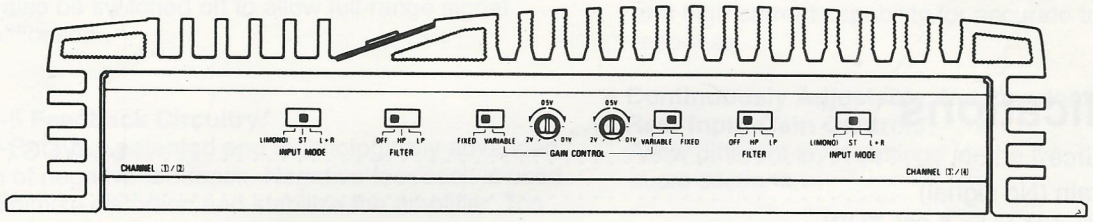
ALPINE SERVICE MANUAL

4/3/2 Channel Power Amplifier



3552

Contents

Specifications

Power Source	14.4VDC (11 ~ 16V)
Current Drain (No signal)	2.5A
Power Output (1 kHz, 0.8% THD)	80W/4ch
Input Sensitivity	Fixed: 0.5V± 2 dB Variable: 2V± 2 dB
Frequency Response (-1 dB)	20 Hz ~ 40 kHz
Signal to Noise Ratio	100 dB
Separation	56 dB
Input Impedance	10 kohm ± 2 kohm
Output Impedance	4 ohm
Output Noise	1 mV
Semiconductors	13 IC's, 49 Transistors, 29 Diodes, 6 Zener Diodes, 2 LED's
Dimensions	285(W)× 55(H) × 270(D) mm
Weight	3.6 kg

NOTE: Due to continuing product improvement, specifications and design are subject to change without notice.

Features

- **4/3/2-Channel Operation:**
  The 3552 can be used in 3 ways as:

a. 4-channel full-range amplifier, producing 30W per channel into 4 ohms, or 40W per channel into 2 ohms. The amplifier can be used in a 4-speaker full range system or in a bi-amped, dual subwoofer and dual satellite combination.

b. 3-channel amplifier, producing 30W (4 ohms) or 40W (2 ohms) into channels 1 & 2, and 85W (4 ohms) into the third channel. This combination is perfect for a single subwoofer, dual satellite (right and left) system.

c. 2-channel full-range amplifier, producing 85W per channel into 4 ohms. The amplifier can be used as full range, low-pass (sub-woofer amp), or high-pass (satellite amp).

- **Status Monitor:**
  This indicator illuminates in green when the 3552 is on and operational. This light will turn orange if any protection circuitry is activated. It can be used as a troubleshooting aide should an installation problem develop.

- **Active Dividing Network:**
  A built-in, switchable electronic crossover network at 80 Hz, 18 dB per octave can be used to set up the amplifier for low-pass (subwoofer) or high-pass (tweeter/midrange satellite) applications. This network can also be switched off to allow full-range signal amplification.

- **Duo-β Feedback Circuitry:**
  Duo-Beta is a patented and technologically advanced form of negative feedback. Negative feedback is used to minimize distortion and stabilize the amplifier. Too much feedback, however, increases the transient intermodulation distortion (T.I.M.), decreases the amplifier slew factor, and reduces its musicality. The Duo-Beta circuitry supplies low negative feedback throughout the audio frequency and very high negative feed-back at DC. This stabilizes the amplifier, removes DC offset, and offers excellent total harmonic distortion (T.H.D.) characteristics. It also provides low T.I.M., with excellent slew factor, stability, and musicality.

- **No Current Limiting:**
  Current limiting circuitries used in conventional amplifiers may cause premature clipping and inferior transient response. Absence of current limiters in the audio section ensures low T.I.M., excellent transient response, and superb sonic quality.

- **S.T.A.R. Circuitry:**
  Alpine proprietary Signal Transit for Accurate Response circuit topology improves sonic properties by reducing interaction between different sections of the circuitry.

- **Input Mode Selector:**
  This switch allows the user to specify the input signal entering the amplifier:

a. **Stereo Mode:**
Allows the right and left channel signals to reach their designated amplifier channels. This mode provides a stereo output or a center channel common information output (when used in the bridged configuration).

b. **L (MONO) Mode:**
Disables the right channel input connector and routes the signal through the left channel input to all sections of the amplifier. This mode can be used when a single (mono) signal is amplified (either in stereo or bridged operation).

c. **L+R Mode:**
Sums the right and left channel input signals and routes the result to all sections of the amplifier. It can be used in stereo or bridged operation to provide a summed (mono) output.

- **DC-to-DC Switching Mode Power Supply:**
  Provides excellent power output throughout the audio bandwidth (20 Hz to 20 kHz). Its soft clipping characteristics ensure superb transient response and musicality.

- **Fully Complementary, Discrete Output Circuitry:**
  For excellent reliability, superb sonic performance and high current capability for accurate transient response.

- **Continuously Adjustable, Independent Front and Rear Input Gain Controls:**
  Allow different level settings for the two different audio sections.

- **Heavy Duty Construction:**
  Glass-epoxy printed circuit boards for excellent thermal stability and long-term reliability.

- **Gold-Plated RCA Input Connectors:**
  For most accurate signal transmission and lowest possible loss. Gold-plated terminals are immune to signal deterioration caused by corrosion in the connectors that can develop over time.

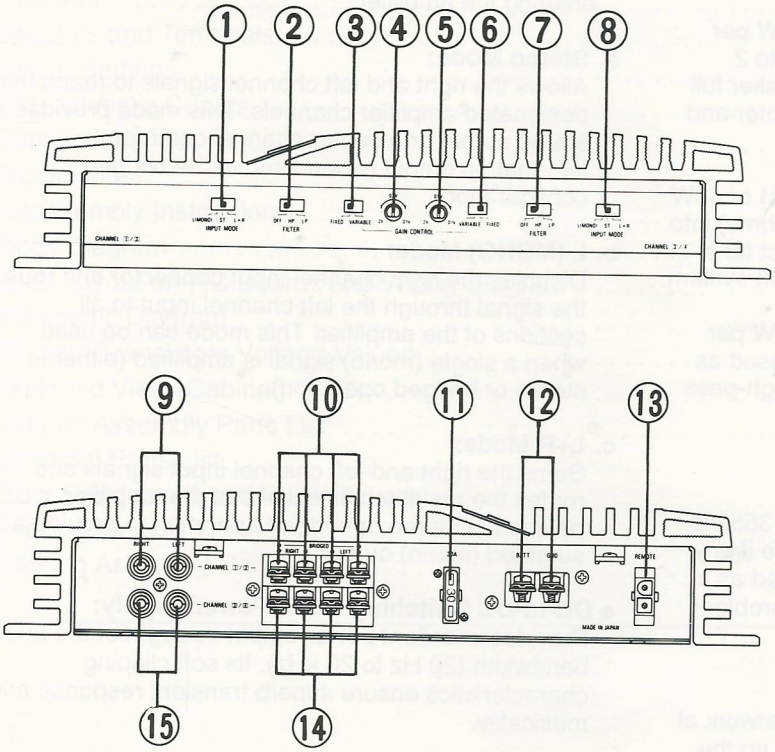
- **Gold-Plated Speaker Output and Power Connectors:**
  For high definition, minimum loss power transfer and oxidization resistance.

- **High Performance, Low Noise, Audiophile Quality Active and Passive Components.**

- **Capacitive/Inductive Power Supply Input and Output Filtering:**
  For low radio frequency interference (RFI) and immunity to system noises (such as alternator whine).

- **Fully Protected Against Wiring Errors.**

Switches And Terminals

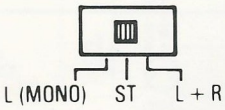


① Input Mode Selector Switch (Channels 1/2)
② Active Dividing Network Mode Selector Switch (Channels 1/2)
③ Input Gain Selector Switch (Channels 1/2)
④ Input Gain Adjustment Control (Channels 1/2)
⑤ Input Gain Adjustment Control (Channels 3/4)
⑥ Input Gain Selector Switch (Channels 3/4)
⑦ Active Dividing Network Mode Selector Switch (Channels 3/4)
⑧ Input Mode Selector Switch (Channels 3/4)
⑨ Input RCA Jacks (Channels 1/2)
⑩ Speaker Output Terminals (Channels 1/2)
⑪ Fuse Blocks
⑫ Power Terminals
⑬ Remote On Connector
⑭ Speaker Output Terminals (Channels 3/4)
⑮ Input RCA Jacks (Channels 3/4)
⑯ Status Monitor

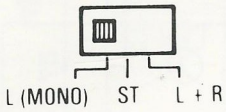
Switch Settings

Input Mode Selector Switches ① and ⑧:

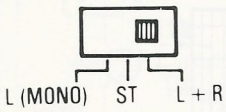
a) Set to the "ST" position (center) when the amplifier is used as a 4-channel stereo system.



b) Set to the "L (MONO)" position when the amplifier is used for one channel of a stereo or bridged system.

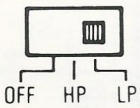


c) Set to the "L+R" position when the amplifier is used for the subwoofer system which uses the right channel and left channel signals summed.

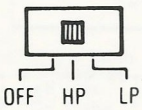


Active Dividing Network Selector Switches ② and ⑦

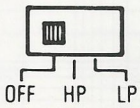
a) Set to the "LP" position when the amplifier is used for the low-pass (sub-woofer) system. The frequencies higher than 80 Hz will be cut (at a rate of 18 dB per octave).



b) Set to the "HP" position when the 3552 is used for the high-pass (tweeter/midrange and subwoofer) system. The frequencies lower than 80 Hz will be cut (at a rate of 18 dB per octave).

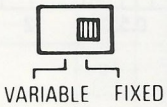


c) Set to the "OFF" position when the 3552 is used for the regular stereo system with full-range speakers. The full bandwidth will be output without cutting the high or low frequencies.

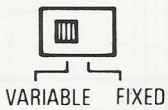


Fixed/Variable Input Selector Switches ③ and ⑥:

a) Set to the "FIXED" position when connecting the 3552 to other Alpine products. This position sets the input sensitivity to 500 mV which corresponds to the pre-amp output of Alpine products.



b) Set to the "VARIABLE" position when connecting the 3552 to a non-Alpine product with an output voltage other than 500 mV. This position should also be used when adjustment of input sensitivity is required to obtain certain imaging requirements or to compensate for different speaker efficiencies.



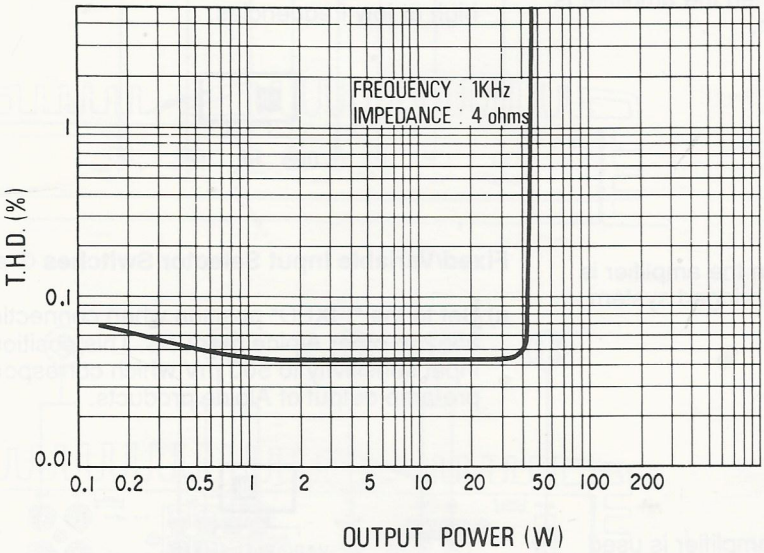
Input Gain Controls ④ and ⑤:
After setting the Input Select Switches ③ and ⑥ to the "VARIABLE" position, rotate the Input Gain Controls ④ and ⑤ with a #0 screwdriver and adjust the input gain to the point where there is maximum volume with no distortion.

Status Monitor:
This indicator lights green when the power is on. The 3552 has built-in protection circuitry. If, for some reason, this protection circuit is activated, the indicator turns orange. If this happens, turn the system off, find the cause of the problem and remedy the situation. This includes checking all your connections and wiring. If the indicator remains orange when the system is turned on, consult your authorized Alpine dealer.

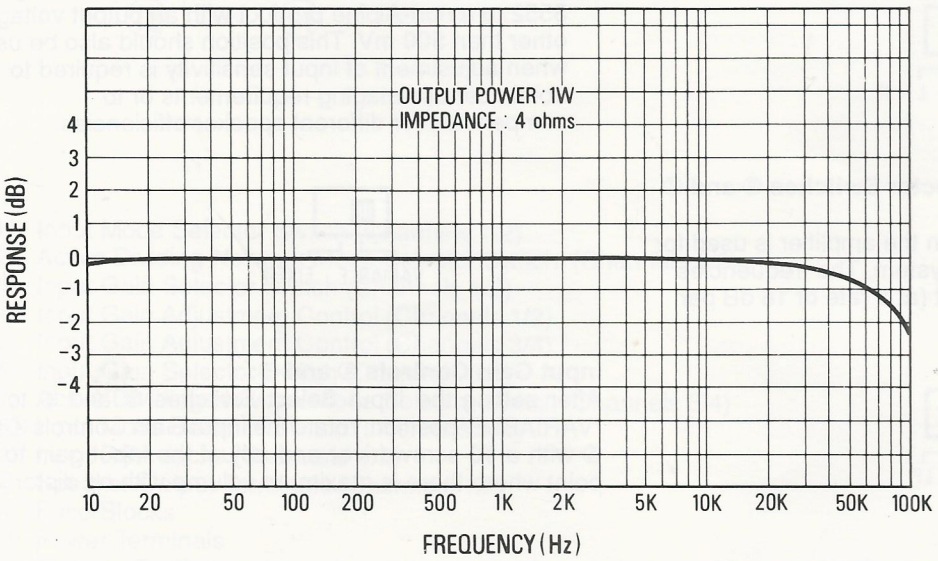
Note: The indicator will illuminate in orange for a few seconds when the power is turned on as the protection circuit will be activated. This is normal.

Characteristic Curves

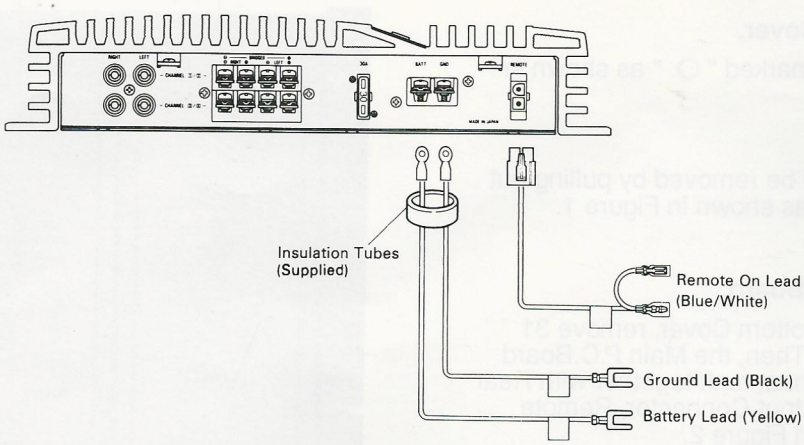
POWER VS. DISTORTION CURVE



FREQUENCY RESPONSE CURVE



Connections



Before making connections, be sure to turn the power off to all audio components. Insulation tubes for the speaker leads and the power supply leads are supplied with the 3552, route the speaker leads and the power supply leads separately through these tubes.

1. Speaker Output Terminal
The 3552 has two sets of speaker outputs for the Front and Rear speakers. Be sure to observe correct speaker output connections and phasing. In the stereo mode connect the right speaker output to the right speaker, and the left to left. Connect the positive output to the positive speaker terminal,and the negative to negative. In the bridged mode, connect the left positive to the positive terminal on the speaker and the right negative to the negative terminal of the speaker. Do not use the speaker (-) terminal commonly for the right and left speakers or connect it to the vehicle's chassis ground.

Note: Do not connect speaker leads together or to chassis ground.

2. Ground Lead (Black)
Connect this lead securely to a clean, bare metal spot on the vehicle's chassis. Verify this point to be a true ground by checking for continuity between that point and the negative (-) terminal of the vehicle's battery.

3. Battery Lead (Yellow)
Connect this lead directly to the positive (+) terminal of the vehicle's battery.
Do not connect this lead to the vehicle's electrical system.

4. Remote Turn-On Lead (Blue/White)
Connect this lead to the remote turn on lead of your head unit.

5. Input RCA Jacks
Connect these jacks to the line out leads on your head unit using optional RCA extension patch cords. Be sure to observe correct channel connections; Left to Left, Right to Right, Front to Front, and Rear to Rear.

Three simple and typical system combinations are illustrated. For wiring connections, carefully follow the instructions provided with each component.

Precautions

1. Improper wiring connections could cause damage to your vehicle's electrical system and/or the 3552 amplifier. Carefully follow the wiring instructions in this manual.
2. Attaching the battery lead to the positive (+) terminal of the battery should be the last connection after all other connections are made.
3. Due to the high power output of the 3552, it is important that all connections are clean and well secured, or damage could result.
4. Be sure that the 3552 is mounted in a way that will allow for free air circulation and heat dissipation.
5. When changing fuses, be sure to replace the old fuse with one of the same amperage. Use of improper fuses can lead to serious damage to components.

Disassembly Instructions

1. Removal of Bottom Cover.

(1) Remove four screws marked " ○ " as shown in Figure 1.

(2) The Bottom Cover will be removed by pulling out in the arrow direction as shown in Figure 1.

2. Removal of Amp P.C.Board.

(1) After removal of the Bottom Cover, remove 31 screws marked " ● ". Then, the Main P.C.Board will be removed from heat tank together with Rear Chassis and RCA, Output Connector, Remote P.C.Board as shown in Figure 2.

(2) Remove two screws marked " ■ " and the solders located two places as shown in Figure 3.

(3) After removal of fuse, remove seven screws marked " ▲ " and the hooks located at four places as shown in Figure 4.

(4) After the above procedures are completed, RCA, Output Connector and Remote P.C.Board is ready to be removed from Rear Chassis together with the Amp P.C.Board.

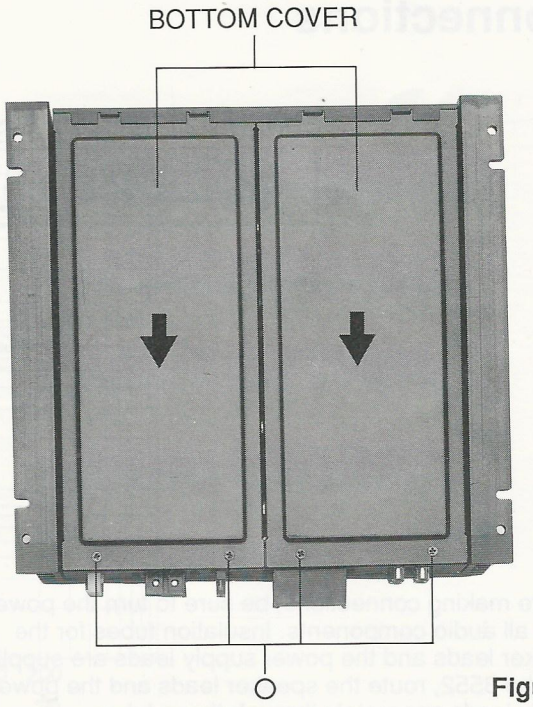


Figure 1

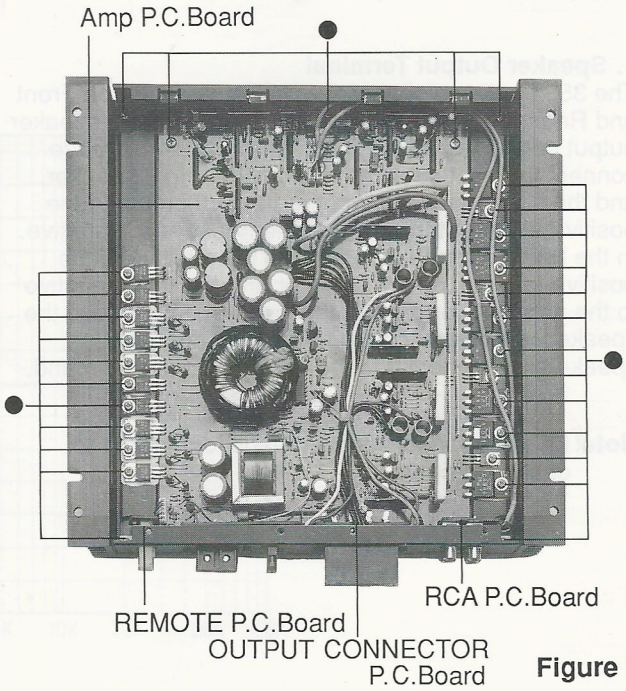


Figure 2

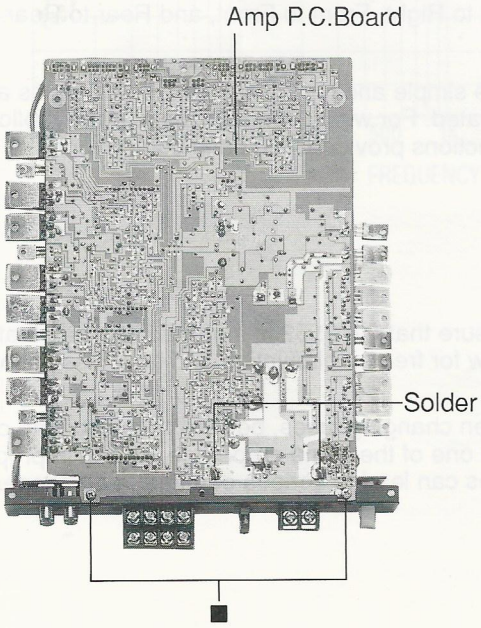


Figure 3

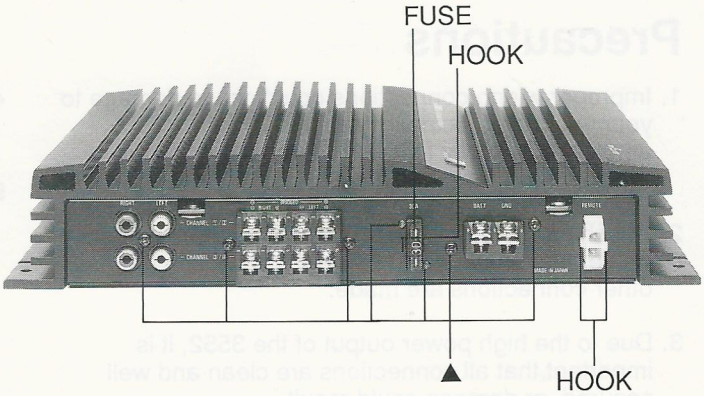
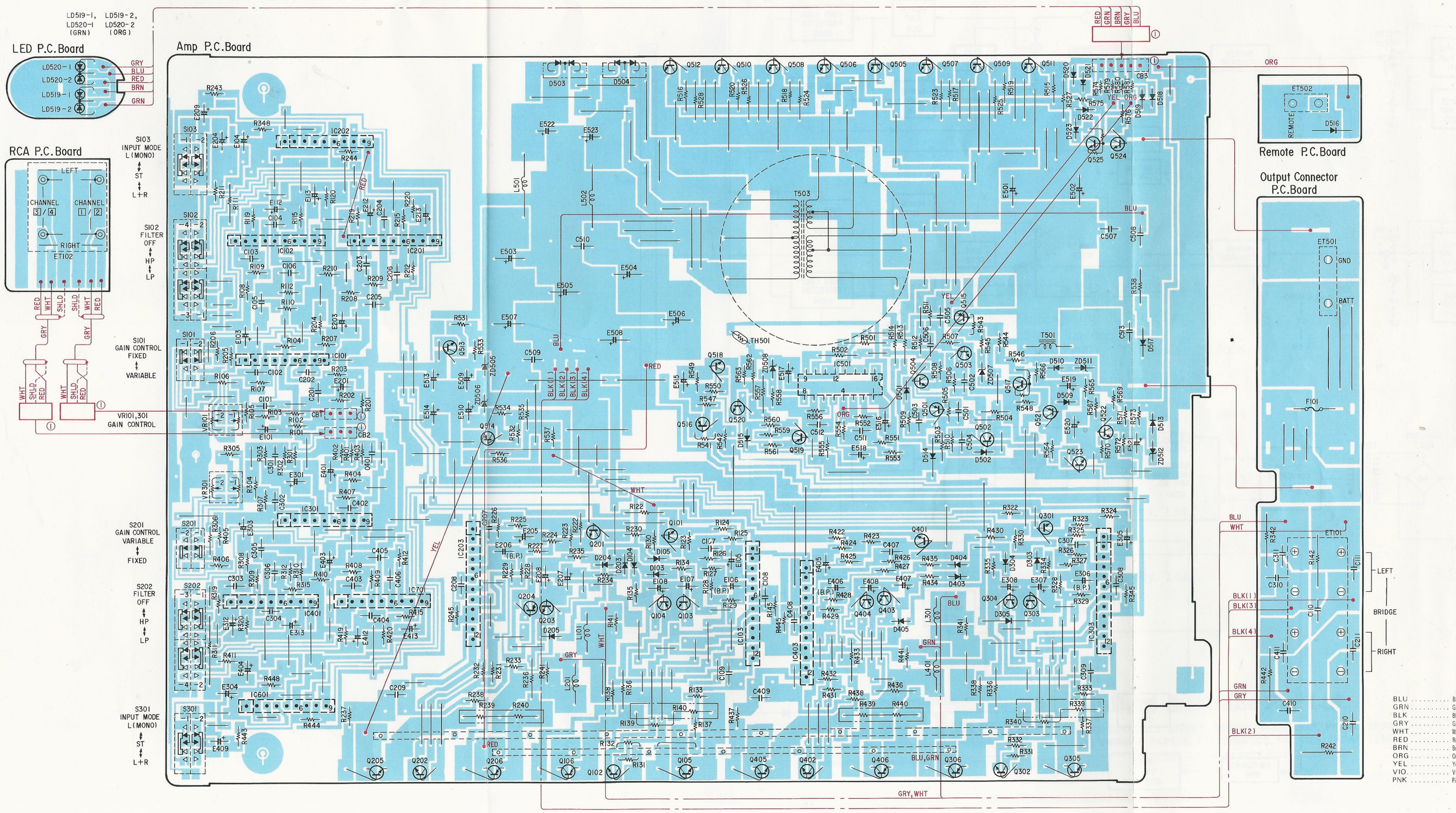
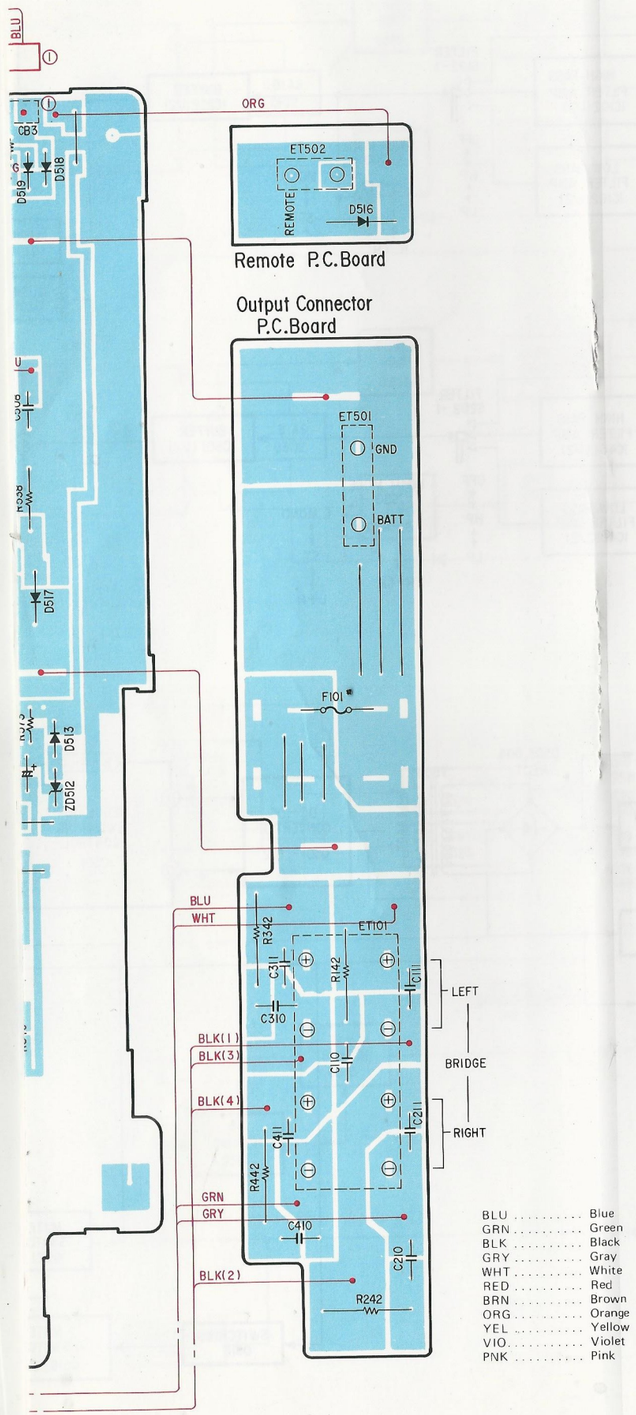


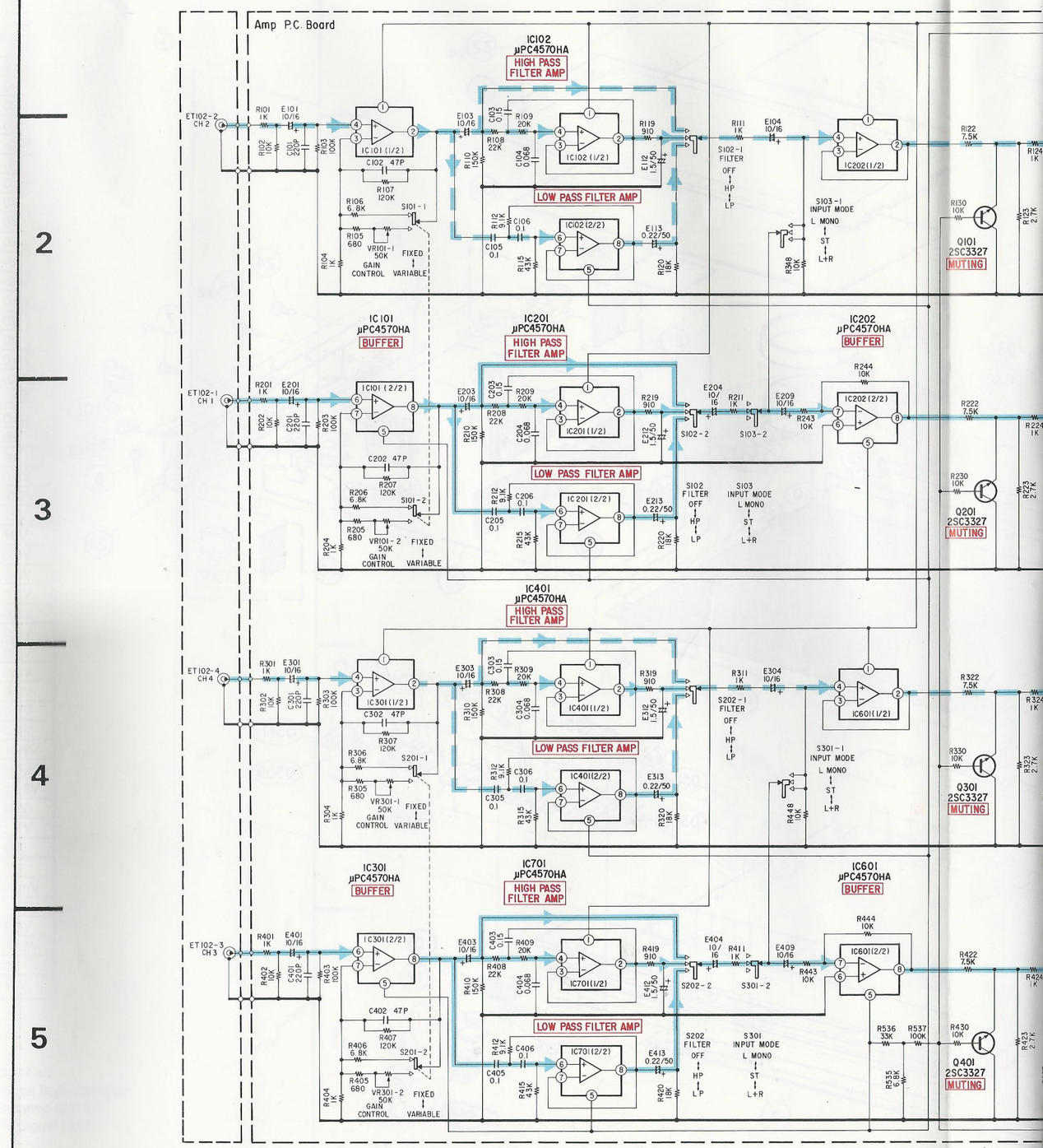
Figure 4

...out on P.C.Boards and Wiring Diagram





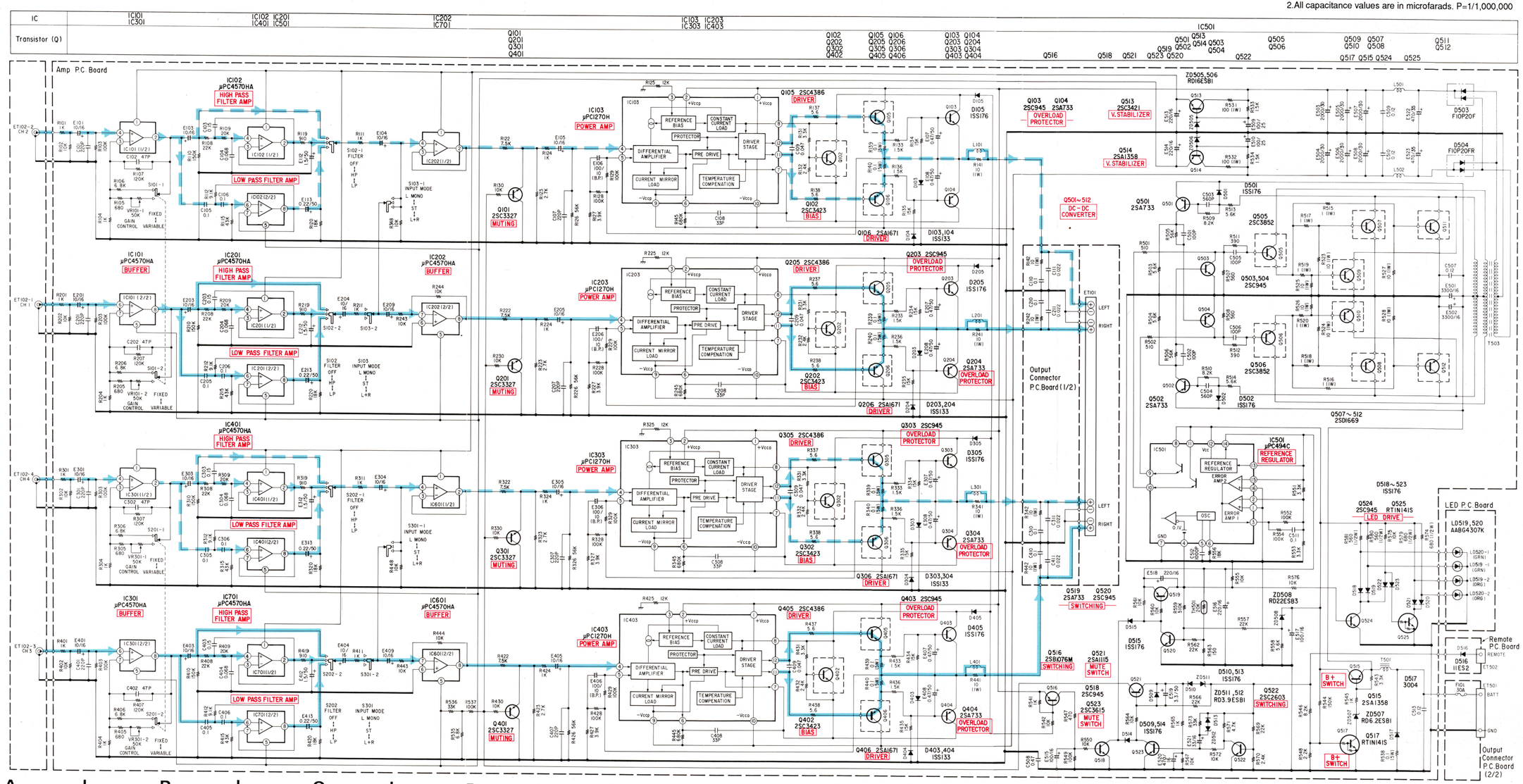
Schematic Diagram (Refer to reverse side for IC's and Transistors voltage values.)



Schematic Diagram

(Refer to reverse side 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'S And Transistors Voltage Values

IC Pin No.	IC101	IC102	IC201	IC202
1	15.3V	15.3V	15.3V	15.3V
2	22mV	24mV	24mV	24mV
3	22mV	24mV	24mV	24mV
4	47mV	45mV	45mV	45mV
5	-15.1V	-15.1V	-15.1V	-15.1V
6	47mV	45mV	45mV	45mV
7	22mV	24mV	24mV	24mV
8	22mV	24mV	24mV	24mV

IC Pin No.	IC103	IC203	IC303	IC403
1	28.8V	28.8V	28.8V	28.8V
2	28.8V	28.8V	28.8V	28.8V
3	21.8V	21.8V	21.8V	21.8V
4	0.1V	0.1V	0.1V	0.1V
5	0.1V	0.1V	0.1V	0.1V
6	-26.3V	-26.3V	-26.3V	-26.3V
7	-1.2V	-1.2V	-1.2V	-1.2V
8	0.48V	0.48V	0.48V	0.48V
9	-27.9V	-27.9V	-27.9V	-27.9V
10	-27.9V	-27.9V	-27.9V	-27.9V
11	-0.7V	-0.7V	-0.7V	-0.7V
12	0.48V	0.48V	0.48V	0.48V

IC Pin No.	IC301	IC401	IC601	IC701
1	15.3V	15.3V	15.3V	15.3V
2	22mV	24mV	24mV	24mV
3	22mV	24mV	24mV	24mV
4	47mV	45mV	45mV	45mV
5	-15.1V	-15.1V	-15.1V	-15.1V
6	47mV	45mV	47mV	45mV
7	22mV	24mV	22mV	23mV
8	22mV	24mV	22mV	23mV

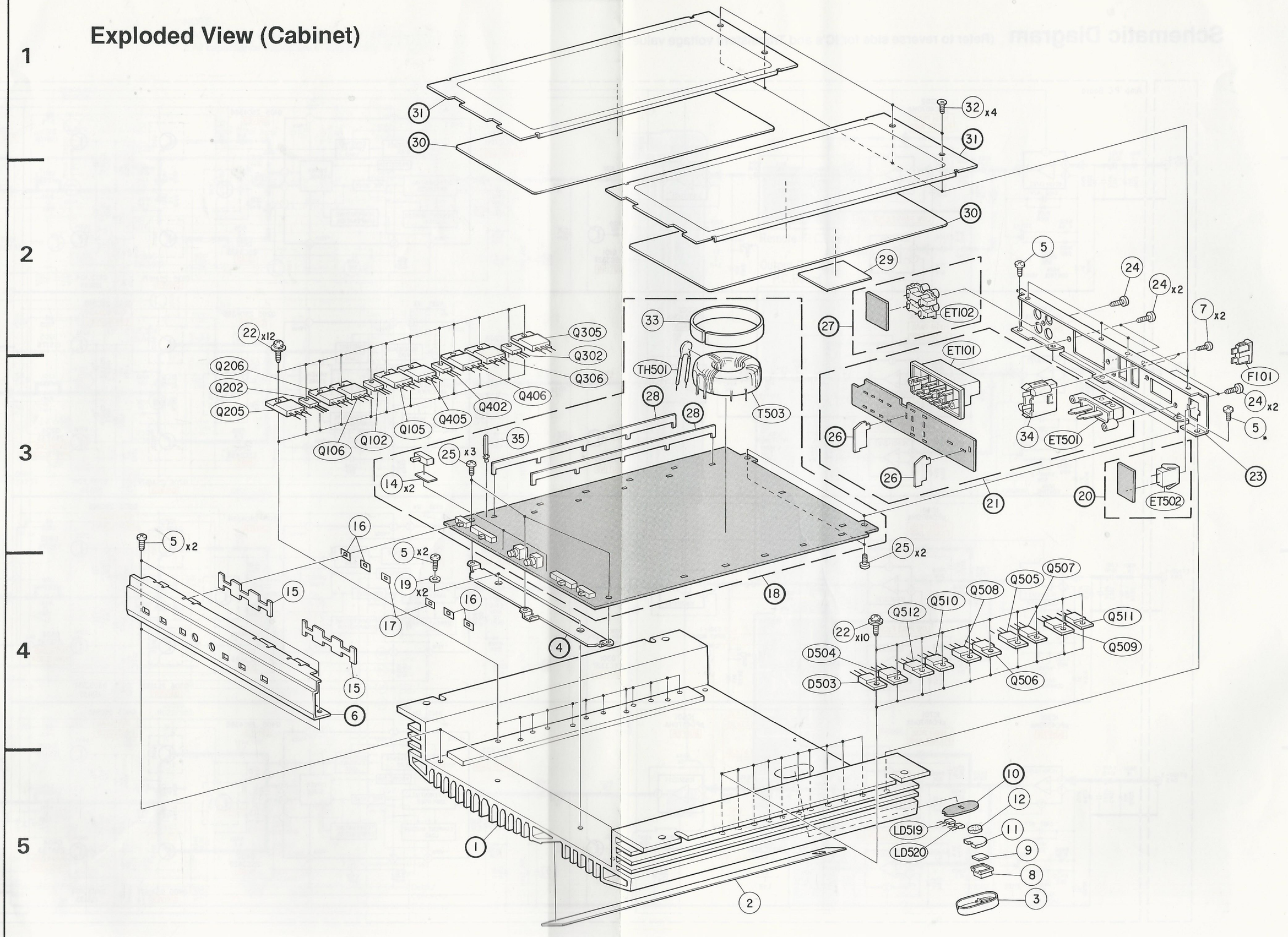
IC Pin No.	IC501
1	0V
2	2.45V
3	0.09V
4	13mV
5	1.7V
6	3.7V
7	0V
8	14.3V
9	5.8V
10	6V
11	14.3V
12	14.3V
13	5V
14	5V
15	5V
16	0V

Pin No. Transistor	E	C	B
Q101	1.2mV	0V	-2.5V
Q102	-1.2V	0.4V	0.6V
Q103	0V	27.6V	0V
Q104	0V	-2.1V	0V
Q105	-98mV	28V	0.4V
Q106	-0.1V	-28V	-0.7V
Q201	1.2mV	0V	-2.5V
Q202	-1.2V	0.4V	0.6V
Q203	0V	27.6V	0V
Q204	0V	-2.1V	0V
Q205	-98mV	28V	0.4V
Q206	-0.1V	-28V	-0.7V
Q301	12mV	0V	-2.5V
Q302	-1.2V	0.4V	0.6V
Q303	0V	27.6V	0V
Q304	0V	-2.1V	0V
Q305	-98mV	28V	0.4V
Q306	-0.1V	-28V	-0.7V
Q401	1.2mV	0V	-2.5V
Q402	-1.2V	0.4V	0.6V
Q403	0V	27.6V	0V
Q404	0V	-2.1V	0V
Q405	-98mV	28V	0.4V
Q406	-0.1V	-28V	-0.7V
Q501	14.4V	8.1V	15V
Q502	14.4V	8.1V	15V
Q503	0V	0.1V	0.3V
Q504	0V	0.1V	0.3V
Q505	0.5V	14.4V	0.6V
Q506	0.5V	14.4V	0.6V
Q507	0V	14.6V	0.3V
Q508	0V	14.6V	0.3V
Q509	0V	14.6V	0.3V
Q510	0V	14.6V	0.3V
Q511	0V	14.6V	0.3V
Q512	0V	14.6V	0.3V
Q513	15.3V	23.6V	15.9V
Q514	-15.1V	-23.6V	-15.8V
Q515	14.4V	14.3V	13.6V
Q516	28V	0V	28V
Q517	0V	0V	2.7V
Q518	0V	5V	0V
Q519	5V	0V	5V
Q520	0V	5V	32mV
Q521	10V	0.1V	10.5V
Q522	0V	31.3mV	0.6V
Q523	0V	0V	10.5V
Q524	0V	0V	0V
Q525	0V	0V	14V

- 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.

Exploded View (Cabinet)



Cabinet Assembly Parts List

Symbol No.	Index	Part No.	Description		
2	5-E	15E06677S01	Name Plate		
3	5-F	15E06495S01	Holder, LED		
5		03E06479S01	Screw, Pan (M3 × 6)		
7	2-G	03E06491S01	Screw, Pan (M2 × 6)		
8	5-F	36E06376S01	Lens, LED		
9	5-F	36E06482S01	Base, Lens		
11	5-F	15E06483S01	Spacer, LED		
12	5-F	75E06484S01	Cushion, LED		
14	3-C	43E06498S01	Spacer, Switch		
15	4-B	75E06485S01	Cushion, Switch		
16		43E06486S01	Cover, Switch		
17	4-C	43E06718S01	Cover, Switch A		
19	4-C	04E06487S01	Washer, Flat (M3)		
22		03E06489S01	Screw, Pan (M3 × 9.5) With Washer		
24		03E06490S01	Screw, Pan (M3 × 6)		
25		03E06492S01	Screw, Bind (M3 × 5)		
29	2-E	15A81675F01	Insulator, Power Transformer		
32	1-F	03E06493S01	Screw, Countersink (M3 × 6)		
33	2-D	26A81610F02	Shield, CU		
34	3-F	15E06453S01	Holder, Auto Fuse		
35	3-C	29C41045P06	Lug Wrap Around		

NOTE: The parts without part numbers are not supplied.

Electrical Parts List

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

Amp P.C.Board

IC's

Symbol No.	Part No.	Description		
IC101	51T83403F03	µPC4570HA		
IC102	51T83403F03	µPC4570HA		
IC103	51E03492S01	µPC1270H		
IC201	51T83403F03	µPC4570HA		
IC202	51T83403F03	µPC4570HA		
IC203	51E03492S01	µPC1270H		
IC301	51T83403F03	µPC4570HA		
IC303	51E03492S01	µPC1270H		
IC401	51T83403F03	µPC4570HA		
IC403	51E03492S01	µPC1270H		
IC501	51T70759F01	µPC494C		
IC601	51T83403F03	µPC4570HA		
IC701	51T83403F03	µPC4570HA		

Transistors

Symbol No.	Part No.	Description		
Q101	48E06355S01	2SC3327A		
Q102	48T64376F01	2SC3423		
Q103	48S44578J02	2SC945		
Q104	48E06356S01	2SA733		
Q105	48E06361S01	2SC4386		
Q106	48E06360S01	2SA1671		
Q201	48E06355S01	2SC3327A		
Q202	48T64376F01	2SC3423		
Q203	48S44578J02	2SC945		
Q204	48E06356S01	2SA733		
Q205	48E06361S01	2SC4386		
Q206	48E06360S01	2SA1671		
Q301	48E06355S01	2SC3327A		
Q302	48T64376F01	2SC3423		
Q303	48S44578J02	2SC945		
Q304	48E06356S01	2SA733		
Q305	48E06361S01	2SC4386		
Q306	48E06360S01	2SA1671		
Q401	48E06355S01	2SC3327A		
Q402	48T64376F01	2SC3423		
Q403	48S44578J02	2SC945		
Q404	48E06356S01	2SA733		
Q405	48E06361S01	2SC4386		
Q406	48E06360S01	2SA1671		
Q501	48E06356S01	2SA733		
Q502	48E06356S01	2SA733		
Q503	48S44578J02	2SC945		
Q504	48S44578J02	2SC945		
Q505	48T82883F01	2SC3852		
Q506	48T82883F01	2SC3852		
Q507	48E06359S01	2SD1669		
or	48E06362S01	2SD1062		
Q508	48E06359S01	2SD1669		
or	48E06362S01	2SD1062		
Q509	48E06359S01	2SD1669		
or	48E06362S01	2SD1062		
Q510	48E06359S01	2SD1669		
or	48E06362S01	2SD1062		
Q511	48E06359S01	2SD1669		
or	48E06362S01	2SD1062		
Q512	48E06359S01	2SD1669		
or	48E06362S01	2SD1062		
Q513	48T69176F02	2SC3421		
Q514	48T70761F01	2SA1358		
Q515	48T70761F01	2SA1358		
Q516	48T81069F01	2SB1076M		
Q517	48E06350S01	RT1N141S		
Q518	48S44578J02	2SC945		
Q519	48E06356S01	2SA733		
Q520	48S44578J02	2SC945		
Q521	48E06348S01	2SA1115		
Q522	48E06347S01	2SC2603		
Q523	48E06358S01	2SC3615		
Q524	48S44578J02	2SC945		
Q525	48E06350S01	RT1N141S		

Diodes

Symbol No.	Part No.	Description		
D103	48T68829F01	1SS133		
D104	48T68829F01	1SS133		
D105	48T58583F01	1SS176TA		
D203	48T68829F01	1SS133		
D204	48T68829F01	1SS133		
D205	48T58583F01	1SS176TA		
D303	48T68829F01	1SS133		
D304	48T68829F01	1SS133		
D305	48T58583F01	1SS176TA		
D403	48T68829F01	1SS133		
D404	48T68829F01	1SS133		
D405	48T58583F01	1SS176TA		
D501	48T58583F01	1SS176TA		
D502	48T58583F01	1SS176TA		
D503	48E04804S01	F10P20F		
D504	48E04803S01	F10P20FR		
D509	48T58583F01	1SS176TA		
D510	48T58583F01	1SS176TA		
D513	48T58583F01	1SS176TA		
D514	48T58583F01	1SS176TA		
D515	48T58583F01	1SS176TA		
D517	48E06456S01	30D4		

Symbol No.	Part No.	Description		
D518	48T58583F01	1SS176TA		
D519	48T58583F01	1SS176TA		
D520	48T58583F01	1SS176TA		
D521	48T58583F01	1SS176TA		
D522	48T58583F01	1SS176TA		
D523	48T58583F01	1SS176TA		
ZD505	48E06353S01	Zener, RD16ESB1		
ZD506	48E06353S01	Zener, RD16ESB1		
ZD507	48E06352S01	Zener, RD6.2ESB1		
ZD508	48E06354S01	zener, RD22ESB3		
ZD511	48E06351S01	Zener, RD3.9ESB1		
ZD512	48E06351S01	Zener, RD3.9ESB1		
Capacitors				
C101	21E06324S01	CER., 220pF		
E101	23E04816S01	ELY., 10μF/16V		
C102	21E06322S01	CER., 47pF		
C103	08E06460S01	MMT., 0.15μF		
E103	23E04816S01	ELY., 10μF/16V		
C104	08E06463S01	MMT., 0.068μF		
E104	23E04816S01	ELY., 10μF/16V		
C105	08E06459S01	MMT., 0.1μF		
E105	23E04816S01	ELY., 10μF/16V		
C106	08E06459S01	MMT., 0.1μF		
E106	23E06330S01	ELY., (B.P.) 100μF/10V		
C107	21E06324S01	CER., 220pF		
E107	23E04826S01	ELY., 0.47μF/50V		
C108	21E06321S01	CER., 33pF		
E108	23E04826S01	ELY., 0.47μF/50V		
C109	08E06462S01	MMT., 0.047μF		
E112	23E06329S01	ELY., 1.5μF/50V		
E113	23E06327S01	ELY., 0.22μF/50V		
C201	21E06324S01	CER., 220pF		
E201	23E04816S01	ELY., 10μF/16V		
C202	21E06322S01	CER., 47pF		
C203	08E06460S01	MMT., 0.15μF		
E203	23E04816S01	ELY., 10μF/16V		
C204	08E06463S01	MMT., 0.068μF		
E204	23E04816S01	ELY., 10μF/16V		
C205	08E06459S01	MMT., 0.1μF		
E205	23E04816S01	ELY., 10μF/16V		
C206	08E06459S01	MMT., 0.1μF		
E206	23E06330S01	ELY., (B.P.) 100μF/10V		
C207	21E06324S01	CER., 220pF		
E207	23E04826S01	ELY., 0.47μF/50V		
C208	21E06321S01	CER., 33pF		
E208	23E04826S01	ELY., 0.47μF/50V		
C209	08E06462S01	MMT., 0.047μF		
E209	23E04816S01	ELY., 10μF/16V		
E212	23E06329S01	ELY., 1.5μF/50V		
E213	23E06327S01	ELY., 0.22μF/50V		
C301	21E06324S01	CER., 220pF		
E301	23E04816S01	ELY., 10μF/16V		

Symbol No.	Part No.	Description		
C302	21E06322S01	CER., 47pF		
C303	08E06460S01	MMT., 0.15μF		
E303	23E04816S01	ELY., 10μF/16V		
C304	08E06463S01	MMT., 0.068μF		
E304	23E04816S01	ELY., 10μF/16V		
C305	08E06459S01	MMT., 0.1μF		
E305	23E04816S01	ELY., 10μF/16V		
C306	08E06459S01	MMT., 0.1μF		
E306	23E06330S01	ELY., (B.P.) 100μF/10V		
C307	21E06324S01	CER., 220pF		
E307	23E04826S01	ELY., 0.47μF/50V		
C308	21E06321S01	CER., 33pF		
E308	23E04826S01	ELY., 0.47μF/50V		
C309	08E06462S01	MMT., 0.047μF		
E312	23E06329S01	ELY., 1.5μF/50V		
E313	23E06327S01	ELY., 0.22μF/50V		
C401	21E06324S01	CER., 220pF		
E401	23E04816S01	ELY., 10μF/16V		
C402	21E06322S01	CER., 47pF		
C403	08E06460S01	MMT., 0.15μF		
E403	23E04816S01	ELY., 10μF/16V		
C404	08E06463S01	MMT., 0.068μF		
E404	23E04816S01	ELY., 10μF/16V		
C405	08E06459S01	MMT., 0.1μF		
E405	23E04816S01	ELY., 10μF/16V		
C406	08E06459S01	MMT., 0.1μF		
E406	23E06330S01	ELY., (B.P.) 100μF/10V		
C407	21E06324S01	CER., 220pF		
E407	23E04826S01	ELY., 0.47μF/50V		
C408	21E06321S01	CER., 33pF		
E408	23E04826S01	ELY., 0.47μF/50V		
C409	08E06462S01	MMT., 0.047μF		
E409	23E04816S01	ELY., 10μF/16V		
E412	23E06329S01	ELY., 1.5μF/50V		
E413	23E06327S01	ELY., 0.22μF/50V		
C501	21E06323S01	CER., 100pF		
E501	23E06331S01	ELY., 3300μF/16V		
C502	21E06323S01	CER., 100pF		
E502	23E06331S01	ELY., 3300μF/16V		
C503	21E06325S01	CER., 560pF		
E503	23E06334S01	ELY., 2000μF/30V		
C504	21E06325S01	CER., 560pF		
E504	23E06334S01	ELY., 2000μF/30V		
C505	21E06323S01	CER., 100pF		
E505	23E06334S01	ELY., 2000μF/30V		
C506	21E06323S01	CER., 100pF		
E506	23E06334S01	ELY., 2000μF/30V		
C507	08E06458S01	TF., 0.12μF		
E507	23E06334S01	ELY., 2000μF/30V		
C508	08E06318S01	MTL., 0.47μF		
E508	23E06334S01	ELY., 2000μF/30V		
C509	08E06458S01	TF., 0.12μF		
E509	23E04821S01	ELY., 100μF/25V		
C510	08E06458S01	TF., 0.12μF		
E510	23E04821S01	ELY., 100μF/25V		

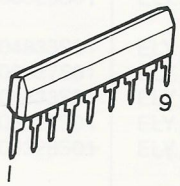
Symbol No.	Part No.	Description		
C511	08E06457S01	TF., 0.1μF		
C512	08E06317S01	MYL., 1000pF		
C513	08E06458S01	TF., 0.12μF		
E513	23E06326S01	ELY., 220μF/16V		
E514	23E06326S01	ELY., 220μF/16V		
E515	23E04833S01	ELY., 100μF/16V		
E516	23E06337S01	ELY., 220μF/16V		
E517	23E04833S01	ELY., 100μF/16V		
E518	23E06326S01	ELY., 220μF/16V		
E519	23E06328S01	ELY., 3.3μF/50V		
E520	23E06332S01	ELY., 470μF/16V		
E521	23E04866S01	ELY., 33μF/16V		
E522	23E06333S01	ELY., 470μF/35V		
E523	23E06333S01	ELY., 470μF/35V		
Resistors				
R139	06E06385S01	Cement, 0.1 ohm 5W× 2		
R140				
R141	06E06383S01	SPR, 10 ohm 1W		
R239	06E06385S01	Cement, 0.1 ohm 5W× 2		
R240				
R241	06E06383S01	SPR, 10 ohm 1W		
R339	06E06385S01	Cement, 0.1 ohm 5W× 2		
R340				
R341	06E06383S01	SPR, 10 ohm 1W		
R439	06E06385S01	Cement, 0.1 ohm 5W× 2		
R440				
R441	06E06383S01	SPR, 10 ohm 1W		
R515	06E06382S01	SPR, 1 ohm 1W		
R516	06E06382S01	SPR, 1 ohm 1W		
R517	06E06382S01	SPR, 1 ohm 1W		
R518	06E06382S01	SPR, 1 ohm 1W		
R519	06E06382S01	SPR, 1 ohm 1W		
R520	06E06382S01	SPR, 1 ohm 1W		
R523	06E06383S01	SPR, 10 ohm 1W		
R524	06E06383S01	SPR, 10 ohm 1W		
R525	06E06383S01	SPR, 10 ohm 1W		
R526	06E06383S01	SPR, 10 ohm 1W		
R527	06E06383S01	SPR, 10 ohm 1W		
R528	06E06383S01	SPR, 10 ohm 1W		
R531	06E06384S01	SPR, 100 ohm 1W		
R532	06E06384S01	SPR, 100 ohm 1W		
R538	06E06387S01	SPR, 0.1 ohm 5W		
R574	06E06381S01	SPR, 680 ohm 1/2W		
R579	06E06381S01	SPR, 680 ohm 1/2W		
R580	06E06380S01	SPR, 560 ohm 1/2W		
R581	06E06380S01	SPR, 560 ohm 1/2W		

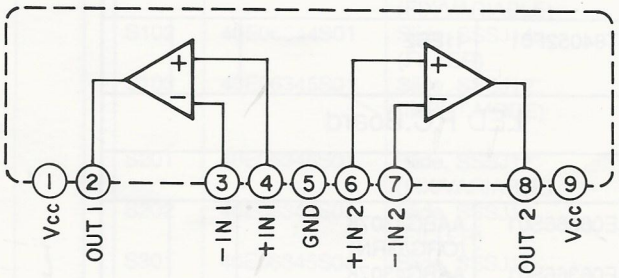
Symbol No.	Part No.	Description		
Volumes / Switches				
S101	40E06346S01	Slide, SSSJ12 (FIX/VARIABLE)		
S102	40E06344S01	Slide, SSSJ14 (FILTER)		
S103	40E06345S01	Slide, SSSJ12 (INPUT MODE)		
S201	40E06346S01	Slide, SSSJ12 (FIX/VARIABLE)		
S202	40E06344S01	Slide, SSSJ14 (FILTER)		
S301	40E06345S01	Slide, SSSJ12 (INPUT MODE)		
VR101	18E06386S01	Volume, 50K ohm × 2		
VR301	18E06386S01	Volume, 50K ohm × 2		
Thermistor				
TH501	48E06365S01	TD5-C320DA2 20K ohm		
Coils / Transformers				
L101	24E06338S01	Coil, 1.1μH		
L201	24E06338S01	Coil, 1.1μH		
L301	24E06338S01	Coil, 1.1μH		
L401	24E06338S01	Coil, 1.1μH		
L501	24E06339S01	Choke		
L502	24E06339S01	Choke		
T501	25E06342S01	Choke		
T503	25E06340S01	Power, TRANS.		
Output Connector P.C.Board				
Capacitors				
C110	08E06459S01	MMT., 0.1μF		
C111	08E06461S01	MMT., 0.022μF		
C210	08E06459S01	MMT., 0.1μF		
C211	08E06461S01	MMT., 0.022μF		
C310	08E06459S01	MMT., 0.1μF		
C311	08E06461S01	MMT., 0.022μF		
C410	08E06459S01	MMT., 0.1μF		
C411	08E06461S01	MMT., 0.022μF		
Resistors				
R142	06E06383S01	SPR, 10 ohm 1W		
R242	06E06383S01	SPR, 10 ohm 1W		
R342	06E06383S01	SPR, 10 ohm 1W		
R442	06E06383S01	SPR, 10 ohm 1W		

Symbol No.	Part No.	Description		
Remote P.C.Board				
Diode				
D516	48T84052F01	11ES2		
LED P.C.Board				
LED's				
LD519	48E06366S01	AABG4307K (ORG/GRN)		
LD520	48E06366S01	AABG4307K (ORG/GRN)		
Miscellaneous				
ET101	29E06476S01	Terminal, 8P (Speaker)		
ET102	09E06320S01	RCA, Socket 4P		
ET501	29E06475S01	Terminal, 2P (BATT/GND)		
ET502	01E06307S01	Assy.,Coupler 2P (REMOTE)		
F101	65E06378S01	Fuse, Auto 30A		

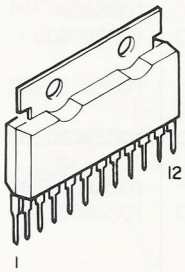
Semi-Conductor Lead Identifications

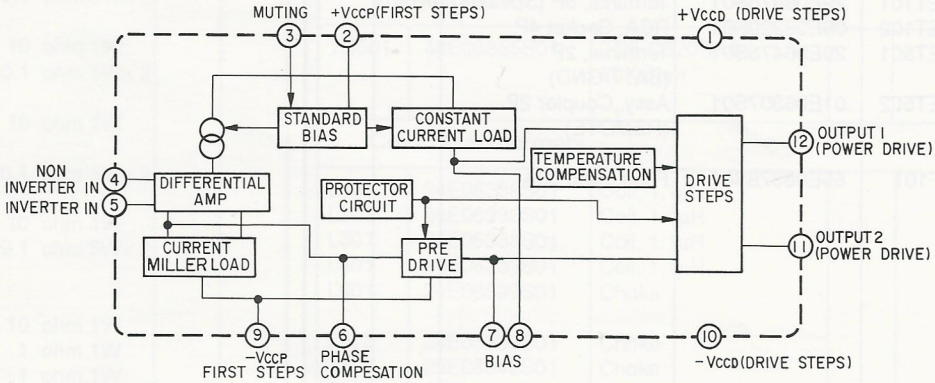
μPC4570HA: IC101, 102, 201, 202
IC301, 401, 601, 701



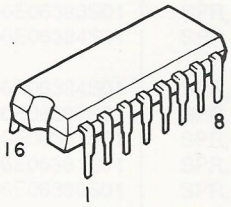


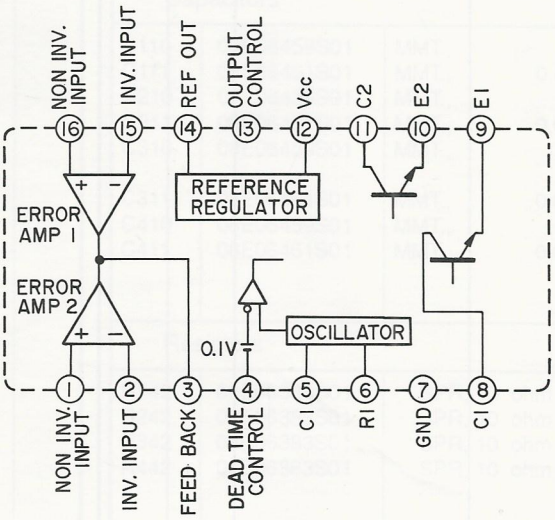
μPC1270H: IC103, 203, 303, 403



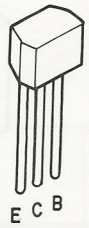


μPC494C: IC501

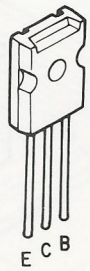




2SC3327: Q101, 201, 301, 401
2SA1115: Q521
2SC2603: Q522

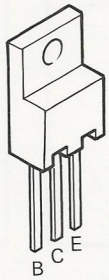


2SC3423: Q102, 202, 302, 402
2SC3421: Q513
2SA1358: Q514, 515

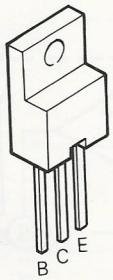


2SC945: Q103, 203, 303, 403
Q503, 504, 518, 520
Q524
2SA733: Q104, 204, 304, 404
Q501, 502, 519
2SC3615: Q523

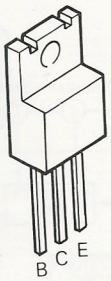
2SC4386: Q105, 205, 305, 405
2SA1671: Q106, 206, 306, 406



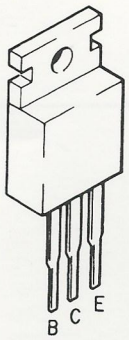
2SC3852: Q505, 506



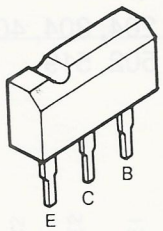
2SD1669: Q507~512



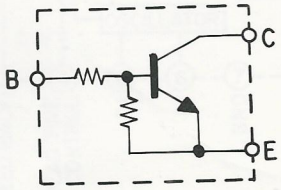
2SD1062: Q507~512



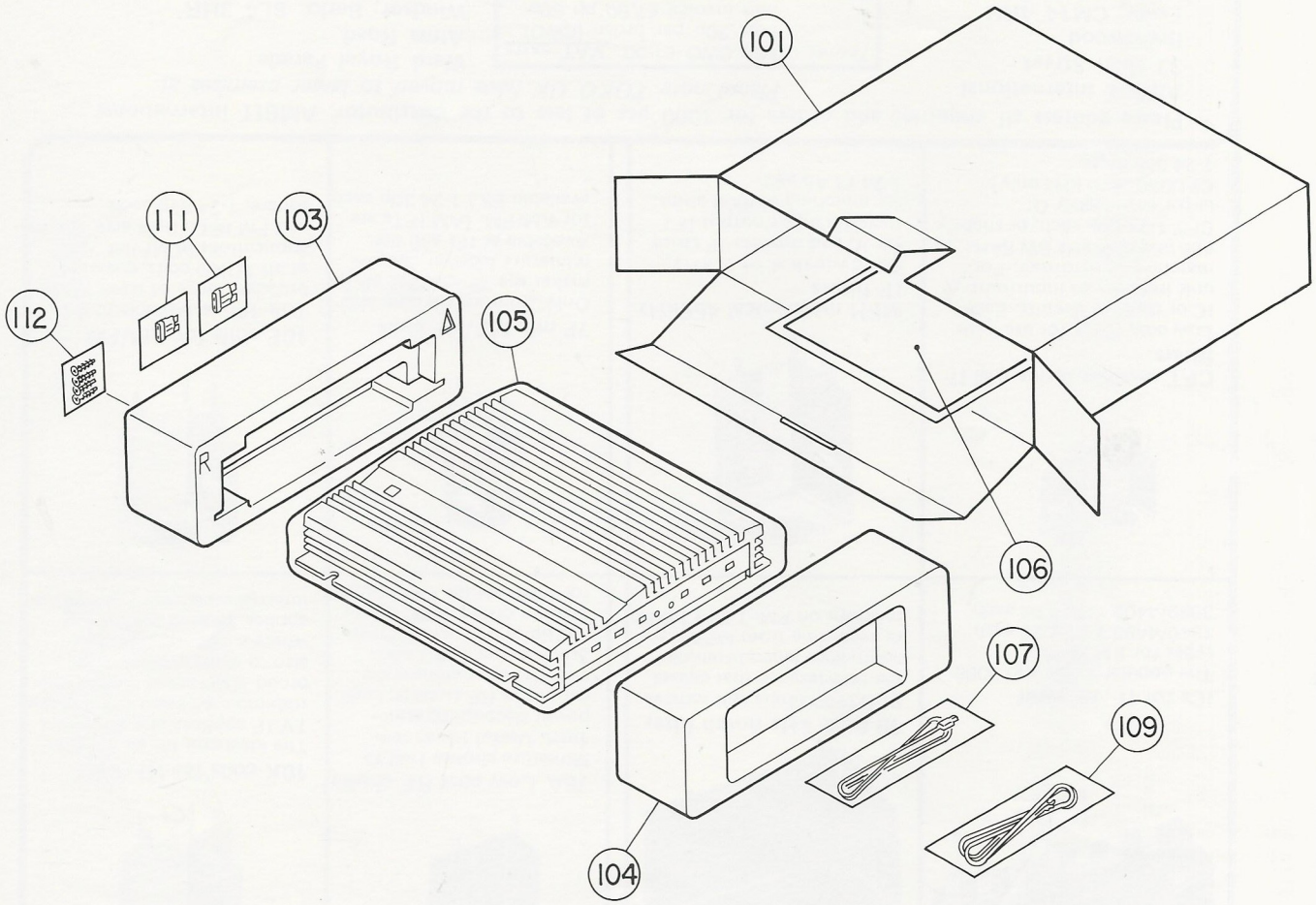
2SB1076M: Q516



RT1N141S: Q517, 525



Packing Method View



Packing Assembly Parts List

Symbol No.	Part No.	Description		
● 101	56E06368S01	Carton, Packing		
■ 101	56E06370S01	Carton, Packing		
103	56D13222W02	Tray, Packing (R)		
104	56D13222W01	Tray, Packing (L)		
105	56B72811F08	Sack, Polyethylene		
● 106	68P94789F35	Owners, Manual		
■ 106	68P94789F37	Owners, Manual		
107	01E06310S01	Assy, Remote Cord		
109	01E06306S01	Assy, Power Cord		

Symbol No.	Part No.	Description		
111	65E06378S01	Auto, Fuse (30A)		
112	01E06497S01	Assy, Screw Kit		

NOTE: ● : For North America Model Only (A0)
■ : For General Export Model Only (G0)
Others Common

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6 89-B
68P20604W02
Printed in Japan

IC'S And Transistors Voltage Values

IC Pin No.	IC101	IC102	IC201	IC202
1	15.3V	15.3V	15.3V	15.3V
2	22mV	24mV	24mV	24mV
3	22mV	24mV	24mV	24mV
4	47mV	45mV	45mV	45mV
5	-15.1V	-15.1V	-15.1V	-15.1V
6	47mV	45mV	45mV	45mV
7	22mV	24mV	24mV	24mV
8	22mV	24mV	24mV	24mV

IC Pin No.	IC103	IC203	IC303	IC403
1	28.8V	28.8V	28.8V	28.8V
2	28.8V	28.8V	28.8V	28.8V
3	21.8V	21.8V	21.8V	21.8V
4	0.1V	0.1V	0.1V	0.1V
5	0.1V	0.1V	0.1V	0.1V
6	-26.3V	-26.3V	-26.3V	-26.3V
7	-1.2V	-1.2V	-1.2V	-1.2V
8	0.48V	0.48V	0.48V	0.48V
9	-27.9V	-27.9V	-27.9V	-27.9V
10	-27.9V	-27.9V	-27.9V	-27.9V
11	-0.7V	-0.7V	-0.7V	-0.7V
12	0.48V	0.48V	0.48V	0.48V

IC Pin No.	IC301	IC401	IC601	IC701
1	15.3V	15.3V	15.3V	15.3V
2	22mV	24mV	24mV	24mV
3	22mV	24mV	24mV	24mV
4	47mV	45mV	45mV	45mV
5	-15.1V	-15.1V	-15.1V	-15.1V
6	47mV	45mV	47mV	45mV
7	22mV	24mV	22mV	23mV
8	22mV	24mV	22mV	23mV

IC Pin No.	IC501
1	0V
2	2.45V
3	0.09V
4	13mV
5	1.7V
6	3.7V
7	0V
8	14.3V
9	5.8V
10	6V
11	14.3V
12	14.3V
13	5V
14	5V
15	5V
16	0V

Pin No. Transistor	E	C	B
Q101	1.2mV	0V	-2.5V
Q102	-1.2V	0.4V	0.6V
Q103	0V	27.6V	0V
Q104	0V	-2.1V	0V
Q105	-98mV	28V	0.4V
Q106	-0.1V	-28V	-0.7V
Q201	1.2mV	0V	-2.5V
Q202	-1.2V	0.4V	0.6V
Q203	0V	27.6V	0V
Q204	0V	-2.1V	0V
Q205	-98mV	28V	0.4V
Q206	-0.1V	-28V	-0.7V
Q301	12mV	0V	-2.5V
Q302	-1.2V	0.4V	0.6V
Q303	0V	27.6V	0V
Q304	0V	-2.1V	0V
Q305	-98mV	28V	0.4V
Q306	-0.1V	-28V	-0.7V
Q401	1.2mV	0V	-2.5V
Q402	-1.2V	0.4V	0.6V
Q403	0V	27.6V	0V
Q404	0V	-2.1V	0V
Q405	-98mV	28V	0.4V
Q406	-0.1V	-28V	-0.7V
Q501	14.4V	8.1V	15V
Q502	14.4V	8.1V	15V
Q503	0V	0.1V	0.3V
Q504	0V	0.1V	0.3V
Q505	0.5V	14.4V	0.6V
Q506	0.5V	14.4V	0.6V
Q507	0V	14.6V	0.3V
Q508	0V	14.6V	0.3V
Q509	0V	14.6V	0.3V
Q510	0V	14.6V	0.3V
Q511	0V	14.6V	0.3V
Q512	0V	14.6V	0.3V
Q513	15.3V	23.6V	15.9V
Q514	-15.1V	-23.6V	-15.8V
Q515	14.4V	14.3V	13.6V
Q516	28V	0V	28V
Q517	0V	0V	2.7V
Q518	0V	5V	0V
Q519	5V	0V	5V
Q520	0V	5V	32mV
Q521	10V	0.1V	10.5V
Q522	0V	31.3mV	0.6V
Q523	0V	0V	10.5V
Q524	0V	0V	0V
Q525	0V	0V	14V

- 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.

ALPINE 3552