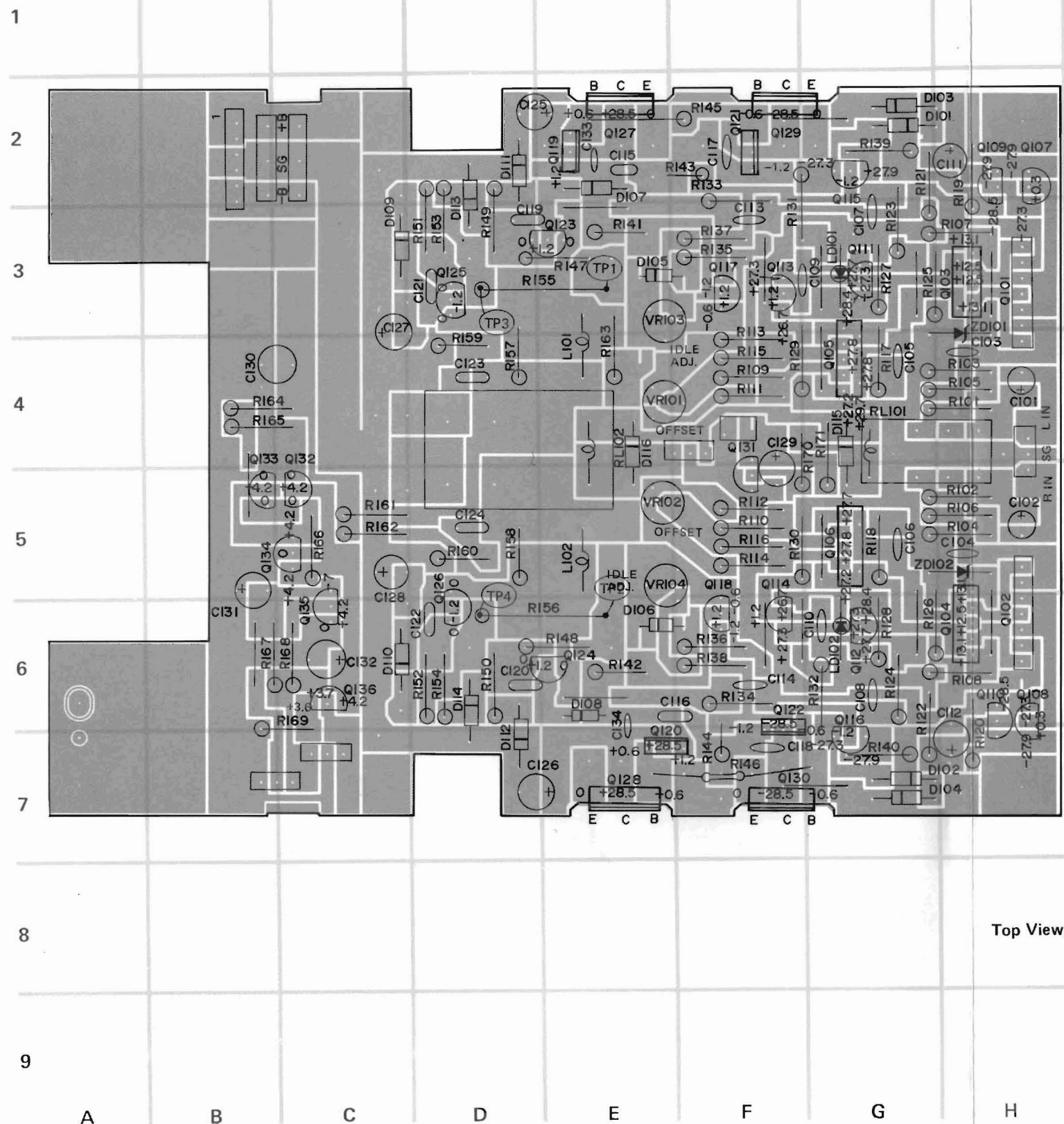


Block Diagram

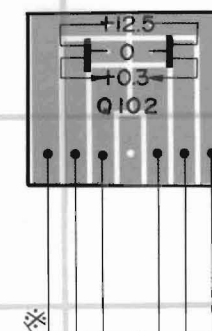
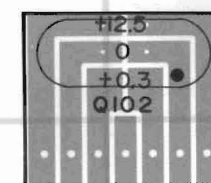
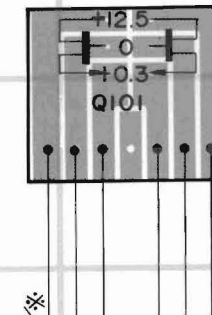
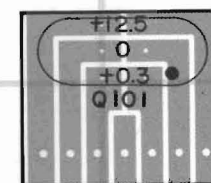


Parts Layout on P.C. Boards

- Main Amp P.C. Board



- FET P.C. Board

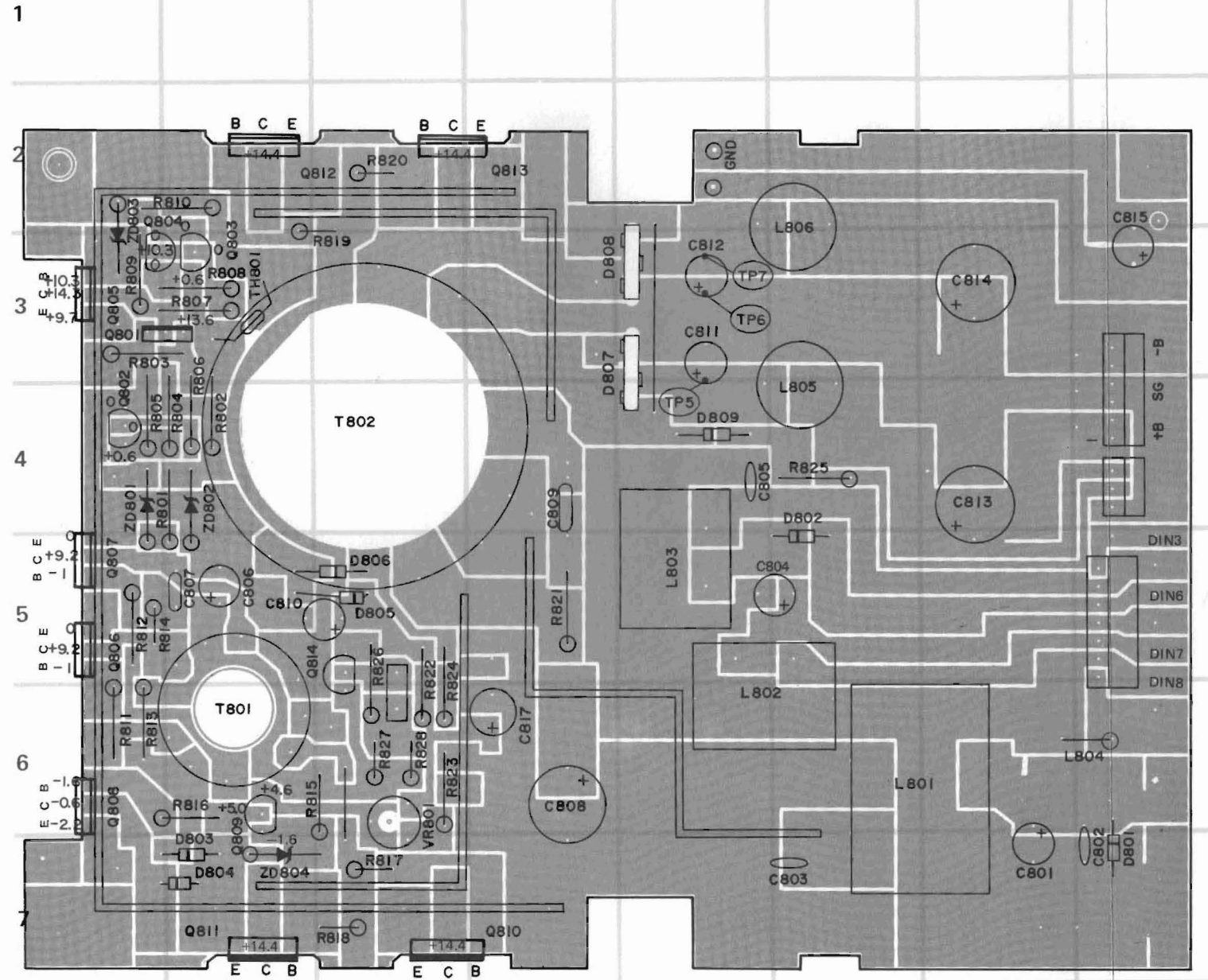


Top View

Bottom View

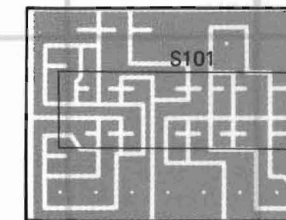
Top View.

• Power Supply P.C. Board

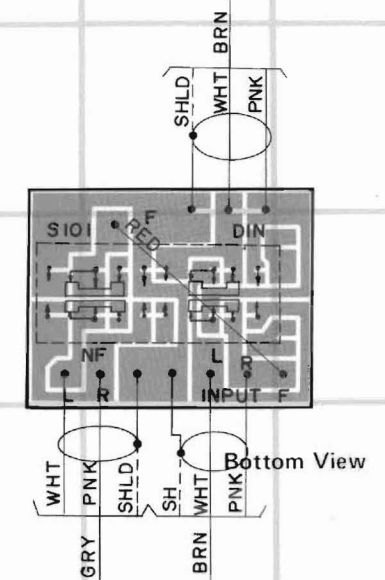


Top View

• BTL SW P.C. Board

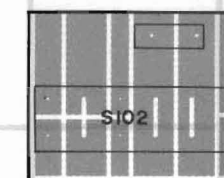


Top View

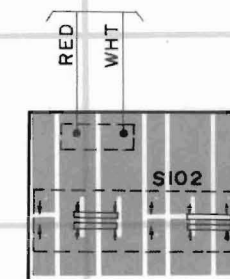


Bottom View

• SENSITIVITY SW P.C. Board



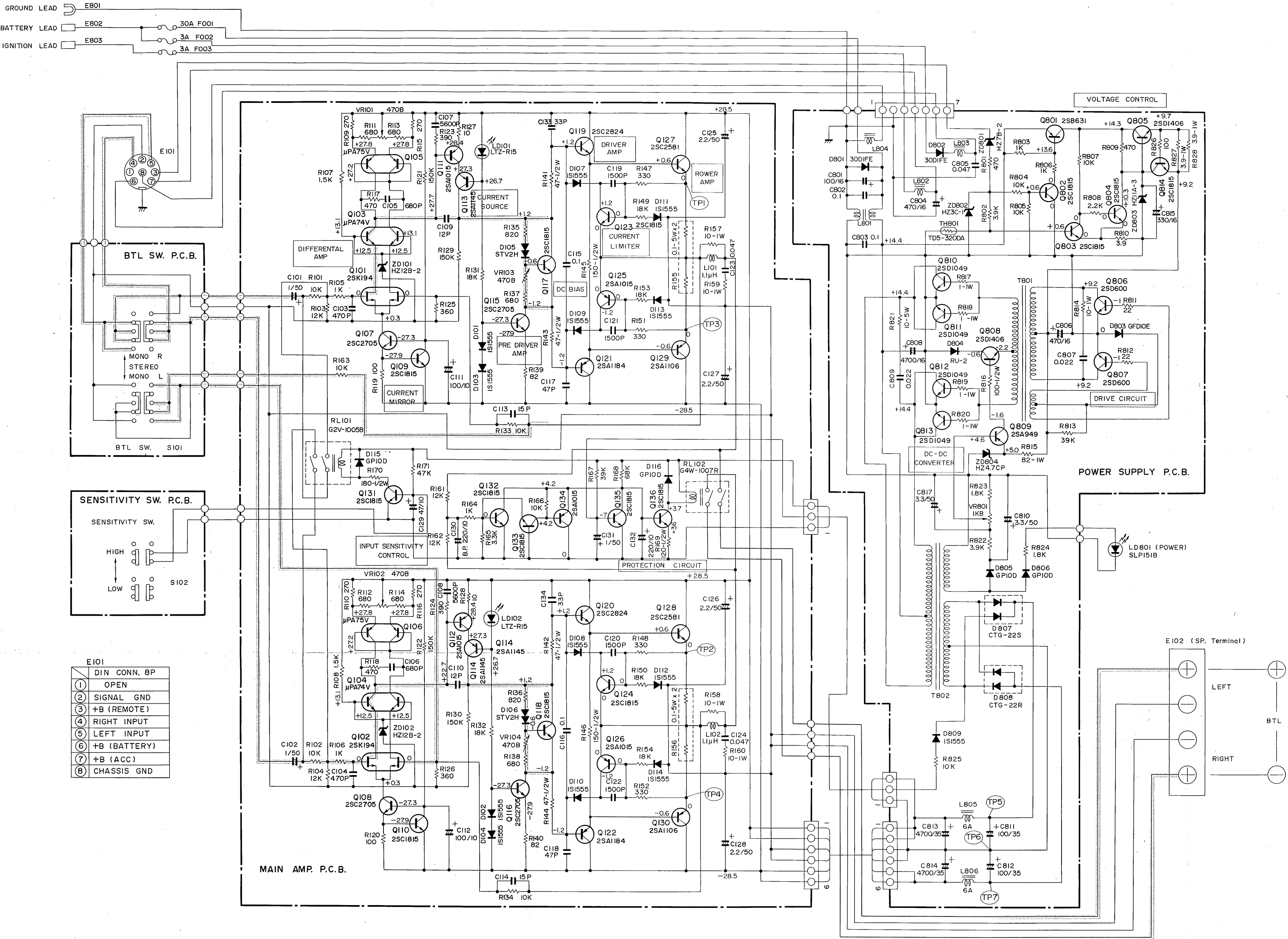
Top View



Bottom View

Schematic Diagram

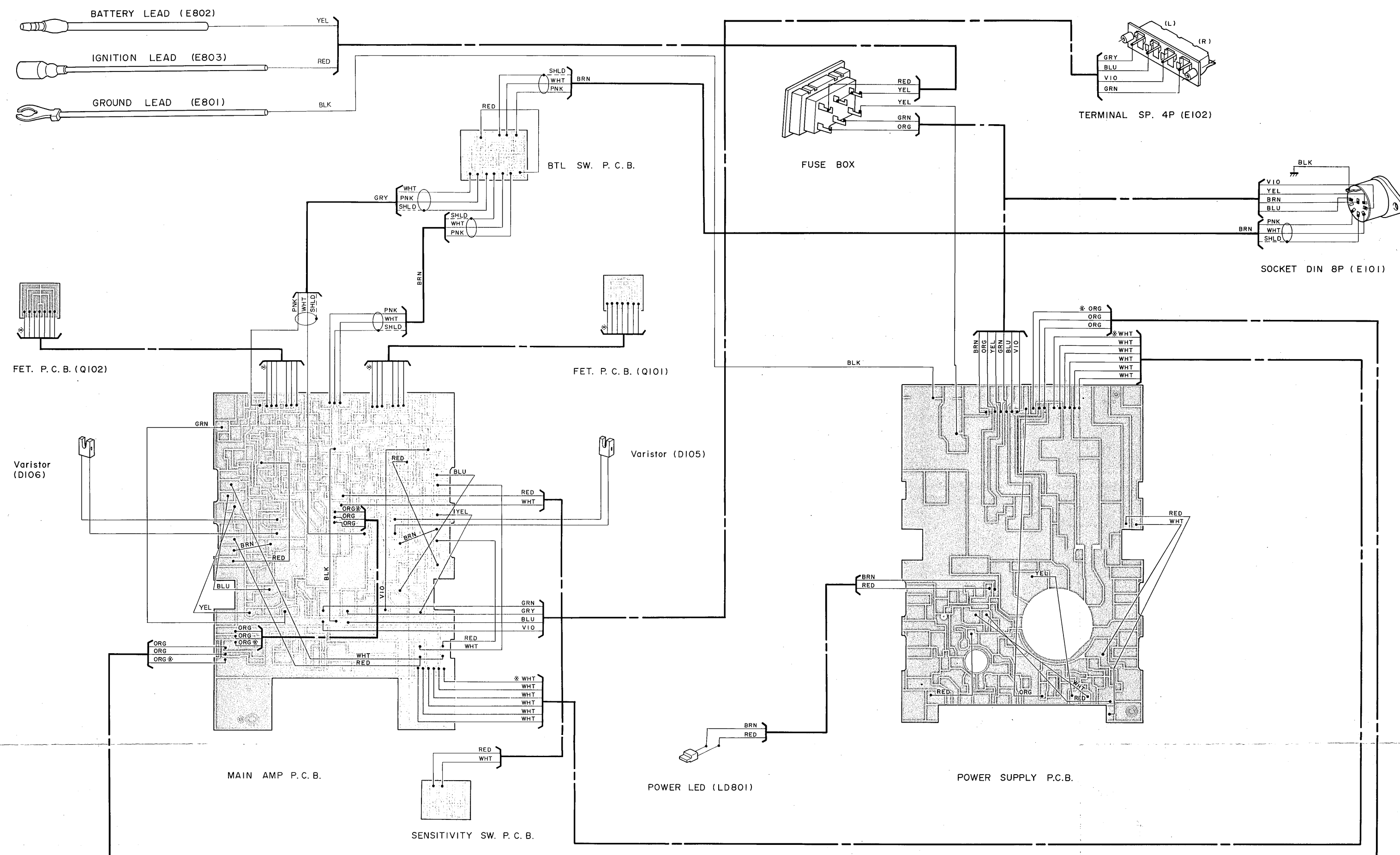
Transistor	Q105 Q103 Q101 Q106 Q104 Q102	Q111 Q113 Q112 Q114	Q115 Q132 Q133 Q116	Q117 Q134 Q118	Q119 Q123 Q125 Q121 Q120 Q124 Q122 Q126	Q127 Q129 Q136 Q128 Q130	Q810 Q811 Q812 Q813	Q808 Q809	Q801 Q802 Q803 Q804 Q806 Q807	Q805 Q814
Diode	ZD101 D115 ZD102	LD101 D101 D103 LD102 D102 D104	D105 D106 D108 D110	D107 D109 D111 D113 D116 D112 D114	D801	D802 ZD801 ZD802 D804 ZD804 D805 D806 D807 D808 D809	ZD803 D803			



NOTE:
UNLESS OTHERWISE SPECIFIED,
1. ALL RESISTANCE VALUES ARE IN OHMS K=1,000 M=1,000,000
2. ALL RESISTORS ARE RATED AT 1/4 WATT, 5%
3. ALL CAPACITANCE VALUES ARE IN MICRO-FARAD (uF) P=10 *uF
4. ALL CAPACITORS ARE RATED AT 500VDC

E101	DIN CONN. 8P
1	OPEN
2	SIGNAL GND
3	+B (REMOTE)
4	RIGHT INPUT
5	LEFT INPUT
6	+B (BATTERY)
7	+B (ACC)
8	CHASSIS GND

Wiring Diagram



Electrical Parts List

Resistors: (All resistors are carbon film, $\pm 5\%$ unless otherwise noted.)

μF = microfarads, pF = picofarads.

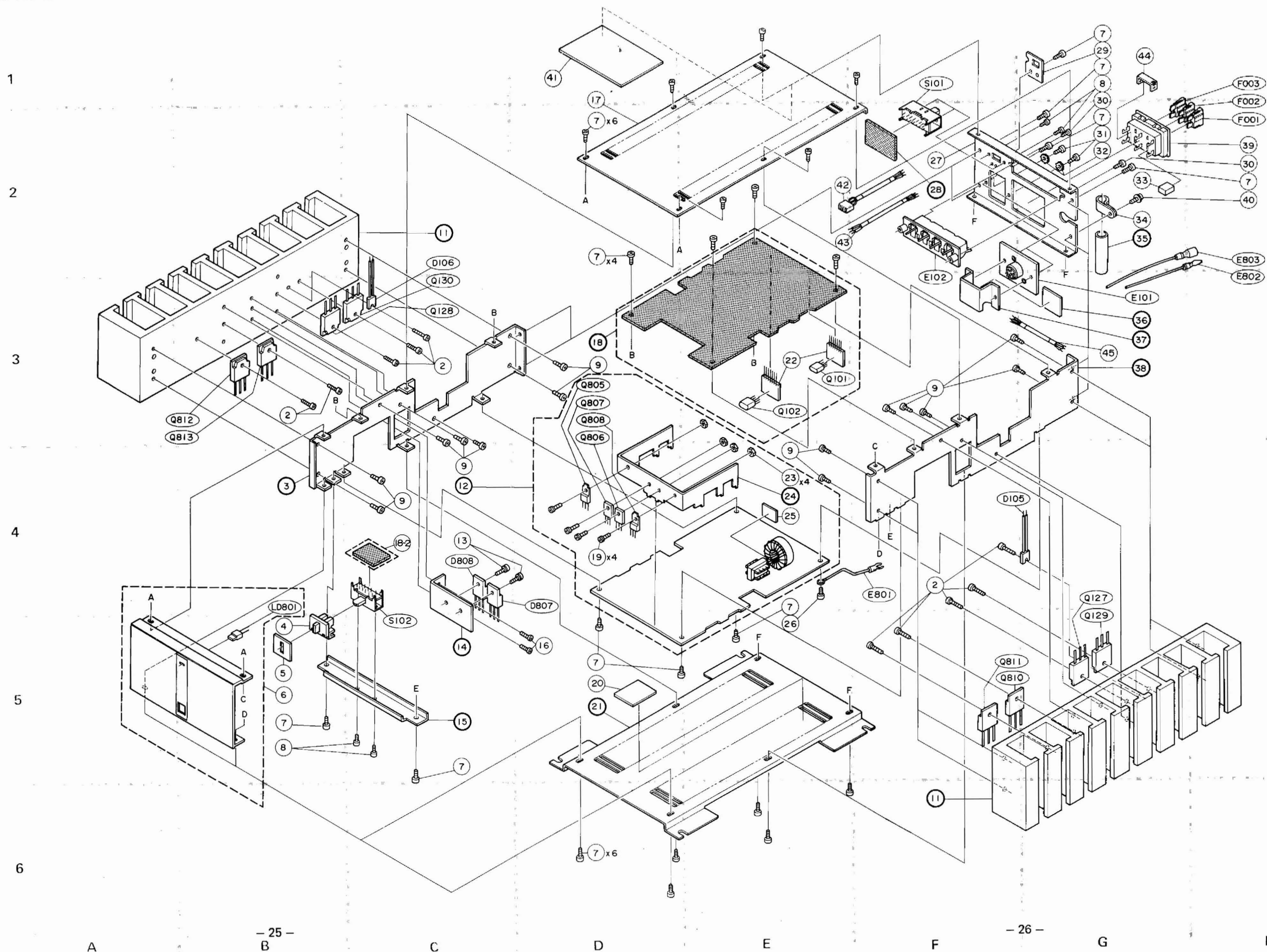
Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
Main Amp P.C. Board			Q136 or	48S43525F02 48S44578J01	2SC1815 2SC945L
Transistors			Diodes		
Q103	48T61580F01	μPA74V	D101	48T43189F01	1S1555
Q104	48T61580F01	μPA74V	D102	48T43189F01	1S1555
Q105	48T61581F01	μPA75V	D103	48T43189F01	1S1555
Q106	48T61581F01	μPA75V	D104	48T43189F01	1S1555
Q107	48T60752F01	2SC2705	D107	48T43189F01	1S1555
Q108	48T60752F01	2SC2705	D108	48T43189F01	1S1555
Q109	48S43525F02	2SC1815	D109	48T43189F01	1S1555
or	48S44578J01	2SC945L	D110	48T43189F01	1S1555
Q110	48S43525F02	2SC1815	D111	48T43189F01	1S1555
or	48S44578J01	2SC945L	D112	48T43189F01	1S1555
Q111	48T51118F01	2SA1015	D113	48T43189F01	1S1555
or	48T40081T03	2SA733	D114	48T43189F01	1S1555
Q112	48T51118F01	2SA1015	D115	48T55186F01	GP10D
or	48T40081T03	2SA733	D116	48T55186F01	GP10D
Q113	48T60751F01	2SA1145	ZD101	48T52739F74	Zener HZ12B-2
Q114	48T60751F01	2SA1145	ZD102	48T52739F74	Zener HZ12B-2
Q115	48T60752F01	2SC2705	LEDs		
Q116	48T60752F01	2SC2705	LD101	48T60971F01	LTZ-R15
Q117	48S43525F02	2SC1815	LD102	48T60971F01	LTZ-R15
or	48S44578J01	2SC945L	Coils		
Q118	48S43525F02	2SC1815	L101	24T51105F02	Choke 1.1 μH
or	48S44578J01	2SC945L	L102	24T51105F02	Choke 1.1 μH
Q119	48T56660F03	2SC2824	Relays		
Q120	48T56660F03	2SC2824	RL101	80T61577F01	G2V-1005B
Q121	48T56659F03	2SA1184	RL102	80T61578F01	G4W-1007R
Q122	48T56659F03	2SA1184	Capacitors		
Q123	48S43525F02	2SC1815	C101	23T44501P05	Electrolytic 1 μF 50V
or	48S44578J01	2SC945L	C102	23T44501P05	Electrolytic 1 μF 50V
Q124	48S43525F02	2SC1815	C103	21S40655F30	Ceramic 470pF
or	48S44578J01	2SC945L	C104	21S40655F30	Ceramic 470pF
Q125	48T51118F01	2SA1015	C105	21S40655F32	Ceramic 680pF
or	48T40081T03	2SA733	C106	21S40655F32	Ceramic 680pF
Q126	48T51118F01	2SA1015	C107	08T40794F10	Ceramic 5600pF
or	48T40081T03	2SA733	C108	08T40794F10	Ceramic 5600pF
Q131	48S43525F02	2SC1815	C109	21S40655F12	Ceramic 12pF
or	48S44578J01	2SC945L	C110	21S40655F12	Ceramic 12pF
Q132	48S43525F02	2SC1815			
or	48S44578J01	2SC945L			
Q133	48S43525F02	2SC1815			
or	48S44578J01	2SC945L			
Q134	48T51118F01	2SA1015			
or	48T40081T03	2SA733			
Q135	48S43525F02	2SC1815			
or	48S44578J01	2SC945L			

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
C111	23S40657F08	Electrolytic 100 μ F 10V	R116	06S44593P51	270 ohm 1/4W
C112	23S40657F08	Electrolytic 100 μ F 10V	R117	06S44593P57	470 ohm 1/4W
C113	21S40655F13	Ceramic 15pF	R118	06S44593P57	470 ohm 1/4W
C114	21S40655F13	Ceramic 15pF	R119	06S44593P41	100 ohm 1/4W
C115	08T57705F79	Mylar 0.1 μ F	R120	06S44593P41	100 ohm 1/4W
C116	08T57705F79	Mylar 0.1 μ F	R121	06S44594P18	150k ohm 1/4W
C117	21S40655F19	Ceramic 47pF	R122	06S44594P18	150k ohm 1/4W
C118	21S40655F19	Ceramic 47pF	R123	06S44593P55	390 ohm 1/4W
C119	08T57705F07	Mylar 1500pF	R124	06S44593P55	390 ohm 1/4W
C120	08T57705F07	Mylar 1500pF	R125	06S44593P54	360 ohm 1/4W
C121	08T57705F07	Mylar 1500pF	R126	06S44593P54	360 ohm 1/4W
C122	08T57705F07	Mylar 1500pF	R127	06S44593P17	10 ohm 1/4W
C123	08T57705F75	Mylar 0.047 μ F	R128	06S44593P17	10 ohm 1/4W
C124	08T57705F75	Mylar 0.047 μ F	R129	06S44594P18	150k ohm 1/4W
C125	23S40657F29	Electrolytic 2.2 μ F 50V	R130	06S44594P18	150k ohm 1/4W
C126	23S40657F29	Electrolytic 2.2 μ F 50V	R131	06S44593P95	18k ohm 1/4W
C127	23S40657F29	Electrolytic 2.2 μ F 50V	R132	06S44593P95	18k ohm 1/4W
C128	23S40657F29	Electrolytic 2.2 μ F 50V	R133	06S44593P89	10k ohm 1/4W
C129	23S40657F07	Electrolytic 47 μ F 10V	R134	06S44593P89	10k ohm 1/4W
C130	23S41192U79	Electrolytic B.P. 220 μ F 10V	R135	06S44593P63	820 ohm 1/4W
C131	23S40657F28	Electrolytic 1 μ F 50V	R136	06S44593P63	820 ohm 1/4W
C132	23S40657F09	Electrolytic 220 μ F 10V	R137	06S44593P61	680 ohm 1/4W
C133	21C45322G16	Ceramic 33pF	R138	06S44593P61	680 ohm 1/4W
C134	21C45322G16	Ceramic 33pF	R139	06S44593P39	82 ohm 1/4W
			R140	06S44593P39	82 ohm 1/4W
Resistors			R141	06C43205J04	47 ohm Metal 1/2W
VR101	18C41732G10	470 ohm-B Variable	R142	06C43205J04	47 ohm Metal 1/2W
VR102	18C41732G10	470 ohm-B Variable	R143	06C43205J04	47 ohm Metal 1/2W
VR103	18C41732G10	470 ohm-B Variable	R144	06C43205J04	47 ohm Metal 1/2W
VR104	18C41732G10	470 ohm-B Variable	R145	06C43205J07	150 ohm Metal 1/2W
R101	06S44593P89	10k ohm 1/4W	R146	06C43205J07	150 ohm Metal 1/2W
R102	06S44593P89	10k ohm 1/4W	R147	06S44593P53	330 ohm 1/4W
R103	06S44593P91	12k ohm 1/4W	R148	06S44593P53	330 ohm 1/4W
R104	06S44593P91	12k ohm 1/4W	R149	06S44593P95	18k ohm 1/4W
R105	06S44593P65	1k ohm 1/4W	R150	06S44593P95	18k ohm 1/4W
R106	06S44593P65	1k ohm 1/4W	R151	06S44593P53	330 ohm 1/4W
R107	06S44593P69	1.5k ohm 1/4W	R152	06S44593P53	330 ohm 1/4W
R108	06S44593P69	1.5k ohm 1/4W	R153	06S44593P95	18k ohm 1/4W
R109	06S44593P51	270 ohm 1/4W	R154	06S44593P95	18k ohm 1/4W
R110	06S44593P51	270 ohm 1/4W	R155	06T51107F02	0.1 ohm Cement 5Wx2
R111	06S44593P61	680 ohm 1/4W	R156	06T51107F02	0.1 ohm Cement 5Wx2
R112	06S44593P61	680 ohm 1/4W	R157	06C44652G26	10 ohm Metal 1W
R113	06S44593P61	680 ohm 1/4W	R158	06C44652G26	10 ohm Metal 1W
R114	06S44593P61	680 ohm 1/4W	R159	06C44652G26	10 ohm Metal 1W
R115	06S44593P51	270 ohm 1/4W	R160	06C44652G26	10 ohm Metal 1W

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
R161	06S44593P91	12k ohm 1/4W	Coils		
R162	06S44593P91	12k ohm 1/4W	L801	25T61598F01	Choke, Trans.
R163	06S44593P89	10k ohm 1/4W	L802	25C40894G11	Choke, Trans.
R164	06S44593P65	1k ohm 1/4W	L803	25C40894G11	Choke, Trans.
R165	06S44593P77	3.3k ohm 1/4W	L804	25T60908F01	Choke SN5-400
R166	06S44593P89	10k ohm 1/4W	L805	25T58607F02	Choke 6A
R167	06S44594P04	39k ohm 1/4W	L806	25T58607F02	Choke 6A
R168	06S44594P10	68k ohm 1/4W	Transformers		
R169	06C43205J18	120 ohm Metal 1/2W	T801	25T61591F01	Drive Control
R170	06C43205J09	180 ohm Metal 1/2W	T802	25T61592F01	Main Control
R171	06S44594P06	47k ohm 1/4W	Capacitors		
Power Supply P.C. Board			C801	23S40657F14	Electrolytic 100μF 16V
Transistors			C802	08T57298F01	Ceramic 0.1μF
Q801	48T61617F01	2SB631	C803	08T57298F01	Ceramic 0.1μF
Q802	48S43525F02	2SC1815	C804	23C42170G30	Electrolytic 470μF 16V
or	48S44578J01	2SC945L	C805	21C45322G33	Ceramic 0.047μF
Q803	48S43525F02	2SC1815	C806	23C42170G30	Electrolytic 470μF 16V
or	48S44578J01	2SC945L	C807	08T57705F21	Mylar 0.022μF
Q804	48S43525F02	2SC1815	C808	23T61589F01	Electrolytic 4700μF 16V
or	48S44578J01	2SC945L	C809	08T58616F01	Mylar 0.022μF 400V
Q809	48T53298F01	2SA949	C810	23S40657F30	Electrolytic 3.3μF 50V
Q814	48S43525F02	2SC1815	C811	23T58605F01	Electrolytic 100μF 35V
or	48S44578J01	2SC945L	C812	23T58605F01	Electrolytic 100μF 35V
Diodes			C813	23T61590F01	Electrolytic 4700μF 35V
D801	48S40870U02	30D1FE	C814	23T61590F01	Electrolytic 4700μF 35V
D802	48S40870U02	30D1FE	C815	23T43707U07	Electrolytic 330μF 16V
D803	48T58593F01	GFD10E	C817	23T57422F07	Electrolytic 3.3μF 50V
D804	48T58615F01	RU-2	Resistors		
D805	48T55186F01	GP10D	VR801	18C41732G07	1k ohm-B Variable
D806	48T55186F01	GP10D	R801	06S44593P57	470 ohm 1/4W
D809	48T43189F01	1S1555	R802	06S44593P79	3.9k ohm 1/4W
ZD801	48T52739F47	Zener HZ7B-2	R803	06S44593P65	1k ohm 1/4W
ZD802	48T52739F13	Zener HZ3C-1	R804	06S44593P89	10k ohm 1/4W
ZD803	48T52739F63	Zener HZ11A-3	R805	06S44593P89	10k ohm 1/4W
ZD804	48T55029F20	Zener HZ4.7CP	R806	06S44593P65	1k ohm 1/4W
Thermistor			R807	06S44593P89	10k ohm 1/4W
TH801	48T60670F01	20k ohm TD5-320DA	R808	06S44593P73	2.2k ohm 1/4W
			R809	06S44593P57	470 ohm 1/4W
			R810	06S44593P07	3.9 ohm 1/4W

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
R811	06S44593P25	22 ohm 1/4W	E801	30T61595F01	Lead, Ground
R812	06S44593P25	22 ohm 1/4W	E802	30T61594F01	Lead, Battery
R813	06S44594P04	39k ohm 1/4W	E803	30T58634F01	Lead, Ignition
R814	06C44652G26	10 ohm Metal 1W	F001	65T58596F08	Fuse, Auto 30A
R815	06C44652G43	82 ohm Metal 1W	F002	65T58596F01	Fuse, Auto 3A
R816	06C43205J31	100 ohm Metal 1/2W	F003	65T58596F01	Fuse, Auto 3A
R817	06C44652G22	1 ohm Metal 1W	LD801	48T58601F01	LED, (Red) SLP151B (POWER)
R818	06C44652G22	1 ohm Metal 1W	S101	40T61593F01	Switch, Slide SSP043 (BTL Sw.)
R819	06C44652G22	1 ohm Metal 1W	S102	40T58613F01	Switch, Slide SSB34204 (Sensitivity Sw.)
R820	06C44652G22	1 ohm Metal 1W			
R821	06T60132F01	10 ohm Cement 5W			
R822	06S44593P79	3.9k ohm 1/4W			
R823	06S44593P71	1.8k ohm 1/4W			
R824	06S44593P71	1.8k ohm 1/4W			
R825	06S44593P89	10k ohm 1/4W			
R826	06S44593P41	100 ohm 1/4W			
R827	06C44652G05	3.9 ohm Metal 1W			
R828	06C44652G05	3.9 ohm Metal 1W			
Miscellaneous Parts					
Q101	48T62392F01	FET, 2SK194			
Q102	48T62392F01	FET, 2SK194			
Q127	48T53303F03	Transistor, 2SC2581			
Q128	48T53303F03	Transistor, 2SC2581			
Q129	48T53304F03	Transistor, 2SA1106			
Q130	48T53304F03	Transistor, 2SA1106			
Q805	48T58614F01	Transistor, 2SD1406			
or	48T55875F01	Transistor, 2SD1265			
Q806	48T52979F01	Transistor, 2SD600			
Q807	48T52979F01	Transistor, 2SD600			
Q808	48T58614F01	Transistor, 2SD1406			
or	48T55875F01	Transistor, 2SD1265			
Q810	48T61467F01	Transistor, 2SD1049			
Q811	48T61467F01	Transistor, 2SD1049			
Q812	48T61467F01	Transistor, 2SD1049			
Q813	48T61467F01	Transistor, 2SD1049			
D105	48T53389F01	Varistor STV-2H			
D106	48T53389F01	Varistor STV-2H			
D807	48T61597F01	Diode, CTG-22S			
D808	48T61597F02	Diode, CTG-22R			
E101	09T58603F01	Socket, DIN 8P			
E102	29T61596F01	Speaker Terminal, 4-pin			

Exploded View



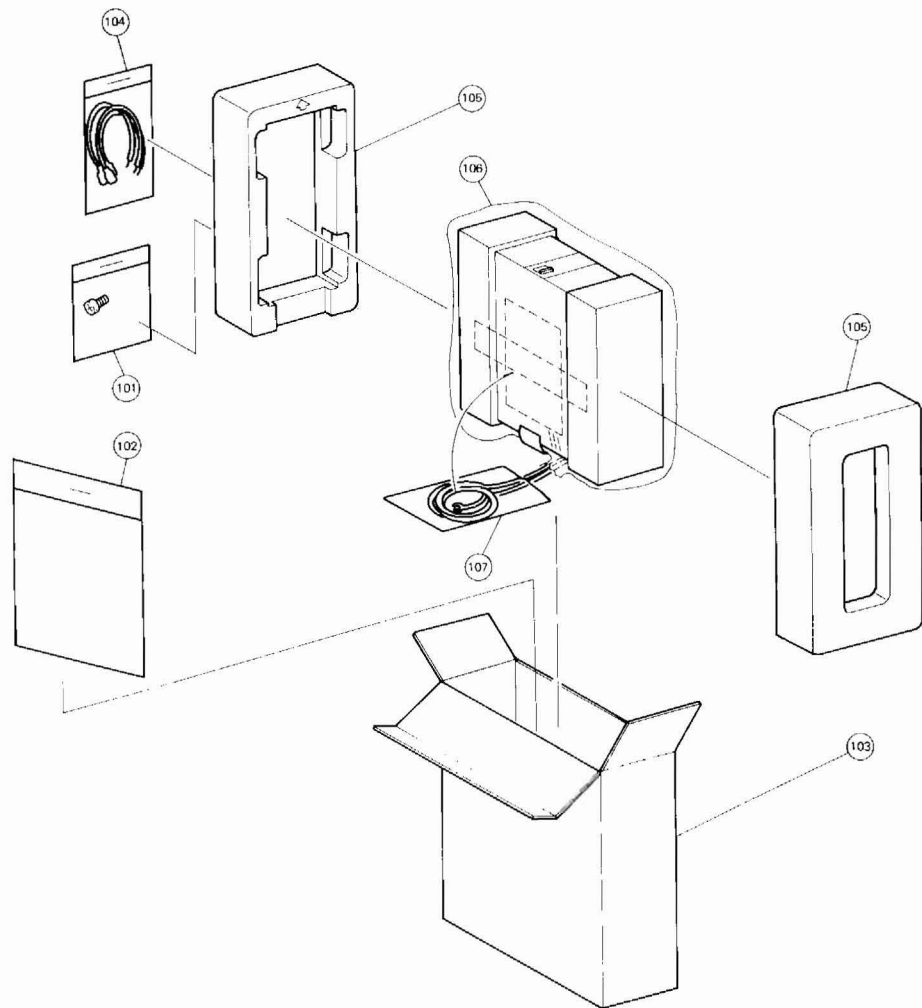
Mechanical Parts List

The alphanumeric codes suffixed to the numeric symbol numbers in the parts list identify the location codes of the respective components in the exploded views.

Symbol No.	Part No.	Description
General Assembly Parts		
2	03C40121T13	Screw, w/Washer (Blk) (M3x10)
3 4B	*	Chassis, Side
4 5B	36B60123F01	Knob, Sensitivity
5 5B	14A60697F01	Cover, Knob
6 5B	01V63100F57	Assy, Front Panel
7	03S44205G38	Screw, Bind (Blk) (M3x6)
8	03S44205G41	Screw, Pan (Blk) (M2.6x4)
9	03S43997P76	Screw, Bind (Blk) (M3x6)
11	*	Heat Sink, Main
12 4C	*	Assy, Power Supply P.C.B.
13 4C	03C40014G24	Screw, w/Washer (M3x10)
14 5C	*	Heat Sink "D"
15 5C	*	Bracket, Switch
16	03S43997P41	Screw, Pan (Blk) (M3x8)
17 2D	15B61304F01	Cover, Top
18 3D	*	Assy., Amp P.C.B.
19 4D	03C40014G10	Screw, w/Washer (M3x8)
20 5D	*	Insulator, Cover
21 5D	*	Cover, Bottom
22 3E	84B63093F01	P.C.B., FET
23 4E	02S40000G12	Nut, Hex. (M3)
24 4E	*	Plate, Earth
25 4E	14S53017F12	Insulator, (15x7.5)
26 5E	03S44205G55	Screw, Pan (M3x6)
27 2F	15B61305F01	Cover, Rear
28 2F	*	P.C.B., Switch
29 1G	33A61619F01	Fitting Plate, Switch
30	03S40012G41	Screw, Pan (Blk) (M3x8)
31 2G	03S44205G57	Screw, Bind (M4x8)
32 2G	04S40072G20	Washer, Tooth Lock (M3)
33 2G	75S62361F02	Cushion, Rubber
34 2G	42B41424G05	Clamp, Cord
35 2G	*	Tube, Vinyl (60 mm)
36 3G	*	Insulator, Cover
37 3G	*	Bracket, DIN Jack
38 3G	*	Chassis, Side
39 2H	09T58597F01	Holder, Auto Fuse 3P
40 2H	03S40036U02	Screw, Pan (M3x8)
41 1D	26A63406F01	Panel, Shield
42 2F	01T62058F01	Connector, Shield
43 2F	30S57447F08	Wire, Shield
44 1G	07A63405F01	Bracket, Fuse
45 3G	30S57447F07	Wire, Shield

* not supplied

Packing Method View



Packing Parts List

Symbol No.	Part No.	Description	Symbol No.	Part No.	Description
Assembly Packing Parts			▲102	68P60806F38	Owner's Manual
101	01V63100F64	Assy., Kit Installation	Δ103	56S60227F14	Carton, Packing (Ind.)
101-1	*	Sack, Polyethylene	▲103	56S60227F27	Carton, Packing (Ind.)
101-2	*	Screw, Tapping (M4x12)	104	01T61620F01	Assy., Kit, Wire
101-3	*	Fuse, Auto 3A	105	56D61606F01	Tray, Packing
101-4	*	Fuse, Auto 30A	106	56B40990T06	Sack, Polyethylene
Δ102	01V63100F65	Assy., Pamphlet	107	56B40230G04	Sack, Polyethylene
102-1	*	Owner's Manual	Labels		
102-2	*	Sack, Polyethylene		54S60911F17	Label, Composite (Bottom, Cover)
102-3	*	Business Reply Card		54B42124G01	Label (Bottom, Cover)
102-4	*	Limited Warranty		54B42124G01	Label (Carton, Ind.)
102-5	*	Service Facilities			
102-6	*	Combination Chart			
102-7	*	Card, Note			

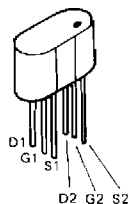
* not supplied

▲ For general overseas version only

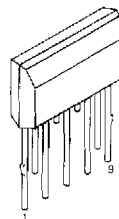
Δ For North American version only

Semiconductors Lead Identifications

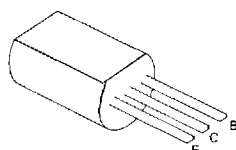
(2SK194) Q101, Q102



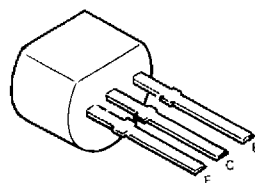
(μ PA74V) Q103, Q104
 (μ PA75V) Q105, Q106



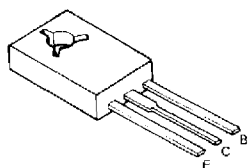
(2SC2705) Q107, Q108, Q115, Q116
 (2SA1145) Q113, Q114
 (2SA949) Q809



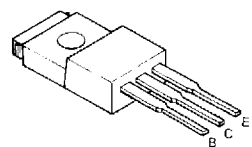
(2SA733) } Q111, Q112, Q125, Q126, Q134
 (2SA1015) }
 (2SC1815) } Q109, Q110, Q117, Q118, Q123, Q124
 (2SC945) } Q131-Q133, Q135, Q136
 Q802-Q804, Q814



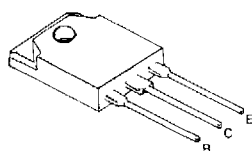
(2SC2824) Q119, Q120
 (2SA1184) Q121, Q122



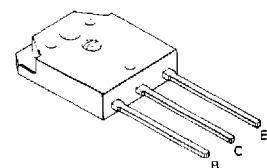
(2SD1406) } Q805, Q808
 (2SD1265) }



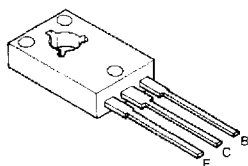
(2SC2581) Q127, Q128
 (2SA1106) Q129, Q130



(2SD1049) Q810, Q811, Q812, Q813



(2SD600) Q806, Q807
 (2SB631) Q801



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MODEL	SYMPTOM	PROBLEM	REPAIR
2564 3316	No sound, no turn on.	Defective Q408 and/or Q407. Cold soldering at the point where L401 joins with the collector of Q408. Missing B+ remote trigger voltage for DIN cable.	Replace. Resolder. Supply the missing voltage.
2565 3502	One channel out.	Defective IC401 and/or Q403. Cold soldering on Q403.	Replace. Resolder.
	No rear output.	Defective fader control.	Replace.
	LED on the input level does not light.	Defective IC409 and/or 410.	Replace.
	Blowing fuses.	Shorted Q801, Q802, Q803, Q804, Q805, D806, Q519, Q520, Q521, Q522, and/or T801.	Replace as necessary.
	No turn on.	Burnt out foil path of switch S801. Defective Q801, Q802, Q803, Q804, Q810, Q811, Q812, Q813, and/or ZD801. Missing B+ remote voltage for DIN input jack.	Repair. Replace as necessary. Supply the B+ for the remote voltage.
	Unit turns on but no sound.	Faulty Q809. Leaky C811. Defective RL801 (relay).	Replace as necessary.
	Popping Noise.	Leaky C811.	Replace.
	Left channel distorted.	Defective Q519 and/or Q521.	Replace.
	One channel out.	Defective IC501.	Replace.
	High pitch noise. FROM UNIT	Defective C818.	Replace.
	High pitch noise and high current draw.	Foil path at C805 open or C805 defective.	Resolder or replace as necessary.
	The system is off, but the unit is drawing current (about 200 mA).	Shorted Q810.	Replace.

Note: In early 3502's, the base resistors for transistors Q801, Q802, Q803 and Q804 had the value of 0.47 ohms. In the later versions, that resistor was changed to 4.7 ohms. Please, do the same every time you work on one of these early units. This applies to Code 01 units only.