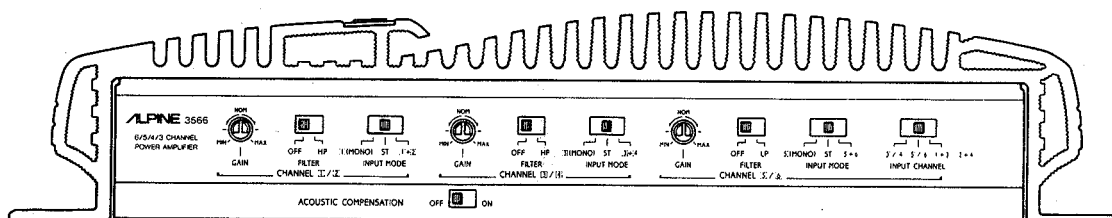


ALPINE

SERVICE MANUAL

6/5/4/3 Channel Power Amplifier



3566

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Additional Schematic Diagram Inserted.

Specifications

<4ohm - 4channel (CH1, 2, 3, 4) stereo mode>

| | |
|-----------------------------------|-----------------------------------|
| Power Output (0.08% T. H. D.) | 20Hz~20kHz : 25W/ch |
| (10% T. H. D.) | 20Hz : 35W/ch |
| | 1kHz : 40W/ch |
| | 20kHz : 40W/ch |
| S/N Ratio (IHF-A, Ref. 30W) | 96dB |
| Input Sensitivity (at 30W output) | 0.1~2V \pm 2dB |
| Input Impedance | 20 \pm 2kohm |
| Frequency Response (at -1dB) | less than 20Hz more than 40kHz |
| Current Drain (No signal input) | 3.5A |
| (10% T. H. D.) | 43A |
| Residual Noise | 1.2mV |

<4ohm - 2channel (CH5, 6) stereo mode>

| | |
|-----------------------------------|-----------------------------------|
| Power Output (0.08% T. H. D.) | 20Hz~20kHz : 50W/ch |
| (10% T. H. D.) | 75W/ch |
| S/N Ratio (IHF-A, Ref. 60W) | 96dB |
| Input Sensitivity (at 60W output) | 0.1~2V \pm 2dB |
| Input Impedance | 20 \pm 2kohm |
| Frequency Response (at -1dB) | less than 20Hz more than 40kHz |
| Current Drain (No signal input) | 3.5A |
| (10% T. H. D.) | 43A |
| Residual Noise | 1.5mV |

<2ohm - 4channel (CH1, 2, 3, 4) stereo mode>

| | |
|---------------------------------|----------------|
| Power Output (0.8% T. H. D.) | 20Hz : 30W/ch |
| | 1kHz : 35W/ch |
| | 20kHz : 35W/ch |
| Current Drain (No signal input) | 3.5A |
| (10% T. H. D.) | 70A |

<2ohm - 2channel (CH5, 6) stereo mode>

| | |
|---------------------------------|---------------------|
| Power Output (0.8% T. H. D.) | 20Hz~20kHz : 70W/ch |
| Current Drain (No signal input) | 3.5A |
| (10% T. H. D.) | 70A |

<4ohm - 2channel (CH1, 3) mono (BTL) mode>

| | |
|------------------------------|----------------|
| Power Output (0.8% T. H. D.) | 20Hz : 70W/ch |
| | 1kHz : 80W/ch |
| | 20kHz : 80W/ch |

<4ohm - 1channel (CH5) mono (BTL) mode>

| | |
|------------------------------|-----------------|
| Power Output (0.8% T. H. D.) | 20Hz : 140W/ch |
| | 1kHz : 150W/ch |
| | 20kHz : 140W/ch |

<General>

| | |
|-------------------------|--|
| Fuse Requirement | 25A×2 (Battery) |
| Power Source | 14.4V DC (11~16V) |
| Semiconductors | 23 IC's, 66 Transistors, 19 Diodes, 4 Zener Diodes |
| Dimension (W×H×D) | 263×55×340 mm |
| Weight | 4.8kg |

Note : Due to continuing product improvement, specifications and designs are subject to change without notice.

FEATURES

- **6/5/4/3 Channel Operation:**

The 3566 can be used either as a 6-channel amplifier, producing 30Wx4 into 4Ω (or 40Wx4 into 2Ω) for the front and rear satellites, and 60Wx2 into 4Ω (or 80Wx2 into 2Ω) for subwoofers. In the 5-channel mode, the two higher power channels are bridged together to produce a conservative 160W into a single 4Ω subwoofer, while the other 4 channels continue to produce 30Wx4 (4Ω) or 40Wx4 (2Ω). In the 4-channel mode, the amplifier produces 80Wx2 into 4Ω, plus 60Wx2 into 4Ω (or 80Wx2 into 2Ω). The 3-channel mode makes three 80W channels (into 4Ω) available. Two can be used for a stereo satellite pair, with the third one driving a subwoofer. All channels can be used with or without the electronic crossover.

- **Multimode:**

Each pair of channels of the 3566 can power a pair of stereo tweeter/midrange satellites and bridged subwoofer (or a summed center channel speaker) simultaneously.

- **Active Dividing Network:**

Three built-in, independent, switchable electronic crossover networks at 80 Hz, 18 dB per octave, can be set up for each pair of amplifier channels. Channel pairs 1/2 and 3/4 can each be set up for full-range or high-pass (for tweeter/midrange satellite applications), and Channels 5/6 can be set up for full-range, or low-pass (subwoofer) output.

- **Acoustic Compensation Circuitry:**

A selectable (Off or On) equalization curve can be added to the amplifier's output signal, compensating for the inherent non-linearities of the automobile interior. It extends low bass response and eliminates mid-bass boominess, giving the low frequency response of the audio system tightness and accuracy.

- **Duo-β Feedback Circuitry:**

Alpine's proprietary Duo-Beta is a technologically advanced form of feedback circuitry. Duo-Beta supplies low negative feedback throughout the audio frequency bandwidth and very high negative feedback at DC. This stabilizes the amplifier, removes DC offset, and offers excellent total harmonic distortion (T.H.D.) characteristics. It also provides low transient intermodulation distortion (T.I.M.), excellent slew rate, stability, and musicality.

FEATURES

- **No Current Limiting:**

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:**

The Alpine-developed 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. **ST (Stereo):**

Allows the right and left channels 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. **1 (MONO) (or 3 (MONO) or 5 (MONO)):**

Disables the CH2 (or CH4 or CH6) input connector and routes the signal through CH1 (or CH3 or CH5) to CH2 (or CH4 or CH6)'s amplifier section. This mode is used when only one input source is provided for a pair of channels of amplification. It can be used in 6, 5, 4 or 3 channel modes.

- c. **1+2 (or 3+4, or 5+6):**

Sums CH1 and CH2 (or CH3 and CH4, or CH5 and CH6) input signals and routes the resulting signal to the amplifier sections of both channels. It can be used in 6, 5, 4, or 3 channel systems to provide a summed output.

- **Input Channel Selector:**

This switch allows the user to specify the input signal entering the higher power CH5 and CH6 of the amplifier:

- a. **3/4:**

When a 4-channel input signal (front and rear) is fed into the 3566, this switch position will send the signal from the CH3 input to the CH5 input, and the signal from the CH4 input to the CH6 input. This, when used with the built-in crossovers, will provide a rear fading subwoofer in 6 or 5 channel operation.

FEATURES

- b. **5/6:**

Directly feeds the CH5 and CH6 inputs from an external source (the subwoofer outputs of a 3331 equalizer), to the CH5 and CH6 amplification circuitry.

- c. **1+3/2+4:**

Sums CH1 and CH3, and CH2 and CH4 input signals and route result to amplifier sections of channels 5 and 6. This provides a fading subwoofer, with fading 4-channel satellites, when used in 6 or 5 channel modes.

- **Fully Discrete, Complementary Output Circuitry:**

For excellent reliability, superb sonic performance and high current capability for accurate transient response.

- **Independent, Continuously Adjustable Gain Controls for CH1 CH3/4, and CH5/6:**

Allow different level settings for all the three different audio sections.

- **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 of the connectors that can develop over time.

- **Gold-plated, Screw-down Power and Speaker Terminals:**

For high definition, minimum loss power transfer and oxidation resistance.

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

For best possible performance and consistency from unit to unit.

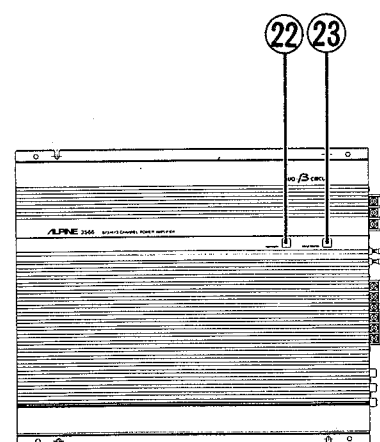
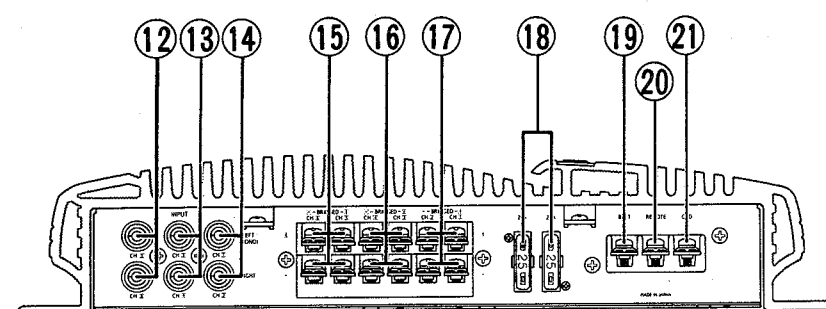
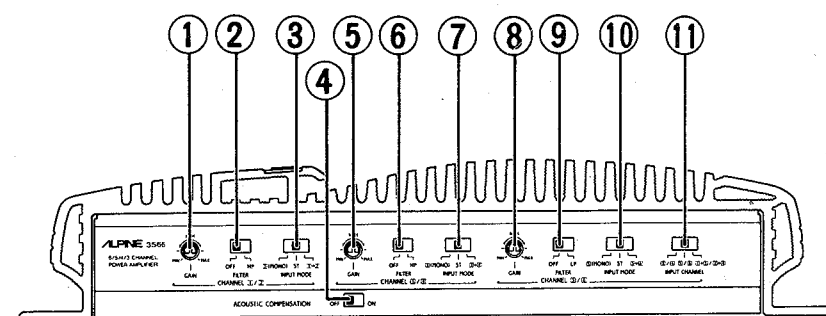
- **Dual Independent, DC-to-DC switching mode power supplies:**

These power supplies (one for channels 1 through 4, another one for higher powered channels 5 and 6) are soft regulating. They provide excellent power output throughout the audio bandwidth (20 Hz to 20 kHz) with superb transient response, and excellent musicality.

FEATURES

- **Third-order, 18 dB per octave (Capacitive/Inductive) Power Supply Input and Output Filtering:**
Prevents radio frequency interference (RFI) and immunity to system noises (such as alternator whine).
- **Voltage Regulated/Filtered Input Stages:**
For excellent stability & low noise.
- **Status monitor:**
This indicator illuminates in green when the amplifier 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.
- **Subwoofer ON Indicator:**
This indicator, normally illuminated in green, turns orange when the channel 5/6 Low-pass Subwoofer Crossover is on.
- **Extra heavy duty construction:**
Glass-epoxy printed circuit boards and separate high current power transfer bus-bars for primary voltage and ground connections inside the amplifier.

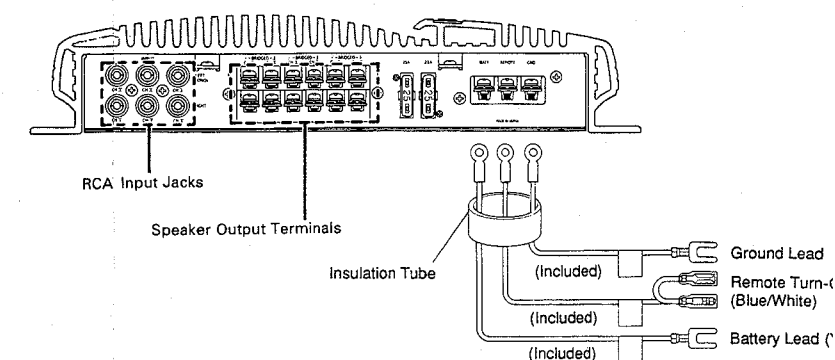
SWITCHES AND TERMINALS



SWITCHES AND TERMINALS

- ① Input Gain Adjustment Control (Channels 1/2)
- ② Active Dividing Network Mode Selector Switch (Channels 1/2)
- ③ Input Mode Selector Switch (Channels 1/2)
- ④ Acoustic Compensation Selector Switch
- ⑤ Input Gain Adjustment Control (Channels 3/4)
- ⑥ Active Dividing Network Mode Selector Switch (Channels 3/4)
- ⑦ Input Mode Selector Switch (Channels 3/4)
- ⑧ Input Gain Adjustment Control (Channels 5/6)
- ⑨ Active Dividing Network Mode Selector Switch (Channels 5/6)
- ⑩ Input Mode Selector Switch (Channels 5/6)
- ⑪ Input Channel Selector Switch
- ⑫ RCA Input Jacks (Channels 5/6)
- ⑬ RCA Input Jacks (Channels 3/4)
- ⑭ RCA Input Jacks (Channels 1/2)
- ⑮ Speaker Output Terminal (Channels 5/6)
- ⑯ Speaker Output Terminal (Channels 3/4)
- ⑰ Speaker Output Terminal (Channels 1/2)
- ⑱ Fuses
- ⑲ Battery Lead Terminal
- ⑳ Remote Turn-On Lead Terminal
- ㉑ Ground Lead Terminal
- ㉒ Subwoofer On Indicator
- ㉓ Status Monitor

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 3566, route the speaker leads and the power supply leads separately through these tubes.

NOTE:

Channel Assignment on this amplifier is CH1 through CH6. You may arbitrarily assign Left and Right to channels 1 & 2, 3 & 4, and 5 & 6. However, you must maintain consistency in your input-to-output connection.

● Speaker Output Terminals

The 3566 has three sets of speaker outputs. Be sure to observe correct speaker output polarity and phasing. In the stereo mode, connect the right speaker output to the right speaker and the left to left. Connect positive output to the positive speaker terminal (upper terminal) and negative to negative (lower terminal). In the bridged mode, connect CH1, CH3, or CH5 positive (upper terminal) to the positive terminal of the speaker and the CH2, CH4, or CH6 negative (lower terminal) to the negative terminal of the speaker. Do not use the negative (-) speaker terminals commonly for right and left speakers or connect them to the vehicle's chassis ground.

SWITCHES AND TERMINALS

Adjustment Control (Channels 1/2)
 Tuning Network Mode Selector Switch (Channels 1/2)
 Mode Selector Switch (Channels 1/2)
 Compensation Selector Switch
 Adjustment Control (Channels 3/4)

Tuning Network Mode Selector Switch (Channels 3/4)
 Mode Selector Switch (Channels 3/4)
 Adjustment Control (Channels 5/6)
 Tuning Network Mode Selector Switch (Channels 5/6)
 Mode Selector Switch (Channels 5/6)

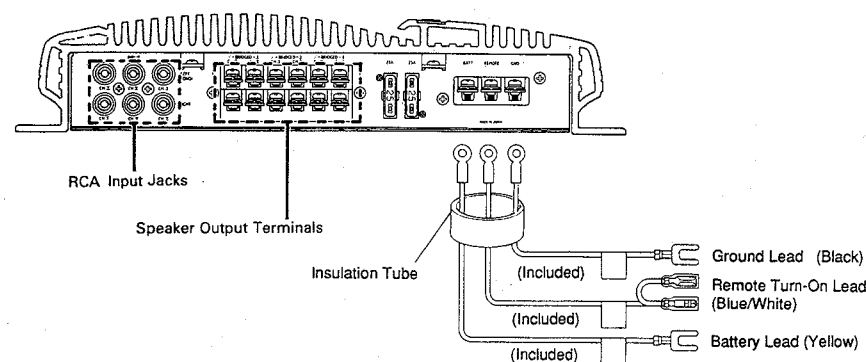
Mode Selector Switch
 Speaker Jacks (Channels 5/6)
 Speaker Jacks (Channels 3/4)
 Speaker Jacks (Channels 1/2)
 Input Terminal (Channels 5/6)

Input Terminal (Channels 3/4)
 Input Terminal (Channels 1/2)

Input Terminal
 Turn-On Lead Terminal

Input Terminal
 Turn-On Indicator
 Turn-On

CONNECTIONS



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CONNECTIONS

NOTE:

Do not connect speaker leads together or to chassis ground.

● 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. Ground all your audio components to the same point on the chassis to prevent ground loops.

● Battery Lead (Yellow)

Connect this lead directly to the positive (+) terminal of the vehicle's battery. *Do not connect this lead to wiring in the vehicle's electrical system.* Be sure to add a 60 amp (or two 30A fuses in parallel) as close as possible to the battery's positive (+) terminal. This fuse will protect your vehicle's electrical system in case of a short circuit. If you need to extend this lead, the wire gauge should be 6 AWG or larger.

● Remote Turn-On Lead (Blue/White)

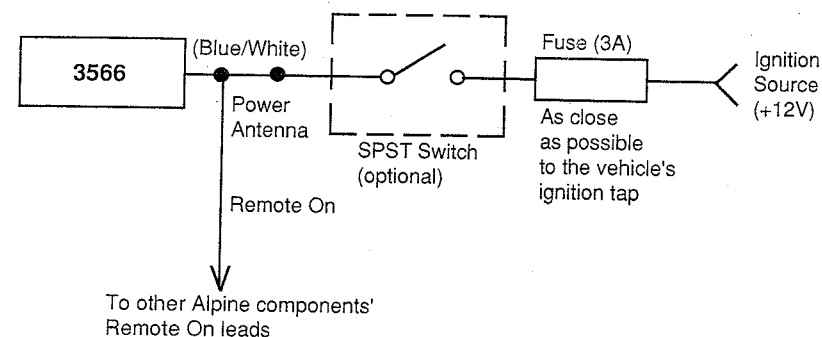
Connect this lead to the remote turn-on or power antenna (positive trigger, (+) 12V only) lead of your head unit.

Please check your head unit for the conditions listed below:

- The head unit does not have a remote turn-on or power antenna lead.
- The head unit's Power antenna lead is activated only when the radio is on (turns off in the tape or CD Mode).
- The head unit's power antenna lead is logic level output (+) 5V, negative trigger (grounding type), or cannot sustain (+) 12V when connected to other equipment in addition to the vehicle's power antenna. If any of the above conditions exist, the remote turn-on lead of your 3566 must be connected to a switched power source (ignition) in the vehicle. Be sure to use a 3A fuse as close as possible to this ignition tap. Using this connection method, the 3566 will turn on and stay on as long as the ignition switch is on.

If this is objectionable, a SPST (Single pole, Single Throw) switch, in addition to the 3A fuse mentioned above, may be installed in-line on the 3566 turn-on lead. This switch will then be used to turn on (and off) the 3566. Therefore, the switch should be mounted so that is accessible by the driver. Make sure the switch is turned off when the vehicle is not running. Otherwise, the amplifier will remain on and drain the battery.

CONNECTIONS



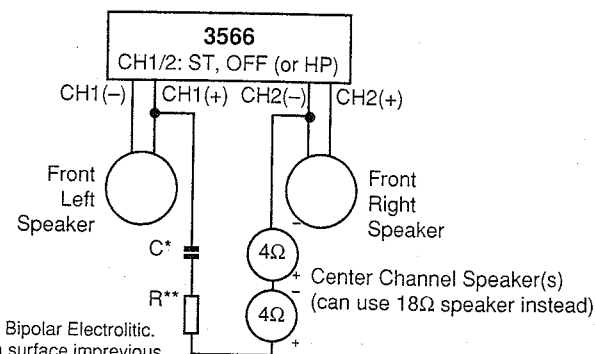
● RCA Input Jacks

Connect these jacks to the line out leads on your head unit using RCA extension cables (sold separately). Be sure to observe correct channel connections; Left to Left, Right to Right, Front to Front, and Rear to Rear.

Multimode Operation:

Since the 3566 is a 6-channel power amplifier with a built-in active dividing network, it is unnecessary to use its Multimode capability to drive subwoofers. However, the 3566 can be used in Multimode to drive a true Center Channel (common information) speaker. The center channel is placed in the middle of the dash, behind the rear-view mirror, or other suitable central location. Adding a center channel dramatically improves imaging of your sound system.

Connection diagram shown below can be applied to 6-channel or 5-channel (CH5/8 bridged) configurations:



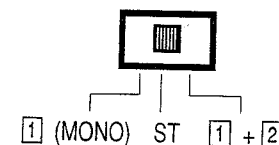
*C : 22µF, 100V Mylar or Bipolar Electrolytic.
**R : 22Ω, 10W (mount on surface impervious to heat, allow airflow for ventilation).

SWITCH SETTINGS

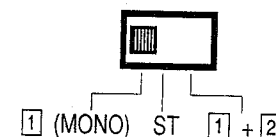
Input Mode Selector Switches ③, ⑦ and ⑩:

The switch modes shown are for CH1/2. These same explanations apply to mode selection for CH3/4 and CH5/6.

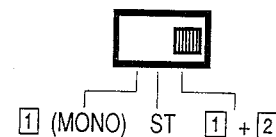
- a) Set to the "ST" position (center) when the two channels are used in stereo.



- b) Set to the "1 (MONO)" position when the two channels are used for one channel of a stereo or bridged system.

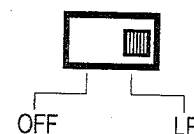


- c) Set to the "1 + 2" position when the two channels are used for a subwoofer system which uses the right channel and left channel signals summed.



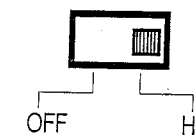
Active Dividing Network Mode Selector Switches ②, ⑥ and ⑨

- a) Set to the "LP" position when the amplifier is used for the low-pass (subwoofer) system. The frequencies higher than 80 Hz will be cut (at a rate of 18 dB per octave). This applies to CH5/6 only.

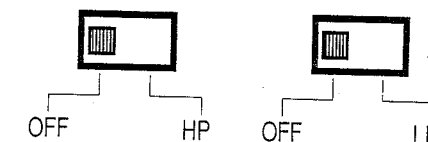


SWITCH SETTINGS

- b) Set to the "HP" position when the 3566 is used for the high-pass (tv midrange and subwoofer) system. The frequencies lower than 80 Hz will be cut (at a rate of 18 dB per octave). This applies to CH 1/2 and C only.

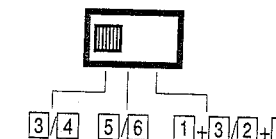


- c) Set both switches to the "OFF" position when the 3566 is used in a system with speakers playing full range. The full bandwidth will be without cutting the high or low frequencies.



Input Channel Selector Switches (CH 5/6):

- a) Setting this switch to ③/④ will send the signal at the inputs of CH1 & CH2 of the 3566. This can be used with a dual-preamp output head unit, when rear fading subwoofer output is desired.
- b) Set this switch to ⑤/⑥ to have the inputs of CH5/6 accept independent input signals. An example of this application would be the use of a external crossover (such as a 3653 or the subwoofer output of a 33).
- c) Setting this switch to ①+③/②+④ will sum the CH1 & CH3 input and send it to CH5 while the CH2 & CH4 inputs are summed and sent to CH6. When used with a dual-preamp output head unit, this will provide non-fading (constant bass) subwoofer output with fadable front and satellites.

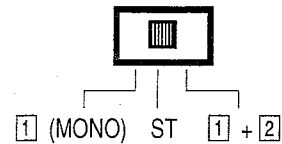


SWITCH SETTINGS

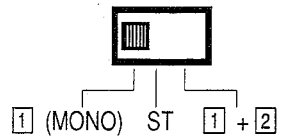
Selector Switches ③, ⑦ and ⑩:

Three modes shown are for CH1/2. These same explanations apply to CH3/4 and CH5/6.

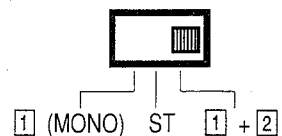
"ST" position (center) when the two channels are used in



"1 (MONO)" position when the two channels are used for one of a stereo or bridged system.

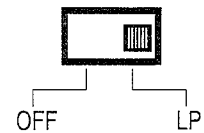


"1 + 2" position when the two channels are used for a sub-system which uses the right channel and left channel signals



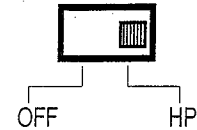
Input Network Mode Selector Switches ②, ⑥ and ⑨

"LP" position when the amplifier is used for the low-pass (bass) system. The frequencies higher than 80 Hz will be cut (at a rate of 18 dB per octave). This applies to CH5/6 only.

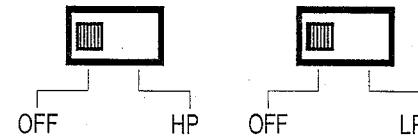


SWITCH SETTINGS

- b) Set to the "HP" position when the 3566 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). This applies to CH 1/2 and CH 3/4 only.

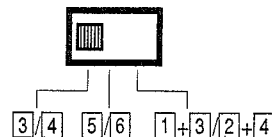


- c) Set both switches to the "OFF" position when the 3566 is used in a stereo system with speakers playing full range. The full bandwidth will be output without cutting the high or low frequencies.



Input Channel Selector Switches (CH 5/6):

- a) Setting this switch to ③/④ will send the signal at the inputs of CH3/4 to CH5/6 of the 3566. This can be used with a dual-preamp output head unit, when rear fading subwoofer output is desired.
- b) Set this switch to ⑤/⑥ to have the inputs of CH5/6 accept independent input signals. An example of this application would be the use of an external crossover (such as a 3653 or the subwoofer output of a 3331).
- c) Setting this switch to ①+③/②+④ will sum the CH1 & CH3 input and send it to CH5 while the CH2 & CH4 inputs are summed and sent to CH6. When used with a dual-preamp output head unit, this will provide a non-fading (constant bass) subwoofer output with fadable front and rear satellites.



SWITCH SETTINGS

Acoustic Compensation Selector Switch:

- a) Turn this switch on to compensate for the loss of low bass and to reduce midbass boominess.
- b) Listen to the system with the switch in both the ON and OFF positions. Since the response of the system can vary depending on vehicle type, interior size, and other characteristics of the listening area, choose the position that provides the best sound reproduction.



Input Gain Adjustment Controls:

After setting your head unit's volume control 1/4 of a turn down from the maximum output level, rotate the Input Gain Adjustment Controls ①, ⑤ and ⑧ with a #0 flat blade screwdriver and adjust the input gain to the point where there is maximum volume with no distortion.

Status Monitor:

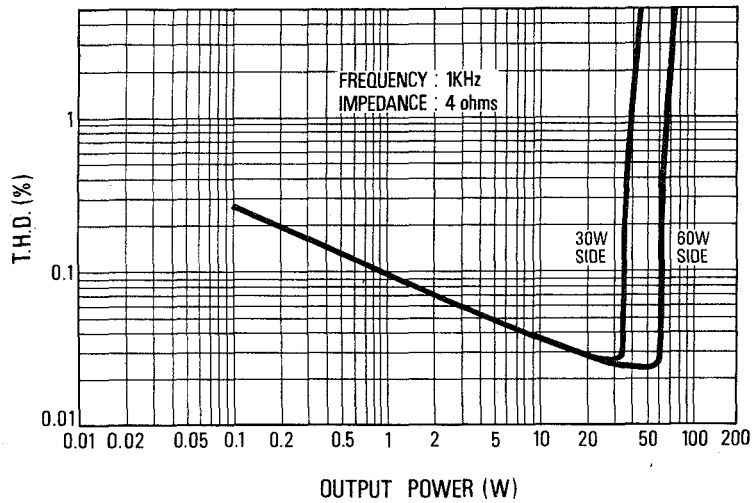
This indicator lights green when the power is on. The 3566 has built-in protection circuitry. If, for some reason, this protection circuit is activated, the indicator turns orange. If this happens, turn the system off, find the cause of the problem and remedy the situation. This includes checking all your connections and wiring. If the indicator remains orange when the system is turned on, consult your authorized Alpine dealer.

Note:

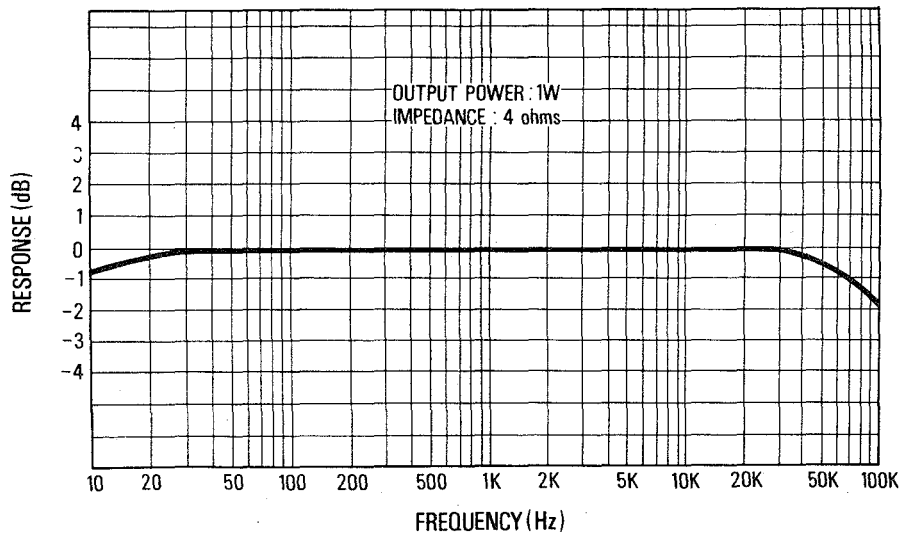
The indicator will illuminate in orange for a few seconds when the power is turned on as the protection circuit will be activated. This is normal.

CHARACTERISTIC CURVES

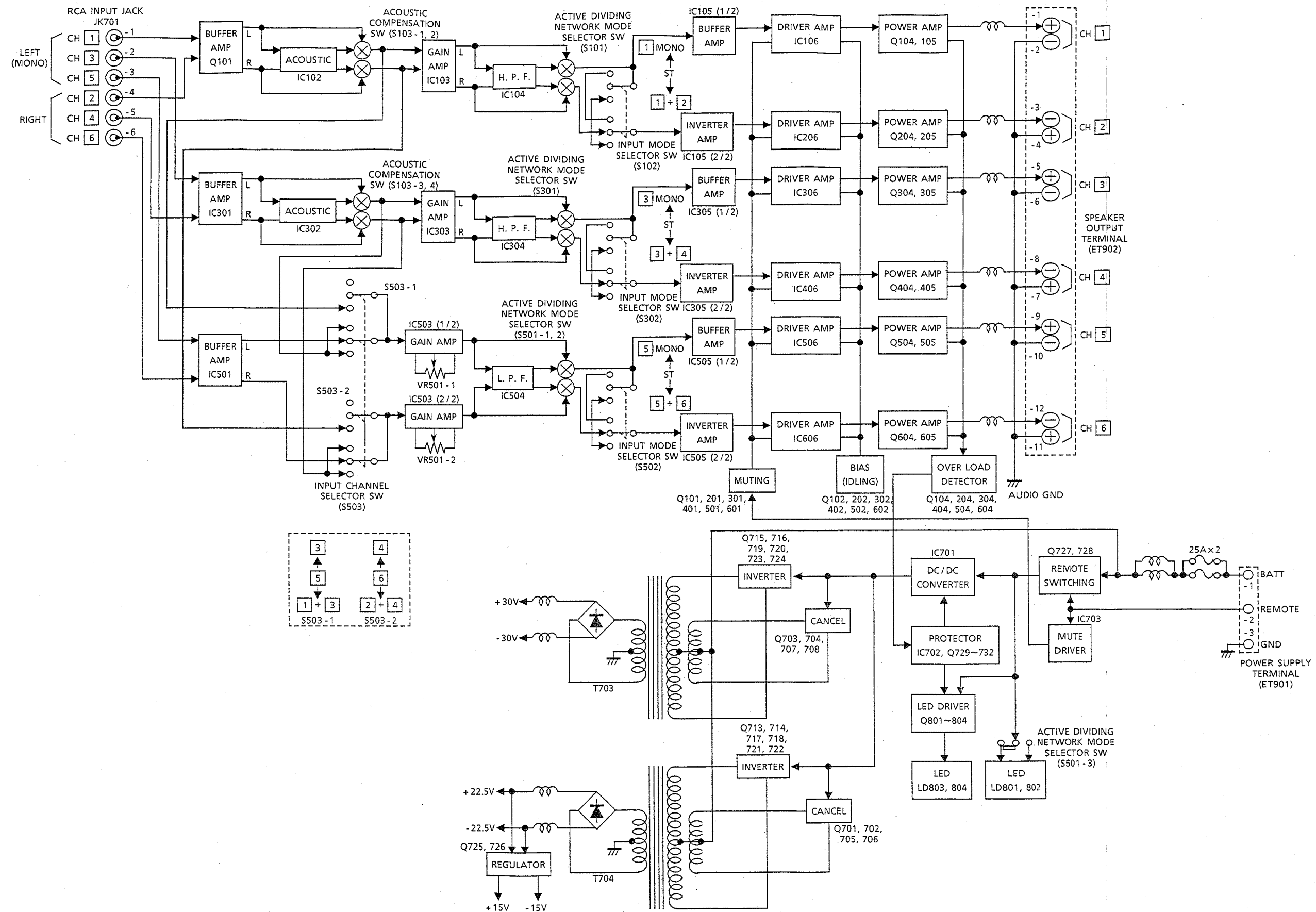
POWER VS. DISTORTION CURVE



FREQUENCY RESPONSE CURVE



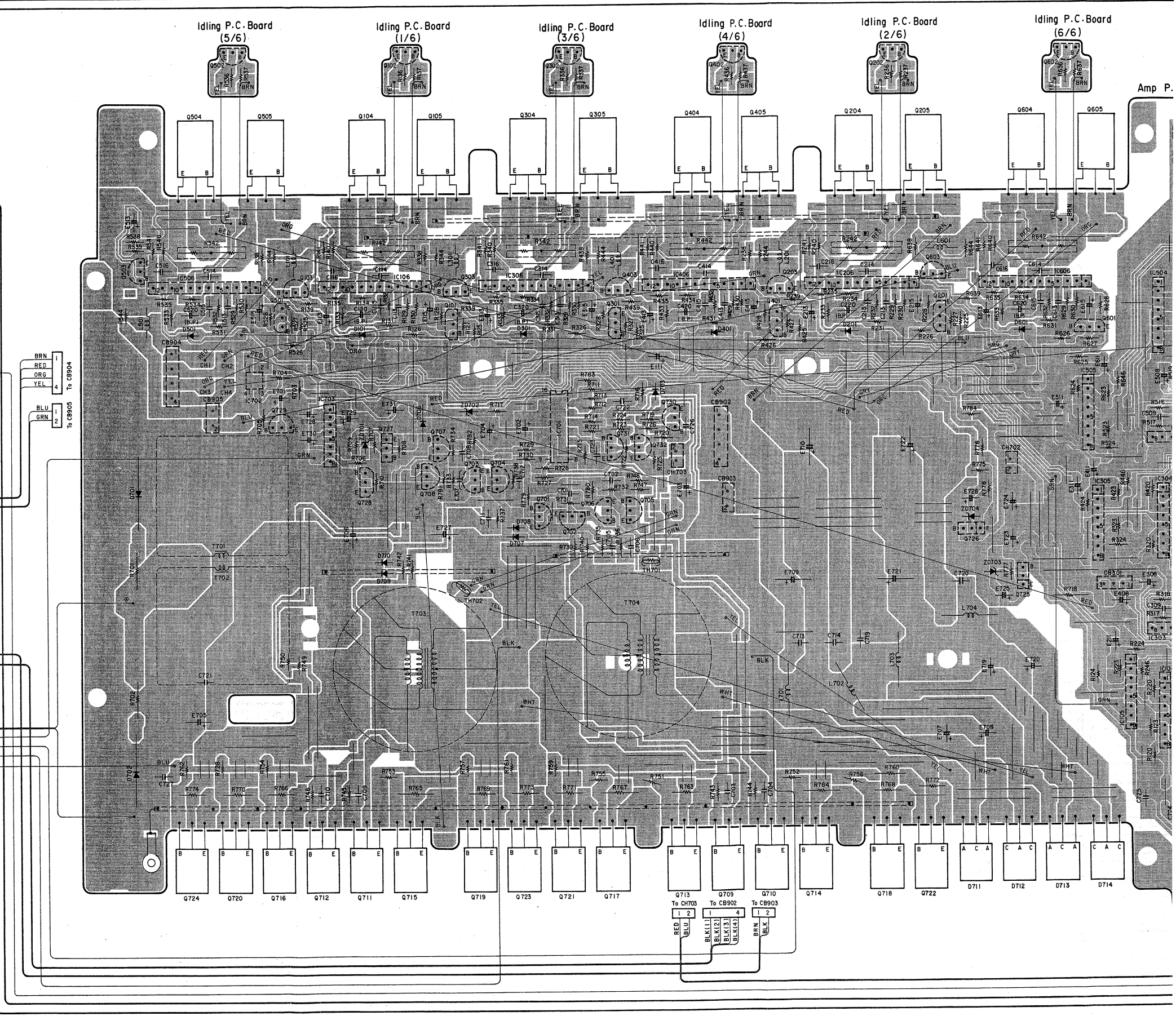
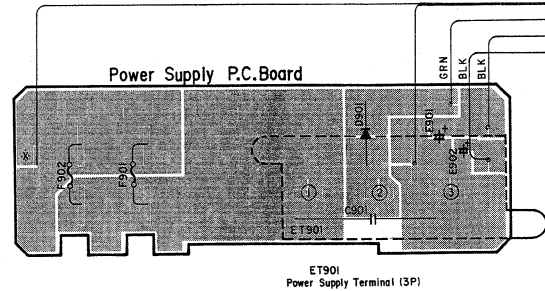
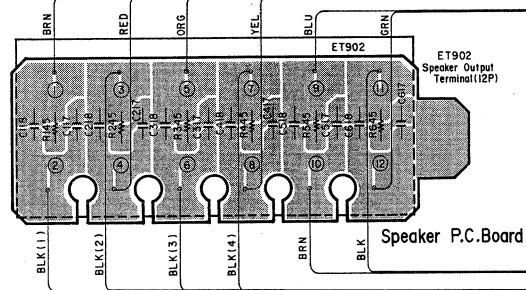
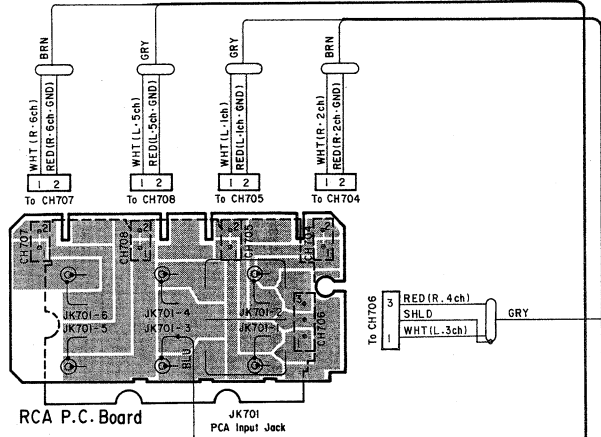
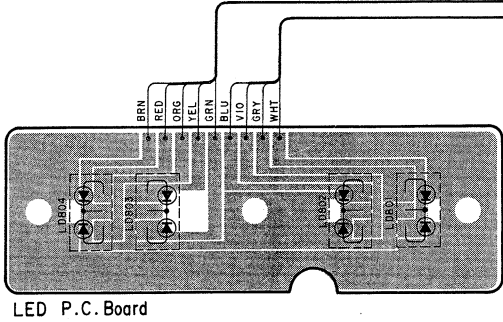
Block Diagram

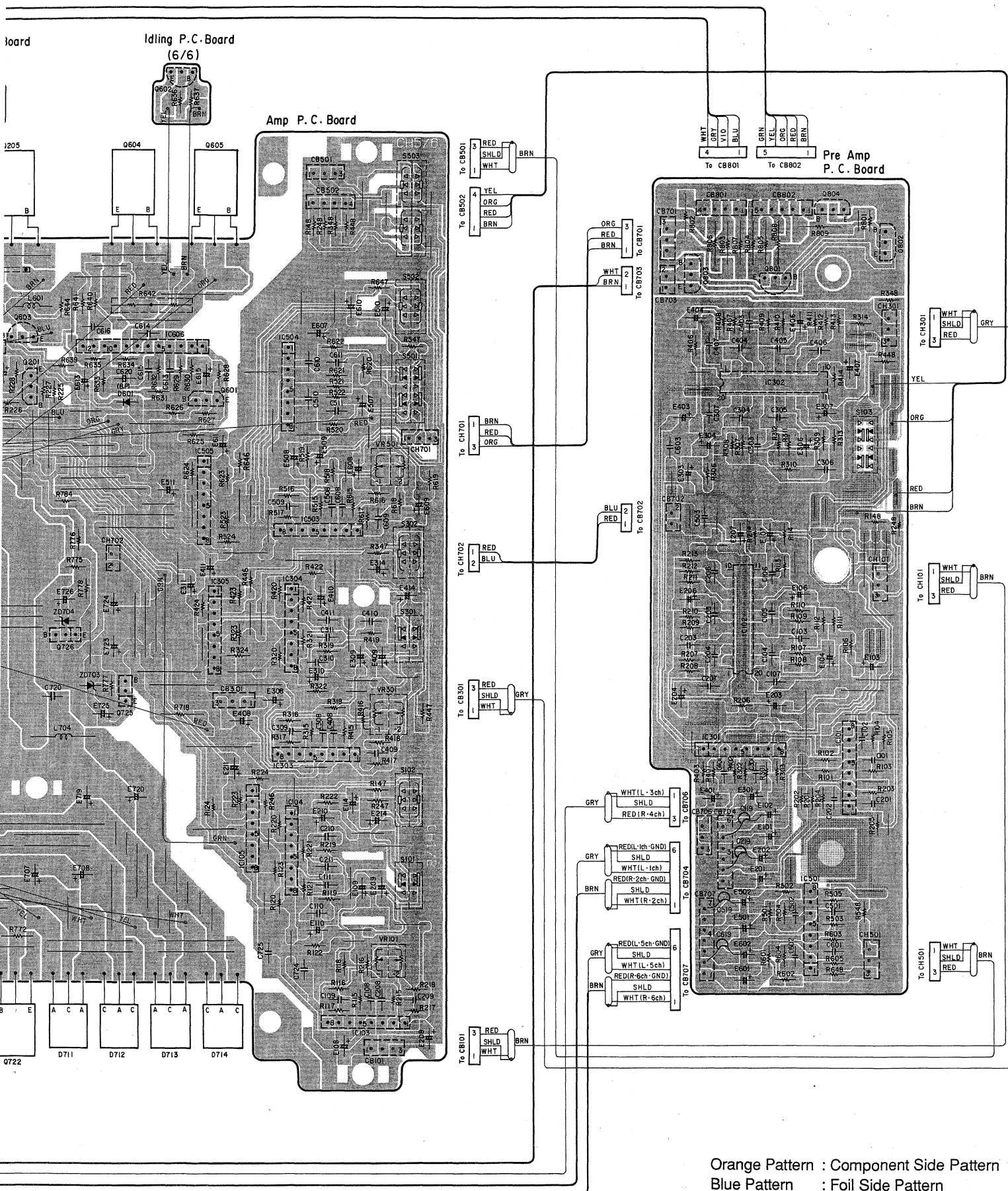


Parts Layout on P.C.Boards and Wiring Diagram

All P.C.Boards viewed from soldered side.

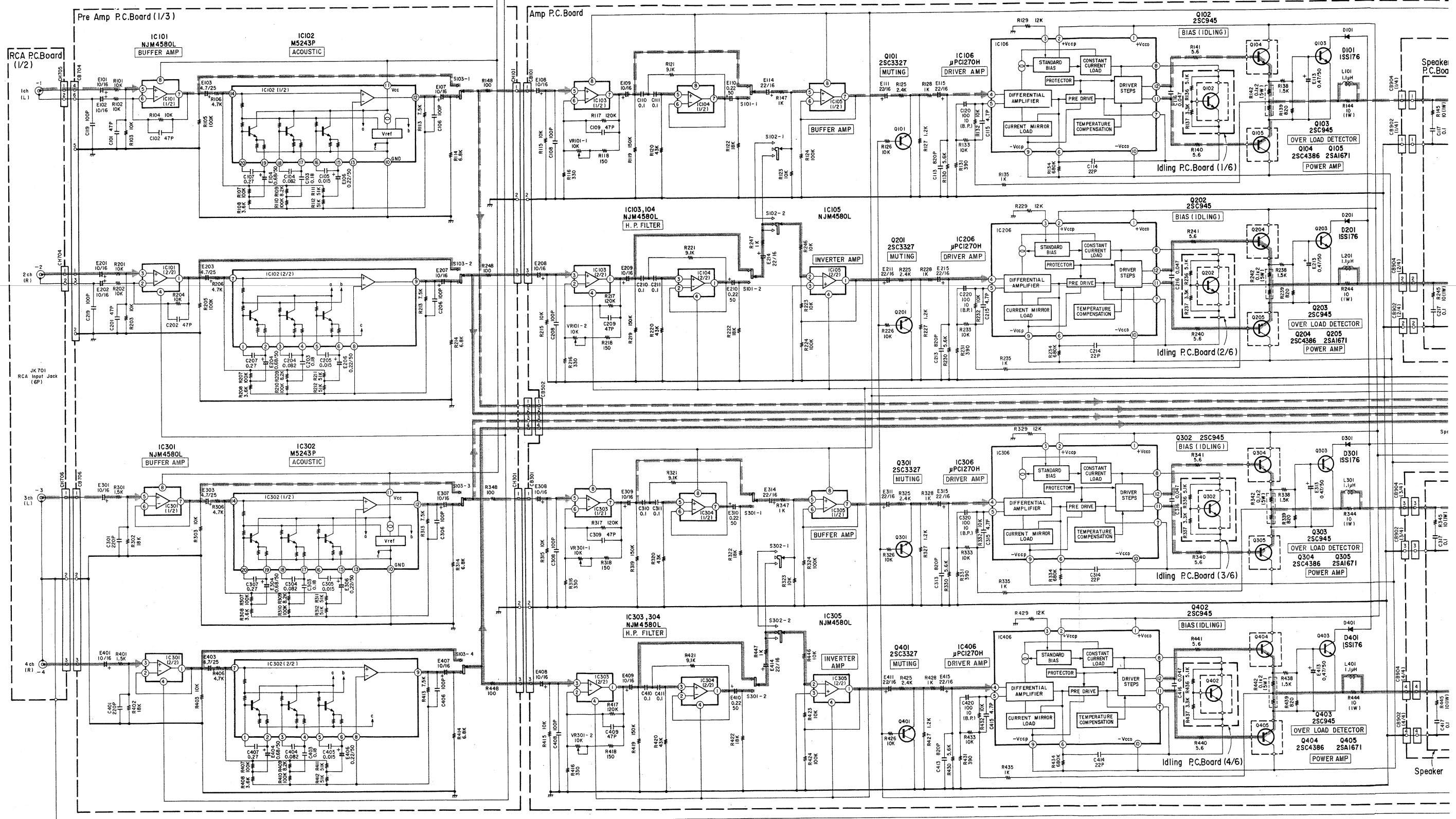
1
2
3
4
5





Schematic Diagram (Refer to page 25, 26 for IC's and transistors voltage values.)

| IC | IC101 | IC102 | IC103 | IC104 | IC105 | IC106 | Q102 | Q104 | Q105 | Q103 |
|----------------|-------|-------|-------|-------|-------|-------|------|------|------|------|
| | IC301 | IC302 | IC303 | IC304 | IC305 | IC306 | | | | |
| Transistor (Q) | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |



A

B

C

D

E

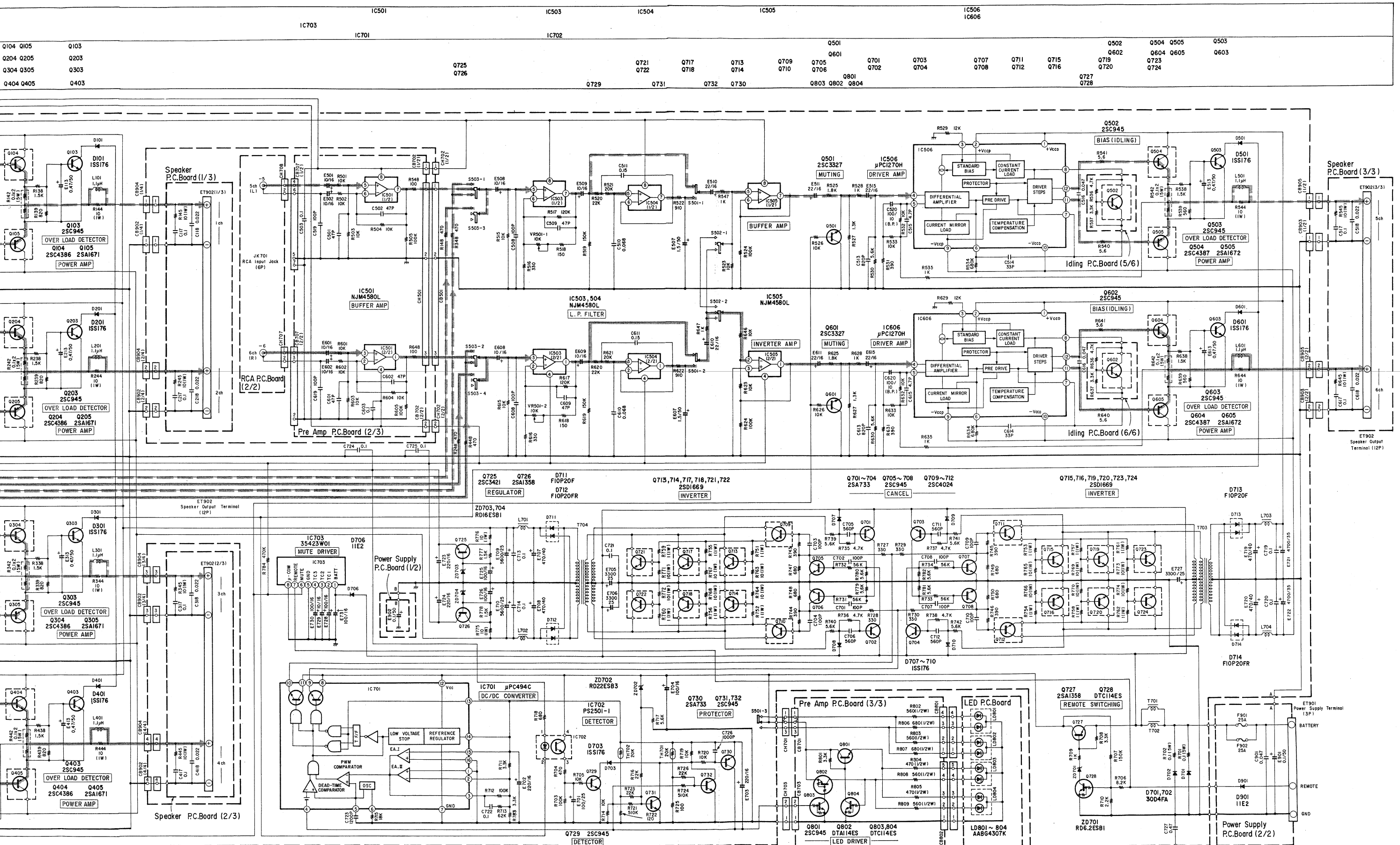
F

G

H

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

| Ref. No. Pin No. | IC101 | IC103 | IC104 | IC105 | IC301 | IC303 | IC304 | IC305 | IC501 | IC503 | IC504 | IC505 | IC703 | |
|---------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|---------|
| | | | | | | | | | | | | | Mute OFF | Mute ON |
| 1 | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 13.8V | 13.8 |
| 2 | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 7V | 7V |
| 3 | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 7V |
| 4 | -15V | -15V | -15V | -15V | -15V | -15V | -15V | -15V | -15V | -15V | -15V | -15V | 13.3V | 2.4V |
| 5 | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V |
| 6 | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | -15V | 13.8V |
| 7 | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 0V | 13.8V | 0V |
| 8 | 15V | 15V | 15V | 15V | 15V | 15V | 15V | 15V | 15V | 15V | 15V | 15V | 0V | 0V |

| Ref.No. Pin No. | IC102 | IC106 | IC206 | IC302 | IC306 | IC406 | IC506 | IC606 | IC701 | IC702 |
|--------------------|-------|--------|--------|-------|--------|--------|--------|--------|-------|-------|
| 1 | 5.5V | 22.5V | 22.5V | 5.5V | 22.5V | 22.5V | 30.1V | 30.1V | 0V | 0V |
| 2 | 4.9V | 22.5V | 22.5V | 4.9V | 22.5V | 22.5V | 30.1V | 30.1V | 2.5V | 2.5V |
| 3 | 5.5V | 16.4V | 16.4V | 5.5V | 16.4V | 16.4V | 24V | 24V | 0.1V | 0.1V |
| 4 | 4.9V | 0.01V | 0.01V | 4.9V | 0.01V | 0.01V | 0.01V | 0.01V | 0.01V | 0.01V |
| 5 | 5.5V | 0.01V | 0.01V | 5.5V | 0.01V | 0.01V | 0.01V | 0.01V | 1.7V | 1.7V |
| 6 | 4.9V | -20.9V | -20.9V | 4.9V | -20.9V | -20.9V | -28.4V | -28.4V | 3.8V | 3.8V |
| 7 | 5.6V | -1.1V | -1.1V | 5.6V | -1.1 | -1.1V | -1.1V | -1.1V | 0V | 0V |
| 8 | 5.6V | 0.6V | 0.6V | 5.6V | 0.6V | 0.6V | 0.6V | 0.6V | 14.2V | 14.2V |
| 9 | 5.6V | -22.5V | -22.5V | 5.6V | -22.5V | -22.5V | -30.1V | -30.1V | 6V | 6V |
| 10 | 0V | -22.5V | -22.5V | 0V | -22.5V | -22.5V | -30.1V | -30.1V | 6V | 6V |
| 11 | 14.6V | -0.6V | -0.6V | 14.6V | -0.6V | -0.6V | -0.6V | -0.6V | 14.2V | 14.2V |
| 12 | 5.6V | 0.6V | 0.6V | 5.6V | 0.6V | 0.6V | 0.6V | 0.6V | 14.2V | 14.2V |
| 13 | 5.6V | — | — | 5.6V | — | — | — | — | 5V | 5V |
| 14 | 5.6V | — | — | 5.6V | — | — | — | — | 5V | 5V |
| 15 | 4.9V | — | — | 4.9V | — | — | — | — | 5V | 5V |
| 16 | 5.5V | — | — | 5.5V | — | — | — | — | 0V | 0V |
| 17 | 4.9V | — | — | 4.9V | — | — | — | — | — | — |
| 18 | 5.5V | — | — | 5.5V | — | — | — | — | — | — |
| 19 | 4.9V | — | — | 4.9V | — | — | — | — | — | — |
| 20 | 5.5V | — | — | 5.5V | — | — | — | — | — | — |

| Ref. No. Pin Name | Q101 | Q201 | Q301 | Q401 | Q501 | Q601 |
|----------------------|-------------------|---------------|---------------|---------------|---------------|---------------|
| B | Mute OFF 13.8V | -15V 13.8V | -15V 13.8V | -15V 13.8V | -15V 13.8V | -15V 13.8V |
| C | 0V | 0V | 0V | 0V | 0V | 0V |
| E | 0V | 0V | 0V | 0V | 0V | 0V |

| Ref. No. Pin No. | Q102 | Q103 | Q104 | Q105 | Q202 | Q203 | Q204 | Q205 | Q302 | Q303 | Q304 | Q305 |
|---------------------|--------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| B | -0.5V | 0.01V | 0.6V | -0.6V | -0.5 | 0.01V | 0.6V | -0.6V | -0.5V | 0.01V | 0.6V | -0.6V |
| C | 0.6V | 13.9V | 22.5V | -22.5V | 0.6V | 13.9V | 22.5V | -22.5V | 0.6V | 13.9V | 22.5V | -22.5V |
| E | -0.01V | -0.01V | 0.01V | -0.01V | -1.1V | -0.01V | 0.01V | -0.01V | -1.1V | -0.01V | 0.01V | -0.01 |

| Ref. No. Pin Name | Q402 | Q403 | Q404 | Q405 | Q502 | Q503 | Q504 | Q505 | Q602 | Q603 | Q604 | Q605 |
|----------------------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|
| B | -0.5V | 0.01V | 0.6V | -0.6V | -0.5V | 0.01V | 0.6V | -0.6V | -0.5V | 0.01V | 0.6V | -0.6V |
| C | 0.6V | 13.9V | 22.5V | -22.5V | 0.6V | 13.9V | 30.1V | -30.1V | 0.6V | 13.9V | 30.1V | -30.1V |
| E | -1.1V | -0.01V | 0.01V | -0.01V | -1.1V | -0.01V | 0.01V | -0.01V | -1.1V | -0.01V | 0.01V | -0.01V |

| Ref. No. Pin Name | Q701~ 704 | Q705 | Q706 | Q707 | Q708 | Q709 ~ 712 | Q713 ~ 724 | Q725 | Q726 | Q727 |
|----------------------|-----------|-------|-------|-------|-------|------------|------------|-------|--------|-------|
| B | 14.6V | -1.0V | -1.0V | -1.0V | -1.0V | 0.9V | 0.35V | 15.6V | -15.6V | 13.6V |
| C | 7.3V | 1.7V | 1.7V | 1.7V | 1.7V | 14.3V | 14.3V | 21.7V | -21.7V | 14.2V |
| E | 14.3V | 0V | 0V | 0V | 0V | 0.6V | 0V | 15V | -15V | 14.3V |

| Ref. No. Pin Name | Q728 | Q729 | Q730 | Q731 | Q732 | Q801 | Q802 | Q803 | Q804 |
|----------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| B | 3V | 0V | 5V | 0.02V | 0.03V | 13.6V | 14.1V | 0.01V | 0.01V |
| C | 0.13V | 4.8V | 0.01V | 5V | 5V | 14.2V | 0.01V | 14.1V | 13.6V |
| E | 0V | 0V | 5V | 0V | 0V | 12.9V | 14.2V | 0V | 0V |

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

Electrical Parts List

Resistor : Carbon resistors under 1/4 watts are not mentioned in the parts list, please confirm them by schematic diagram.

Capacitor : μ F = microfarads, pF = picofarads

| 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 | |
| | PF. = Polyester Film | |

| Symbol No. | Part No. | Description |
|-----------------|-------------|-------------|
| Amp P. C. Board | | |
| IC's | | |
| IC103 | 51T25576W02 | NJM4580L |
| IC104 | 51T25576W02 | NJM4580L |
| IC105 | 51T25576W02 | NJM4580L |
| IC106 | 51E06841S01 | μPC1270H |
| IC206 | 51E06841S01 | μPC1270H |
| IC303 | 51T25576W02 | NJM4580L |
| IC304 | 51T25576W02 | NJM4580L |
| IC305 | 51T25576W02 | NJM4580L |
| IC306 | 51E06841S01 | μPC1270H |
| IC406 | 51E06841S01 | μPC1270H |
| IC503 | 51T25576W02 | NJM4580L |
| IC504 | 51T25576W02 | NJM4580L |
| IC505 | 51T25576W02 | NJM4580L |
| IC506 | 51E06841S01 | μPC1270H |
| IC606 | 51E06841S01 | μPC1270H |
| IC701 | 51T70759F01 | μPC494C |
| IC702 | 51E09178S01 | PS2501-1 |
| IC703 | 51T35423W01 | 35423W01 |
| Transistors | | |
| Q101 | 48E06355S01 | 2SC3327 |
| Q103 | 48S44578J02 | 2SC945 |
| Q104 | 48E06361S04 | 2SC4386 |
| Q105 | 48E06360S04 | 2SA1671 |
| Q201 | 48E06355S01 | 2SC3327 |
| Q203 | 48S44578J02 | 2SC945 |
| Q204 | 48E06361S04 | 2SC4386 |
| Q205 | 48E06360S04 | 2SA1671 |
| Q301 | 48E06355S01 | 2SC3327 |
| Q303 | 48S44578J02 | 2SC945 |

| Symbol No. | Part No. | Description |
|------------|-------------|-------------|
| Q304 | 48E06361S04 | 2SC4386 |
| Q305 | 48E06360S04 | 2SA1671 |
| Q401 | 48E06355S01 | 2SC3327 |
| Q403 | 48S44578J02 | 2SC945 |
| Q404 | 48E06361S04 | 2SC4386 |
| Q405 | 48E06360S04 | 2SA1671 |
| Q501 | 48E06355S01 | 2SC3327 |
| Q503 | 48S44578J02 | 2SC945 |
| Q504 | 48E06363S04 | 2SC4387 |
| Q505 | 48E06364S04 | 2SA1672 |
| Q601 | 48E06355S01 | 2SC3327 |
| Q603 | 48S44578J02 | 2SC945 |
| Q604 | 48E06363S04 | 2SC4387 |
| Q605 | 48E06364S04 | 2SA1672 |
| Q701 | 48T40081T02 | 2SA733 |
| Q702 | 48T40081T02 | 2SA733 |
| Q703 | 48T40081T02 | 2SA733 |
| Q704 | 48T40081T02 | 2SA733 |
| Q705 | 48S44578J02 | 2SC945 |
| Q706 | 48S44578J02 | 2SC945 |
| Q707 | 48S44578J02 | 2SC945 |
| Q708 | 48S44578J02 | 2SC945 |
| Q709 | 48T16440W01 | 2SC4024 |
| Q710 | 48T16440W01 | 2SC4024 |
| Q711 | 48T16440W01 | 2SC4024 |
| Q712 | 48T16440W01 | 2SC4024 |
| Q713 | 48E06359S03 | 2SD1669 |
| Q714 | 48E06359S03 | 2SD1669 |
| Q715 | 48E06359S03 | 2SD1669 |
| Q716 | 48E06359S03 | 2SD1669 |
| Q717 | 48E06359S03 | 2SD1669 |
| Q718 | 48E06359S03 | 2SD1669 |
| Q719 | 48E06359S03 | 2SD1669 |
| Q720 | 48E06359S03 | 2SD1669 |
| Q721 | 48E06359S03 | 2SD1669 |
| Q722 | 48E06359S03 | 2SD1669 |
| Q723 | 48E06359S03 | 2SD1669 |
| Q724 | 48E06359S03 | 2SD1669 |
| Q725 | 48T69176F02 | 2SC3421 |
| Q726 | 48T70761F01 | 2SA1358 |
| Q727 | 48T70761F01 | 2SA1358 |
| Q728 | 48E09189S01 | DTC114ES |
| Q729 | 48S44578J02 | 2SC945 |
| Q730 | 48T40081T02 | 2SA733 |
| Q731 | 48S44578J02 | 2SC945 |
| Q732 | 48S44578J02 | 2SC945 |

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|-------------|-------------|------------------|--------------|-------------|-------------------------------|
| Diodes | | | Transformers | | |
| D101 | 48T58583F01 | 1SS176 | T701 | 25E06343S01 | Choke, EI-35 |
| D201 | 48T58583F01 | 1SS176 | T702 | 25E06343S01 | Choke, EI-35 |
| D301 | 48T58583F01 | 1SS176 | T703 | 25E09180S01 | Power |
| D401 | 48T58583F01 | 1SS176 | T704 | 25E09179S01 | Power |
| D501 | 48T58583F01 | 1SS176 | | | |
| D601 | 48T58583F01 | 1SS176 | | | |
| D701 | 48T68079F03 | 30D4FA | | | |
| D702 | 48T68079F03 | 30D4FA | | | |
| D703 | 48T58583F01 | 1SS176 | | | |
| D706 | 48E02081S01 | 11E2 | | | |
| D707 | 48T58583F01 | 1SS176 | | | |
| D708 | 48T58583F01 | 1SS176 | | | |
| D709 | 48T58583F01 | 1SS176 | | | |
| D710 | 48T58583F01 | 1SS176 | | | |
| D711 | 48E09190S01 | F10P20F | | | |
| D712 | 48E09190S02 | F10P20FR | | | |
| D713 | 48E09190S01 | F10P20F | | | |
| D714 | 48E09190S02 | F10P20FR | | | |
| ZD701 | 48T68702F29 | Zener, RD6.2ESB1 | | | |
| ZD702 | 48T68702F70 | Zener, RD22ESB3 | | | |
| ZD703 | 48T68702F59 | Zener, RD16ESB1 | | | |
| ZD704 | 48T68702F59 | Zener, RD16ESB1 | | | |
| Thermistors | | | Switches | | |
| TH701 | 48E06365S01 | 20K ohm | S101 | 40E09139S01 | Slide (FILTER - OFF / HP) |
| TH702 | 48E06365S01 | 20K ohm | S102 | 40E09138S01 | Slide (INPUT MODE) |
| | | | S301 | 40E09139S01 | Slide (FILTER - OFF / HP) |
| | | | S302 | 40E09138S01 | Slide (INPUT MODE) |
| | | | S501 | 40E09137S01 | Slide (FILTER - OFF / LP) |
| | | | S502 | 40E09138S01 | Slide (INPUT MODE) |
| | | | S503 | 40E09136S01 | Slide (INPUT CHANNEL) |
| Coils | | | Capacitors | | |
| L101 | 24E07888S01 | 1.1 μ H | C108 | 21E06323S01 | CER., 100pF |
| L201 | 24E07888S01 | 1.1 μ H | E108 | 23E07084S01 | ELY., 10 μ F / 16V |
| L301 | 24E07888S01 | 1.1 μ H | C109 | 21E07287S01 | CER., 47pF |
| L401 | 24E07888S01 | 1.1 μ H | E109 | 23E07084S01 | ELY., 10 μ F / 16V |
| L501 | 24E07888S01 | 1.1 μ H | C110 | 08E09008S06 | CER., 0.1 μ F |
| L601 | 24E07888S01 | 1.1 μ H | E110 | 23E04911S01 | ELY., 0.22 μ F / 50V |
| L701 | 24E07941S01 | Choke | C111 | 08E09008S06 | CER., 0.1 μ F |
| L702 | 24E07941S01 | Choke | E111 | 23E04938S03 | ELY., 22 μ F / 16V |
| L703 | 24E07941S01 | Choke | C113 | 21E06323S02 | CER., 820pF |
| L704 | 24E07941S01 | Choke | E113 | 23E03384S01 | ELY., 0.47 μ F / 50V |
| | | | C114 | 21E06638S01 | CER., 22pF |
| | | | E114 | 23E04938S03 | ELY., 22 μ F / 16V |
| | | | C115 | 21E03923S01 | CER., 4.7pF |
| | | | E115 | 23E07084S03 | ELY., 22 μ F / 16V |
| | | | C116 | 08E09008S14 | CER., 0.047 μ F |
| | | | C120 | 23E06330S01 | ELY., (B.P) 100 μ F / 10V |
| | | | C208 | 21E06323S01 | CER., 100pF |
| | | | E208 | 23E07084S01 | ELY., 10 μ F / 16V |
| | | | C209 | 21E07287S01 | CER., 47pF |
| | | | E209 | 23E07084S01 | ELY., 10 μ F / 16V |
| | | | C210 | 08E09008S06 | CER., 0.1 μ F |
| | | | E210 | 23E04911S01 | ELY., 0.22 μ F / 50V |
| | | | C211 | 08E09008S06 | CER., 0.1 μ F |
| | | | E211 | 23E04938S03 | ELY., 22 μ F / 16V |
| | | | C213 | 21E06323S02 | CER., 820pF |
| | | | E213 | 23E03384S01 | ELY., 0.47 μ F / 50V |
| | | | C214 | 21E06638S01 | CER., 22pF |

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|------------|-------------|-------------------------------|------------|-------------|-------------------------------|
| E214 | 23E04938S03 | ELY., 22 μ F / 16V | C520 | 23E06330S01 | ELY., (B.P) 100 μ F / 10V |
| C215 | 21E03923S01 | CER., 4.7pF | E607 | 23E07087S03 | ELY., 1.5 μ F / 50V |
| E215 | 23E07084S03 | ELY., 22 μ F / 16V | C608 | 21E06323S01 | CER., 100pF |
| C216 | 08E09008S14 | CER., 0.047 μ F | E608 | 23E07084S01 | ELY., 10 μ F / 16V |
| C220 | 23E06330S01 | ELY., (B.P) 100 μ F / 10V | C609 | 21E07287S01 | CER., 47pF |
| C308 | 21E06323S01 | CER., 100pF | E609 | 23E07084S01 | ELY., 10 μ F / 16V |
| E308 | 23E07084S01 | ELY., 10 μ F / 16V | C610 | 08E09008S02 | CER., 0.068 μ F |
| C309 | 21E07287S01 | CER., 47pF | E610 | 23E04938S03 | ELY., 22 μ F / 16V |
| E309 | 23E07084S01 | ELY., 10 μ F / 16V | C611 | 08E09008S09 | CER., 0.15 μ F |
| C310 | 08E09008S06 | CER., 0.1 μ F | E611 | 23E04938S03 | ELY., 22 μ F / 16V |
| E310 | 23E04911S01 | ELY., 0.22 μ F / 50V | C613 | 21E06323S02 | CER., 820pF |
| C311 | 08E09008S06 | CER., 0.1 μ F | E613 | 23E03384S01 | ELY., 0.47 μ F / 50V |
| E311 | 23E04938S03 | ELY., 22 μ F / 16V | C614 | 21E03731S01 | CER., 33pF |
| C313 | 21E06323S02 | CER., 820pF | C615 | 21E03923S01 | CER., 4.7pF |
| E313 | 23E03384S01 | ELY., 0.47 μ F / 50V | E615 | 23E07084S03 | ELY., 22 μ F / 16V |
| C314 | 21E06638S01 | CER., 22pF | C616 | 08E09008S14 | CER., 0.047 μ F |
| E314 | 23E04938S03 | ELY., 22 μ F / 16V | C620 | 23E06330S01 | ELY., (B.P) 100 μ F / 10V |
| C315 | 21E03923S01 | CER., 4.7pF | C701 | 21E06323S01 | CER., 100pF |
| E315 | 23E07084S03 | ELY., 22 μ F / 16V | E701 | 23E04821S01 | ELY., 100 μ F / 25V |
| C316 | 08E09008S14 | CER., 0.047 μ F | C702 | 21E06323S01 | CER., 100pF |
| C320 | 23E06330S01 | ELY., (B.P) 100 μ F / 10V | E702 | 23E06326S01 | ELY., 220 μ F / 16V |
| C408 | 21E06323S01 | CER., 100pF | C703 | 21E06323S01 | CER., 100pF |
| E408 | 23E07084S01 | ELY., 10 μ F / 16V | E703 | 23E06326S01 | ELY., 220 μ F / 16V |
| C409 | 21E07287S01 | CER., 47pF | C704 | 21E06323S01 | CER., 100pF |
| E409 | 23E07084S01 | ELY., 10 μ F / 16V | E704 | 23E04833S01 | ELY., 100 μ F / 16V |
| C410 | 08E09008S06 | CER., 0.1 μ F | C705 | 21E06325S01 | CER., 560pF |
| E410 | 23E04911S01 | ELY., 0.22 μ F / 50V | E705 | 23E08741S03 | ELY., 3300 μ F / 25V |
| C411 | 08E09008S06 | CER., 0.1 μ F | C706 | 21E06325S01 | CER., 560pF |
| E411 | 23E04938S03 | ELY., 22 μ F / 16V | E706 | 23E08741S03 | ELY., 3300 μ F / 25V |
| C413 | 21E06323S02 | CER., 820pF | C707 | 21E06323S01 | CER., 100pF |
| E413 | 23E03384S01 | ELY., 0.47 μ F / 50V | E707 | 23E09186S01 | ELY., 470 μ F / 40V |
| C414 | 21E06638S01 | CER., 22pF | C708 | 21E06323S01 | CER., 100pF |
| E414 | 23E04938S03 | ELY., 22 μ F / 16V | E708 | 23E09186S01 | ELY., 470 μ F / 40V |
| C415 | 21E03923S01 | CER., 4.7pF | C709 | 21E06323S01 | CER., 100pF |
| E415 | 23E07084S03 | ELY., 22 μ F / 16V | E709 | 23E09188S01 | ELY., 5600 μ F / 25V |
| C416 | 08E09008S14 | CER., 0.047 μ F | C710 | 21E06323S01 | CER., 100pF |
| C420 | 23E06330S01 | ELY., (B.P) 100 μ F / 10V | E710 | 23E09188S01 | ELY., 5600 μ F / 25V |
| E507 | 23E07087S03 | ELY., 1.5 μ F / 50V | C711 | 21E06325S01 | CER., 560pF |
| C508 | 21E06323S01 | CER., 100pF | C712 | 21E06325S01 | CER., 560pF |
| E508 | 23E07084S01 | ELY., 10 μ F / 16V | C713 | 08E06457S01 | TF., 0.1 μ F |
| C509 | 21E07287S01 | CER., 47pF | C714 | 08E06457S01 | TF., 0.1 μ F |
| E509 | 23E07084S01 | ELY., 10 μ F / 16V | C719 | 08E06457S01 | TF., 0.1 μ F |
| C510 | 08E09008S02 | CER., 0.068 μ F | E719 | 23E09186S01 | ELY., 470 μ F / 40V |
| E510 | 23E04938S03 | ELY., 22 μ F / 16V | C720 | 08E06457S01 | TF., 0.1 μ F |
| C511 | 08E09008S09 | CER., 0.15 μ F | E720 | 23E09186S01 | ELY., 470 μ F / 40V |
| E511 | 23E04938S03 | ELY., 22 μ F / 16V | C721 | 08E06457S01 | TF., 0.1 μ F |
| C513 | 21E06323S02 | CER., 820pF | E721 | 23E09187S01 | ELY., 4700 μ F / 35V |
| E513 | 23E03384S01 | ELY., 0.47 μ F / 50V | C722 | 08E06457S01 | TF., 0.1 μ F |
| C514 | 21E03731S01 | CER., 33pF | E722 | 23E09187S01 | ELY., 4700 μ F / 35V |
| C515 | 21E03923S01 | CER., 4.7pF | C723 | 08E09151S06 | MYL., 1200pF |
| E515 | 23E07084S03 | ELY., 22 μ F / 16V | E723 | 23E08793S03 | ELY., 220 μ F / 16V |
| C516 | 08E09008S14 | CER., 0.047 μ F | C724 | 08E09008S06 | CER., 0.1 μ F |

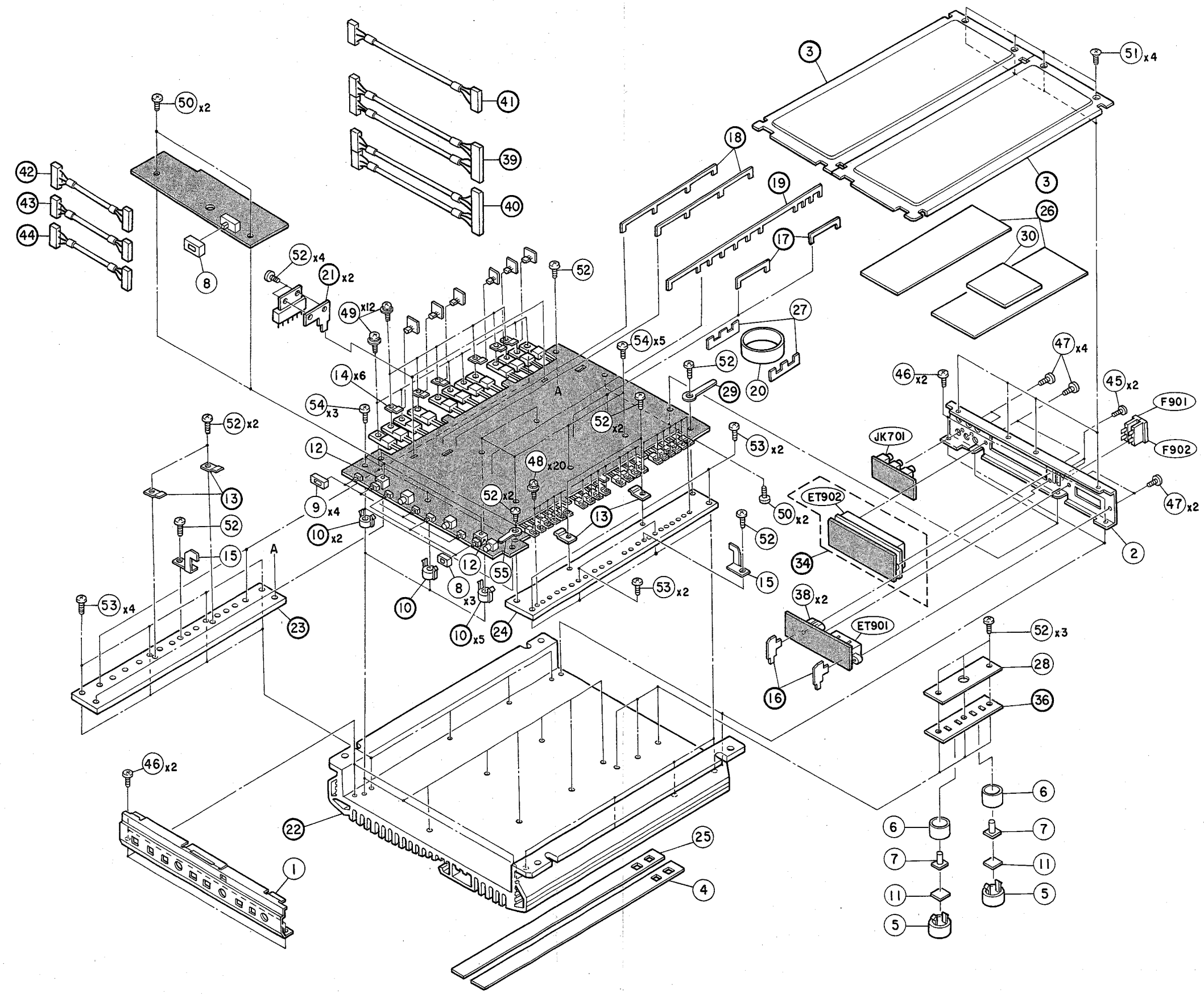
| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|------------|-------------|----------------------------|---------------------|-------------|---|
| E724 | 23E08793S03 | ELY., 220 μ F / 16V | R771 | 06E06383S01 | M.F., 10 ohm 1W |
| C725 | 08E09008S06 | CER., 0.1 μ F | R772 | 06E06383S01 | M.F., 10 ohm 1W |
| E725 | 23E08793S04 | ELY., 100 μ F / 16V | R773 | 06E06383S01 | M.F., 10 ohm 1W |
| C726 | 21E03926S01 | CER., 1000pF | R774 | 06E06383S01 | M.F., 10 ohm 1W |
| E726 | 23E08793S04 | ELY., 100 μ F / 16V | R775 | 06E06383S01 | M.F., 10 ohm 1W |
| C727 | 08E09008S15 | CER., 0.47 μ F | R776 | 06E06383S01 | M.F., 10 ohm 1W |
| E727 | 23E08741S03 | ELY., 3300 μ F / 25V | VR101 | 18E09140S01 | Variable, 10K ohm |
| E728 | 23E04833S01 | ELY., 100 μ F / 16V | VR301 | 18E09140S01 | Variable, 10K ohm |
| E729 | 23E07084S01 | ELY., 10 μ F / 16V | VR501 | 18E09140S01 | Variable, 10K ohm |
| E730 | 23E04833S01 | ELY., 100 μ F / 16V | | | |
| E731 | 23E04833S01 | ELY., 100 μ F / 16V | | | |
| Resistors | | | Pre Amp P. C. Board | | |
| R142 | 06E06385S01 | M.P., 0.1ohm \times 2 5W | IC's | | |
| R144 | 06E06383S01 | M.F., 10 ohm 1W | IC101 | 51T25576W02 | NJM4580L |
| R242 | 06E06385S01 | M.P., 0.1ohm \times 2 5W | IC102 | 51T25431W01 | M5243P |
| R244 | 06E06383S01 | M.F., 10 ohm 1W | IC301 | 51T25576W02 | NJM4580L |
| R342 | 06E06385S01 | M.P., 0.1ohm \times 2 5W | IC302 | 51T25431W01 | M5243P |
| R344 | 06E06383S01 | M.F., 10 ohm 1W | IC501 | 51T25576W02 | NJM4580L |
| R442 | 06E06385S01 | M.P., 0.1ohm \times 2 5W | Transistors | | |
| R444 | 06E06383S01 | M.F., 10 ohm 1W | Q801 | 48S44578J02 | 2SC945 |
| R542 | 06E06385S01 | M.P., 0.1ohm \times 2 5W | Q802 | 48E09189S01 | DTA114ES |
| R544 | 06E06383S01 | M.F., 10 ohm 1W | Q803 | 48E09189S02 | DTC114ES |
| R642 | 06E06385S01 | M.P., 0.1ohm \times 2 5W | Q804 | 48E09189S02 | DTC114ES |
| R644 | 06E06383S01 | M.F., 10 ohm 1W | Switch | | |
| R701 | 06E07889S01 | M.P., 0.1 ohm 5W | S103 | 40E09137S01 | Slide (ACOUSTIC COMPENSATION ON/OFF) |
| R702 | 06E07889S01 | M.P., 0.1 ohm 5W | | | |
| R751 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R752 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R753 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R754 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R755 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R756 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R757 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R758 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R759 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R760 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R761 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R762 | 06E06382S01 | M.F., 1 ohm 1W | | | |
| R763 | 06E06383S01 | M.F., 10 ohm 1W | | | |
| R764 | 06E06383S01 | M.F., 10 ohm 1W | | | |
| R765 | 06E06383S01 | M.F., 10 ohm 1W | | | |
| R766 | 06E06383S01 | M.F., 10 ohm 1W | | | |
| R767 | 06E06383S01 | M.F., 10 ohm 1W | | | |
| R768 | 06E06383S01 | M.F., 10 ohm 1W | | | |
| R769 | 06E06383S01 | M.F., 10 ohm 1W | | | |
| R770 | 06E06383S01 | M.F., 10 ohm 1W | | | |

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|-------------------|-------------|--------------------------|----------------------------|-------------|------------------------|
| Capacitors | | | | | |
| C101 | 21E07287S01 | CER., 47pF | C501 | 21E07287S01 | CER., 47pF |
| E101 | 23E07084S01 | ELY., 10 μ F / 16V | E501 | 23E07084S01 | ELY., 10 μ F / 16V |
| C102 | 21E07287S01 | CER., 47pF | C502 | 21E07287S01 | CER., 47pF |
| E102 | 23E07084S01 | ELY., 10 μ F / 16V | E502 | 23E07084S01 | ELY., 10 μ F / 16V |
| C103 | 08E09008S12 | CER., 0.18 μ F | C503 | 08E09008S06 | CER., 0.1 μ F |
| E103 | 23E07086S01 | ELY., 4.7 μ F / 25V | C519 | 21E06323S01 | CER., 100pF |
| C104 | 08E09008S03 | CER., 0.082 μ F | C601 | 21E07287S01 | CER., 47pF |
| E104 | 23E07088S01 | ELY., 0.68 μ F / 50V | E601 | 23E07084S01 | ELY., 10 μ F / 16V |
| C105 | 08E09151S01 | P.F., 0.015 μ F | C602 | 21E07287S01 | CER., 47pF |
| C106 | 21E03875S01 | CER., 100pF | E602 | 23E07084S01 | ELY., 10 μ F / 16V |
| E106 | 23E07087S02 | ELY., 0.22 μ F / 50V | C603 | 08E09008S06 | CER., 0.1 μ F |
| C107 | 08E09008S11 | CER., 0.27 μ F | C619 | 21E06323S01 | CER., 100pF |
| E107 | 23E07084S01 | ELY., 10 μ F / 16V | Resistors | | |
| C119 | 21E06323S01 | CER., 100pF | R802 | 06E07006S02 | C.F., 560 ohm 1/2W |
| C201 | 21E07287S01 | CER., 47pF | R803 | 06E07006S02 | C.F., 560 ohm 1/2W |
| E201 | 23E07084S01 | ELY., 10 μ F / 16V | R804 | 06E04505S01 | C.F., 470 ohm 1/2W |
| C202 | 21E07287S01 | CER., 47pF | R805 | 06E04505S01 | C.F., 470 ohm 1/2W |
| E202 | 23E07084S01 | ELY., 10 μ F / 16V | R806 | 06E03962S01 | C.F., 680 ohm 1/2W |
| C203 | 08E09008S12 | CER., 0.18 μ F | R807 | 06E03962S01 | C.F., 680 ohm 1/2W |
| E203 | 23E07086S01 | ELY., 4.7 μ F / 25V | R808 | 06E07006S02 | C.F., 560 ohm 1/2W |
| C204 | 08E09008S03 | CER., 0.082 μ F | R809 | 06E07006S02 | C.F., 560 ohm 1/2W |
| E204 | 23E07088S01 | ELY., 0.68 μ F / 50V | Speaker P. C. Board | | |
| C205 | 08E09151S01 | P.F., 0.015 μ F | Capacitors | | |
| C206 | 21E03875S01 | CER., 100pF | C117 | 08E06457S01 | TF, 0.1 μ F |
| E206 | 23E07087S02 | ELY., 0.22 μ F / 50V | C118 | 08E06457S02 | TF, 0.022 μ F |
| C207 | 08E09008S11 | CER., 0.27 μ F | C217 | 08E06457S01 | TF, 0.1 μ F |
| E207 | 23E07084S01 | ELY., 10 μ F / 16V | C218 | 08E06457S02 | TF, 0.022 μ F |
| C219 | 21E06323S01 | CER., 100pF | C317 | 08E06457S01 | TF, 0.1 μ F |
| C301 | 21E06324S01 | CER., 220pF | C318 | 08E06457S02 | TF, 0.022 μ F |
| E301 | 23E07084S01 | ELY., 10 μ F / 16V | C417 | 08E06457S01 | TF, 0.1 μ F |
| C303 | 08E09008S12 | CER., 0.18 μ F | C418 | 08E06457S02 | TF, 0.022 μ F |
| E303 | 23E07086S01 | ELY., 4.7 μ F / 25V | C517 | 08E06457S01 | TF, 0.1 μ F |
| C304 | 08E09008S03 | CER., 0.082 μ F | C518 | 08E06457S02 | TF, 0.022 μ F |
| E304 | 23E07088S01 | ELY., 0.68 μ F / 50V | C617 | 08E06457S01 | TF, 0.1 μ F |
| C305 | 08E09151S01 | P.F., 0.015 μ F | C618 | 08E06457S02 | TF, 0.022 μ F |
| C306 | 21E03875S01 | CER., 100pF | Resistors | | |
| E306 | 23E07087S02 | ELY., 0.22 μ F / 50V | R145 | 06E03813S01 | M.F., 10 ohm 1W |
| C307 | 08E09008S11 | CER., 0.27 μ F | R245 | 06E03813S01 | M.F., 10 ohm 1W |
| E307 | 23E07084S01 | ELY., 10 μ F / 16V | R345 | 06E03813S01 | M.F., 10 ohm 1W |
| C401 | 21E06324S01 | CER., 220pF | | | |
| E401 | 23E07084S01 | ELY., 10 μ F / 16V | | | |
| C403 | 08E09008S12 | CER., 0.18 μ F | | | |
| E403 | 23E07086S01 | ELY., 4.7 μ F / 25V | | | |
| C404 | 08E09008S03 | CER., 0.082 μ F | | | |
| E404 | 23E07088S01 | ELY., 0.68 μ F / 50V | | | |
| C405 | 08E09151S01 | P.F., 0.015 μ F | | | |
| C406 | 21E03875S01 | CER., 100pF | | | |
| E406 | 23E07087S02 | ELY., 0.22 μ F / 50V | | | |
| C407 | 08E09008S11 | CER., 0.27 μ F | | | |
| E407 | 23E07084S01 | ELY., 10 μ F / 16V | | | |

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|---------------------------------|-------------|-------------------------|----------------------|-------------|-------------------------------|
| R445 | 06E03813S01 | M.F., 10 ohm 1W | Miscellaneous | | |
| R545 | 06E03813S01 | M.F., 10 ohm 1W | ET901 | 29E09185S01 | Power Supply Terminal (3P) |
| R645 | 06E03813S01 | M.F., 10 ohm 1W | ET902 | 29E09184S01 | Speaker Output Terminal (12P) |
| LED P. C. Board | | | F901 | 65S58596F07 | Fuse, Auto (25A) |
| LED's | | | F902 | 65S58596F07 | Fuse, Auto (25A) |
| LD801 | 48E06366S01 | AABG4307K (GRN) | JK701 | 09E09183S01 | Jack, RCA Input (6P) |
| LD802 | 48E06366S01 | AABG4307K (GRN) | | | |
| LD803 | 48E06366S01 | AABG4307K (GRN) | | | |
| LD804 | 48E06366S01 | AABG4307K (GRN) | | | |
| Power Supply P. C. Board | | | | | |
| Diode | | | | | |
| D901 | 48E02081S01 | 11E2 | | | |
| Capacitors | | | | | |
| C901 | 21E09367S01 | CER., 0.047 μ F | | | |
| E901 | 23E03780S01 | ELY., 0.1 μ F / 50V | | | |
| E902 | 23E03780S01 | ELY., 0.1 μ F / 50V | | | |
| Idling P. C. Board | | | | | |
| Transistors | | | | | |
| Q102 | 48S44578J02 | 2SC945 | | | |
| Q202 | 48S44578J02 | 2SC945 | | | |
| Q302 | 48S44578J02 | 2SC945 | | | |
| Q402 | 48S44578J02 | 2SC945 | | | |
| Q502 | 48S44578J02 | 2SC945 | | | |
| Q602 | 48S44578J02 | 2SC945 | | | |

Exploded View (Cabinet)

1
2
3
4
5



A | B - 33 - | C | D | E | F - 34 - | G | H

Cabinet Assembly Parts List

Note : The parts without parts list are not supplied.

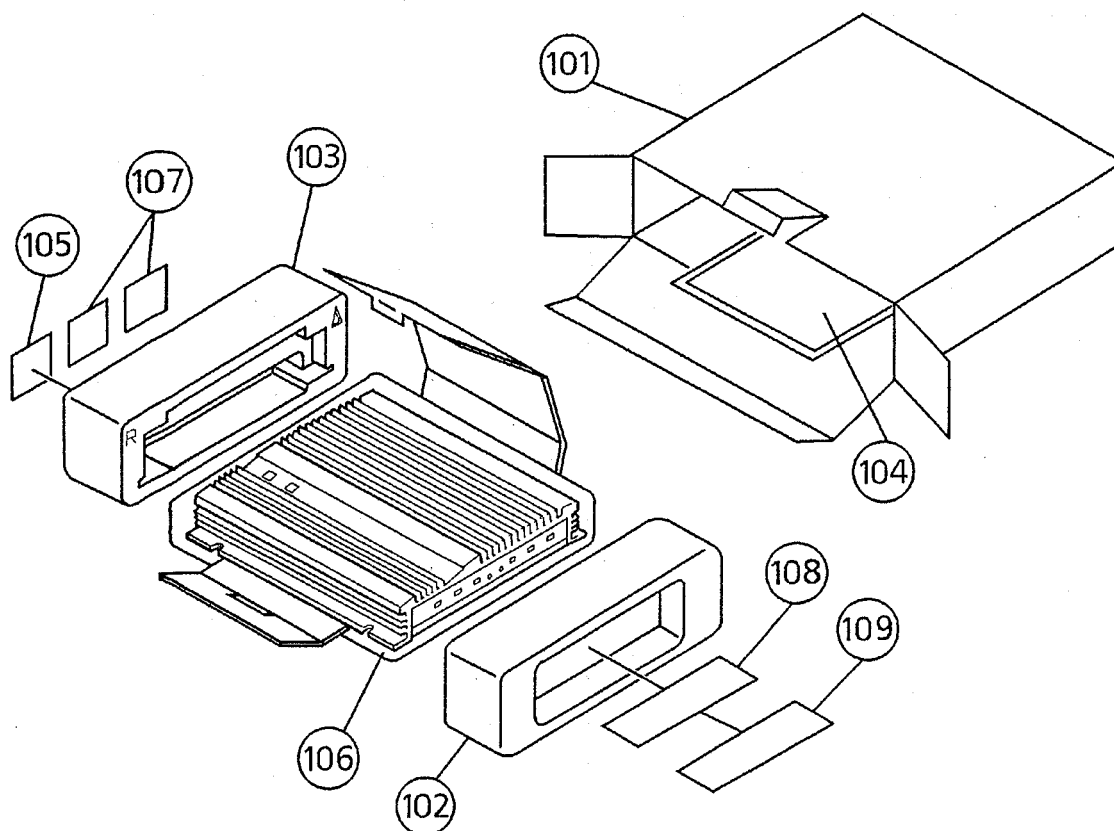
| Symbol No. | Index | Part No. | Description | Symbol No. | Index | Part No. | Description |
|------------|-------|-------------|---------------------------|------------|-------|----------|-------------|
| 1 | 5-C | 27E09490S01 | Front Chassis | | | | |
| 2 | 3-G | 27E09491S01 | Rear Chassis | | | | |
| 4 | 5-E | 64E09381S01 | Name Plate | | | | |
| 5 | 5-F | 15E09383S01 | Holder LED | | | | |
| 6 | 4-F | 15E09384S01 | Cover, LED | | | | |
| 7 | 5-F | 07E09492S01 | LED Pre Base | | | | |
| 8 | | 36E09131S01 | Knob, Switch (A) | | | | |
| 9 | 3-C | 36E09132S01 | Knob, Switch (B) | | | | |
| 11 | 5-F | 61E06376S01 | Lens, LED | | | | |
| 12 | 3-C | 07E09493S01 | Holder, Sub P.C.Board | | | | |
| 14 | 3-C | 07E09494S01 | Support, Transistor (B) | | | | |
| 15 | | 07E09495S01 | Support, Bottom Cover (C) | | | | |
| 20 | 3-E | 26A81610F02 | Shield | | | | |
| 25 | 5-E | 64E09382S01 | Sheet, Name Plate | | | | |
| 27 | 2-E | 14E09385S01 | Fiber, (E) | | | | |
| 28 | 4-F | 14E09386S01 | Fiber LED | | | | |
| 30 | 2-F | 26E09496S01 | Plate, Shield | | | | |
| 38 | 4-E | 09E06453S01 | Holder, Auto Fuse | | | | |
| 45 | 3-G | 03E08303S01 | Screw, CPTS-4 (M2×6) | | | | |
| 46 | | 03E06480S01 | Screw, CPTS-2 (M3×6) | | | | |
| 47 | | 03E04878S01 | Screw, CPTS-2 (M3×8) | | | | |
| 48 | 3-D | 03E08304S01 | Screw, CPTS-2 (M3×8.5) | | | | |
| 49 | 2-C | 03E08305S01 | Screw, CPTS-2 (M3×9.5) | | | | |
| 50 | | 03E06492S01 | Screw, CBTS-3 (M3×5) | | | | |
| 51 | 1-G | 03E06493S02 | Screw, CPTS-3 (M3×6) | | | | |
| 52 | | 03E08429S01 | Screw, CBTS-2 (M3×6) | | | | |
| 53 | | 03E06967S01 | Screw, CBTS-2 (M3×10) | | | | |
| 54 | | 03E07234S01 | Screw, CBTS-2 (M3×12) | | | | |
| 55 | 3-D | 09E09497S01 | Lug | | | | |

Packing Assembly Parts List

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|------------|-------------|--------------------------------|------------|----------|-------------|
| ○ 101 | 56E09133S01 | Carton, Packing | | | |
| ● 101 | 56E09133S01 | Carton, Packing | | | |
| △ 101 | 56E09369S01 | Carton, Packing | | | |
| 102 | 56E09134S01 | Tray, Packing (L) | | | |
| 103 | 56E09134S02 | Tray, Packing (R) | | | |
| ○ 104 | 68P21870W61 | Owner's Manual | | | |
| △ 104 | 68P21870W75 | Owner's Manual | | | |
| ● 104-1 | 68P21870W61 | Owner's Manual | | | |
| ● 104-2 | 68P21870W94 | Owner's Manual | | | |
| 105 | 03E09191S01 | Screw, Flange (M4×20) | | | |
| 106 | 56B72811F08 | Sack, Polyethylene | | | |
| 107 | 65S58596F07 | Fuse, Auto 25A (For BATT Line) | | | |
| 108 | 01E08346S01 | Assy., Remote Cord | | | |
| 109 | 01E09368S01 | Assy., Power Cord | | | |

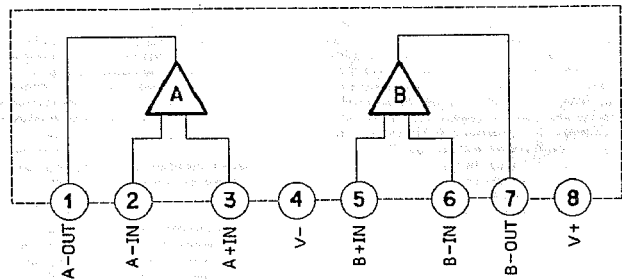
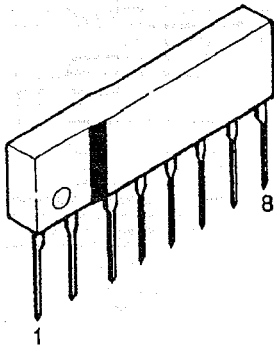
Note : ○: For North American Model only, ●: For Canadian Model only,
 △: For General Foreign Model only, Others: Common.

Packing Method View

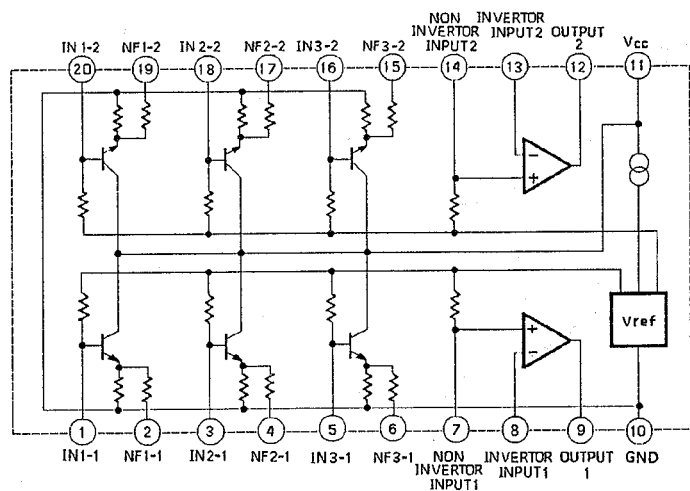
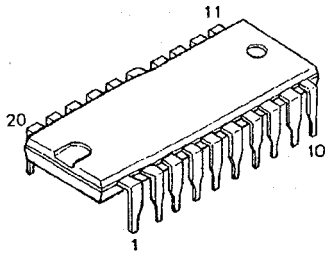


Semi - Conductor Lead Identifications

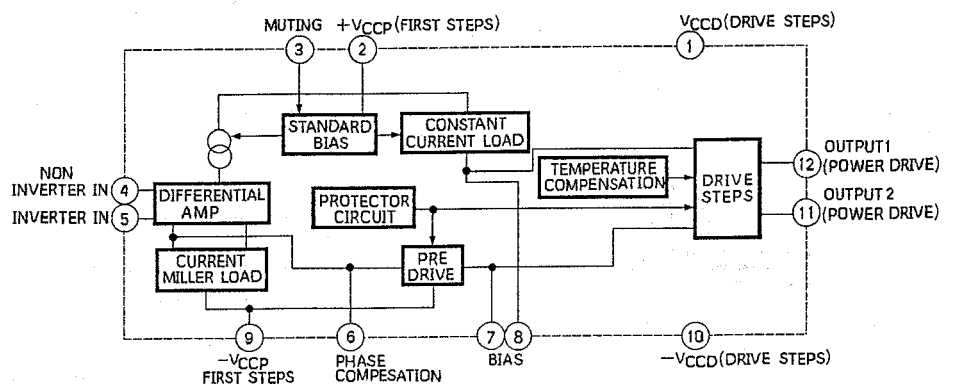
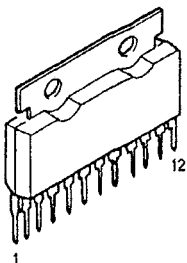
NJM4580L : IC101, 103~105,
301, 303~305,
501, 503~505

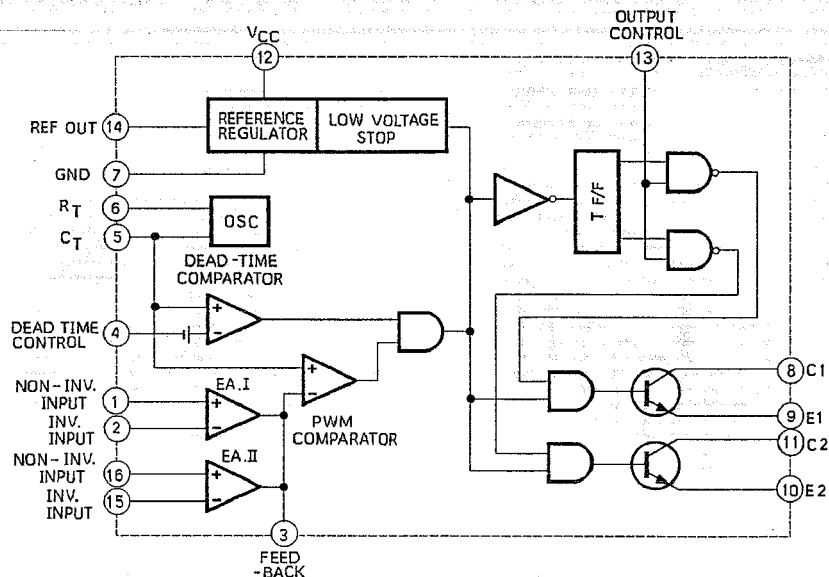
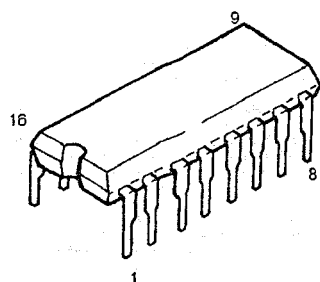
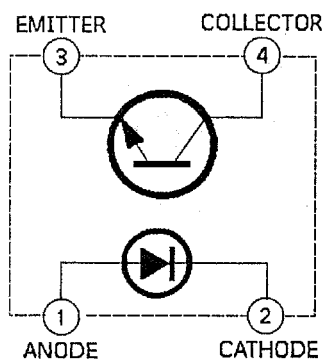
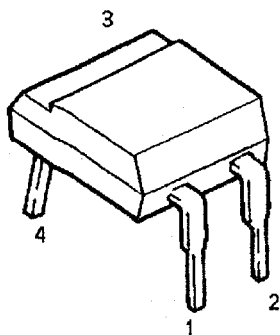
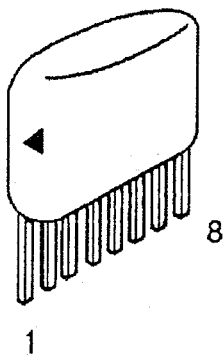


M5243P : IC102, 302



μPC1270H : IC106, 206, 306,
406, 506, 606



μPC494C : IC701**PS2501-1 : IC702****35423W01 : IC703**

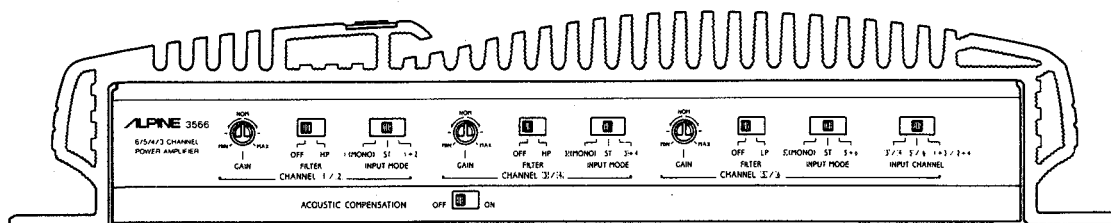
| PIN NO. | CORD ADDRESS | I/O |
|---------|--------------|-----|
| 1 | BATT | — |
| 2 | TC1 | — |
| 3 | TC2 | — |
| 4 | TC3 | — |
| 5 | GND | — |
| 6 | MUTE | O |
| 7 | REMOTE | I |
| 8 | μ-COM | I |

ALPINE[®] SERVICE MANUAL

6/5/4/3 Channel Power Amplifier

— REVISED —

- Serial Numbers after
No. 21021101 for North American model only
No. 20220101 for Canadian model only
No. 20520401 for General Foreign model only
- For information that is not mentioned in this service manual,
refer to the Service Manual 3566 (68P40481W01).



3566

Electrical Parts List

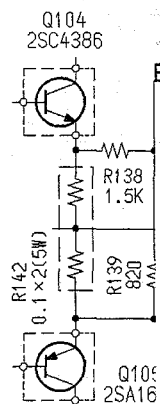
Note : The parts is not mentioned, refer to the Service Manual 3566 (68P40481W01).

| Symbol No. | Part No. | Description |
|----------------------------|--------------|-------------|
| Pre Amp P. C. Board | | |
| Transistors | | |
| Q733 | 48S445 78J02 | 2SC945L |
| Q734 | 48S445 78J02 | 2SC945L |
| Q735 | 48T40081T02 | 2SA733 |

| Symbol No. | Part No. | Description |
|------------------|-------------|-------------------------------|
| Diode | | |
| D715 | 48T58583F01 | 1SS176 |
| Capacitor | | |
| C732 | 23E06330S01 | ELY., (B.P) 100 μ F / 10V |

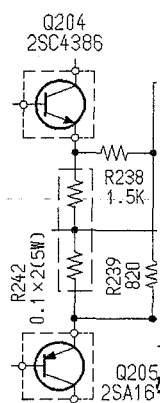
Schematic Diagram

Refer to the Service Manual 3566 (68P40481W01) for the description not mentioned in this manual.

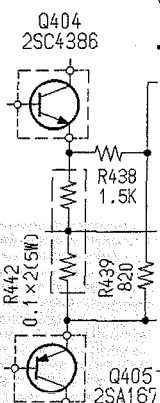
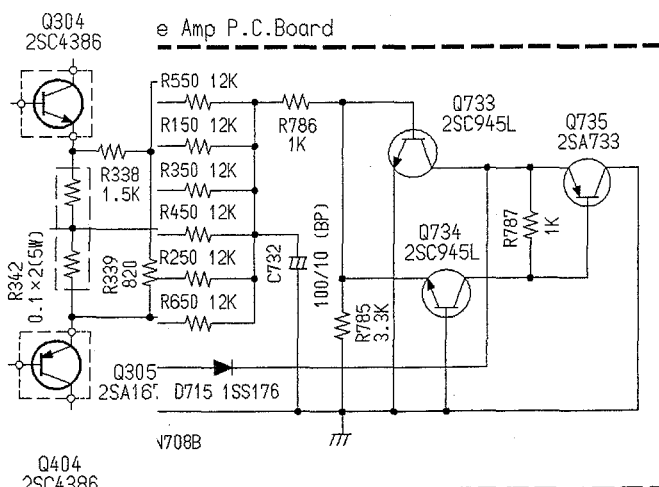


E :

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



Additional Circuit Diagram



Q733~735

DC BIAS DET

| | B | C | E |
|------|-------|-------|-------|
| Q733 | 0V | 13.9V | 0V |
| Q734 | 0V | 13.9V | 0V |
| Q735 | 13.9V | 0V | 13.9V |