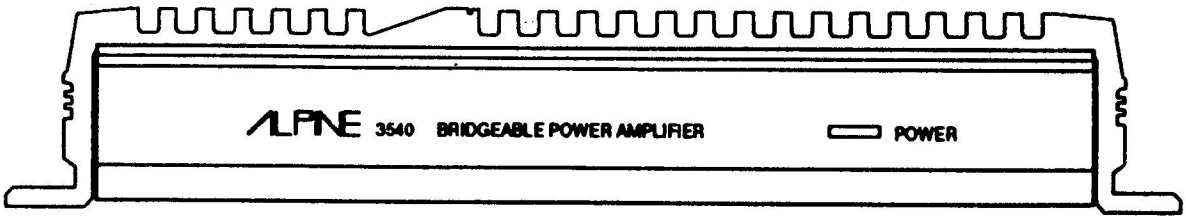
ALPINE SERVICE MANUAL

Bridgeable Power Amplifier

—REVISED—

- **Serial Numbers after No. 90831801 ~**
- **This service manual contains only the differences from the Service Manual of Model 3540 (68P20617W02).**



3540

Contents

IC's And Transistors Voltage Values 3
Parts Layout on P.C.Boards and Wiring Diagram ..... 5 to 6
Schematic Diagram ..... 7 to 8
Exploded View (Cabinet) ..... 9 to 10
Cabinet Assembly Parts List 11
Electrical Parts List ..... 12 to 13
Packing Assembly Parts List 13

Additional Schematic Diagram Inserted.

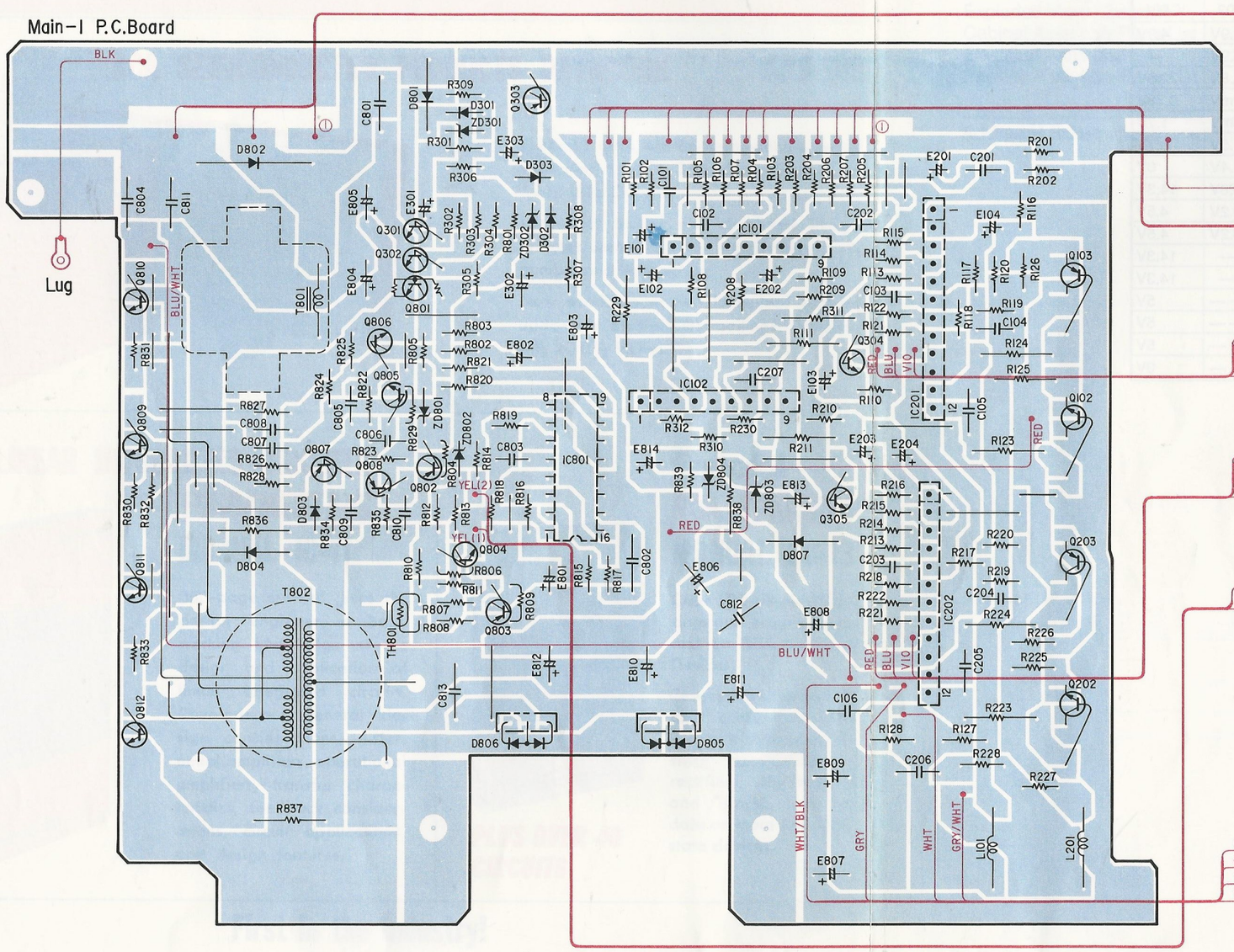
IC's And Transistors Voltage Values

Pin Name / Transistor	E	C	B
Q101	–1.4V	0.26V	—
Q102	0.5mV	23.9V	0.56V
Q103	–0.54mV	–23.2V	–0.52V
Q201	–1.4V	0.26V	—
Q202	0.5mV	23V	0.56V
Q203	–0.54mV	–23.7V	–0.52V
Q301	0V	11V	—
Q302	0V	0.34V	0.8V
Q303	10.5V	—	11V
Q304	—	0V	—
Q305	—	0V	—
Q801	0V	0.09V	2.3V
Q802	14.32V	14.3V	13.6V
Q803	5V	0.78V	5V
Q804	0V	5V	0.04V
Q805	0V	0.9V	—
Q806	0V	0.9V	—
Q807	14.3V	7.6V	15V
Q808	14.3V	7.6V	15V
Q809	0.7V	14.31V	0V
Q810	0.7V	14.31V	0V
Q811	0V	14.31V	0.35V
Q812	0V	14.31V	0.35V

IC / Pin No.	IC101	IC102	IC201	IC202	IC801
1	—	—	23.9V	23.9V	4.9V
2	7.2mV	0.79mV	23.9V	23.9V	—
3	1mV	0.79mV	17.8V	17.8V	72mV
4	0.62mV	0.15mV	5.1mV	5.1mV	0.78V
5	–11.53V	–11.53V	5.6mV	5.6mV	1.7V
6	0.62mV	0V	–21.5V	–21.5V	3.7V
7	1mV	0.56mV	–1.4V	–1.4V	0V
8	7.2mV	0.35mV	0.26V	0.26V	14.3V
9	11.53V	11.53V	–23.2V	–23.2V	4.5V
10	— —	— —	–23.2V	–23.2V	4.5V
11	— —	— —	—	—	14.3V
12	— —	— —	—	—	14.3V
13	— —	— —	— —	— —	5V
14	— —	— —	— —	— —	5V
15	— —	— —	— —	— —	5V
16	— —	— —	— —	— —	0V

● Measuring Conditions
1. Power Supply Voltage : DC14.4V.
2. Measuring Meter : Digital Multi Voltmeter.
3. Measuring Point Reference : Between Ground.
4. Measuring Condition : No Signal Input.

Parts Layout on P.C.Boards and Wiring Diagram



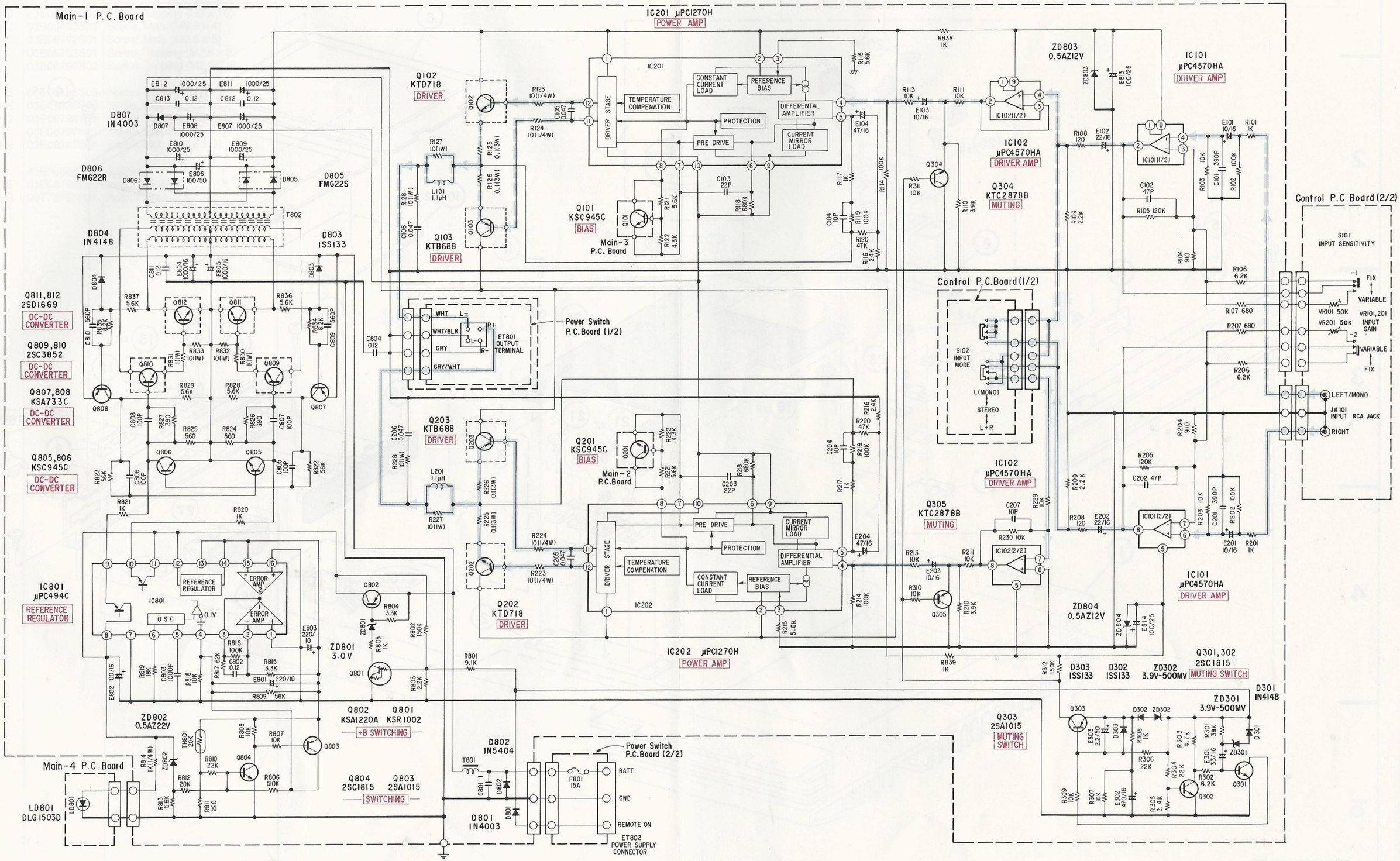
BLU	Blue
GRN	Green
BLK	Black
GRY	Gray
WHT	White
RED	Red
BRN	Brown
ORG	Orange
YEL	Yellow
VIO	Violet
BLU/WHT	Blue / White
WHT/BLK	White / Black
GRY/WHT	Gray / White

Schematic Diagram

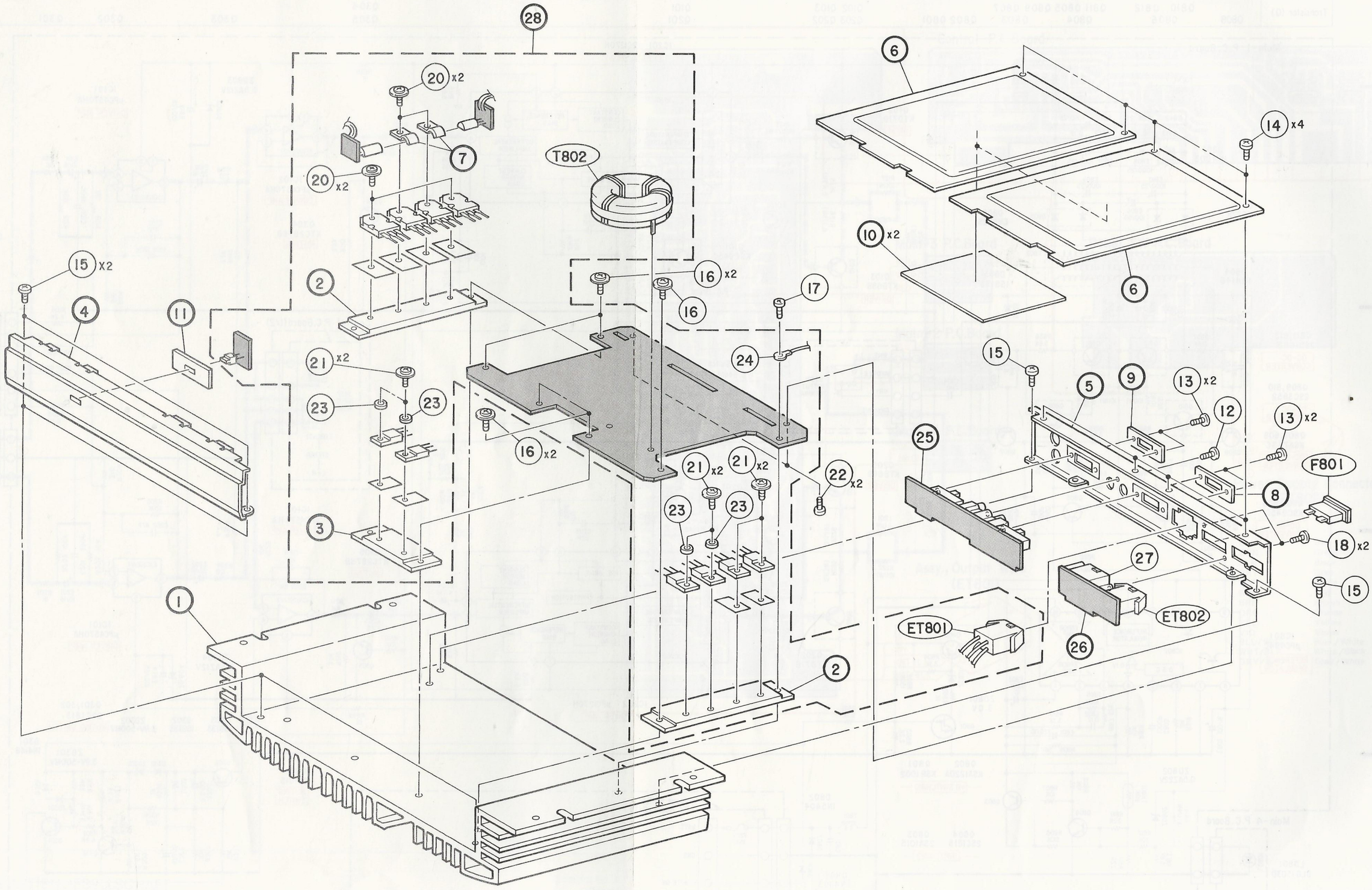
(Refer to page 3 for IC's and transistors voltage values.)

NOTE:
1. All resistance values are in ohms. K= 1,000 M= 1,000,000
2. All capacitance values are in microfarads. P= 1/1,000,000

IC	IC801						IC201 IC202		IC102	IC101		
Transistor (Q)	Q808	Q810 Q812 Q806	Q811 Q805 Q809 Q807 Q804 Q803	Q802 Q801	Q102 Q103 Q203 Q202	Q101 Q201	Q304 Q305	Q303	Q302	Q301		



Exploded View (Cabinet)



Cabinet Assembly Parts List

Symbol No.	Index	Part No.	Description
12	3-G	03E06796S01	Screw, Tapping (M3 × 10)
13	3-G	03E06403S01	Screw, Mch. (M2.6 × 4)
14	2-G	03E06792S01	Screw, Mch. (M2.6 × 5)
15		03E06793S01	Screw, Tapping (M2.6 × 5)
16		03E06796S02	Screw, Tapping (M2.6 × 9)
17	2-E	03E06796S03	Screw, Tapping (M2.6 × 9)
18	4-H	03E08338S05	Screw, Tapping (M2 × 6)
20	2-C	03E06798S01	Screw, Tapping (M3 × 9)
21		03E06797S01	Screw, Tapping (M3 × 7)
22	3-E	03E06247S01	Screw, Mch. (M2.6 × 5)
23		43E06367S01	Bushing
24	3-E	01E06194S01	Lug, Wire (BLK)
27	4-G	09T70751F01	Auto, Fuse Holder

NOTE: The parts without part numbers are not supplied.

Electrical Parts List

Resistors: Carbon Resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.
μF = microfarads, pF = picofarads.

Symbol No.	Part No.	Description

Abbreviations

RES. = Resistor	CAP. = Capacitor
C.F. = Carbon Film	ELY. = Electrolytic
M.F. = Metal Film	CER. = Ceramic
M.O. = Metal Oxide Film	MYL. = Mylar
M.P. = Metal Plate	TAN. = Tantalum
TR. = Transistor	POLY. = Polystyrol
TRANS. = Transformer	PP. = Polypropylene
CP. = Chip	PLT. = Polyethylene

Main P.C.Board

IC's

IC101	51T83403F03	μPC4570HA
IC102	51T83403F03	μPC4570HA
IC201	51E06446S01	μPC1270H
IC202	51E06446S01	μPC1270H
IC801	51T70759F01	μPC494C

Transistors

Q101	48E05944S01	KSC945C
Q102	48E06440S01	KTD718
Q103	48E06435S01	KTB688
Q201	48E05944S01	KSC945C
Q202	48E06440S01	KTD718
Q203	48E06435S01	KTB688
Q301	48S43525F03	2SC1815
Q302	48S43525F03	2SC1815
Q303	48T51118F01	2SA1015
Q304	48T51878F03	2SC2878B
Q305	48T51878F03	2SC2878B
Q801	48E06436S01	KSR1002
Q802	48E06434S01	KSA1220A
Q803	48T51118F01	2SA1015
Q804	48S43525F03	2SC1815
Q805	48E05944S01	KSC945C
Q806	48E05944S01	KSC945C
Q807	48E05942S01	KSA733C
Q808	48E05942S01	KSA733C
Q809	48T82883F01	2SC3852
Q810	48T82883F01	2SC3852
Q811	48E06439S02	2SD1669
Q812	48E06439S02	2SD1669

Diodes / LED

D301	48E05947S01	IN4148
D302	48T68828F01	1SS133
D303	48T68828F01	1SS133
D801	48S40477U01	1N4003
D802	48E06430S01	IN5404
D803	48T68828F01	1SS133
D804	48E05947S01	1N4148
D805	48T80987F01	FMG22S
D806	48T80987F02	FMG22R
D807	48S40477U01	1N4003
LD801	48E06442S01	LED., DLG1503D
ZD301	48E06443S01	Zener, 3.9V-500MW
ZD302	48E06443S01	Zener, 3.9V-500MW
ZD801	48E06433S01	Zener, 3.0V-B
ZD802	48E06445S01	Zener, 0.5AZ22V-B
ZD803	48E06444S01	Zener, 0.5AZ12V-B
ZD804	48E06444S01	Zener, 0.5AZ12V-B

Coils / Transformer

L101	24E06423S01	Coil 1.1μH
L201	24E06423S01	Coil 1.1μH
T801	25E06425S01	Choke, Trans.

Thermister

TH801	48E06441S01	20K ohm

Capacitors

C101	21E06808S01	CER.,	390pF
E101	23E06260S01	ELY.,	10μF/16V
C102	21E06806S01	CER.,	47pF
E102	23T43247F10	ELY.,	22μF/16V
C103	21E06805S01	CER.,	22pF
E103	23E06260S01	ELY.,	10μF/16V
C104	21E06804S01	CER.,	10pF
E104	23E06269S01	ELY.,	47μF/16V
C105	08E06411S01	MYL.,	0.047μF
C106	08E06411S01	MYL.,	0.047μF
C201	21E06808S01	CER.,	390pF
E201	23E06260S01	ELY.,	10μF/16V
C202	21E06806S01	CER.,	47pF
E202	23T43247F10	ELY.,	22μF/16V
C203	21E06805S01	CER.,	22pF
E203	23E06260S01	ELY.,	10μF/16V
C204	21E06804S01	CER.,	10pF
E204	23E06269S01	ELY.,	47μF/16V
C205	08E06411S01	MYL.,	0.047μF
C206	08E06411S01	MYL.,	0.047μF
C207	21E06804S01	CER.,	10pF
E301	23E06415S01	ELY.,	33μF/16V
E302	23E06417S01	ELY.,	470μF/16V
E303	23E06419S01	ELY.,	2.2μF/50V
C801	08E06413S01	MYL.,	1μF
E801	23E06414S01	ELY.,	220μF/10V
C802	08E06412S01	MYL.,	0.12μF
E802	23E06416S01	ELY.,	100μF/16V
C803	08E06410S01	MYL.,	1000pF
E803	23E06414S01	ELY.,	220μF/10V
C804	08E06412S01	MYL.,	0.12μF

Packing Assembly Parts List

Symbol No.	Part No.	Description
E804	23E08565S01	ELY., 1000µF/16V
C805	21E06807S01	CER., 100pF
E805	23E08565S01	ELY., 1000µF/16V
C806	21E06807S01	CER., 100pF
E806	23E06422S01	ELY., 100µF/50V
C807	21E06807S01	CER., 100pF
E807	23E08565S02	ELY., 1000µF/25V
C808	21E06807S01	CER., 100pF
E808	23E08565S02	ELY., 1000µF/25V
C809	21E06809S01	CER., 560pF
E809	23E08565S02	ELY., 1000µF/25V
C810	21E06809S01	CER., 560pF
E810	23E08565S02	ELY., 1000µF/25V
C811	08E06412S01	MYL., 0.12µF
E811	23E08565S02	ELY., 1000µF/25V
C812	08E06412S01	MYL., 0.12µF
E812	23E08565S02	ELY., 1000µF/25V
C813	08E06412S01	MYL., 0.12µF
E813	23E06418S01	ELY., 100µF/25V
E814	23E06418S01	ELY., 100µF/25V
Resistors		
R125	06E06810S01	W.W., 0.1 ohm 3W
R126	06E06810S01	W.W., 0.1 ohm 3W
R127	06E06995S01	M.O., 10 ohm 1W
R128	06E06995S01	M.O., 10 ohm 1W
R225	06E06810S01	W.W., 0.1 ohm 3W
R226	06E06810S01	W.W., 0.1 ohm 3W
R227	06E06995S01	M.O., 10 ohm 1W
R228	06E06995S01	M.O., 10 ohm 1W
R830	06E06994S01	M.O., 1 ohm 1W
R831	06E06994S01	M.O., 1 ohm 1W
R832	06E06995S01	M.O., 10 ohm 1W
R833	06E06995S01	M.O., 10 ohm 1W
Control P.C.Board		
Switches		
S101	40E06428S01	SSSA06-2 (VAR/FIX)
S102	40E06429S01	KSA4304 (MONO)
Volumes / Jack		
JK101	09T70753F10	RCA Jack
VR101	18E08570S01	50K ohm
VR201	18E08570S01	50K ohm
Miscellaneous		
ET801	01E06398S01	Assy., Output Wire
ET802	01E07209S01	Assy., Power Connector
F801	65T58596F05	Auto, Fuse 15A
T802	25E06424S01	Assy., Power Trans.

Symbol No.	Part No.	Description
■ 101	68P94789F40	Owner's, Manual
● 101	68P13420W56	Owner's, Manual
102	56E06447S01	Tray, Packing (R)
103	56E06448S01	Tray, Packing (L)
■ 104	56E06449S01	Carton, Packing (IND)
● 104	56E07330S01	Carton, Packing (IND)
105	56E06450S01	Sack, Polyethylene
106	01E06394S01	Assy., Kit Instal
■ 106-1	03E06399S01	Screw, Tapping (M4 × 14)
■ 106-2	65S58596F05	Auto, Fuse 15A
107	01E06395S01	Assy., Kit Output Wire (S.T)
108	01E06396S01	Assy., Kit Output Wire
109	01E06397S01	Assy., Kit Power Wire

NOTE: ■: For North American model only.
●: For General Foreign model only.
Others: Common.

IDLE CURRENT ARROX ½ AMP (500 - 600 mA.)
NO SIG INPUT.

* DRAWS CURRENT 1 - 2 AMPS.

CHECK 10 Ω BASE BIAS RESISTORS.

IC50 CHECK CENTRE TXFORMER WINDINGS COLL - COLL Q809 810

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