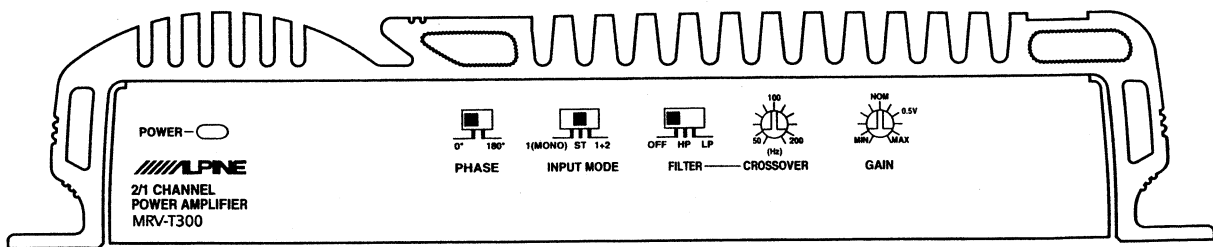


ALPINE[®] SERVICE MANUAL

2/1 Channel Power Amplifier



| | |
|----------|---------|
| サービス費用区分 | B |
| 技術資料 No. | PM-54-O |

MRV-T300

Contents

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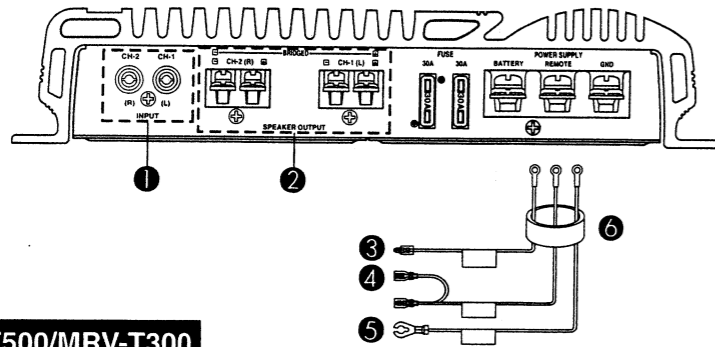
Additional Schematic Diagram inserted.

Specifications

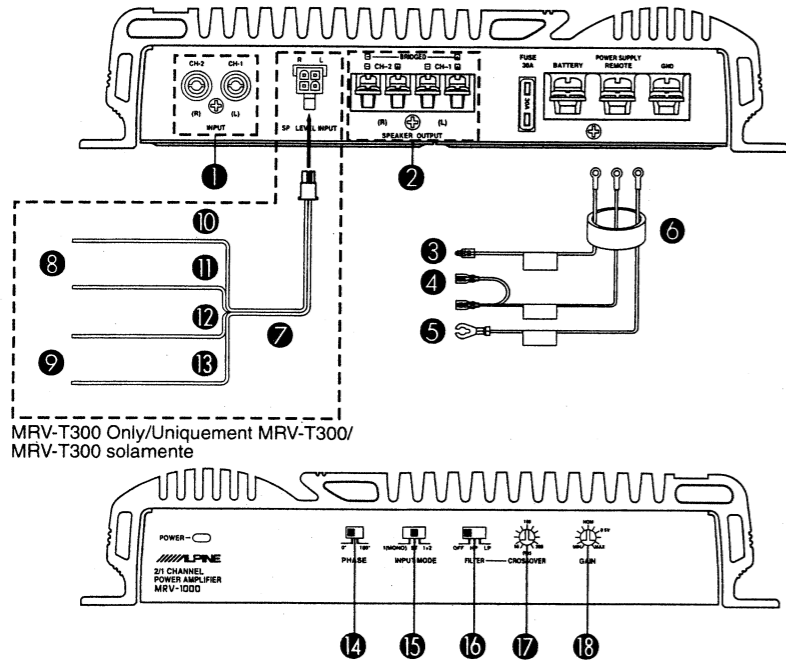
| | |
|--|---|
| Power Output (20Hz~20kHz) | 4ohm-2channel, 0.04% T.H.D.: 50W 2ohm-2channel, 0.3% T.H.D.: 70W 4ohm-1channel, 0.3% T.H.D., BTL: 150W |
| S / N Ratio (55W / ch / 4ohm, Input shorted) | 98dB |
| Input Sensitivity (55W / ch Output) | LINE, CW : 0.2V±3dB LINE, Center : 1V±3dB LINE, CCW : 4V±3dB SP., CW : 0.4V±3dB SP., Center : 2V±3dB SP., CCW : 8V±3dB |
| Input Impedance | LINE : 11±2kohm SP. : 15±3ohm |
| Frequency Response (-1dB at 1kHz) | 10Hz~50kHz |
| Current Drain | 4ohm-2channel, 10% T.H.D.: 20A 2ohm-2channel, 10% T.H.D.: 32A 4ohm-1channel, BTL: 28A |
| Residual Noise (Input shorted) | 1.2mV |
| Channel Separation (Input Shorted, at 1kHz) | 55dB |
| Fuse Requirement | 20A (For Battery Line) |
| Power Source | DC14.4V (11~16V) |
| Semiconductors | 5 IC's, 38 Transistors, 14 Diodes, 4 Zener Diodes, 2 FET's |
| Dimensions (W×H×D) | 240×53×150 mm |
| Weight | 1.9kg |

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

MRV-1000



MRV-T500/MRV-T300



MRV-T300 Only/Uniquement MRV-T300/
MRV-T300 solamente

Fig. 2

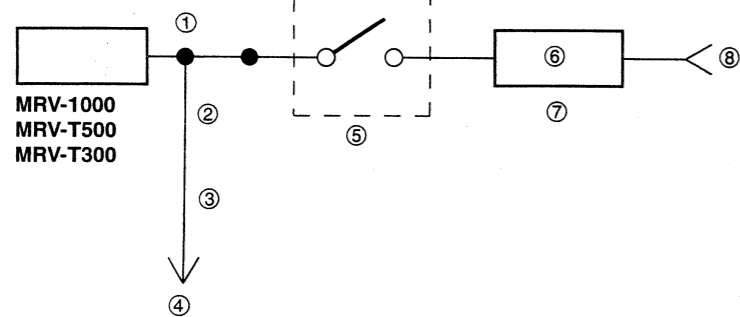


Fig. 3

CONNECTIONS (Fig. 2 - Fig. 8)

Before making connections, be sure to turn the power off to all audio components. Connect the yellow battery lead from the amp directly to the positive (+) terminal of the vehicle's battery. Do not connect this lead to the fuse block.

To prevent external noise from entering the audio system.

- Locate the unit and route the leads at least 10 cm away from the car harness.
- Keep the battery power leads as far away from other leads as possible.
- Connect the ground lead securely to a bare metal spot (remove the coating if necessary) of the car chassis.
- If you add an optional noise suppressor, connect it as far away from the unit as possible. Your Alpine dealer carries various Alpine noise suppressors, contact them for further information.
- Your Alpine dealer knows best about noise prevention measures so consult your dealer for further information.

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 and Right to Right.

Speaker Output Terminals

The MRV-1000/MRV-T500/MRV-T300 has two sets of speaker outputs. Be sure to observe correct speaker output connections and phasing. In the stereo mode, connect the right speaker outputs 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 (-) terminals as a common lead between the left and right channels. Do not connect this lead to the vehicle's chassis.

NOTE:

Do not connect speaker leads together or to chassis ground.

Battery Lead (Yellow) (USA/CANADA Models: Sold Separately)

Be sure to add a **60 amp fuse** (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 8 AWG or larger.

- ★ MRV-1000 ... 60 amp fuse (or two 30A fuses in parallel)
- MRV-T500 ... 30 amp fuse
- MRV-T300 ... 25 amp fuse

Remote Turn-On Lead (Blue/White) (USA/CANADA Models: Sold Separately)

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

Ground Lead (Black) (USA/CANADA Models: Sold Separately)

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.

Insulation Tube

Speaker Input Leads

These leads are input leads for use with head units not equipped with preamp outputs. When not using the RCA Line Input connectors, you should connect these wires to the speaker output leads of your head unit. The MRV-T300 accepts input from high power or standard power head units.

- Left Speaker
- Right Speaker
- White (+)
- White/Black (-)
- Gray (+)
- Gray/Black (-)

MRV-1000 Only

In case of using the leads (speaker/power supply cord) purchased at the market, use the hexagon screws and the hexagon wrench included as the accessory to make connection easier. The wire size should be within AWG6 - AWG18.

SWITCH SETTINGS

High-pass Output Phase Switch

Sets the phase of this output to 0° (in phase) or 180° (inverted) independently from the other output. Often, the subwoofer and midrange (or midrange and tweeter) may be acoustically out of phase with each other, meaning all the sound will cancel completely or partially. Also, 2nd order filters are naturally out-of-phase electrically. Always try the phase switch to establish the best setting before fine-tuning the crossover frequencies.

Input Mode Selector Switch

a) Set to the "ST" position (center) when the two channels are used in stereo. The CH-1 (or CH-2) input will output at the Speaker Output Terminal CH-1 (or CH-2).

b) Set to the "1 (MONO)" position when the two channels are used for one channel of a stereo bridged system. The CH-1 input is output from the Speaker Output Terminals CH-1(+) and CH-2 (-). The CH-2 input accepts no signal. (Refer to Fig. 6.)

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. The CH-1 and CH-2 inputs are summed, then output from the Speaker Output Terminals CH-1(+) and CH-2 (-). (Refer to Fig. 5.)

Crossover Mode Selector Switch

a) Set to the "LP" position when the amplifier is used to drive a subwoofer. The frequencies above the crossover point will be attenuated at 12 dB/octave.

b) Set to the "HP" position when the amplifier is used to drive a tweeter/midrange system. The frequencies below the crossover point will be attenuated at 12 dB/octave.

c) Set to the "OFF" position when the amplifier will be used for driving full-range speakers. The full frequency bandwidth will be output to the speakers with no high or low frequency attenuation.

Crossover Frequency Adjustment Knob

Permits adjustment of the crossover frequency, by rotating the knob to select any frequency between 50 to 200 Hz as the crossover point.

Input Gain Adjustment Control

Set the MRV-1000/MRV-T500/MRV-T300 input gain knobs to the minimum (4V) position. Using a loud cassette or preferably a CD as a source, turn up the head unit volume until it distorts. Then, reduce the volume 1 step. You can then increase amplifier gain until the sound from the speakers becomes distorted.

Please check your head unit for the conditions listed below: (Fig. 3)

- 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 MRV-1000/MRV-T500/MRV-T300 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 MRV-1000/MRV-T500/MRV-T300 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 MRV-1000/MRV-T500/MRV-T300 turn-on lead. This switch will then be used to turn on (and off) the MRV-1000/MRV-T500/MRV-T300. 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.

- Blue/White
- Power Antenna
- Remote Turn-On Lead
- To other Alpine components' Remote Turn-On Leads
- SPST Switch (optional)
- Fuse (3A)
- As close as possible to the vehicle's ignition tap
- Ignition Source

TYPICAL SYSTEM CONNECTIONS/CONNEXIONS TYPIQUES DU SYSTÈME/CONEXIONES TÍPICAS DEL SISTEMA

- [English]
 1 Right Speaker
 2 Left Speaker
 3 Extension Cable (Sold Separately)
 4 Head Unit with Pre-Amp Outputs
 5 Speakers
 6 Full-range Speakers
 7 Tweeter/Midrange
 8 Subwoofer
- [Français]
 1 Haut-parleur droit
 2 Haut-parleur gauche
 3 Câble de rallonge (vendu séparément)
 4 Unité principale avec sorties de préamplificateur
 5 Haut-parleurs
 6 Haut-parleurs de large bande
 7 Haut-parleur d'aigus/de gamme moyenne
 8 Haut-parleur de sous-graves
- [Español]
 1 Altavoz derecho
 2 Altavoz izquierdo
 3 Cable de extensión (vendido separadamente)
 4 Unidad principal con salidas de preamplificador
 5 Altavoces
 6 Altavoces de gama completa
 7 Altavoz de agudos/tonos medios
 8 Altavoz de frecuencias ultrabajas

2-Channel Stereo System/Système stéréo à 2 canaux/Sistema estéreo de 2 canales

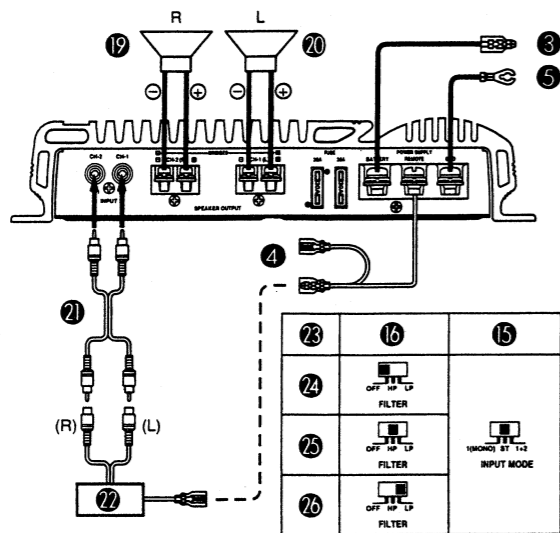


Fig. 4

Single Channel System/Système à canal unique/Sistema de canal único

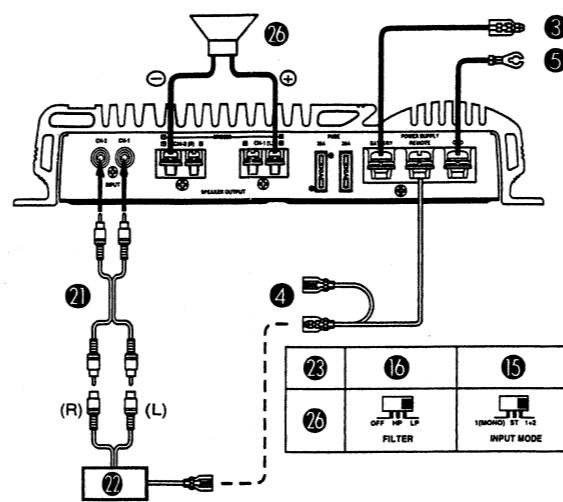


Fig. 5

Single Channel Stereo System/Système à canal unique stéréo/Sistema estéreo de canal único

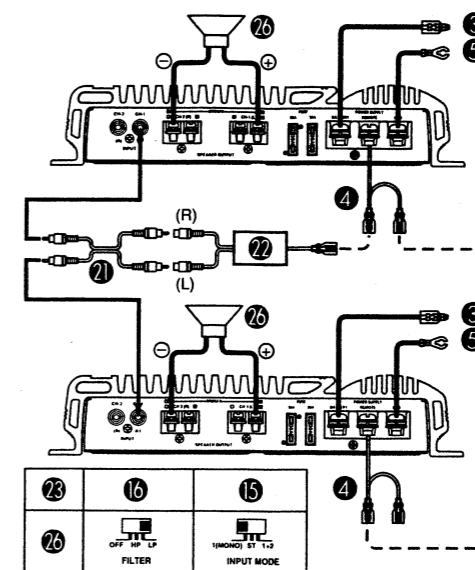


Fig. 6

Speaker Input Leads System/Système des conducteurs d'entrée de haut-parleur/Sistema de conductores de entrada de altavoz

Speaker Input Leads Stereo System/Système stéréo des conducteurs d'entrée de haut-parleur/Sistema estéreo de conductores de entrada de altavoz

MRV-T300 Only/Uniquement MRV-T300/MRV-T300 solamente

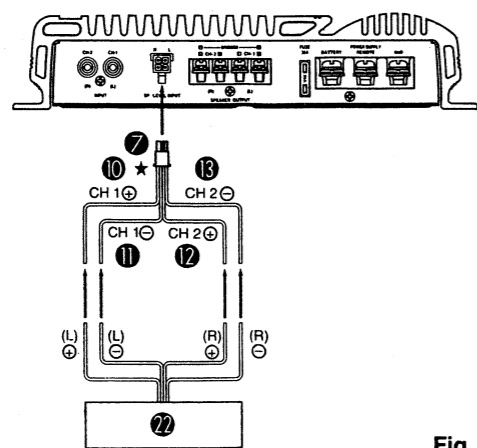


Fig. 7

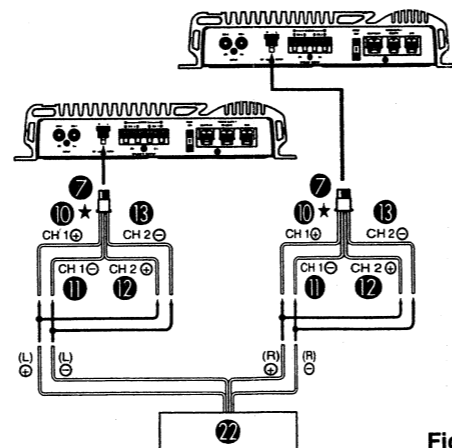


Fig. 8

★ Use either RCA line level or speaker level inputs. Do not connect both at the same time./Utiliser les entrées de niveau de ligne RCA ou de niveau de haut-parleur. Jamais les connecter à la fois./Utilice las entradas de nivel de altavoz o de nivel de línea RCA. No conecte las dos al mismo tiempo.

接続

本機はパワーアンプですので音量、音質等はすべて、カセット・デッキやグラフィック・イコライザー等の接続側で調整をおこないます。下記に従って各々のリード線を確実に接続してご使用ください。

MRV-1000

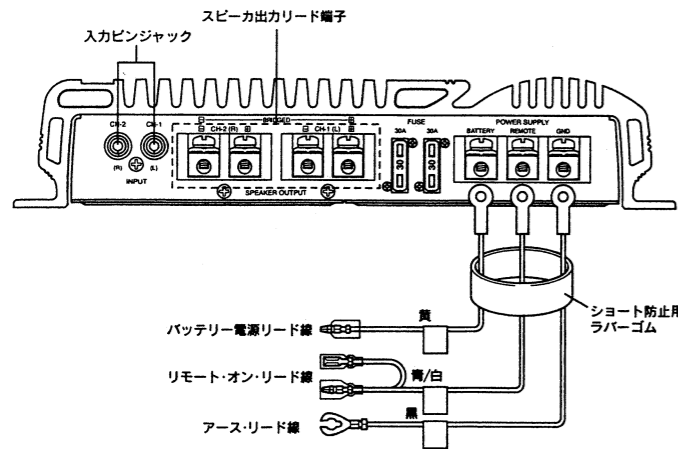


図-2

MRV-T500/MRV-T300

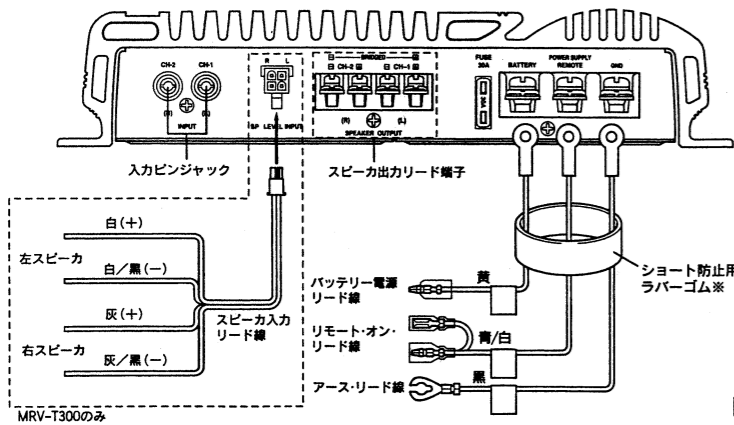


図-3

■スピーカー出力端子

本機の出力に合ったスピーカーに⊕、⊖、L、Rを間違えないように接続します。スピーカー出力端子の⊖端子は絶対に左・右共通使用や自動車のシャーシー・アースに落とすことは避けてください。

■ショート防止用ラバーゴム

隣接端子間のショート防止用のラバーゴムです。各々のリード線を接続する前にこのラバーゴムのリード線を通してから接続した後、スピーカー出力端子および電源端子に覆いかぶせてください。

■MRV-1000のみ

付属のリード線を使用せず市販のリード線（スピーカー/電源コード）を使用する場合、本機に付属されている六角ネジと六角レンチを使用すると簡単に配線する事が可能です。ワイヤーサイズはAWG6~AWG18以外は使用できません。

コードの色分けと役割

| 接続コードの色 | 名称と働き |
|---------|---|
| 黄 | ●バッテリー電源リード線 常にバッテリー電源が供給されているところ(バッテリーのプラス端子)に確実に接続します。 |
| 青/白 | ●リモート・オン・リード線 連動させる製品(チューナー・カセット・プレーヤー、イコライザーなど)のリモート・オン・リード線に接続します。 |
| 黒 | ●アース・リード線 車体の金属部に確実に接続します。 Point 車体の塗装をはがした箇所にネジ止めます。 |

入力モード切替スイッチ

- ステレオ2チャンネル・モードの時に使用します。
入力PINジャックCH1の信号はスピーカー出力端子から出力します。(図-5参照)
- ブリッジモードの片チャンネル入力時に使用します。
入力PINジャックはCH1のみ使用できます。スピーカー出力端子はCH1(+)とCH2(-)から出力します。(図-7参照)
- 右チャンネル・左チャンネルの信号をミックスして出力するときに使用します。
入力PINジャックCH1、CH2の信号は、スピーカー出力端子CH1(+), CH2(-)からミックスして出力します。(図-6参照)

クロスオーバー・モード切替スイッチ

- ローパス(サブウーハー)用として使用するときは"LP"にセットします。スピーカー端子は、ハイカットされた出力となります。(図-5、6、7参照)
- サブウーハーと組み合わせるフルレンジ・スピーカー/ミッドレンジ・スピーカー駆動用として使用するときは"HP"にセットします。スピーカー端子は、ローカットされた出力となります。(図-5参照)
- フルレンジ・スピーカーによる通常のシステム用として使用するときは"OFF"にセットします。ローカットもハイカットもされない全帯域出力となります。(図-5参照)

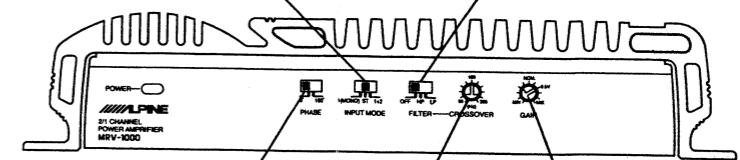


図-4

位相切替スイッチ

- 180度側にセットすると出力の位相が反転します。スピーカーからの音が聴きやすい方にスイッチを切り替えてください。

入力感度調整ボリューム

- 出荷時には"0.5V"に設定してあります。接続する製品の出力に合わせて調整をしてください。詳しくは、お買い上げ店にご相談ください。

クロスオーバー周波数調整ボリューム

- クロスオーバー・モード切替スイッチをLPまたはHPにセットした時に使用します。クロスオーバー周波数を50~200Hzの間で調整することができます。

接続図 ★詳しい接続方法は、販売店またはアルパイン・インフォメーションセンターにお問い合わせください。

図-5 フルレンジ、ツイータ/ミッドレンジ、サブウーハー(ステレオ接続)

| 使用スピーカ | クロスオーバーモード 切替スイッチ(FILTER) | 入力モード切替スイッチ (INPUT MODE) |
|------------------|------------------------------|------------------------------|
| ①フルレンジ | OFF HP LP | 1(MONO) ST 1+2 INPUT MODE |
| ②ツイータ/ ミッドレンジ | OFF HP LP | 1(MONO) ST 1+2 INPUT MODE |
| ③サブウーハー | OFF HP LP | 1(MONO) ST 1+2 INPUT MODE |

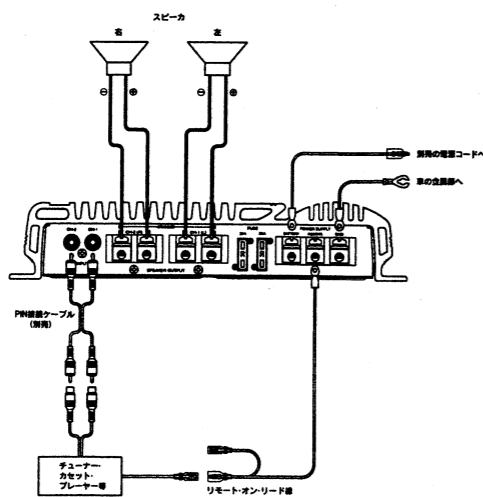


図-7 サブウーハー(ブリッジ接続)

| 使用スピーカ | クロスオーバーモード 切替スイッチ(FILTER) | 入力モード切替スイッチ (INPUT MODE) |
|--------|------------------------------|------------------------------|
| サブウーハー | OFF HP LP | 1(MONO) ST 1+2 INPUT MODE |

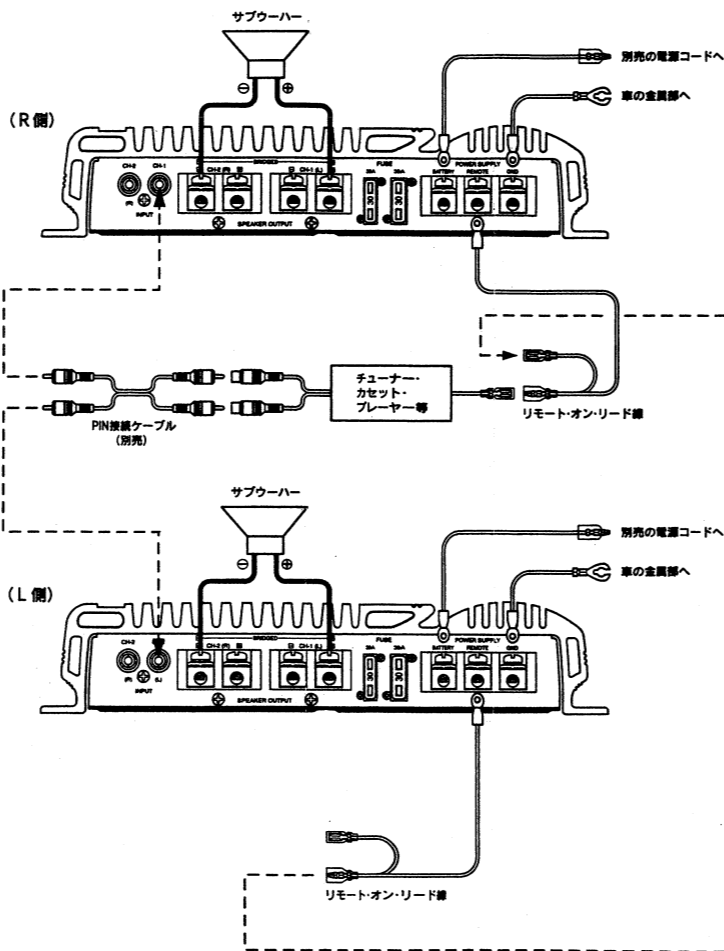


図-6 サブウーハー(ミックス接続)

| 使用スピーカ | クロスオーバーモード 切替スイッチ(FILTER) | 入力モード切替スイッチ (INPUT MODE) |
|--------|------------------------------|------------------------------|
| サブウーハー | OFF HP LP | 1(MONO) ST 1+2 INPUT MODE |

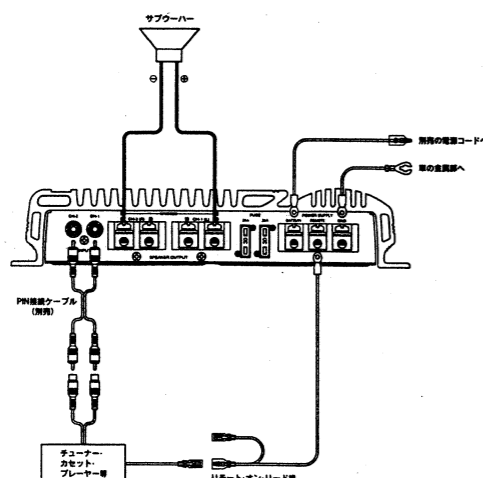
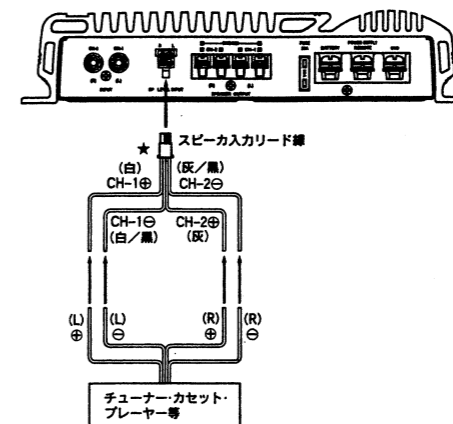


図-8 スピーカ入力カード線接続

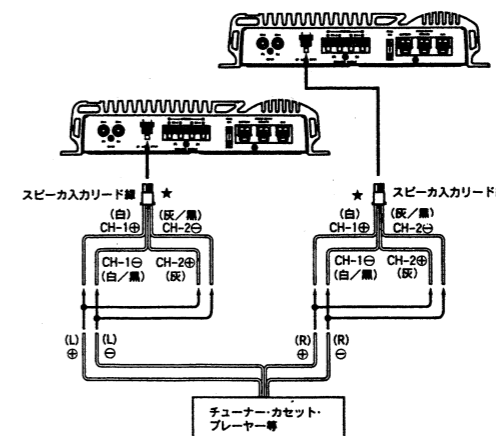
※MRV-T300のみ



★接続の際、入力用ピンジャックとスピーカ入力の同時使用はできません。必ずどちらか一方をお使い下さい。

図-9 スピーカ入力カード線ステレオ接続

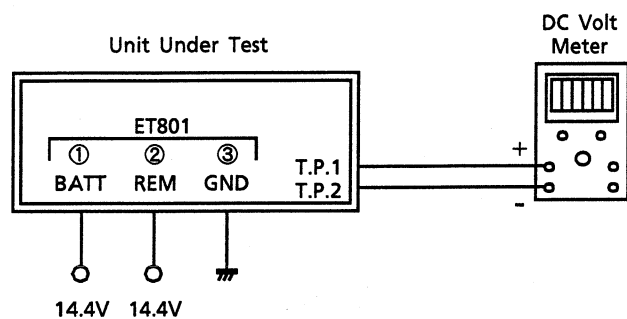
※MRV-T300のみ



★接続の際、入力用ピンジャックとスピーカ入力の同時使用はできません。必ずどちらか一方をお使い下さい。

Adjustment Procedures

(1) Connections



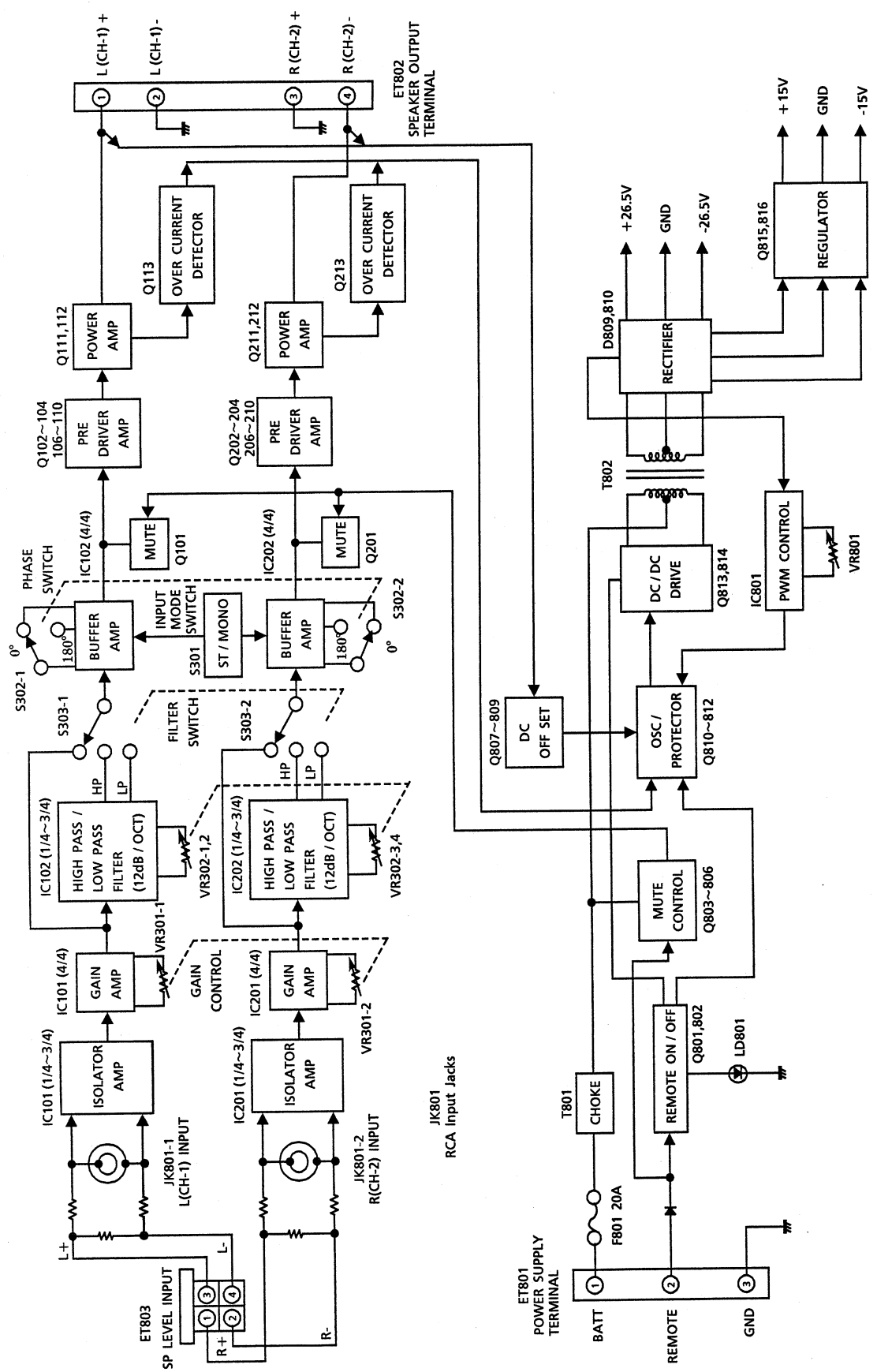
(2) Adjustment Procedures

| Description | Test Point | Adjustment |
|--|----------------|---|
| Secondary rectifier Voltage Adjustment | T.P.1 T.P.2 | Adjust VR801 for $52 \pm 0.5V$ between T.P.1 and T.P.2. |
| 二次側整流電圧調整 | | T.P.1, T.P.2 間の電圧が $52 \pm 0.5V$ になる様に VR801 を調整する。 |

Note : For the Adjustment Parts (VR801) and Test Points, refer to the Parts Layout on P.C.Boards and Wiring Diagram.

※ テストポイント及び調整部品(VR801)の詳細については、「Parts Layout on P.C.Boards and Wiring Diagram」を参照願います。

Block Diagram

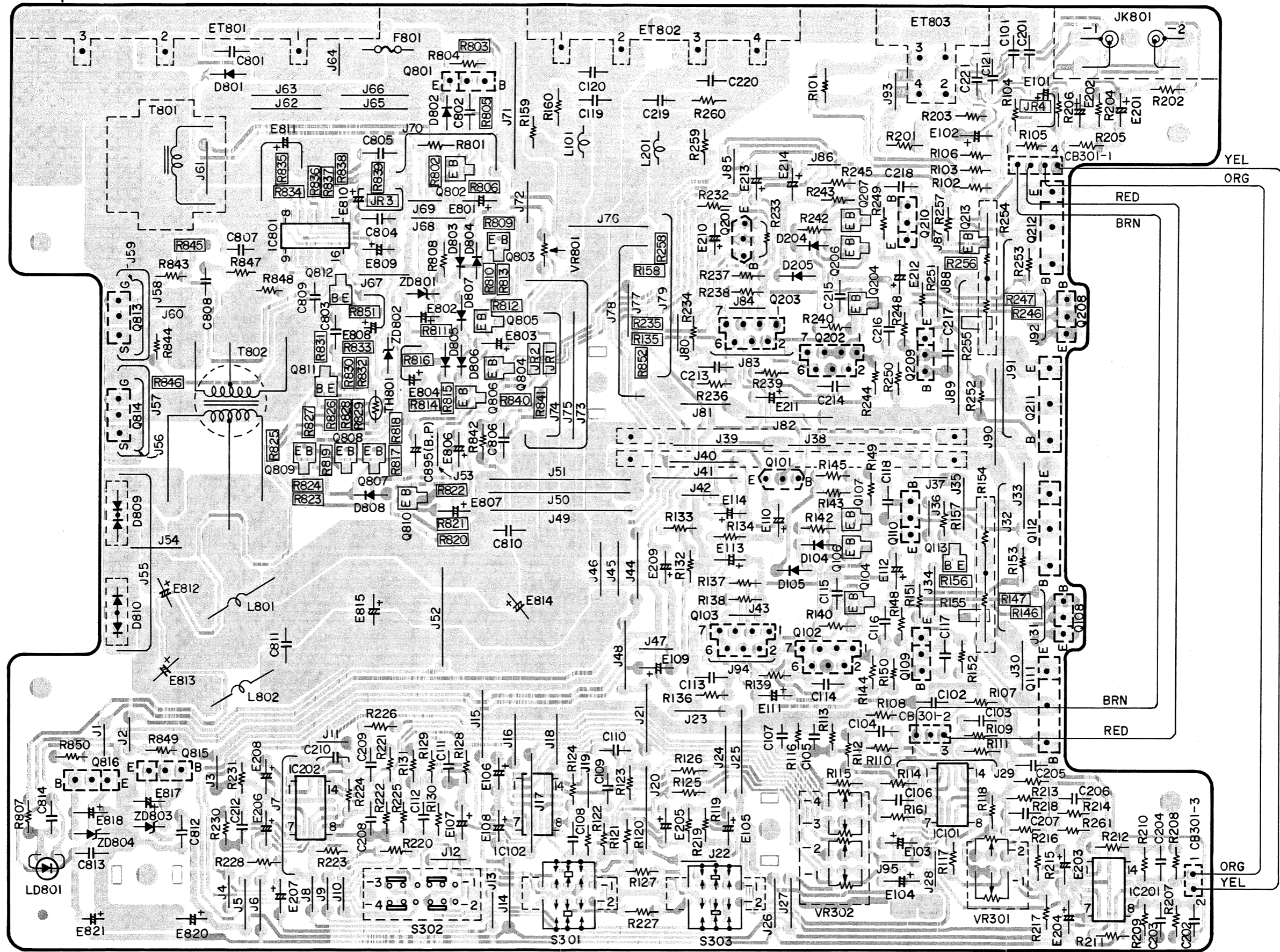


Parts Layout on P.C.Board and Wiring Diagram

P.C.Board viewed from soldered side.

Amp P.C. Board

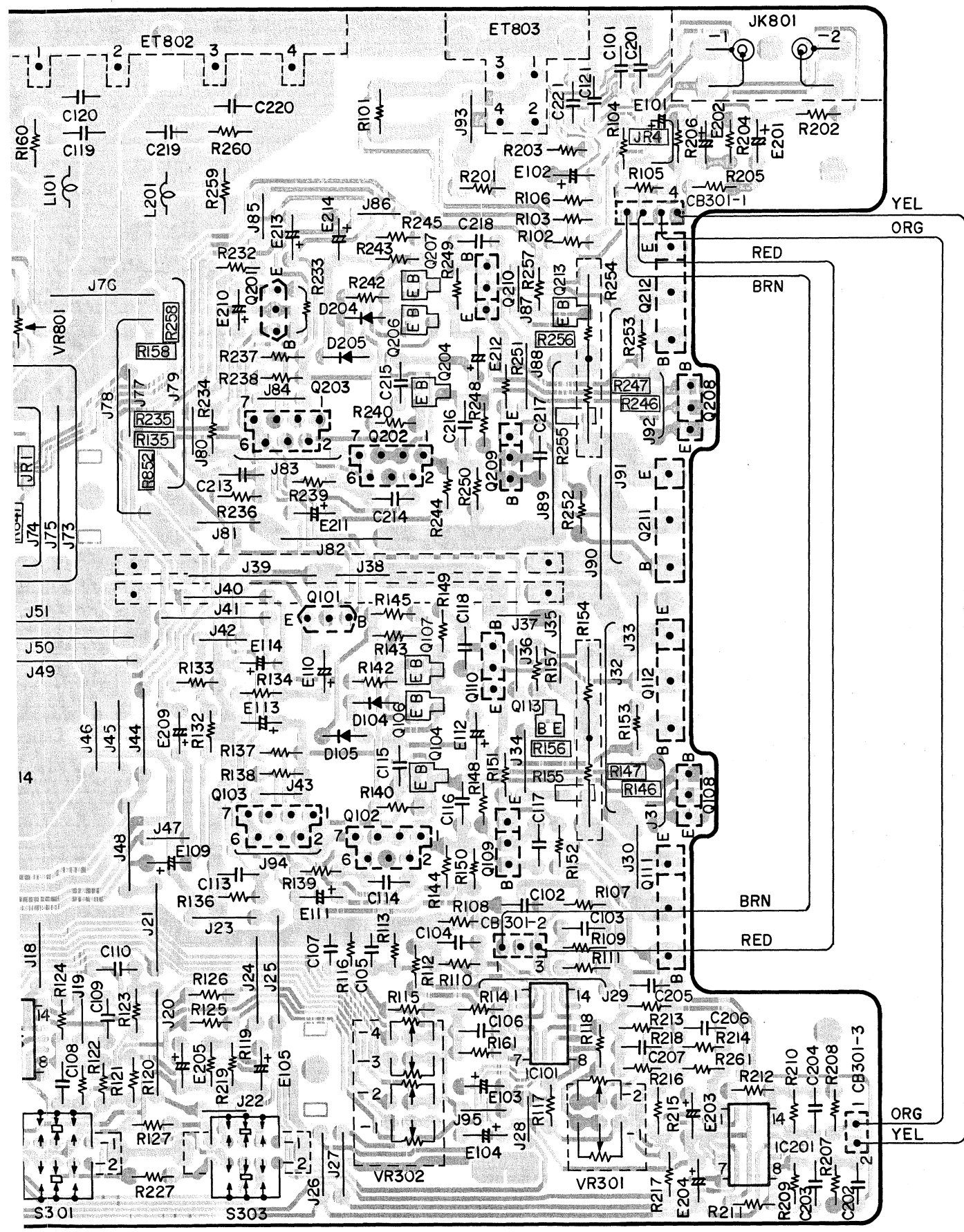
1
2
3
4
5



Blue Patt

A | B | C | D | E | F | G | H

P.C.Board viewed from soldered side.

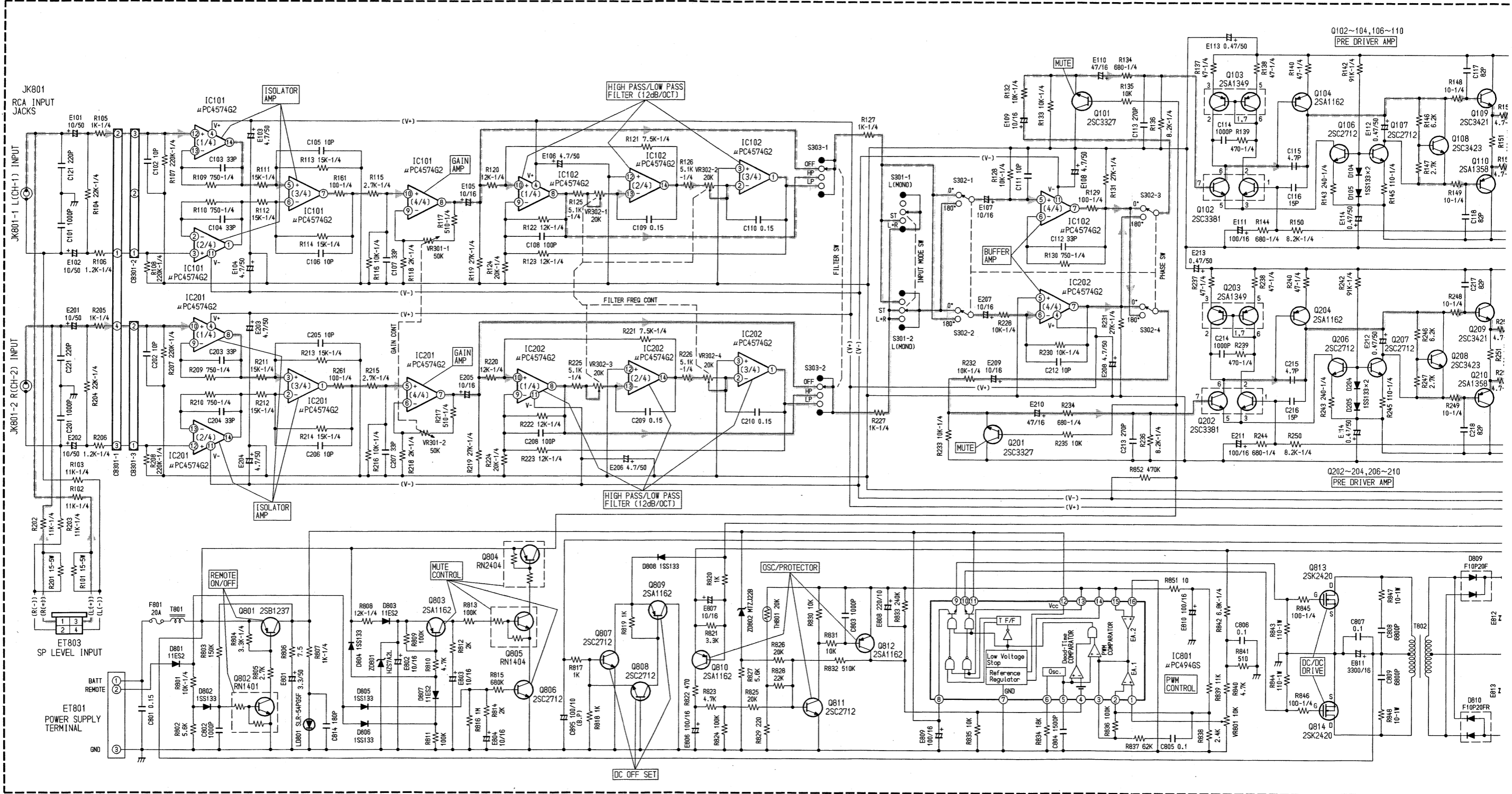


Blue Pattern : Foil Side Pattern

Schematic Diagram

| | | | | | | | | | | | | | | | | | | | | | |
|----------------|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|------|-------|------|------|------|-----------|------|------|------|------|------|------|------|------|
| IC | IC101 (1/4) (2/4) IC201 (1/4) (2/4) | IC101 (3/4) IC201 (3/4) | IC101 (4/4) IC201 (4/4) | IC102 (1/4) IC202 (1/4) | IC102 (2/4) IC202 (2/4) | IC102 (3/4) IC202 (3/4) | IC102 (4/4) IC202 (4/4) | Q101 | IC801 | Q102 | Q103 | Q104 | Q106 | Q107 | Q108 | Q109 | Q110 | | | | |
| Transistor (Q) | Q801 Q802 | | Q803 | Q804 Q805 Q806 | Q807 | Q808 Q809 | Q810 | Q811 | Q812 | Q201 | | | Q813 Q814 | Q202 | Q203 | Q204 | Q206 | Q207 | Q208 | Q209 | Q210 |

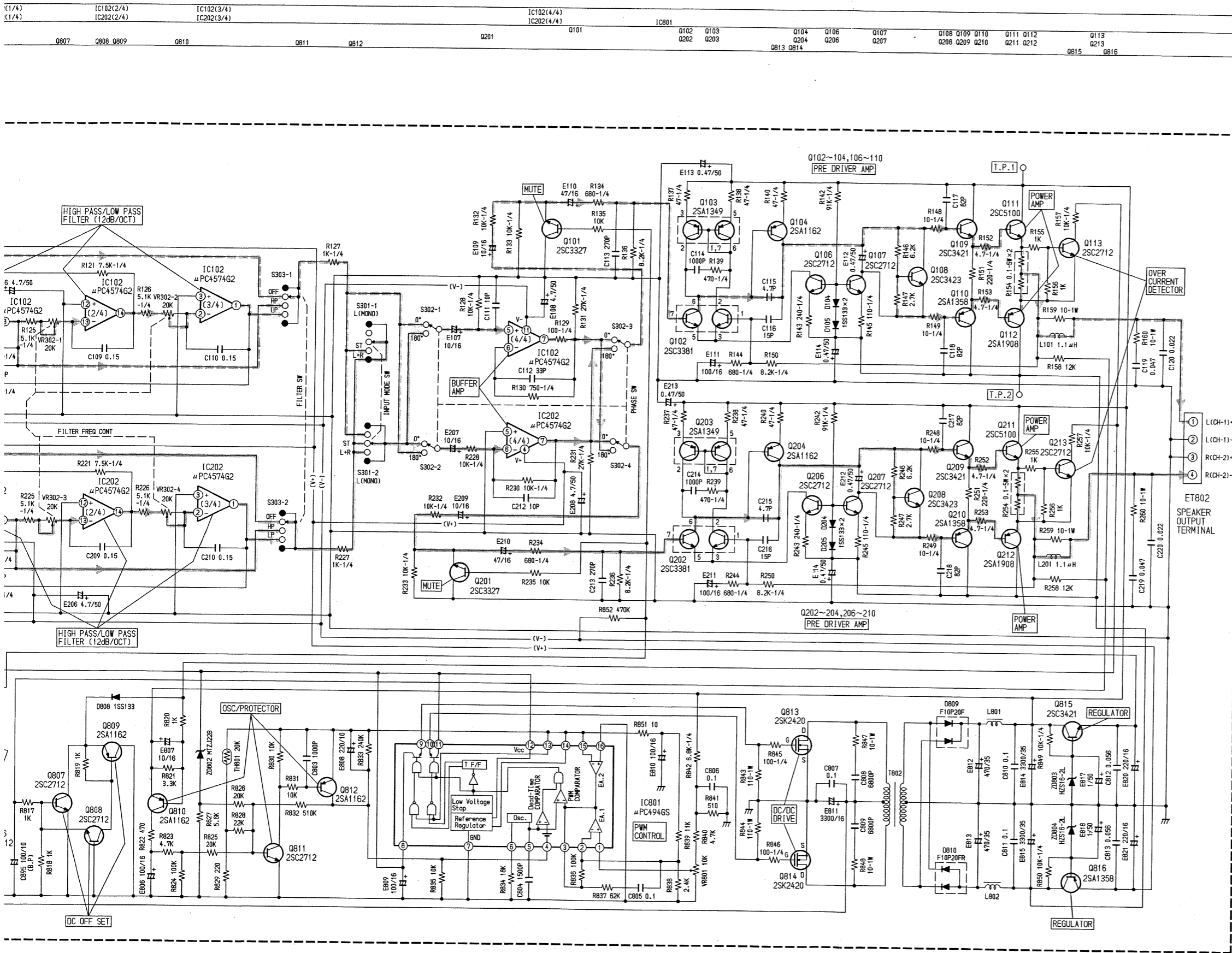
Amp P.C. Board



A | B | C | D | E | F | G | H

MRV-T300 MRV-T300

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



| IC101 | | IC102 | | IC201 | |
|-------|--------|-------|-------|-------|--------|
| 1 | 0V | 9 | 0V | 1 | 0V |
| 2 | 0V | 10 | 0V | 2 | 0V |
| 3 | 0V | 11 | 15.4V | 3 | 0V |
| 4 | -15.4V | 12 | 0V | 4 | -15.4V |
| 5 | 0V | 13 | 0V | 5 | 0V |
| 6 | 0V | 14 | 0V | 6 | 0V |
| 7 | 0V | | | 7 | 0V |
| 8 | 0V | | | 8 | 0V |

| IC202 | | IC801 | |
|-------|--------|-------|-------|
| 1 | 0V | 9 | 0.96V |
| 2 | 0V | 10 | 0.89V |
| 3 | 0V | 11 | 15.4V |
| 4 | -15.4V | 12 | 0.2V |
| 5 | 0V | 13 | 1.73V |
| 6 | 0V | 14 | 3.8V |
| 7 | 0V | 15 | 5.1V |
| 8 | 0V | 16 | 0V |

| | E | C | B | MODE |
|------|-----------------|-----------------|----------------|---------------|
| Q101 | 0V / 0V | 0V / 0V | -14.7V / 0.6V | MUTE OFF / ON |
| Q104 | 26.4V | 1.12V | 25.8V | |
| Q105 | -26V | -0.6V | -25.4V | |
| Q107 | -26V | -1.1V | -25.4V | |
| Q108 | -1.1V | 1.1V | -0.5V | |
| Q109 | 0.55V | 26.5V | 1.1V | |
| Q110 | -0.56V | -26.5V | -1.1V | |
| Q111 | 3mV | 26.5V | 0.53V | |
| Q112 | -3mV | 26.5V | -0.55V | |
| Q113 | 0V | 26.5V | 0V | |
| Q201 | 0V / 0V | 0V / 0V | -14.7V / 0.6V | MUTE OFF / ON |
| Q204 | 26.4V | 1.12V | 25.8V | |
| Q206 | -26V | -0.6V | -25.4V | |
| Q207 | -26V | -1.1V | -25.4V | |
| Q208 | -1.1V | 1.1V | -0.5V | |
| Q209 | 0.55V | 26.5V | 1.1V | |
| Q210 | -0.56V | -26.5V | -1.1V | |
| Q211 | 3mV | 26.5V | 0.53V | |
| Q212 | -3mV | 26.5V | -0.55V | |
| Q213 | 0V | 26.5V | 0V | |
| Q801 | 14.37V | 14.36V | 13.66V | |
| Q802 | 0V | 45mV | 2.9V | |
| Q803 | 6.61V / 6.62V | 13mV / 6.6V | 6.55V / 6V | MUTE OFF / ON |
| Q804 | 14.37V / 14.44V | -14.8V / -0.46V | 13.9V / 14.3V | MUTE OFF / ON |
| Q805 | 12mV / 6.5V | 14.3V / 14.3V | 15mV / 6.54V | MUTE OFF / ON |
| Q806 | 0V / 0V | 12mV / 6.49V | 0.56V / -0.74V | MUTE OFF / ON |
| Q807 | 0V | 26V | 0V | |
| Q808 | 0V | 26V | 0V | |
| Q809 | 26.1V | 0V | 26.1V | |
| Q810 | 26.5V | 0V | 26.5V | |
| Q811 | 0V | 5V | 0V | |
| Q812 | 5V | 0.2V | 5V | |
| Q815 | 15.4V | 26.5V | 16V | |
| Q816 | -15.4V | -26.5V | -16V | |

| | S | D | G |
|------|----|--------|------|
| Q813 | 0V | 14.35V | 0.9V |
| Q814 | 0V | 14.35V | 0.9V |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|-----|-------|-------|---|-------|-------|-----|
| Q102 | 26V | 25.8V | 26.6V | - | 26.5V | 26V | 26V |
| Q103 | 0V | 26V | -0.6V | - | -0.6V | 25.8V | 0V |
| Q202 | 26V | 25.8V | 26.6V | - | 26.5V | 26V | 26V |
| Q203 | 0V | 26V | -0.6V | - | -0.6V | 25.8V | 0V |

Measuring Conditions

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

Schematic Diagram

1

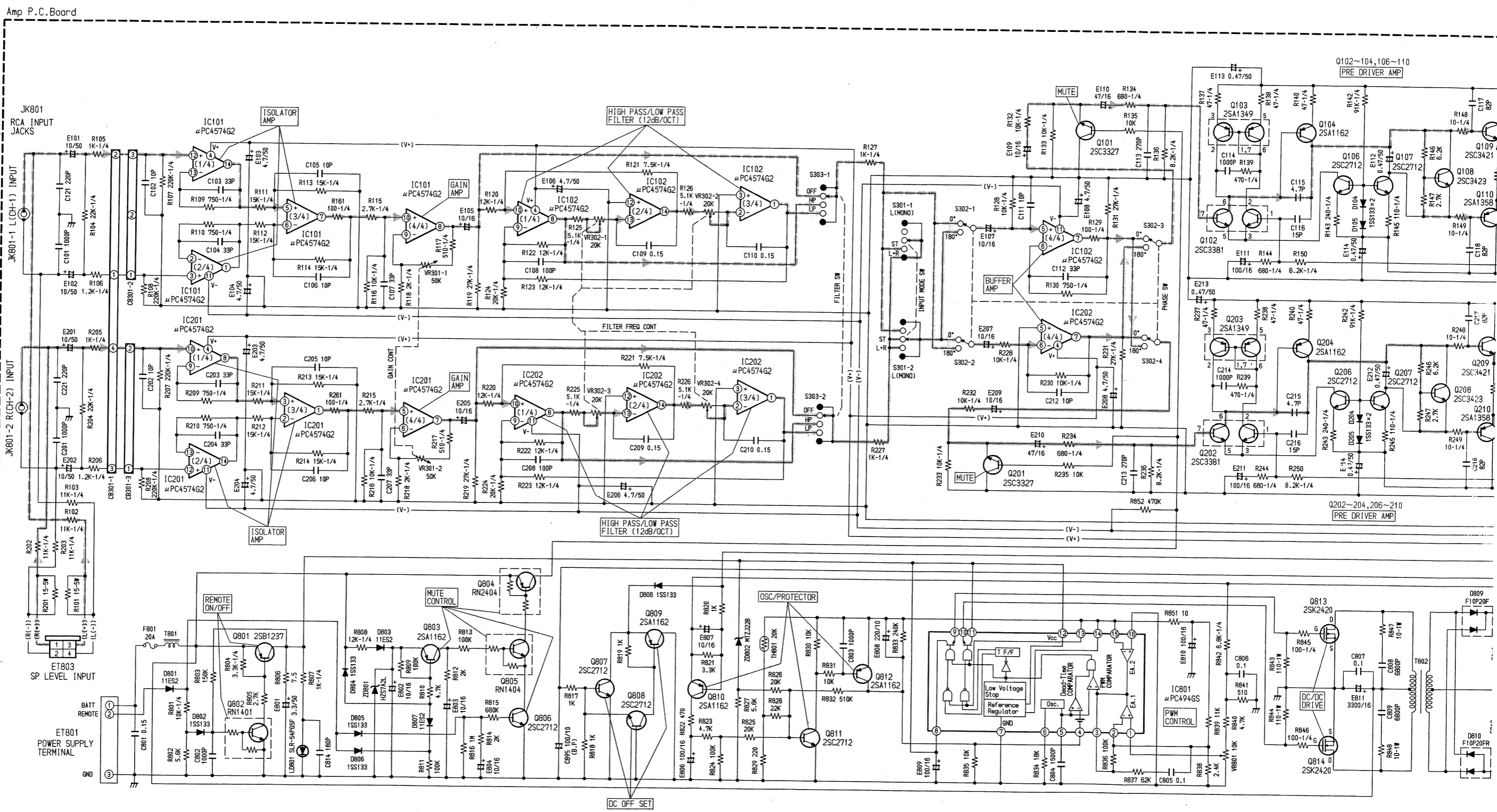
| | | | | | | | | | | | | | | | | |
|----------------|------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| IC | IC101(1/4)(2/4) IC201(1/4)(2/4) | IC101(3/4) IC201(3/4) | IC101(4/4) IC201(4/4) | IC102(1/4) IC202(1/4) | IC102(2/4) IC202(2/4) | IC102(3/4) IC202(3/4) | IC102(4/4) IC202(4/4) | IC801 | IC101 | IC102 | IC103 | IC104 | IC106 | IC107 | IC108 | IC109 |
| Transistor (Q) | Q801 Q802 | Q803 | Q804 Q805 Q806 | Q807 | Q808 Q809 | Q810 | Q811 | Q812 | Q201 | Q101 | Q102 | Q103 | Q104 | Q106 | Q107 | Q108 |
| | | | | | | | | | | | Q202 | Q203 | Q204 | Q206 | Q207 | Q208 |
| | | | | | | | | | | | | | Q813 | Q814 | | Q109 |
| | | | | | | | | | | | | | | | | Q209 |

2

3

4

5



A | B | C | D | E | F | G | H

MRV-T300 MRV-T300

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

| | | | | | | | | | | | | | | | | | |
|--------------------------|--------------------------|--------------------------|------|-------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| IC102(2/4) IC202(2/4) | IC102(3/4) IC202(3/4) | IC102(4/4) IC202(4/4) | Q101 | IC801 | Q102 Q202 | Q103 Q203 | Q104 Q204 | Q106 Q206 | Q107 Q207 | Q108 Q208 | Q109 Q209 | Q110 Q210 | Q111 Q211 | Q112 Q212 | Q113 Q213 | Q115 Q215 | Q116 Q216 |
| Q808 Q809 | Q810 | Q811 | Q812 | Q201 | | | Q813 Q814 | | | | | | | | | | |

| IC101 | | | | IC102 | | | | IC201 | | | |
|-------|--------|----|-------|-------|--------|----|-------|-------|--------|----|-------|
| 1 | 0V | 9 | 0V | 1 | 0V | 9 | 0V | 1 | 0V | 9 | 0V |
| 2 | 0V | 10 | 0V | 2 | 0V | 10 | 0V | 2 | 0V | 10 | 0V |
| 3 | 0V | 11 | 15.4V | 3 | 0V | 11 | 15.4V | 3 | 0V | 11 | 15.4V |
| 4 | -15.4V | 12 | 0V | 4 | -15.4V | 12 | 0V | 4 | -15.4V | 12 | 0V |
| 5 | 0V | 13 | 0V | 5 | 0V | 13 | 0V | 5 | 0V | 13 | 0V |
| 6 | 0V | 14 | 0V | 6 | 0V | 14 | 0V | 6 | 0V | 14 | 0V |
| 7 | 0V | | | 7 | 0V | | | 7 | 0V | | |
| 8 | 0V | | | 8 | 0V | | | 8 | 0V | | |

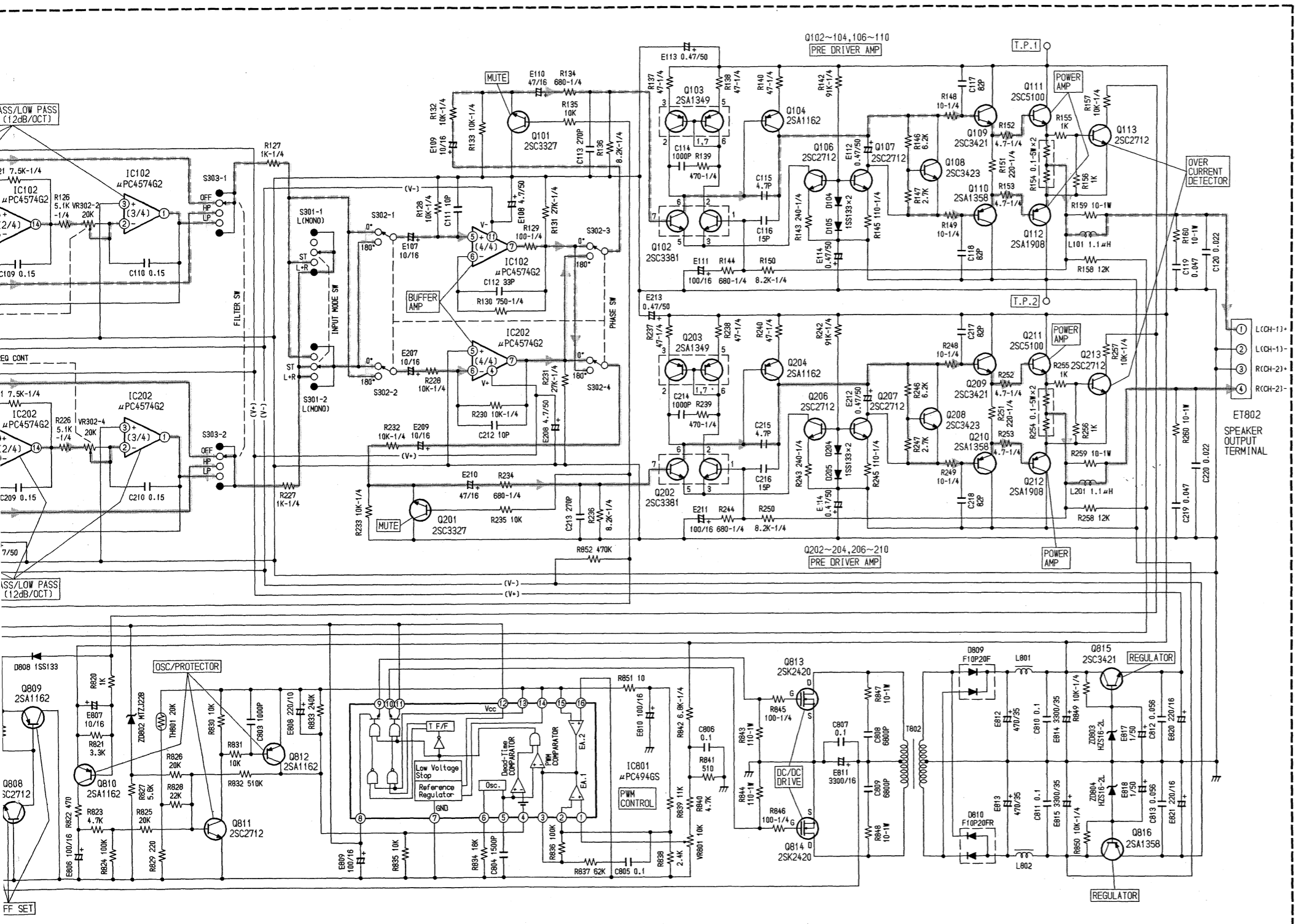
| IC202 | | | | IC801 | | | |
|-------|--------|----|-------|-------|--------|----|--------|
| 1 | 0V | 9 | 0V | 1 | 0.96V | 9 | 0.89V |
| 2 | 0V | 10 | 0V | 2 | 0.96V | 10 | 0.89V |
| 3 | 0V | 11 | 15.4V | 3 | 3.75V | 11 | 14.35V |
| 4 | -15.4V | 12 | 0V | 4 | 0.2V | 12 | 14.35V |
| 5 | 0V | 13 | 0V | 5 | 1.73V | 13 | 5.1V |
| 6 | 0V | 14 | 0V | 6 | 3.8V | 14 | 5.1V |
| 7 | 0V | | | 7 | 0V | 15 | 5.1V |
| 8 | 0V | | | 8 | 14.35V | 16 | 0V |

| | E | C | B | MODE |
|------|----------------|----------------|----------------|---------------|
| Q101 | 0V / 0V | 0V / 0V | -14.7V / 0.6V | MUTE OFF / ON |
| Q104 | 26.4V | 1.12V | 25.8V | |
| Q106 | -26V | -0.6V | -25.4V | |
| Q107 | -26V | -1.1V | -25.4V | |
| Q108 | -1.1V | 1.1V | -0.5V | |
| Q109 | 0.55V | 26.5V | 1.1V | |
| Q110 | -0.56V | -26.5V | -1.1V | |
| Q111 | 3mV | 26.5V | 0.53V | |
| Q112 | -3mV | 26.5V | -0.53V | |
| Q113 | 0V | 26.5V | 0V | |
| Q201 | 0V / 0V | 0V / 0V | -14.7V / 0.6V | MUTE OFF / ON |
| Q204 | 26.4V | 1.12V | 25.8V | |
| Q206 | -26V | -0.6V | -25.4V | |
| Q207 | -26V | -1.1V | -25.4V | |
| Q208 | -1.1V | 1.1V | -0.5V | |
| Q209 | 0.55V | 26.5V | 1.1V | |
| Q210 | -0.56V | -26.5V | -1.1V | |
| Q211 | 3mV | 26.5V | 0.53V | |
| Q212 | -3mV | 26.5V | -0.53V | |
| Q213 | 0V | 26.5V | 0V | |
| Q801 | 14.37V | 14.36V | 13.66V | |
| Q802 | 0V | 45mV | 2.9V | |
| Q803 | 6.61V / 6.62V | 13mV / 6.6V | 6.55V / 6.6V | MUTE OFF / ON |
| Q804 | 14.37V / 14.4V | 14.8V / -0.46V | 13.9V / 14.3V | MUTE OFF / ON |
| Q805 | 12mV / 6.5V | 14.3V / 14.3V | 15mV / 6.54V | MUTE OFF / ON |
| Q806 | 0V / 0V | 12mV / 6.49V | 0.56V / -0.74V | MUTE OFF / ON |
| Q807 | 0V | 26V | 0V | |
| Q808 | 0V | 26V | 0V | |
| Q809 | 26.1V | 0V | 26.1V | |
| Q810 | 26.5V | 0V | 26.5V | |
| Q811 | 0V | 5V | 0V | |
| Q812 | 5V | 0.2V | 5V | |
| Q815 | 15.4V | 26.5V | 16V | |
| Q816 | -15.4V | -26.5V | -16V | |

| | S | D | G |
|------|----|--------|------|
| Q813 | 0V | 14.35V | 0.9V |
| Q814 | 0V | 14.35V | 0.9V |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|-----|-------|-------|---|-------|-------|-----|
| Q102 | 26V | 25.8V | 26.6V | — | 26.5V | 26V | 26V |
| Q103 | 0V | 26V | -0.6V | — | -0.6V | 25.8V | 0V |
| Q202 | 26V | 25.8V | 26.6V | — | 26.5V | 26V | 26V |
| Q203 | 0V | 26V | -0.6V | — | -0.6V | 25.8V | 0V |

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



E

F

G

H

I

J

K

L

Electrical Parts List

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

Capacitor : μF =microfarads, pF =picofarads

| Abbreviations | | | Symbol No. | Part No. | Description |
|-------------------------|----------------------|----------------------|-------------------------|-------------|-----------------------|
| RES. = Resistor | CAP. = Capacitor | | Q804 | 48E20184S01 | CP., RN2404 |
| C.F. = Carbon Film | ELY. = Electrolytic | | Q805 | 48E07111S02 | CP., RN1404 |
| M.F. = Metal Film | CER. = Ceramic | | Q806 | 48E20148S01 | CP., 25C2712 |
| M.O. = Metal Oxide Film | MYL. = Mylar | | Q807 | 48E20148S01 | CP., 25C2712 |
| M.P. = Metal Plate | TAN. = Tantalum | | Q808 | 48E20148S01 | CP., 25C2712 |
| TR. = Transistor | POLY. = Polystyrol | | Q809 | 48T55491W03 | CP., 2SA1162 |
| TRANS. = Transformer | PP. = Polypropylene | | Q810 | 48T55491W03 | CP., 2SA1162 |
| CP. = Chip | PLT. = Polyethylene | | Q811 | 48E20148S01 | CP., 25C2712 |
| | PF. = Polyester Film | | Q812 | 48T55491W03 | CP., 2SA1162 |
| | | | Q813 | 48E22014S01 | FET, 2SK2420 |
| | | | Q814 | 48E22014S01 | FET, 2SK2420 |
| | | | Q815 | 48T69176F02 | 25C3421 |
| | | | Q816 | 48T70761F01 | 2SA1358 |
| Symbol No. | Part No. | Description | Diodes | | |
| AMP P. C. Board | | | D104 | 48T68829F01 | 15S133 |
| IC's | | | D105 | 48T68829F01 | 15S133 |
| IC101 | 51E10409S01 | $\mu\text{PC4574G2}$ | D204 | 48T68829F01 | 15S133 |
| IC102 | 51E10409S01 | $\mu\text{PC4574G2}$ | D205 | 48T68829F01 | 15S133 |
| IC201 | 51E10409S01 | $\mu\text{PC4574G2}$ | D801 | 48T84052F11 | 11ES2 |
| IC202 | 51E10409S01 | $\mu\text{PC4574G2}$ | D802 | 48T68829F01 | 15S133 |
| IC801 | 51E11412S01 | $\mu\text{PC494GS}$ | D803 | 48T84052F11 | 11ES2 |
| Transistors | | | D804 | 48T68829F01 | 15S133 |
| Q101 | 48E21466S01 | 25C3327 | D805 | 48T68829F01 | 15S133 |
| Q102 | 48E22011S01 | 25C3381 | D806 | 48T68829F01 | 15S133 |
| Q103 | 48E22010S01 | 2SA1349 | D807 | 48T84052F01 | 11ES2 |
| Q104 | 48T55491W03 | CP., 2SA1162 | D808 | 48T68829F01 | 15S133 |
| Q106 | 48E20148S01 | CP., 25C2712 | D809 | 48E09190S01 | F10P20F |
| Q107 | 48E20148S01 | CP., 25C2712 | D810 | 48E09190S02 | F10P20FR |
| Q108 | 48T64376F03 | 25C3423 | ZD801 | 48T25766W11 | Zener, HZS7A2L |
| Q109 | 48T69176F02 | 25C3421 | ZD802 | 48T45012W71 | Zener, MTZJ22B |
| Q110 | 48T70761F01 | 2SA1358 | ZD803 | 48T83128F50 | Zener, HZS16-2L |
| Q111 | 48E22012S01 | 25C5100 | ZD804 | 48T83128F50 | Zener, HZS16-2L |
| Q112 | 48E22013S01 | 2SA1908 | Thermistor / LED | | |
| Q113 | 48E20148S01 | CP., 25C2712 | TH801 | 48E11405S01 | 20K ohm |
| Q201 | 48E21466S01 | 25C3327 | LD801 | 65E22015S01 | LED, SLR-54PG5F (GRN) |
| Q202 | 48E22011S01 | 25C3381 | | | |
| Q203 | 48E22010S01 | 2SA1349 | | | |
| Q204 | 48T55491W03 | CP., 2SA1162 | | | |
| Q206 | 48E20148S01 | CP., 25C2712 | | | |
| Q207 | 48E20148S01 | CP., 25C2712 | | | |
| Q208 | 48T64376F03 | 25C3423 | | | |
| Q209 | 48T69176F02 | 25C3421 | | | |
| Q210 | 48T70761F01 | 2SA1358 | | | |
| Q211 | 48E22012S01 | 25C5100 | | | |
| Q212 | 48E22013S01 | 2SA1908 | | | |
| Q213 | 48E20148S01 | CP., 25C2712 | | | |
| Q801 | 48E21999S01 | 25B1237 | | | |
| Q802 | 48E20144S01 | CP., RN1401 | | | |
| Q803 | 48T55491W03 | CP., 2SA1162 | | | |

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|---------------------|-------------|----------------------------|------------|-------------|--------------------|
| Transformers | | | E113 | 23E21460S01 | ELY., 0.47μF / 50V |
| T801 | 25E11580S01 | Choke | C114 | 08E21991S01 | CER., 1000pF |
| T802 | 25E22004S01 | Power | E114 | 23E21460S01 | ELY., 0.47μF / 50V |
| Coils | | | C115 | 08E21993S01 | CER., 4.7pF |
| L101 | 24E06338S01 | 1.1μH | C116 | 21E07286S03 | CER., 15pF |
| L201 | 24E06338S01 | 1.1μH | C117 | 08E21989S01 | CER., 82pF |
| L801 | 24E22005S01 | Choke | C118 | 08E21989S01 | CER., 82pF |
| L802 | 24E22005S01 | Choke | C119 | 08E09008S14 | PF., 0.047μF |
| Switches | | | C120 | 08E09151S03 | PF., 0.022μF |
| S301 | 40E22009S01 | Slide, SSSF12 (INPUT MODE) | C121 | 08E21463S01 | CER., 220pF |
| S302 | 40E09137S01 | Slide, SSSF14 (PHASE) | C201 | 08E21991S01 | CER., 1000pF |
| S303 | 40E22009S01 | Slide, SSSF12 (FILTER) | E201 | 23E21187S01 | ELY., 10μF / 50V |
| Capacitors | | | C202 | 08E21992S01 | CER., 10pF |
| C101 | 08E21991S01 | CER., 1000pF | E202 | 23E21187S01 | ELY., 10μF / 50V |
| E101 | 23E21187S01 | ELY., 10μF / 50V | C203 | 08E21987S01 | CER., 33pF |
| C102 | 08E21992S01 | CER., 10pF | E203 | 23E21995S01 | ELY., 4.7μF / 50V |
| E102 | 23E21187S01 | ELY., 10μF / 50V | C204 | 08E21987S01 | CER., 33pF |
| C103 | 08E21987S01 | CER., 33pF | E204 | 23E21995S01 | ELY., 4.7μF / 50V |
| E103 | 23E21995S01 | ELY., 4.7μF / 50V | C205 | 08E21992S01 | CER., 10pF |
| C104 | 08E21987S01 | CER., 33pF | E205 | 23E20773S01 | ELY., 10μF / 16V |
| E104 | 23E21995S01 | ELY., 4.7μF / 50V | C206 | 08E21992S01 | CER., 10pF |
| C105 | 08E21992S01 | CER., 10pF | E206 | 23E21995S01 | ELY., 4.7μF / 50V |
| E105 | 23E20773S01 | ELY., 10μF / 16V | C207 | 08E21987S01 | CER., 33pF |
| C106 | 08E21992S01 | CER., 10pF | E207 | 23E20773S01 | ELY., 10μF / 16V |
| E106 | 23E21995S01 | ELY., 4.7μF / 50V | C208 | 21E06640S01 | CER., 100pF |
| C107 | 08E21987S01 | CER., 33pF | E208 | 23E21995S01 | ELY., 4.7μF / 50V |
| E107 | 23E20773S01 | ELY., 10μF / 16V | C209 | 08E09008S09 | PF., 0.15μF |
| C108 | 21E06640S01 | CER., 100pF | E209 | 23E20773S01 | ELY., 10μF / 16V |
| E108 | 23E21995S01 | ELY., 4.7μF / 50V | C210 | 08E09008S09 | PF., 0.15μF |
| C109 | 08E09008S09 | PF., 0.15μF | E210 | 23E21149S01 | ELY., 47μF / 16V |
| E109 | 23E20773S01 | ELY., 10μF / 16V | E211 | 23E20774S01 | ELY., 100μF / 16V |
| C110 | 08E09008S09 | PF., 0.15μF | C212 | 08E21992S01 | CER., 10pF |
| E110 | 23E21149S01 | ELY., 47μF / 16V | E212 | 23E21460S01 | ELY., 0.47μF / 50V |
| C111 | 08E21992S01 | CER., 10pF | C213 | 08E04860S02 | CER., 270pF |
| E111 | 23E20774S01 | ELY., 100μF / 16V | E213 | 23E21460S01 | ELY., 0.47μF / 50V |
| C112 | 08E21987S01 | CER., 33pF | C214 | 08E21991S01 | CER., 1000pF |
| E112 | 23E21460S01 | ELY., 0.47μF / 50V | E214 | 23E21460S01 | ELY., 0.47μF / 50V |
| C113 | 08E04860S02 | CER., 270pF | C215 | 08E21993S01 | CER., 4.7pF |
| | | | C216 | 21E07286S03 | CER., 15pF |
| | | | C217 | 08E21989S01 | CER., 82pF |
| | | | C218 | 08E21989S01 | CER., 82pF |
| | | | C219 | 08E09008S14 | PF., 0.047μF |
| | | | C220 | 08E09151S03 | PF., 0.022μF |
| | | | C221 | 08E21463S01 | CER., 220pF |
| | | | C801 | 08E09008S09 | PF., 0.15μF |
| | | | E801 | 23E21994S01 | ELY., 3.3μF / 50V |
| | | | C802 | 08E21991S01 | CER., 1000pF |
| | | | E802 | 23E20773S01 | ELY., 10μF / 16V |
| | | | C803 | 08E21991S01 | CER., 1000pF |
| | | | E803 | 23E20773S01 | ELY., 10μF / 16V |
| | | | C804 | 08E20778S01 | PF., 1500pF |

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|---|-------------|-------------------------|------------|-------------|---------------------|
| E804 | 23E20773S01 | ELY., 10µF / 16V | R246 | 06E21983S01 | 6.2K ohm |
| C805 | 08E09008S06 | PF., 0.1µF | R247 | 06E21982S01 | 2.7K ohm |
| C806 | 08E09008S06 | PF., 0.1µF | R254 | 17E09460S01 | Plate, 0.1 ohm 5W×2 |
| E806 | 23E20774S01 | ELY., 100µF / 16V | R255 | 06E08433S03 | 1K ohm |
| C807 | 08E09008S06 | PF., 0.1µF | R256 | 06E08433S03 | 1K ohm |
| | | | R258 | 06E08433S45 | 12K ohm |
| E807 | 23E20773S01 | ELY., 10µF / 16V | R259 | 06E21985S01 | M.F., 10 ohm 1W |
| C808 | 08E09151S07 | PF., 6800pF | R260 | 06E21985S01 | M.F., 10 ohm 1W |
| E808 | 23E20800S01 | ELY., 220µF / 10V | R802 | 06E08433S25 | 5.6K ohm |
| C809 | 08E09151S07 | PF., 6800pF | R803 | 06E08433S14 | 150K ohm |
| E809 | 23E20774S01 | ELY., 100µF / 16V | R805 | 06E08433S06 | 2.7K ohm |
| | | | R806 | 06E21981S01 | 7.5 ohm |
| C810 | 08E09008S06 | PF., 0.1µF | R809 | 06E08433S29 | 100K ohm |
| E810 | 23E20774S01 | ELY., 100µF / 16V | R810 | 06E08433S07 | 4.7K ohm |
| C811 | 08E09008S06 | PF., 0.1µF | R811 | 06E08433S29 | 100K ohm |
| E811 | 23E22001S01 | ELY., 3300µF / 16V | R812 | 06E08433S44 | 2K ohm |
| C812 | 08E09008S01 | PF., 0.056µF | | | |
| E812 | 23E22003S01 | ELY., 470µF / 35V | R813 | 06E08433S29 | 100K ohm |
| C813 | 08E09008S01 | PF., 0.056µF | R814 | 06E08433S44 | 2K ohm |
| E813 | 23E22003S01 | ELY., 470µF / 35V | R815 | 06E08433S55 | 680K ohm |
| C814 | 08E21990S01 | CER., 180pF | R816 | 06E20117S01 | 1M ohm |
| E814 | 23E22002S01 | ELY., 3300µF / 35V | R817 | 06E08433S03 | 1K ohm |
| | | | R818 | 06E08433S03 | 1K ohm |
| E815 | 23E22002S01 | ELY., 3300µF / 35V | R819 | 06E08433S03 | 1K ohm |
| E817 | 23E20776S01 | ELY., 1µF / 50V | R820 | 06E08433S03 | 1K ohm |
| E818 | 23E20776S01 | ELY., 1µF / 50V | R821 | 06E08433S21 | 3.3K ohm |
| E820 | 23E21996S01 | ELY., 220µF / 16V | R822 | 06E20498S01 | 470 ohm |
| E821 | 23E21996S01 | ELY., 220µF / 16V | | | |
| C895 | 23E21997S01 | ELY., (B.P) 100µF / 10V | R823 | 06E08433S07 | 4.7K ohm |
| | | | R824 | 06E08433S29 | 100K ohm |
| | | | R825 | 06E08433S65 | 20K ohm |
| | | | R826 | 06E08433S65 | 20K ohm |
| | | | R827 | 06E08433S25 | 5.6K ohm |
| Resistors (All resistors are chip 1/10W±5% unless otherwise noted.) | | | | | |
| R101 | 06E22018S01 | Plate, 15 ohm 5W | R828 | 06E08433S12 | 22K ohm |
| R111 | 06E21984S01 | M.F., 15K ohm 1/4W | R829 | 06E08433S26 | 220 ohm |
| R112 | 06E21984S01 | M.F., 15K ohm 1/4W | R830 | 06E08433S10 | 10K ohm |
| R113 | 06E21984S01 | M.F., 15K ohm 1/4W | R831 | 06E08433S10 | 10K ohm |
| R114 | 06E21984S01 | M.F., 15K ohm 1/4W | R832 | 06E08433S74 | 510K ohm |
| | | | R833 | 06E21980S01 | 240K ohm |
| R135 | 06E08433S10 | 10K ohm | R834 | 06E08433S11 | 18K ohm |
| R146 | 06E21983S01 | 6.2K ohm | R835 | 06E08433S10 | 10K ohm |
| R147 | 06E21982S01 | 2.7K ohm | R836 | 06E08433S29 | 100K ohm |
| R154 | 17E09460S01 | Plate, 0.1 ohm 5W×2 | R837 | 06E08433S73 | 62K ohm |
| R155 | 06E08433S03 | 1K ohm | | | |
| | | | R838 | 06E08433S16 | 2.4K ohm |
| R156 | 06E08433S03 | 1K ohm | R839 | 06E08433S51 | 11K ohm |
| R158 | 06E08433S45 | 12K ohm | R840 | 06E08433S07 | 4.7K ohm |
| R159 | 06E21985S01 | M.F., 10 ohm 1W | R841 | 06E08433S69 | 510 ohm |
| R160 | 06E21985S01 | M.F., 10 ohm 1W | R843 | 06E21986S01 | M.F., 110 ohm 1W |
| R201 | 06E22018S01 | Plate, 15 ohm 5W | | | |
| | | | R844 | 06E21986S01 | M.F., 110 ohm 1W |
| R211 | 06E21984S01 | M.F., 15K ohm 1/4W | R845 | 06E07326S04 | 100 ohm 1/4W |
| R212 | 06E21984S01 | M.F., 15K ohm 1/4W | R846 | 06E07326S04 | 100 ohm 1/4W |
| R213 | 06E21984S01 | M.F., 15K ohm 1/4W | R847 | 06E21985S01 | M.F., 10 ohm 1W |
| R214 | 06E21984S01 | M.F., 15K ohm 1/4W | R848 | 06E21985S01 | M.F., 10 ohm 1W |
| R235 | 06E08433S10 | 10K ohm | | | |
| | | | R851 | 06E08433S01 | 10 ohm |

Cabinet Assembly Parts List

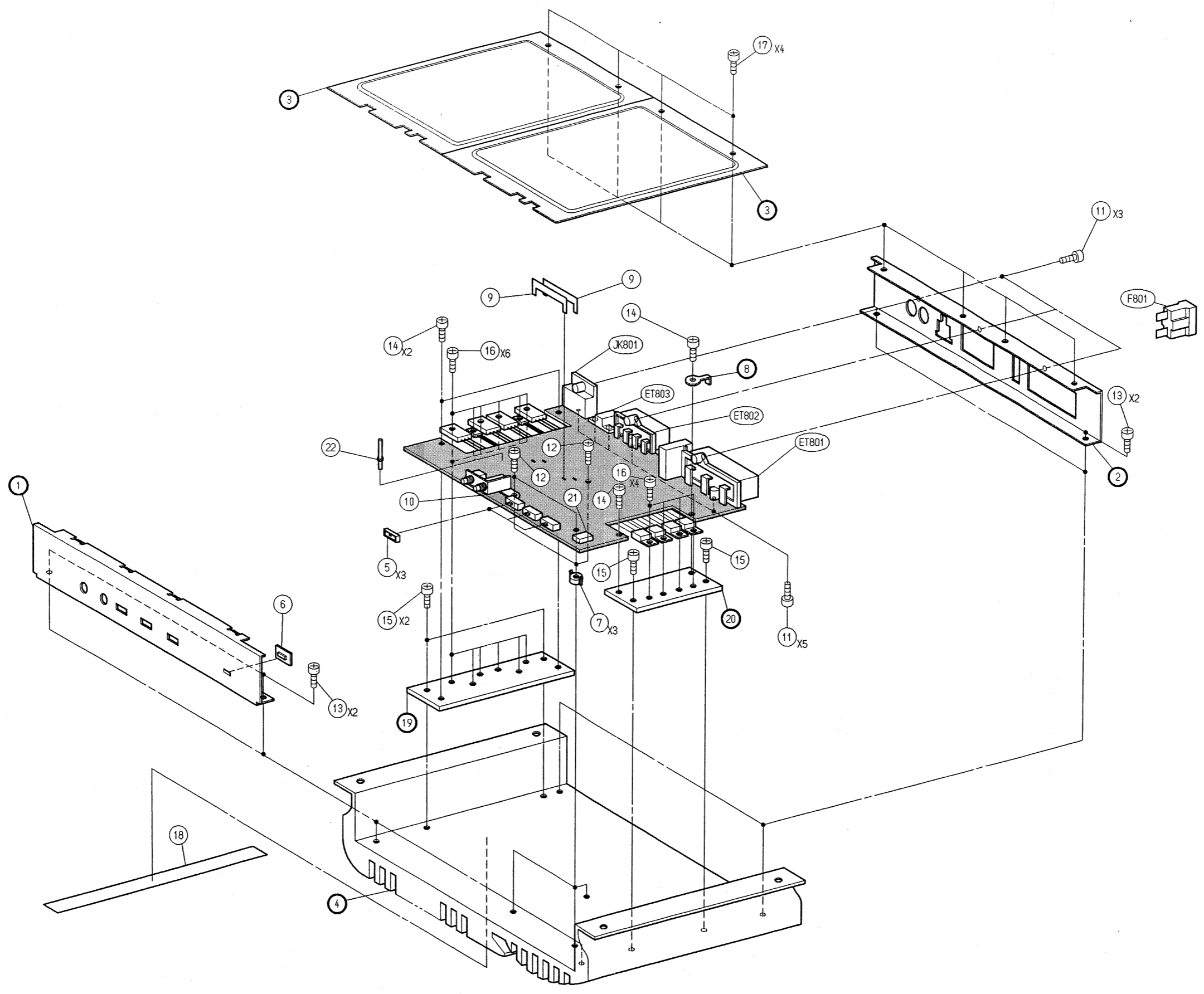
Note : No parts number on parts list are not supplied.

| Symbol No. | Part No. | Description |
|----------------------|-------------|---|
| R852 | 06E08433S43 | 470K ohm |
| VR301 | 18E22017S01 | Volume, 50K ohm×2 (GAIN) |
| VR302 | 18E22016S01 | Volume, 20K ohm×4 (FILTER FREQUENCY) |
| VR801 | 18E21381S01 | Variable, 10K ohm |
| Miscellaneous | | |
| ET801 | 29T00471K01 | Power Supply Terminal |
| ET802 | 01E22006S01 | Speaker Output Terminal |
| ET803 | 09E08839S01 | SP Level Input |
| F801 | 65S58596F06 | Fuse, Auto 20A (For Battery Line) |
| JK801 | 01E22007S01 | RCA Input Jacks |

| Symbol No. | Index | Part No. | Description |
|------------|-------|-------------|------------------------------------|
| 5 | 3-C | 15E21973S01 | Cover, Switch |
| 6 | 4-C | 61E22364S01 | Lens, LED |
| 7 | 4-D | 43E21451S01 | Support P.C.Board |
| 9 | | 07E11583S01 | Bus, Bar (F) |
| 10 | 3-C | 07E22365S01 | Bracket, Volume |
| 11 | | 03E11616S01 | Screw, Pan(M3×10) |
| 12 | 3-D | 03E07234S02 | Screw, Bind(M3×12) |
| 13 | | 03E22345S01 | Screw, Bind(M3×5) |
| 14 | | 03E08429S02 | Screw, Bind(M3×6) |
| 15 | | 03E06967S01 | Screw, Bind(M3×10) |
| 16 | | 03E22346S01 | Screw, W/Double Washer (M3×8.5) |
| 17 | 1-E | 03E22347S01 | Screw, Special (M3×5) |
| 18 | 5-B | 45E22366S01 | Name Plate |
| 21 | 3-D | 43E21974S01 | Spacer |
| 22 | 3-C | 46E22367S01 | Pin, Lead |

Exploded View (Cabinet)

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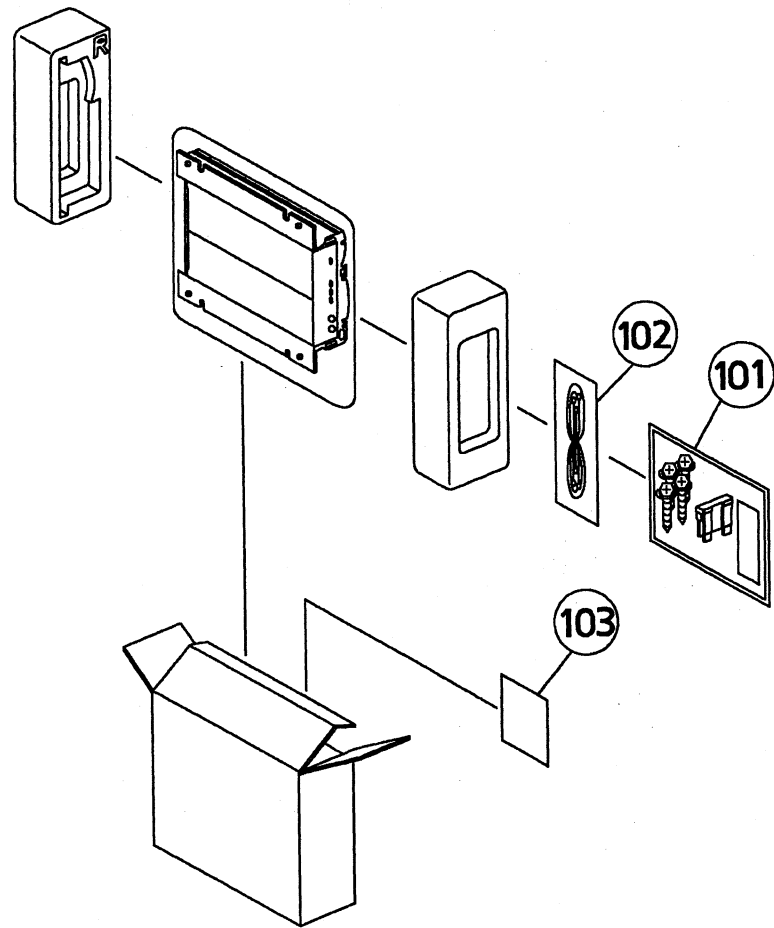
A | B⁻²³⁻ | C | D | E | F⁻²⁴⁻ | G | H

Packing Assembly Parts List

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|------------|-------------|----------------------------|------------|----------|-------------|
| 101-1 | 03E22368S01 | Screw, Tapping (M4×14) | | | |
| 101-2 | 15A81064F01 | Housing, Rubber (A) | | | |
| 101-3 | 65S58596F06 | Fuse, Auto 20A | | | |
| 102-1 | 01E21977S01 | Assy., SP. Input Wire | | | |
| △ 102-2 | 01E21979S01 | Assy., Power Supply Wire | | | |
| □ 102-2 | 01E21979S01 | Assy., Power Supply Wire | | | |
| △ 102-3 | 01E21976S01 | Assy., Remote Wire | | | |
| □ 102-3 | 01E21976S01 | Assy., Remote Wire | | | |
| □ 102-4 | 01E21978S01 | Assy., Speaker Wire | | | |
| ○ 103-1 | 68P61487W51 | Owner's Manual | | | |
| △ 103-1 | 68P61487W51 | Owner's Manual | | | |
| □ 103-1 | 68P61487W50 | Owner's Manual | | | |
| △ 103-2 | 68P61487W52 | Owner's Manual (I / G / S) | | | |

Notes : ○ : For North American Model Only, △ : For General Foreign Model Only,
 □ : For Japanese Model Only, Others : Common.

Packing Method View



ALPINE[®] SERVICE MANUAL

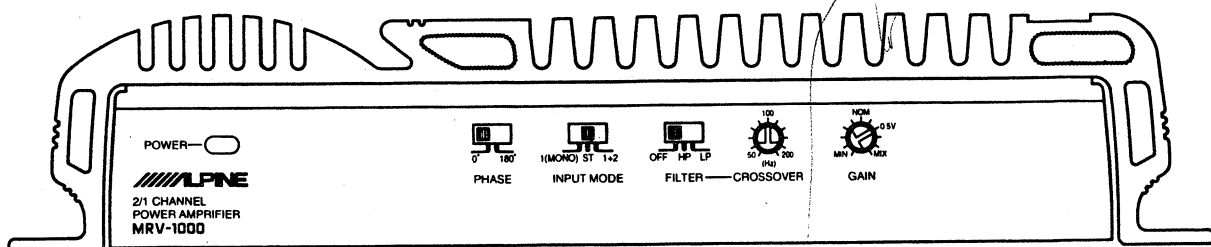


ALPI-00386

2/1 Channel Power Amplifier

- The model described in this manual is developed from Model MRV-T300. For information that is not mentioned in this service manual, refer to the Service Manual • MRV-T300 (68E21806S01). *+ 16A 11/18/15*

- 当モデルは MRV-T300 がベースモデルとなっております。このマニュアルは相違点のみ記載しておりますので、詳細については、サービスマニュアル・MRV-T300 (68E21806S01)を参照願います。



| | |
|----------|---------|
| サービス費用区分 | B |
| 技術資料 No. | PM-57-O |

386

MRV-1000

Contents

| | | | | |
|--|----------|---|---|---|
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| Block Diagram | 3 | | | |
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| Exploded View (Cabinet) | 15 to 16 | | | |
| Cabinet Assembly Parts List | 17 | | | |
| Packing Assembly Parts List | 18 | | | |
| Packing Method View | 18 | | | |
| <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%; vertical-align: middle;"> Connections Switch Settings Typical System Connections 接続 </td> <td style="width: 5%; vertical-align: middle; font-size: 3em;">}</td> <td style="vertical-align: middle;"> Refer to the Service Manual • MRV-T300 (68E21806S01). MRV-T300 (68E21806S01)を参照願います。 </td> </tr> </table> | | Connections Switch Settings Typical System Connections 接続 | } | Refer to the Service Manual • MRV-T300 (68E21806S01). MRV-T300 (68E21806S01)を参照願います。 |
| Connections Switch Settings Typical System Connections 接続 | } | Refer to the Service Manual • MRV-T300 (68E21806S01). MRV-T300 (68E21806S01)を参照願います。 | | |

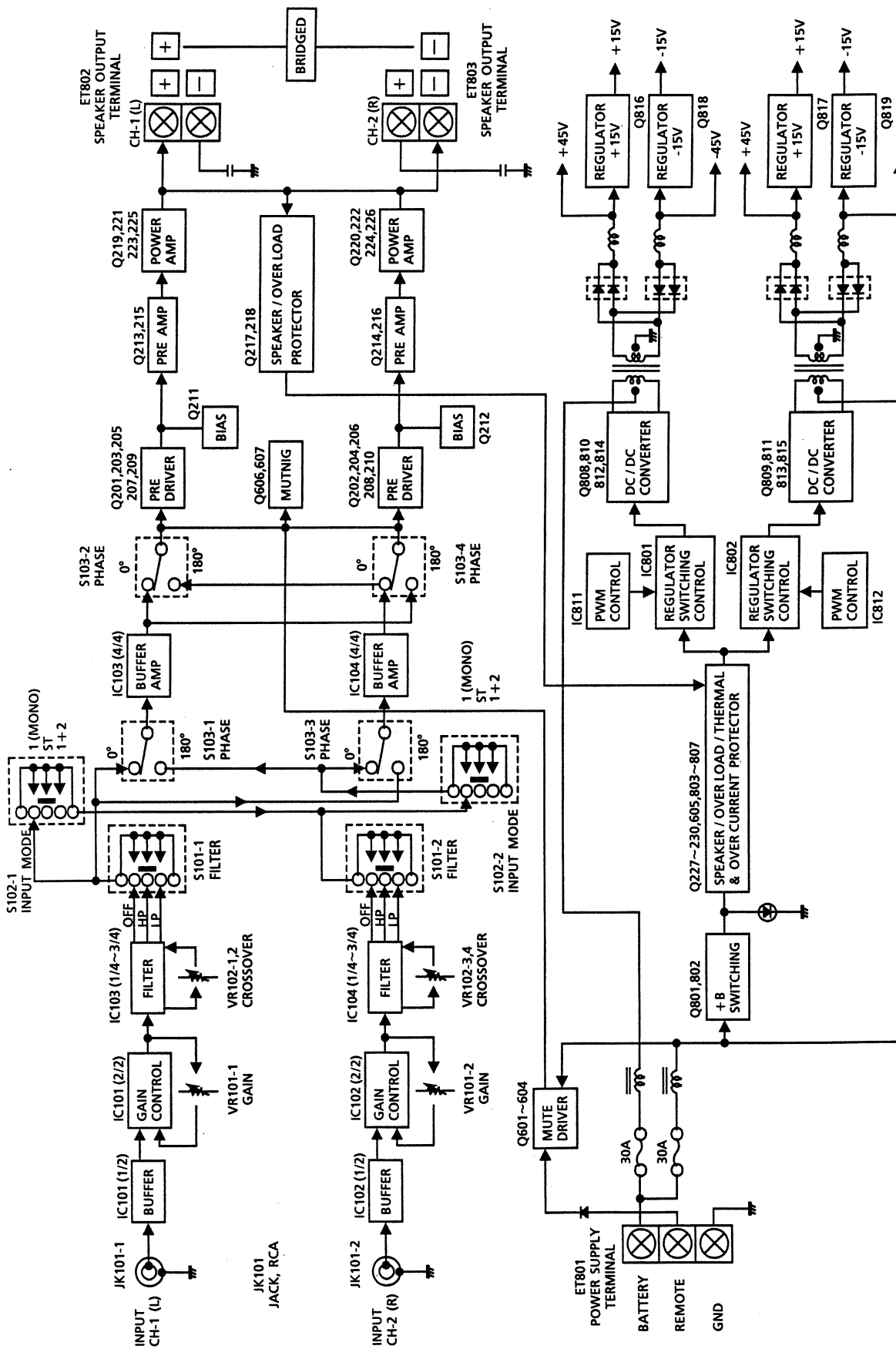
Additional Schematic Diagram inserted.

Specifications

| | |
|---|--|
| Power Output (20Hz~20kHz,80kHz:L.P.F.) | 4ohm-2channel, 0.08% T.H.D. : 150W 4ohm-2channel, 0.08% T.H.D.,12V : 100W 2ohm-2channel, 0.8% T.H.D. : 230W 2ohm-2channel, 0.8% T.H.D., 12V : 160W 4ohm-1channel, BTL, 0.8% T.H.D.,MONO : 450W 4ohm-1channel, BTL, 0.8% T.H.D.,MONO, 12V : 320W |
| S / N Ratio (200W / ch / 4ohm, Output, Input shorted) | 100dB |
| Input Sensitivity (200W / ch Output, GAIN Normal) | 1V±3dB |
| Input Impedance (RCA Input) | 20kohm±10% |
| Frequency Response (0±1dB, at 1kHz) | 20Hz~40kHz |
| Current Drain | No Signal : 2.5A |
| | 4ohm-2channel, 10% T.H.D. : 80A |
| | 2ohm-2channel, 10% T.H.D. : 115A |
| | 4ohm-1channel, BTL, 540W / ch Output : 120A |
| Residual Noise (4ohm-2channel, Input shorted) | 3mA |
| Channel Separation (Input Shorted, at 1kHz) | 55dB |
| Fuse Requirement | 30A × 2 (For Battery Line) |
| Power Source | DC14.4V (11~16V) |
| Semiconductors | 8 IC's, 48 Transistors, 19 Diodes, 9 Zener Diodes, 8 FET's |
| Dimensions (W×H×D) | 240×53×330 mm |
| Weight | 4.2kg |

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

Block Diagram

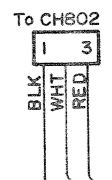
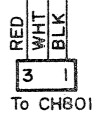
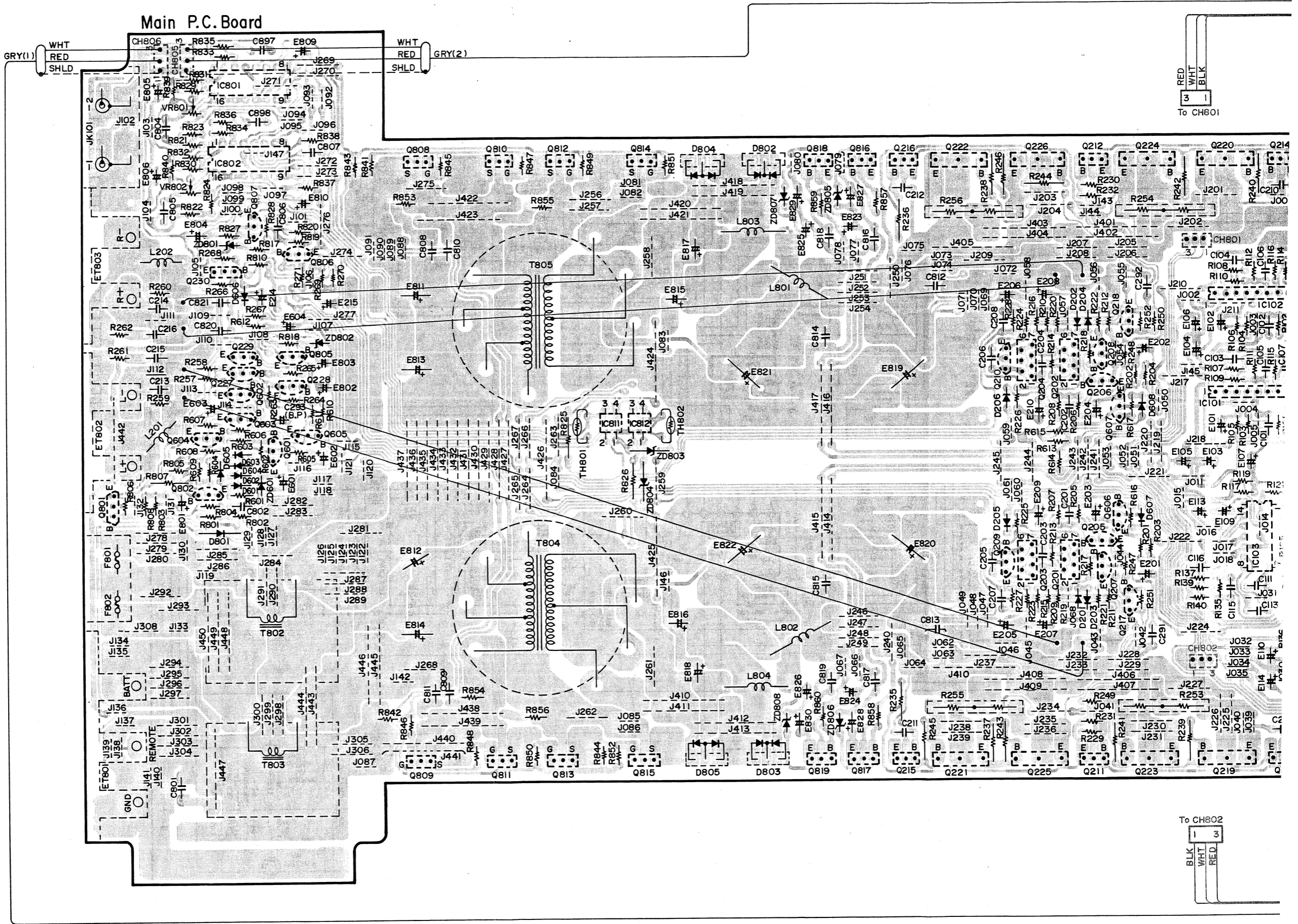


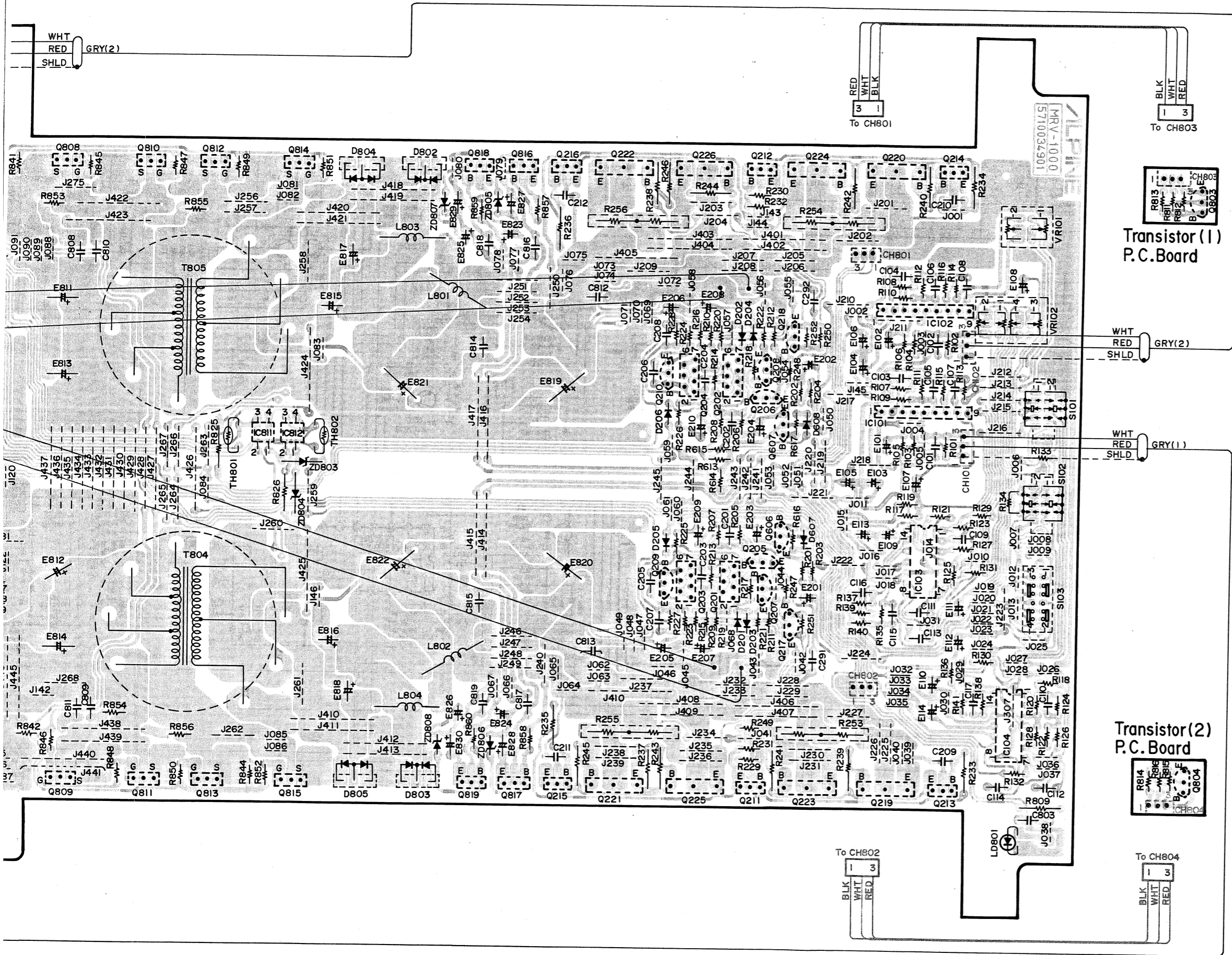
Parts Layout on P.C.Board and Wiring Diagram

All P.C.Board viewed from soldered side.

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A | B | C | D | E | F | G | H

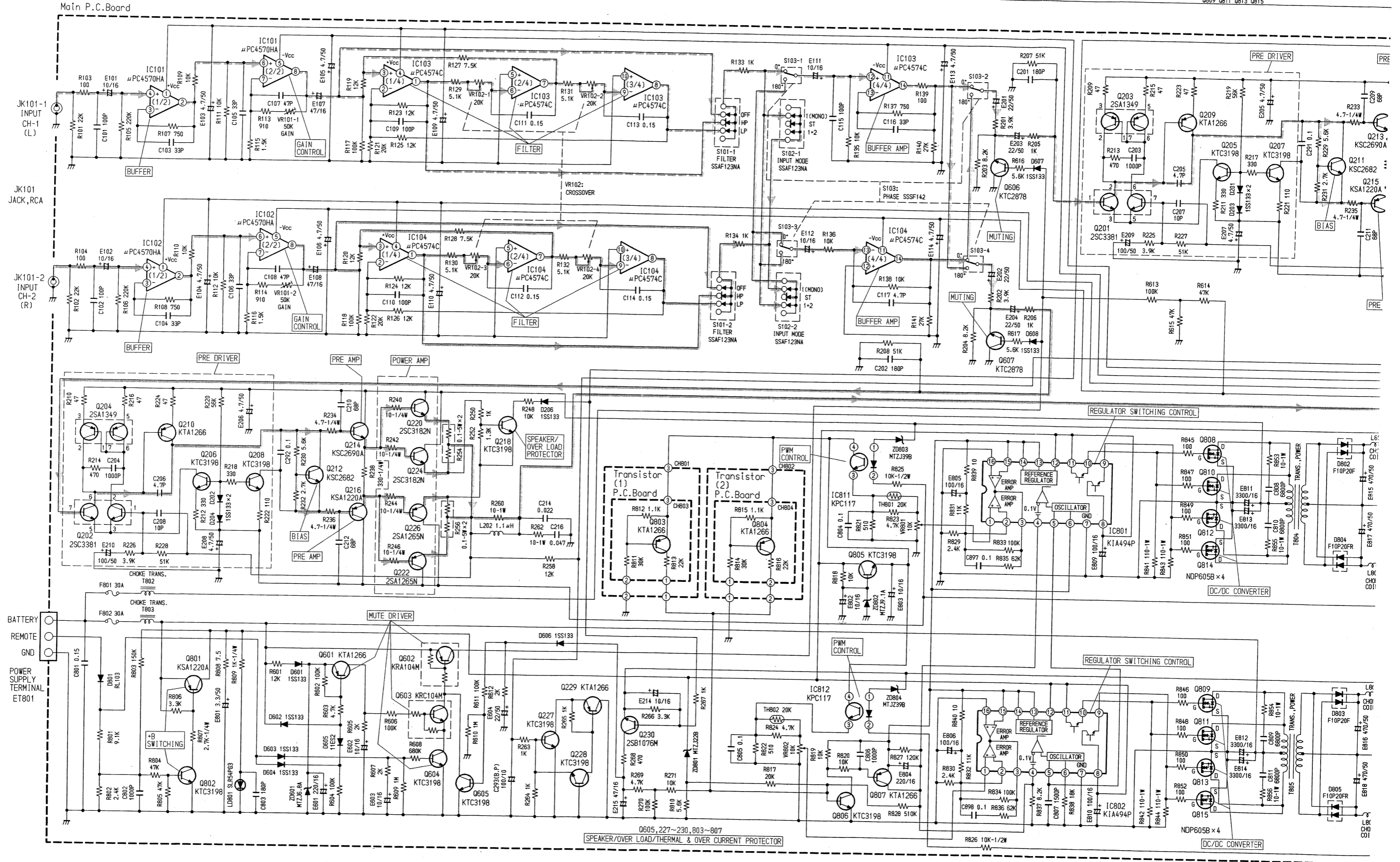




D | E | F⁻⁶⁻ | G | H | I | J⁻⁷⁻ | K | L

Schematic Diagram

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------|------------|------------|------------|------------|------------|------------|---------------------|------------|------------|------------|------------|------------|-------|-------|-------|-------|-----------|------|------|------|------|------|------|------|------|
| IC | IC101(1/2) | IC102(1/2) | IC101(2/2) | IC102(2/2) | IC103(1/4) | IC104(1/4) | IC103(2/4) | IC104(2/4) | IC103(3/4) | IC104(3/4) | IC103(4/4) | IC104(4/4) | IC811 | IC812 | IC801 | IC802 | Q209 | Q205 | Q207 | Q208 | Q210 | Q211 | Q213 | | |
| Transistor (Q) | Q202 Q204 | Q210 | Q206 | Q208 | Q212 | Q214 Q216 | Q220 Q224 Q226 Q222 | Q218 | Q227 | Q228 Q229 | Q230 | Q803 | Q804 | Q806 | Q805 | Q807 | Q203 Q201 | Q808 | Q810 | Q812 | Q814 | Q809 | Q811 | Q813 | Q815 |



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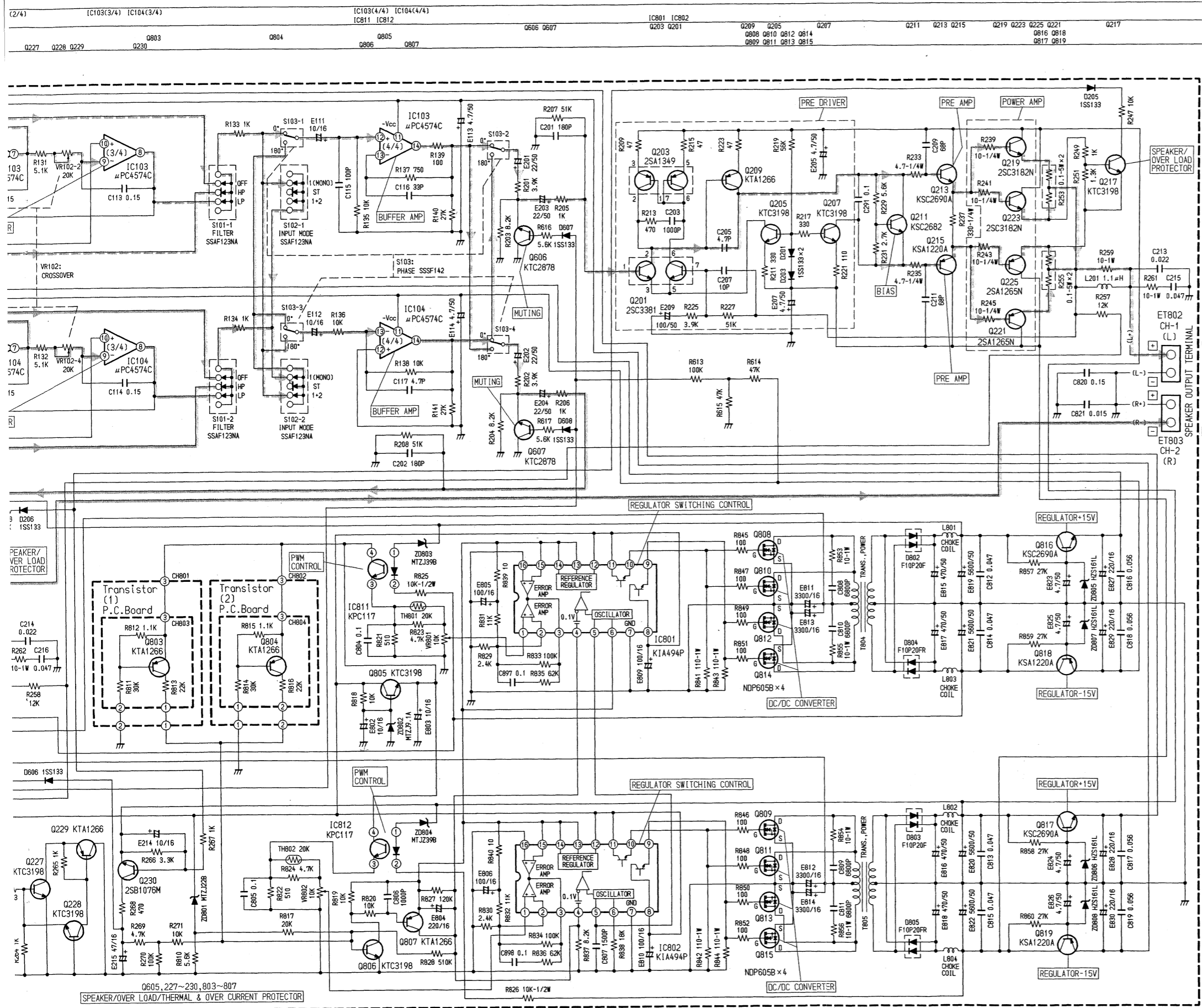
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A | B | C | D | E | F | G | H

0605, 227-230, 803-807
SPEAKER/OVER LOAD/THERMAL & OVER CURRENT PROTECTOR

-9-

MRV-1000 MRV-1000



| IC101 | | IC102 | | IC103 | | IC104 | |
|-------|--------|-------|--------|-------|--------|-------|--------|
| 1 | 15.3V | 1 | 15.2V | 1 | -2.1mV | 8 | -1.5mV |
| 2 | 14mV | 2 | 13.3mV | 2 | -0.2mV | 9 | 0V |
| 3 | 13.5mV | 3 | 13.3mV | 3 | -0.8mV | 10 | 0V |
| 4 | 14mV | 4 | 13.2mV | 4 | 15.2V | 11 | -15.3V |
| 5 | -15.7V | 5 | -15.2V | 5 | 0V | 12 | 2.6mV |
| 6 | 7.3mV | 6 | 7.2mV | 6 | 0.7mV | 13 | 2.9mV |
| 7 | 7.6mV | 7 | 7.6mV | 7 | -2.9mV | 14 | 2.7mV |
| 8 | 50mV | 8 | 50.6mV | 8 | NC | 8 | NC |
| 9 | NC | 9 | NC | 9 | NC | 9 | NC |

| IC801, 802 | | IC811 | | IC812 | |
|------------|-------|-------|-------|-------|------|
| 1 | 1V | 9 | 0.6V | 1 | 5.7V |
| 2 | 1V | 10 | 0.6V | 2 | 5.1V |
| 3 | 3.6V | 11 | 14.3V | 3 | 4.5V |
| 4 | 0.3V | 12 | 14.3V | 4 | 7.8V |
| 5 | 1.6V | 13 | 5V | | |
| 6 | 3.7V | 14 | 5V | | |
| 7 | 2.6mV | 15 | 5V | | |
| 8 | 14.3V | 16 | 0V | | |

| | E | C | B | | E | C | B |
|------|--------|--------|--------|------|--------|--------|-------|
| Q205 | -44.7V | -0.8V | -44.3V | Q227 | 0V | 44.4V | — |
| Q206 | -44.8V | -0.7V | -44.2V | Q228 | — | 44.4V | 0 |
| Q207 | -44.7V | -1.1V | -43.9V | Q229 | 44.4V | 0V | 44.4V |
| Q208 | -44.8V | -1V | -43.9V | Q230 | 1V | 44.8V | — |
| Q209 | 44.9V | 1.1V | 44.5V | Q601 | 6.5V | 10mV | 6.5V |
| Q210 | 45V | 1V | 44.4V | Q602 | 14.4V | 2.8V | 14.4V |
| Q211 | -1.1V | 1.1V | -0.45V | Q603 | 7mV | 14.4V | 0V |
| Q212 | -1V | 1V | -0.4V | Q604 | 0V | 7mV | 0.5V |
| Q213 | 0.5V | 45.3V | 1V | Q605 | 0V | 14.4V | 0.26V |
| Q214 | 0.5V | 45.2V | 1V | Q606 | 0.9V | 0V | 1V |
| Q215 | -0.5V | -44.9V | -1V | Q607 | 0.9V | 0V | 1V |
| Q216 | -0.5V | -44.8V | -1V | Q801 | 14.4V | 14.4V | 13.7V |
| Q217 | 0V | 0.5V | 0V | Q802 | 0V | 1.9V | 0.7V |
| Q218 | 0V | 0.45V | 0V | Q803 | 7.8V | 0V | 7.5V |
| Q219 | 0V | 45.3V | 0.45V | Q804 | 7.8V | 0V | 7.49V |
| Q220 | 0V | 45.2V | 0.45V | Q805 | 7.8V | 14.3V | 8.5V |
| Q221 | 0V | -44.9V | -0.46V | Q806 | 0V | 8.5V | 7.8V |
| Q222 | 0V | -44.8V | -0.46V | Q807 | 5V | 0.3V | 5V |
| Q223 | 0V | 45.3V | 0.45V | Q816 | 15.6V | 45.3V | 0.75V |
| Q224 | 0V | 45.2V | 0.45V | Q817 | 15.3V | 45.4V | 0.75V |
| Q225 | 0V | -44.9V | -0.5V | Q818 | -15.1V | -45.4V | 0.75V |
| Q226 | 0V | -44.8V | -0.5V | Q819 | -15.4V | -45V | 0.75V |

| | S | D | G |
|------|----|-------|---|
| Q808 | 0V | 14.4V | — |
| Q809 | 0V | 14.4V | — |
| Q810 | 0V | 14.4V | — |
| Q811 | 0V | 14.4V | — |
| Q812 | 0V | 14.4V | — |
| Q813 | 0V | 14.4V | — |
| Q814 | 0V | 14.4V | — |
| Q815 | 0V | 14.4V | — |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|-------|-------|-------|----|-------|-------|-------|
| Q201 | -0.8V | 44.4V | -0.8V | NC | -0.8V | 44.5V | -0.1V |
| Q202 | -0.7V | 44.3V | -0.7V | NC | -0.7V | 44.5V | -0.1V |
| Q203 | 44.5V | 44.7V | 4.5V | NC | 4.5V | 44.5V | 44.5V |
| Q204 | 44.6V | 44.4V | 0.72V | NC | 0.72V | 44.6V | 44.6V |

- Measuring Conditions**
- Power Supply Voltage : DC14.4V
 - Measuring Meter : Digital Multi Meter
 - Measuring Reference Point : Between Ground
 - Measuring Condition : No Signal Input

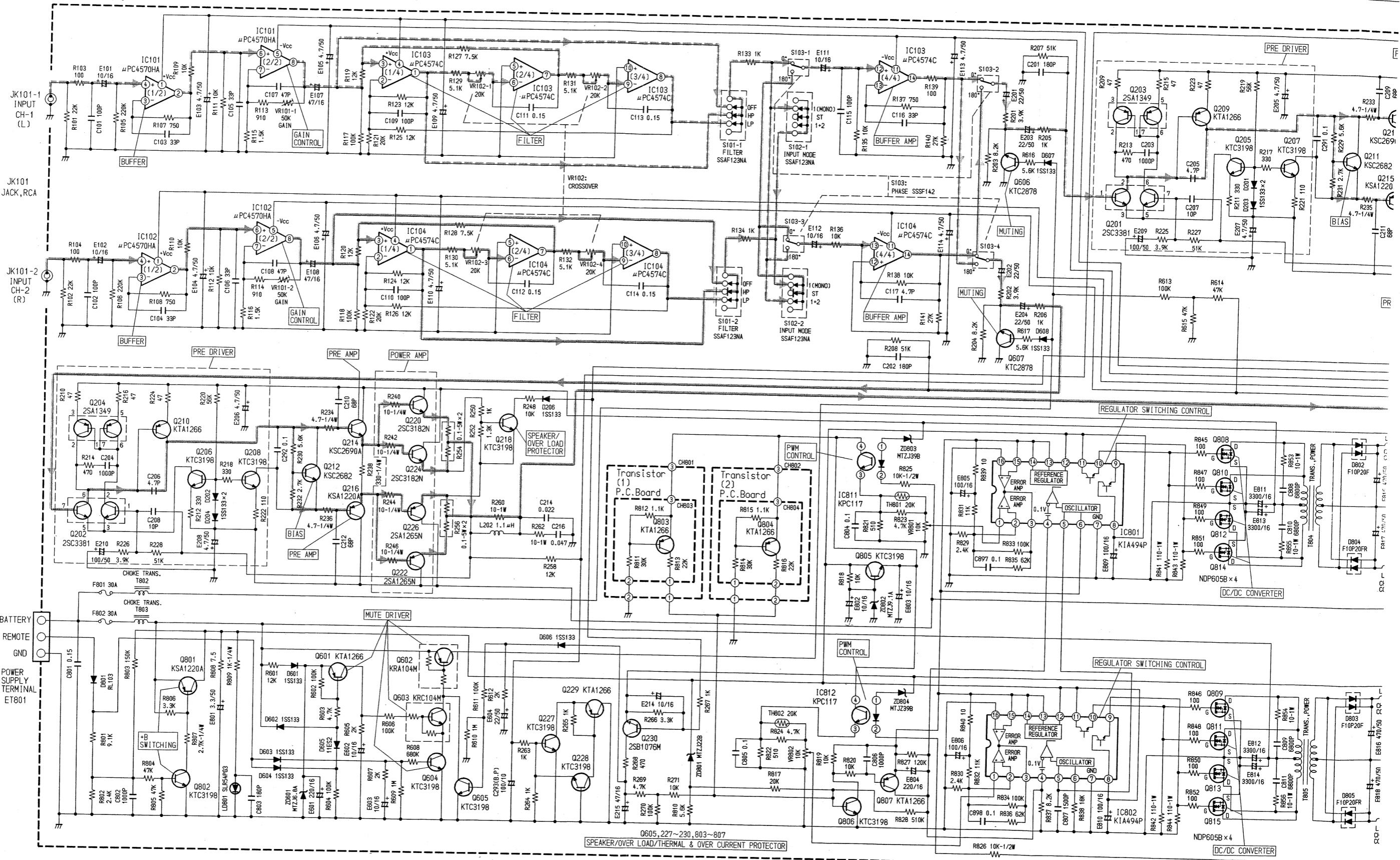
NOTE:

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

D | E | F | G | H | I | J | K | L

Schematic Diagram

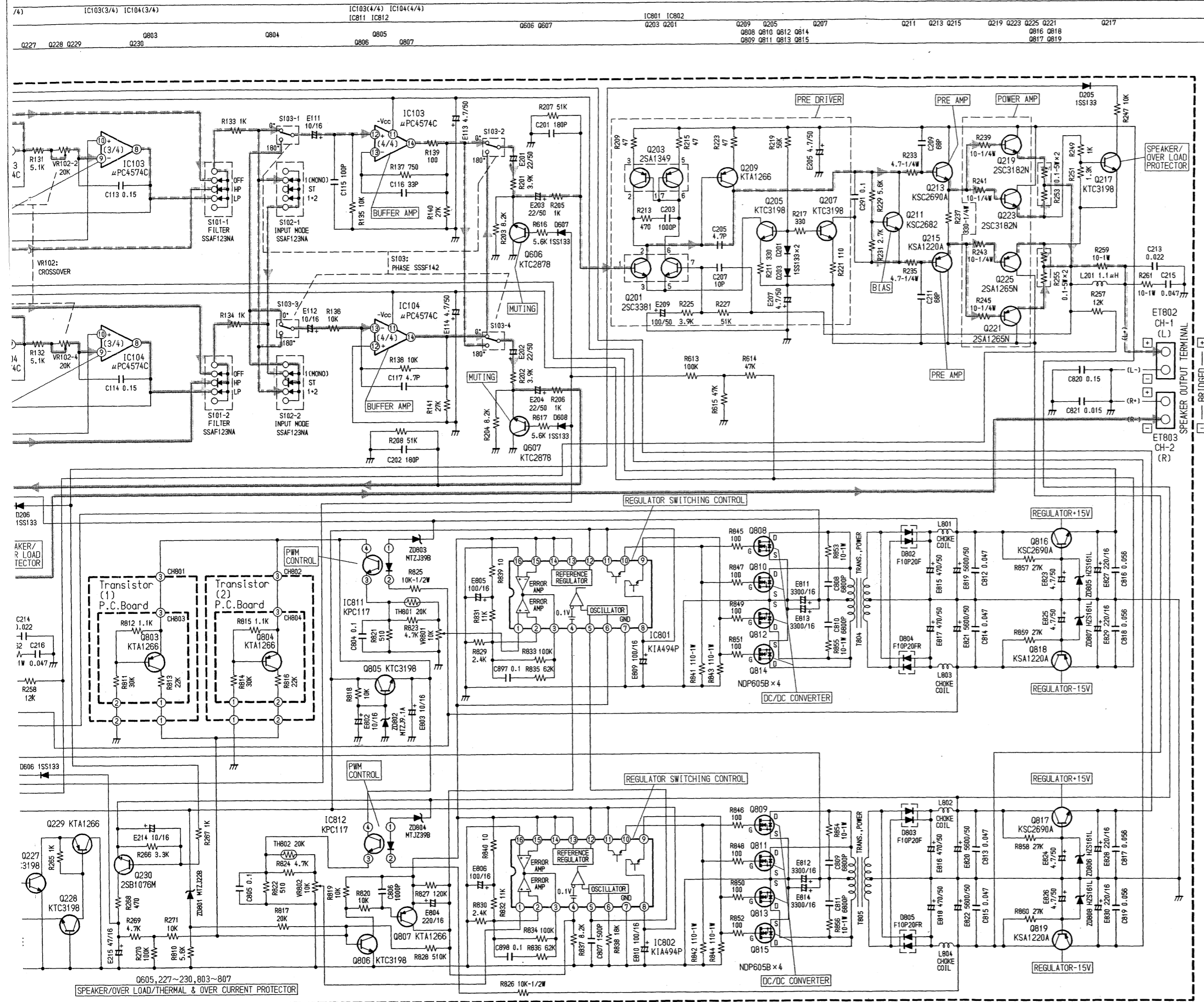
| IC | IC101(1/2) | IC102(1/2) | IC101(2/2) | IC102(2/2) | IC103(1/4) | IC104(1/4) | IC103(2/4) | IC104(2/4) | IC103(3/4) | IC104(3/4) | IC103(4/4) | IC104(4/4) | IC801 | IC802 | Q209 | Q205 | Q207 | Q211 | Q212 | | |
|----------------|------------|----------------|----------------|---------------------|------------|----------------|------------|------------|------------|------------|------------|------------|-------------|-------|------|---|------|------|------|------|------|
| Transistor (Q) | Q202 Q204 | Q210 Q206 Q208 | Q212 Q214 Q216 | Q220 Q224 Q226 Q222 | Q218 | Q227 Q228 Q229 | Q230 | Q804 | Q806 | Q805 | Q807 | Q606 Q607 | IC801 IC802 | Q203 | Q201 | Q808 Q810 Q812 Q814 Q809 Q811 Q813 Q815 | Q209 | Q205 | Q207 | Q211 | Q212 |



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A | B | C | D | E | F | G | H

MRV-1000 MRV-1000



| IC101 | | IC102 | | IC103 | | IC104 | |
|-------|--------|-------|--------|-------|--------|-------|--------|
| 1 | 15.3V | 1 | 15.2V | 1 | -2.1mV | 8 | -1.5mV |
| 2 | 14mV | 2 | 13.3mV | 2 | -0.2mV | 9 | 0V |
| 3 | 13.5mV | 3 | 13.3mV | 3 | -0.8mV | 10 | 0V |
| 4 | 14mV | 4 | 13.2mV | 4 | 15.2V | 11 | -15.3V |
| 5 | -15.7V | 5 | -15.2V | 5 | 0V | 12 | 2.6mV |
| 6 | 7.3mV | 6 | 7.2mV | 6 | 0.7mV | 13 | 2.9mV |
| 7 | 7.6mV | 7 | 7.6mV | 7 | -2.9mV | 14 | 2.7mV |
| 8 | 50mV | 8 | 50.6mV | | | | |
| 9 | NC | 9 | NC | | | | |

| IC801, 802 | | IC811 | | IC812 | |
|------------|-------|-------|-------|-------|------|
| 1 | 1V | 9 | 0.6V | 1 | 5.4V |
| 2 | 1V | 10 | 0.6V | 2 | 5.4V |
| 3 | 3.6V | 11 | 14.3V | 3 | 4.5V |
| 4 | 0.3V | 12 | 14.3V | 4 | 7.8V |
| 5 | 1.6V | 13 | 5V | | |
| 6 | 3.7V | 14 | 5V | | |
| 7 | 2.6mV | 15 | 5V | | |
| 8 | 14.3V | 16 | 0V | | |

| Q205 | E | C | B | Q227 | E | C | B |
|------|--------|--------|--------|------|--------|--------|-------|
| Q206 | -44.7V | -0.8V | -44.3V | Q228 | 0V | 44.4V | 0 |
| Q207 | -44.7V | -1.1V | -43.9V | Q229 | 44.4V | 0V | 44.4V |
| Q208 | -44.8V | -1V | -43.9V | Q230 | 1V | 44.8V | 0 |
| Q209 | 44.9V | 1.1V | 44.5V | Q601 | 6.5V | 10mV | 6.5V |
| Q210 | 45V | 1V | 44.4V | Q602 | 14.4V | 2.8V | 14.4V |
| Q211 | -1.1V | 1.1V | -0.45V | Q603 | 7mV | 14.4V | 0V |
| Q212 | -1V | 1V | -0.4V | Q604 | 0V | 7mV | 0.5V |
| Q213 | 0.5V | 45.3V | 1V | Q605 | 0V | 14.4V | 0.26V |
| Q214 | 0.5V | 45.2V | 1V | Q606 | 0.9V | 0V | 1V |
| Q215 | -0.5V | -44.9V | -1V | Q607 | 0.9V | 0V | 1V |
| Q216 | -0.5V | -44.8V | -1V | Q801 | 14.4V | 14.4V | 13.7V |
| Q217 | 0V | 0.5V | 0V | Q802 | 0V | 1.9V | 0.7V |
| Q218 | 0V | 0.45V | 0V | Q803 | 7.8V | 0V | 7.5V |
| Q219 | 0V | 45.3V | 0.45V | Q804 | 7.8V | 0V | 7.49V |
| Q220 | 0V | 45.2V | 0.45V | Q805 | 7.8V | 14.3V | 8.5V |
| Q221 | 0V | -44.9V | -0.46V | Q806 | 0V | 8.5V | 7.8V |
| Q222 | 0V | -44.8V | -0.46V | Q807 | 5V | 0.3V | 5V |
| Q223 | 0V | 45.3V | 0.45V | Q816 | 15.6V | 45.3V | 0.75V |
| Q224 | 0V | 45.2V | 0.45V | Q817 | 15.3V | 45.4V | 0.75V |
| Q225 | 0V | -44.9V | -0.5V | Q818 | -15.1V | -45.4V | 0.75V |
| Q226 | 0V | -44.8V | -0.5V | Q819 | -15.4V | -45V | 0.75V |

| | S | D | G |
|------|----|-------|---|
| Q808 | 0V | 14.4V | - |
| Q809 | 0V | 14.4V | - |
| Q810 | 0V | 14.4V | - |
| Q811 | 0V | 14.4V | - |
| Q812 | 0V | 14.4V | - |
| Q813 | 0V | 14.4V | - |
| Q814 | 0V | 14.4V | - |
| Q815 | 0V | 14.4V | - |

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|-------|-------|-------|----|-------|-------|-------|
| Q201 | -0.8V | 44.4V | -0.8V | NC | -0.8V | 44.5V | -0.1V |
| Q202 | -0.7V | 44.3V | -0.7V | NC | -0.7V | 44.5V | -0.1V |
| Q203 | 44.5V | 44.7V | 4.5V | NC | 4.5V | 44.5V | 44.5V |
| Q204 | 44.6V | 44.4V | 0.72V | NC | 0.72V | 44.6V | 44.6V |

Measuring Conditions

- Power Supply Voltage : DC14.4V
- Measuring Meter : Digital Multi Meter
- Measuring Reference Point : Between Ground
- Measuring Condition : No Signal Input

NOTE:

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

D | E | F | G | H | I | J | K | L

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 | | | Symbol No. | Part No. | Description |
|------------------------|---------------------|----------------|------------|-------------|--------------|
| RES.= Resistor | CAP.= Capacitor | | Q226 | 48T58610F01 | 2SA1265N |
| C.F.= Carbon Film | ELY.= Electrolytic | | Q227 | 48E09088S01 | KTC3198 |
| M.F.= Metal Film | CER.= Ceramic | | Q228 | 48E09088S01 | KTC3198 |
| M.O.= Metal Oxide Film | MYL.= Mylar | | Q229 | 48E09036S02 | KTA1266 |
| M.P.= Metal Plate | TAN.= Tantalum | | Q230 | 48E22139S01 | 2SB1076M |
| TR.= Transistor | POLY.= Polystyrol | | Q601 | 48E09036S02 | KTA1266 |
| TRANS.= Transformer | PP.= Polypropylene | | Q602 | 48E10239S01 | KRA104M |
| CP.= Chip | PLT.= Polyethylene | | Q603 | 48E09035S02 | KRC104M |
| | PF.= Polyester Film | | Q604 | 48E09088S01 | KTC3198 |
| | | | Q605 | 48E09088S01 | KTC3198 |
| Main P. C. Board | | | Q606 | 48E08335S01 | KTC2878 |
| IC's | | | Q607 | 48E08335S01 | KTC2878 |
| IC101 | 51E22137S01 | μ PC4570HA | Q801 | 48E05943S01 | KSA1220A |
| IC102 | 51E22137S01 | μ PC4570HA | Q802 | 48E09088S01 | KTC3198 |
| IC103 | 51E22138S01 | μ PC4574C | Q805 | 48E09088S01 | KTC3198 |
| IC104 | 51E22138S01 | μ PC4574C | | | |
| IC801 | 51E20883S01 | KIA494P | Q806 | 48E09088S01 | KTC3198 |
| IC802 | 51E20883S01 | KIA494P | Q807 | 48E09036S02 | KTA1266 |
| IC811 | 51E22140S01 | KPC117 | Q808 | 48E20886S01 | FET, NDP605B |
| IC812 | 51E22140S01 | KPC117 | Q809 | 48E20886S01 | FET, NDP605B |
| Transistors | | | Q810 | 48E20886S01 | FET, NDP605B |
| Q201 | 48T71942F01 | 2SC3381 | Q811 | 48E20886S01 | FET, NDP605B |
| Q202 | 48T71942F01 | 2SC3381 | Q812 | 48E20886S01 | FET, NDP605B |
| Q203 | 48T72597F01 | 2SA1349 | Q813 | 48E20886S01 | FET, NDP605B |
| Q204 | 48T72597F01 | 2SA1349 | Q814 | 48E20886S01 | FET, NDP605B |
| Q205 | 48E09088S01 | KTC3198 | Q815 | 48E20886S01 | FET, NDP605B |
| Q206 | 48E09088S01 | KTC3198 | Q816 | 48E10027S01 | KSC2690A |
| Q207 | 48E09088S01 | KTC3198 | Q817 | 48E10027S01 | KSC2690A |
| Q208 | 48E09088S01 | KTC3198 | Q818 | 48E05943S01 | KSA1220A |
| Q209 | 48E09036S02 | KTA1266 | Q819 | 48E05943S01 | KSA1220A |
| Q210 | 48E09036S02 | KTA1266 | Diodes | | |
| Q211 | 48E08329S01 | KSC2682 | D201 | 48T68828F01 | 1SS133 |
| Q212 | 48E08329S01 | KSC2682 | D202 | 48T68828F01 | 1SS133 |
| Q213 | 48E10027S01 | KSC2690A | D203 | 48T68828F01 | 1SS133 |
| Q214 | 48E10027S01 | KSC2690A | D204 | 48T68828F01 | 1SS133 |
| Q215 | 48E05943S01 | KSA1220A | D205 | 48T68828F01 | 1SS133 |
| Q216 | 48E05943S01 | KSA1220A | D206 | 48T68828F01 | 1SS133 |
| Q217 | 48E09088S01 | KTC3198 | D601 | 48T68828F01 | 1SS133 |
| Q218 | 48E09088S01 | KTC3198 | D602 | 48T68828F01 | 1SS133 |
| Q219 | 48T58609F01 | 2SC3182N | D603 | 48T68828F01 | 1SS133 |
| Q220 | 48T58609F01 | 2SC3182N | D604 | 48T68828F01 | 1SS133 |
| Q221 | 48T58610F01 | 2SA1265N | D605 | 48T84052F01 | 11ES2 |
| Q222 | 48T58610F01 | 2SA1265N | D606 | 48T68828F01 | 1SS133 |
| Q223 | 48T58609F01 | 2SC3182N | D607 | 48T68828F01 | 1SS133 |
| Q224 | 48T58609F01 | 2SC3182N | D608 | 48T68828F01 | 1SS133 |
| Q225 | 48T58610F01 | 2SA1265N | D801 | 48E11440S01 | RL103 |

| Symbol No. | Part No. | Description |
|---------------------------|-------------|------------------------|
| D802 | 48T65059W01 | F10P20F |
| D803 | 48T65059W01 | F10P20F |
| D804 | 48T65059W02 | F10P20FR |
| D805 | 48T65059W02 | F10P20FR |
| ZD601 | 48T45012W32 | Zener, MTZJ6.8A |
| ZD801 | 48T45012W71 | Zener, MTZJ22B |
| ZD802 | 48T45012W41 | Zener, MTZJ9.1A |
| ZD803 | 48T45012W95 | Zener, MTZJ39B |
| ZD804 | 48T45012W95 | Zener, MTZJ39B |
| ZD805 | 48T83128F49 | Zener, HZS16-1L |
| ZD806 | 48T83128F49 | Zener, HZS16-1L |
| ZD807 | 48T83128F49 | Zener, HZS16-1L |
| ZD808 | 48T83128F49 | Zener, HZS16-1L |
| Switches | | |
| S101 | 40E20895S01 | SSAF123NA (FILTER) |
| S102 | 40E20895S01 | SSAF123NA (INPUT MODE) |
| S103 | 40T94668F06 | SSSF142 (PHASE) |
| Coils | | |
| L201 | 24E06423S02 | 1.1μH |
| L202 | 24E06423S02 | 1.1μH |
| L801 | 25E20892S01 | Choke |
| L802 | 25E20892S01 | Choke |
| L803 | 25E20892S01 | Choke |
| L804 | 25E20892S01 | Choke |
| Thermistors | | |
| TH801 | 48E22141S01 | 20K ohm |
| TH802 | 48E22141S01 | 20K ohm |
| LED / Transformers | | |
| LD801 | 48E20888S01 | LED, SLR54PG3 (GRN) |
| T802 | 25E20891S01 | Choke |
| T803 | 25E20891S01 | Choke |
| T804 | 25E22142S01 | Trans., Power |
| T805 | 25E22142S01 | Trans., Power |

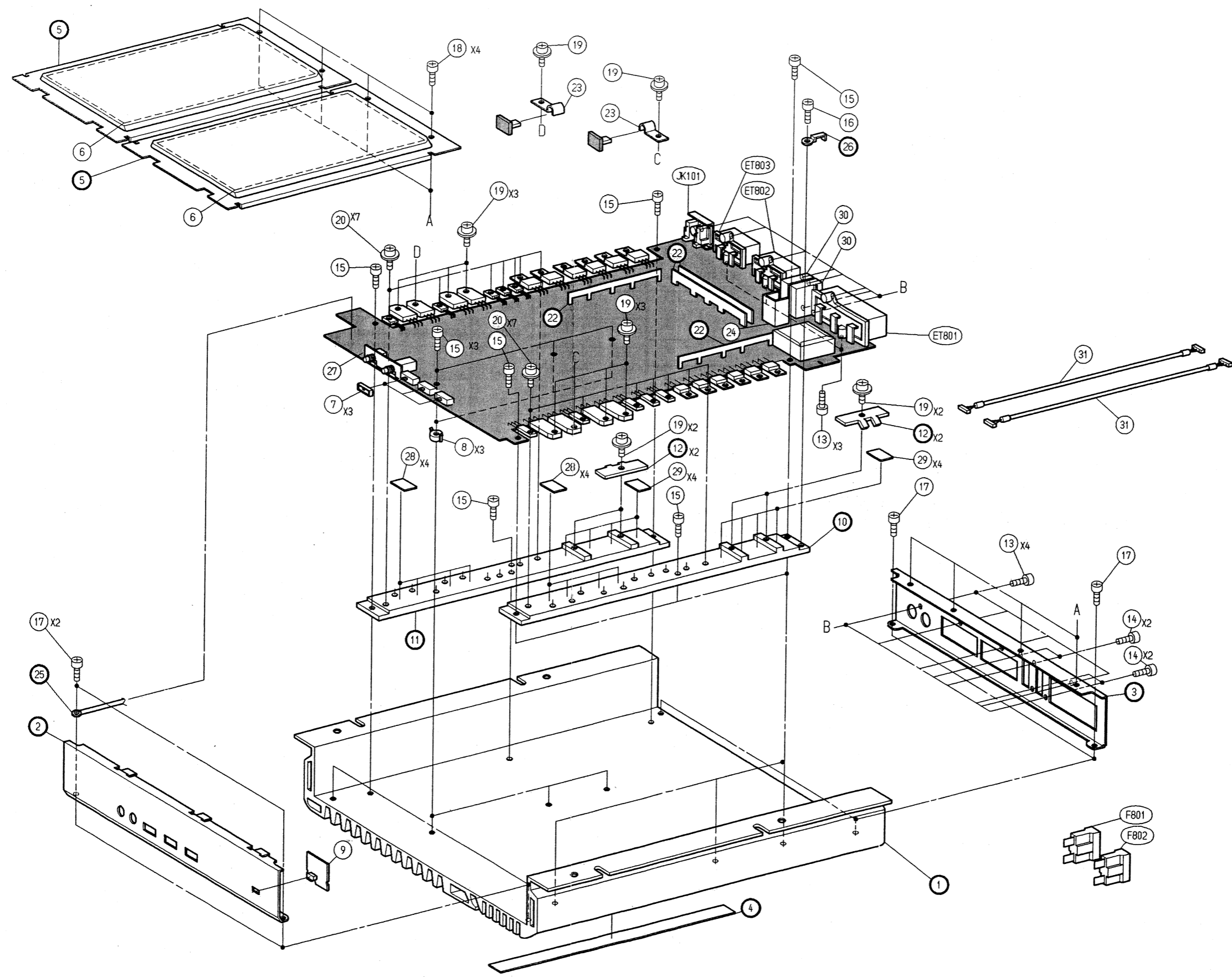
| Symbol No. | Part No. | Description |
|-------------------|-------------|-------------------|
| Capacitors | | |
| C101 | 08E20917S01 | CER., 100pF |
| E101 | 23E08383S08 | ELY., 10μF / 16V |
| C102 | 08E20917S01 | CER., 100pF |
| E102 | 23E08383S08 | ELY., 10μF / 16V |
| C103 | 21E06806S02 | CER., 33pF |
| E103 | 23E22344S01 | ELY., 4.7μF / 50V |
| C104 | 21E06806S02 | CER., 33pF |
| E104 | 23E22344S01 | ELY., 4.7μF / 50V |
| C105 | 21E06806S02 | CER., 33pF |
| E105 | 23E22344S01 | ELY., 4.7μF / 50V |
| C106 | 21E06806S02 | CER., 33pF |
| E106 | 23E22344S01 | ELY., 4.7μF / 50V |
| C107 | 08E20915S01 | CER., 47pF |
| E107 | 23E20208S01 | ELY., 47μF / 16V |
| C108 | 08E20915S01 | CER., 47pF |
| E108 | 23E20208S01 | ELY., 47μF / 16V |
| C109 | 08E20917S01 | CER., 100pF |
| E109 | 23E22344S01 | ELY., 4.7μF / 50V |
| C110 | 08E20917S01 | CER., 100pF |
| E110 | 23E22344S01 | ELY., 4.7μF / 50V |
| C111 | 08E07631S11 | MYL., 0.15μF |
| E111 | 23E08383S08 | ELY., 10μF / 16V |
| C112 | 08E07631S11 | MYL., 0.15μF |
| E112 | 23E08383S08 | ELY., 10μF / 16V |
| C113 | 08E07631S11 | MYL., 0.15μF |
| E113 | 23E22344S01 | ELY., 4.7μF / 50V |
| C114 | 08E07631S11 | MYL., 0.15μF |
| E114 | 23E22344S01 | ELY., 4.7μF / 50V |
| C115 | 08E20917S01 | CER., 100pF |
| C116 | 21E06806S02 | CER., 33pF |
| C117 | 08E20914S01 | CER., 4.7pF |
| C201 | 08E20918S01 | CER., 180pF |
| E201 | 23E08383S12 | ELY., 22μF / 50V |
| C202 | 08E20918S01 | CER., 180pF |
| E202 | 23E08383S12 | ELY., 22μF / 50V |
| C203 | 21E06808S03 | CER., 1000pF |
| E203 | 23E08383S12 | ELY., 22μF / 50V |
| C204 | 21E06808S03 | CER., 1000pF |
| E204 | 23E08383S12 | ELY., 22μF / 50V |
| C205 | 08E20914S01 | CER., 4.7pF |
| E205 | 23E22344S01 | ELY., 4.7μF / 50V |
| C206 | 08E20914S01 | CER., 4.7pF |
| E206 | 23E22344S01 | ELY., 4.7μF / 50V |
| C207 | 08E20072S01 | CER., 10pF |
| E207 | 23E22344S01 | ELY., 4.7μF / 50V |
| C208 | 08E20072S01 | CER., 10pF |
| E208 | 23E22344S01 | ELY., 4.7μF / 50V |
| C209 | 08E20916S01 | CER., 68pF |
| E209 | 23E22147S01 | ELY., 100μF / 50V |
| C210 | 08E20916S01 | CER., 68pF |

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|------------|-------------|-------------------------|-----------------------------------|-------------|--------------------------------------|
| E210 | 23E22147501 | ELY., 100µF / 50V | C820 | 08E20217501 | MYL., 0.015µF |
| C211 | 08E20916501 | CER., 68pF | E820 | 23T75365W01 | ELY., 5600µF / 50V |
| C212 | 08E20916501 | CER., 68pF | C821 | 08E20217501 | MYL., 0.015µF |
| C213 | 08E07631510 | MYL., 0.022µF | E821 | 23T75365W01 | ELY., 5600µF / 50V |
| C214 | 08E07631510 | MYL., 0.022µF | E822 | 23T75365W01 | ELY., 5600µF / 50V |
| E214 | 23E08383508 | ELY., 10µF / 16V | E823 | 23E22344501 | ELY., 4.7µF / 50V |
| C215 | 08E07631518 | MYL., 0.047µF | E824 | 23E22344501 | ELY., 4.7µF / 50V |
| E215 | 23E20208501 | ELY., 47µF / 16V | E825 | 23E22344501 | ELY., 4.7µF / 50V |
| C216 | 08E07631518 | MYL., 0.047µF | E826 | 23E22344501 | ELY., 4.7µF / 50V |
| C291 | 08E07631508 | MYL., 0.1µF | E827 | 23E20210501 | ELY., 220µF / 16V |
| C292 | 08E07631508 | MYL., 0.1µF | E828 | 23E20210501 | ELY., 220µF / 16V |
| C293 | 23E11142501 | ELY., (B.P) 100µF / 10V | E829 | 23E20210501 | ELY., 220µF / 16V |
| E601 | 23E20210501 | ELY., 220µF / 16V | E830 | 23E20210501 | ELY., 220µF / 16V |
| E602 | 23E08383508 | ELY., 10µF / 16V | C897 | 08E07631508 | MYL., 0.1µF |
| E603 | 23E08383508 | ELY., 10µF / 16V | C898 | 08E07631508 | MYL., 0.1µF |
| E604 | 23E08383512 | ELY., 22µF / 50V | Resistors | | |
| C801 | 08E07631511 | MYL., 0.15µF | R253 | 06E22136501 | Plate, 0.1 ohm 5W × 2 |
| E801 | 23E20908501 | ELY., 3.3µF / 50V | R254 | 06E22136501 | Plate, 0.1 ohm 5W × 2 |
| C802 | 21E06808503 | CER., 1000pF | R255 | 06E22136501 | Plate, 0.1 ohm 5W × 2 |
| E802 | 23E08383508 | ELY., 10µF / 16V | R256 | 06E22136501 | Plate, 0.1 ohm 5W × 2 |
| C803 | 08E20918501 | CER., 180pF | R259 | 06E20907501 | M.O., 10 ohm 1W |
| E803 | 23E08383508 | ELY., 10µF / 16V | R260 | 06E20907501 | M.O., 10 ohm 1W |
| C804 | 08E20216501 | MYL., 0.01µF | R261 | 06E20907501 | M.O., 10 ohm 1W |
| E804 | 23E20210501 | ELY., 220µF / 16V | R262 | 06E20907501 | M.O., 10 ohm 1W |
| C805 | 08E20216501 | MYL., 0.01µF | R825 | 06E22145501 | M.O., 10K ohm 1/2W |
| E805 | 23E10238501 | ELY., 100µF / 16V | R826 | 06E22145501 | M.O., 10K ohm 1/2W |
| C806 | 21E06808503 | CER., 1000pF | R841 | 06E22146501 | M.O., 110 ohm 1W |
| E806 | 23E10238501 | ELY., 100µF / 16V | R842 | 06E22146501 | M.O., 110 ohm 1W |
| C807 | 08E07631501 | MYL., 1500pF | R843 | 06E22146501 | M.O., 110 ohm 1W |
| C808 | 08E20912501 | MYL., 6800pF | R844 | 06E22146501 | M.O., 110 ohm 1W |
| C809 | 08E20912501 | MYL., 6800pF | R853 | 06E20907501 | M.O., 10 ohm 1W |
| E809 | 23E10238501 | ELY., 100µF / 16V | R854 | 06E20907501 | M.O., 10 ohm 1W |
| C810 | 08E20912501 | MYL., 6800pF | R855 | 06E20907501 | M.O., 10 ohm 1W |
| E810 | 23E10238501 | ELY., 100µF / 16V | R856 | 06E20907501 | M.O., 10 ohm 1W |
| C811 | 08E20912501 | MYL., 6800pF | VR101 | 18E20880501 | Volume, 50K ohm × 2 (GAIN) |
| E811 | 23T65461W14 | ELY., 3300µF / 16V | VR102 | 18E20879501 | Volume, 20K ohm × 4 (CROSSOVER) |
| C812 | 08E07631518 | MYL., 0.047µF | VR801 | 18E20754501 | Variable, 10K ohm |
| E812 | 23T65461W14 | ELY., 3300µF / 16V | VR802 | 18E20754501 | Variable, 10K ohm |
| C813 | 08E07631518 | MYL., 0.047µF | Transistor (1) P. C. Board | | |
| E813 | 23T65461W14 | ELY., 3300µF / 16V | Transistor | | |
| C814 | 08E07631518 | MYL., 0.047µF | Q803 | 48E09036502 | KTA1266 |
| E814 | 23T65461W14 | ELY., 3300µF / 16V | Transistor (2) P. C. Board | | |
| C815 | 08E07631518 | MYL., 0.047µF | Transistor | | |
| E815 | 23E22148501 | ELY., 470µF / 50V | Q804 | 48E09036502 | KTA1266 |
| C816 | 08E20913501 | MYL., 0.056µF | Miscellaneous | | |
| E816 | 23E22148501 | ELY., 470µF / 50V | ET801 | 29T75161W01 | Terminal (Power Supply) |
| C817 | 08E20913501 | MYL., 0.056µF | ET802 | 29T75161W02 | Terminal (Speaker Output · CH-1) |
| E817 | 23E22148501 | ELY., 470µF / 50V | ET803 | 29T75161W02 | Terminal (Speaker Output · CH-2) |
| C818 | 08E20913501 | MYL., 0.056µF | F801 | 65S58596F08 | Fuse, Auto 30A (For Battery Line) |
| E818 | 23E22148501 | ELY., 470µF / 50V | F802 | 65S58596F08 | Fuse, Auto 30A (For Battery Line) |
| C819 | 08E20913501 | MYL., 0.056µF | JK101 | 09E22143501 | Jack, RCA (Input · CH-1 / CH-2) |
| E819 | 23T75365W01 | ELY., 5600µF / 50V | | | |

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description |
|-----------------------------------|-------------|--------------------------------------|------------|----------|-------------|
| Transistor (2) P. C. Board | | | | | |
| Transistor | | | | | |
| Q804 | 48E09036502 | KTA1266 | | | |
| Miscellaneous | | | | | |
| ET801 | 29T75161W01 | Terminal (Power Supply) | | | |
| ET802 | 29T75161W02 | Terminal (Speaker Output · CH-1) | | | |
| ET803 | 29T75161W02 | Terminal (Speaker Output · CH-2) | | | |
| F801 | 65S58596F08 | Fuse, Auto 30A (For Battery Line) | | | |
| F802 | 65S58596F08 | Fuse, Auto 30A (For Battery Line) | | | |
| JK101 | 09E22143501 | Jack, RCA (Input · CH-1 / CH-2) | | | |

Exploded View (Cabinet)

1
2
3
4
5



A | B⁻¹⁵⁻ | C | D | E | F⁻¹⁶⁻ | G | H

Cabinet Assembly Parts List

Note : No parts number on parts list are not supplied.

| Symbol No. | Index | Part No. | Description | Symbol No. | Index | Part No. | Description |
|------------|-------|-------------|------------------------|------------|-------|----------|-------------|
| 6 | 2-B | 14E11444S01 | Insulator, Sheet | | | | |
| 7 | 3-C | 15E11445S01 | Cover, Switch | | | | |
| 8 | 3-C | 07E10333S01 | Support, P.C.Board | | | | |
| 9 | 5-C | 61E20924S01 | Lens, LED | | | | |
| 13 | | 03E09416S09 | Screw, Tapping (M3×10) | | | | |
| 14 | 4-G | 03E09416S11 | Screw, Tapping (M2×6) | | | | |
| 15 | | 03E09417S06 | Screw, Tapping (M3×11) | | | | |
| 16 | 1-E | 03E20920S01 | Screw, Tapping (M3×5) | | | | |
| 17 | | 03E20077S01 | Screw, Tapping (M3×6) | | | | |
| 18 | 1-C | 03E20921S01 | Screw, MCH (M3×5) | | | | |
| 19 | | 03E20922S01 | Screw, Tapping (M3×11) | | | | |
| 20 | | 03E20923S01 | Screw, Tapping (M3×9) | | | | |
| 23 | 1-D | 07E11459S01 | Support, Frame | | | | |
| 24 | 2-E | 07E22584S01 | Bracket, Battery | | | | |
| 27 | 3-C | 07E22585S01 | Bracket, GND | | | | |
| 28 | | 14E11487S01 | Insulator, Sheet-B | | | | |
| 29 | | 14E20977S01 | Insulator, Sheet-A | | | | |
| 30 | 2-E | 15E20930S01 | Holder, Fuse | | | | |
| 31 | | 01E22616S01 | Assy., Shield Wire | | | | |

Packing Assembly Parts List

| Symbol No. | Part No. | Description | Symbol No. | Part No. | Description | | |
|------------|----------|-------------|------------------------|----------|-------------|-------------|-------------------------|
| ○ | 101 | 68P61487W14 | Owner's Manual | ★ | 103-1 | 01E22150S01 | Assy., Battery Wire |
| △ | 101 | 68P61487W14 | Owner's Manual | △ | 103-2 | 01E22151S01 | Assy., GND Wire |
| △ | or | 68P61487W36 | Owner's Manual | ★ | 103-2 | 01E22151S01 | Assy., GND Wire |
| ★ | 101 | 68P61487W13 | Owner's Manual | △ | 103-3 | 01E20928S01 | Assy., Remote Wire |
| | 102-1 | 03E11447S01 | Screw, Tapping (M4×14) | ★ | 103-3 | 01E20928S01 | Assy., Remote Wire |
| | 102-2 | 28E20925S01 | Housing, Rubber-A | ★ | 103-4 | 01E22152S01 | Assy., Speaker Wire (+) |
| | 102-3 | 65S58596F08 | Fuse, Auto 30A | ★ | 103-5 | 01E22153S01 | Assy., Speaker Wire (-) |
| | 102-4 | 47E22594S01 | Wrench, Hex. | | | | |
| | 102-5 | 03E22655S01 | Screw, Hex. (M5×7) | | | | |
| △ | 103-1 | 01E22150S01 | Assy., Battery Wire | | | | |

Notes : ○ : For North American Model Only,
 ★ : For Japanese Model Only,

△ : For General Foreign Model Only,
 Others : Common.

Packing Method View

