XM-ZR604

SERVICE MANUAL

Ver. 1.1 2007. 08

AEP Model
UK Model
E Model

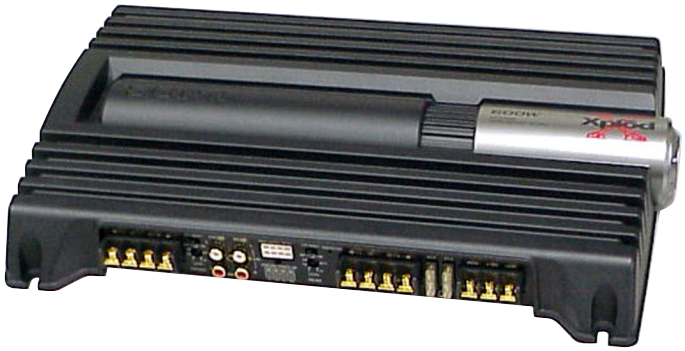


Photo: Red Logo

SPECIFICATIONS

Circuit system	OTL (output transformerless) circuit
	Pulse power supply
Inputs	RCA pin jacks
	High level input connector
Input level adjustment range	
	0.3 – 6 V (RCA pin jacks),
	2.8 – 12 V (High level input)
Outputs	Speaker terminals
Speaker impedance	2 – 8 Ω (stereo)
	4 – 8 Ω (when used as a bridging amplifier)
Maximum output	4 speakers: 110 W × 4 (at 4 Ω)
	3 speakers: 150 W × 2 (at 2 Ω) + 300 W × 1 (BTL, at 4 Ω)
Rated output (supply voltage at 14.4 V)	
	4 speakers:
	60 W × 4 (20 Hz – 20 kHz, 1% THD, at 4 Ω)
	65 W × 4 (20 Hz – 20 kHz, 0.1% THD, at 2 Ω)
Frequency response	5 Hz – 50 kHz ($^{+0}_{-3}$ dB)
Harmonic distortion	0.005% or less (at 1 kHz, 4 Ω)
Low-pass filter	80 Hz, –18 dB/oct
High-pass filter	80 Hz, –12 dB/oct
Power requirements	12 V DC marine battery (negative ground)
Power supply voltage	10.5 – 16 V
Current drain	at rated output : 33 A (4 Ω, 60 W × 4)
	Remote input : 1 mA
Dimensions	Approx. 396 × 55 × 256 mm (w/h/d)
	not incl. projecting parts and controls
Mass	Approx. 3.1 kg not incl. accessories
Supplied accessories	Mounting screws (4)
	High level input cord (1)
	Protection cap (1)

Design and specifications are subject to change without notice.

STEREO POWER AMPLIFIER

9-887-768-02
2007H04-1

Sony Corporation
eVehicle Division
Published by Sony Techno Create Corporation

SONY®

PROTECTOR OPERATION CHECK

Thermal Protect

1. Short across TH901 with the power on.
2. Verify that the protector is operated and D918 illuminates green. When input the signal and verify that there is no output on the SP-OUT even when the volume is increased.
3. Verify that the protector is released and there is an output on the SP-OUT when the short is removed.
4. Likewise, perform items 1 to 3 for TH902 and TH903.

Over Current Protect

1. Short between the positive and negative sides of the speaker output terminals CN903 and CN904 (1/2) with the power on. (Perform this shorting for each channel on FRONT and REAR.)
2. Verify that the protector is operated and D918 illuminates red.
3. Verify that the protector is not released and D918 remains red even when the short is removed.
4. Verify that the protector is released and D918 illuminates green when the power is turned off and then on again.

Offset Protect

1. Short between the +12V terminal of CN904 (2/2) and the (L+R) + or (L+R) – of the speaker output terminal CN904 (1/2). (Short between +12V terminal and (L+R) + and between +12V terminal and (L+R) –.)
2. Verify that the protector is operated and D918 illuminates red.
3. Verify that the protector is not released and D918 remains red even when the short is removed.
4. Verify that the protector is released and D918 illuminates green when the power is turned off and then on again.

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size.)

: LEAD FREE MARK

Unleaded solder has the following characteristics.

- Unleaded solder melts at a temperature about 40°C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350°C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscous (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

TABLE OF CONTENTS

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SECTION 1
GENERAL

This section is extracted from instruction manual.

Location and Function of Controls

1 **POWER/PROTECTOR indicator**
Lights up in green during operation.
When the PROTECTOR is activated the indicator will change from green to red.
When the PROTECTOR is activated refer to the Troubleshooting Guide.

2 **LEVEL adjustment control**
The input level can be adjusted with this control. Turn it in the clockwise direction when the output level of the car audio unit seems low.

3 **HPF switch**
When the HPF switch is set to ON, the High-pass filter (80 Hz) is effective.

4 **LPF switch**
When the LPF switch is set to ON, the Low-pass filter (80 Hz) is effective.

Ubicación y función de los controles

1 **Indicador POWER/PROTECTOR**
Se ilumina en verde durante el uso.
Si se activa PROTECTOR, el indicador cambiará de verde a rojo.
Si se activa PROTECTOR, consulte la Guía de solución de problemas.

2 **Control de ajuste LEVEL**
Mediante este control se puede ajustar el nivel de entrada. Gírelo en el sentido de las agujas del reloj si el nivel de salida del sistema de audio para automóvil parece bajo.

3 **Interruptor HPF**
Cuando el interruptor HPF está ajustado en ON, se activa el filtro de paso alto (80 Hz).

4 **Interruptor LPF**
Cuando el interruptor LPF está ajustado en ON, se activa el filtro de paso bajo (80 Hz).

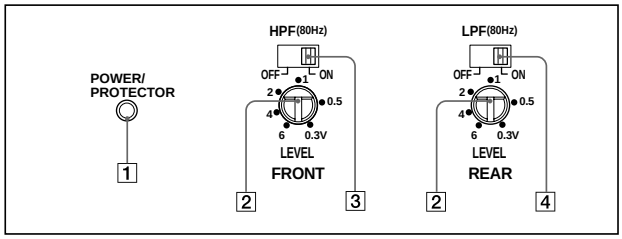
Local e função dos controles

1 **Indicador POWER/PROTECTOR**
A luz fica verde durante a operação.
Quando PROTECTOR for ativado, o indicador mudará de verde para vermelho.
Quando PROTECTOR for ativado, consulte a Solução de problemas.

2 **Controle de ajuste LEVEL**
O nível de entrada pode ser ajustado com esse controle. Gire-o no sentido horário quando o nível de saída do rádio automotivo estiver baixo.

3 **Interruptor HPF**
Quando o interruptor HPF for ajustado para ON, o filtro de passagem alta (80 Hz) estará ativo.

4 **Interruptor LPF**
Quando o interruptor LPF for ajustado para ON, o filtro de passagem baixa (80 Hz) estará ativo.



Precauciones

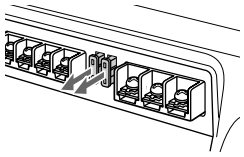
- Esta unidad está diseñada para utilizarse sólo con cc de 12 V negativo a masa.
- Emplee altavoces con impedancia de 2 a 8 Ω (de 4 a 8 Ω cuando se utilice como amplificador en puente).
- No conecte altavoces activos (con amplificadores incorporados) a los terminales de altavoz de la unidad, ya que puede dañar dichos altavoces.
- Evite instalar la unidad en lugares expuestos a:
  — altas temperaturas, como a la luz solar directa o al aire caliente de la calefacción
  — la lluvia o la humedad
  — suciedad o polvo
- Si aparca el automóvil bajo la luz solar directa y se produce un considerable aumento de temperatura en el interior, deje que la unidad se enfríe antes de utilizarla.
- Si instala la unidad horizontalmente, asegúrese de no cubrir las aletas con la moqueta del suelo, etc.
- Si coloca la unidad demasiado cerca del sistema de audio para automóvil o de la antena, pueden producirse interferencias. En este caso, instale el amplificador alejado de dichos dispositivos.
- Si el sistema de audio para automóvil no recibe alimentación, compruebe las conexiones.
- Este amplificador de potencia emplea un circuito de protección* para proteger los transistores y los altavoces en caso de que dicho amplificador presente fallos de funcionamiento. No intente someter a prueba los circuitos de protección cubriendo el disipador de calor o conectando cargas inadecuadas.
- No utilice la unidad si la batería se está agotando, ya que el rendimiento óptimo de dicha unidad depende de un buen suministro de alimentación.
- Por razones de seguridad, mantenga el volumen del sistema de audio para automóvil en un nivel moderado de forma que sea posible oír los sonidos del exterior del automóvil.

Sustitución del fusible

Si el fusible se funde, compruebe la conexión de alimentación y sustituya ambos fusibles. Si el fusible se funde de nuevo después de sustituirlo, es posible que exista un fallo de funcionamiento interno. En este caso, póngase en contacto con el distribuidor Sony más próximo.

Advertencia

Al sustituir el fusible, asegúrese de utilizar uno cuyo amperaje coincida con el especificado en el portafusible. No utilice nunca un fusible con un amperaje superior al del suministrado con la unidad, ya que podría dañar la unidad.



* ***Circuito de protección***
Este amplificador dispone de un circuito de protección que se activa en los siguientes casos:
— Si la unidad se calienta excesivamente
— Si se genera corriente cc
— Si se produce un cortocircuito en los terminales de altavoz
El color del indicador POWER/PROTECTOR cambiará de verde a rojo y la unidad se desactivará.
Si esto ocurre, desactive el equipo conectado, extraiga la cinta de casete o el disco y determine la causa del fallo de funcionamiento. Si el amplificador se ha sobrecalentado, espere hasta que la unidad se enfríe antes de volver a utilizarla.

Si desea realizar alguna consulta o solucionar algún problema relativos a la unidad que no aparezcan en este manual, póngase en contacto con el distribuidor Sony más próximo.

El fabricante de este producto es Sony Corporation, 1-7-1 Konan, Minato-ku, Tokio, 108-0075 Japón.
El representante autorizado para la aplicación de la directiva EMC y la seguridad de los productos es Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Alemania. Para cualquier cuestión relacionada con el servicio técnico o la garantía, consulte las direcciones facilitadas en los documentos de garantía o servicio técnico.

Tratamiento de los equipos eléctricos y electrónicos al final de su vida útil (aplicable en la Unión Europea y en países europeos con sistemas de recogida selectiva de residuos)

Este símbolo en el equipo o el embalaje indica que el presente producto no puede ser tratado como residuos domésticos normales, sino que debe entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos. Al asegurarse de que este producto se desecha correctamente, Ud. ayuda a prevenir las consecuencias negativas para el medio ambiente y la salud humana que podrían derivarse de la incorrecta manipulación en el momento de deshacerse de este producto. El reciclaje de materiales ayuda a conservar los recursos naturales. Para recibir información detallada sobre el reciclaje de este producto, póngase en contacto con el ayuntamiento, el punto de recogida más cercano o el establecimiento donde ha adquirido el producto.

Precautions

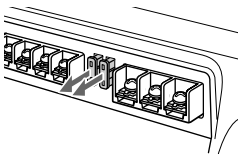
- This unit is designed for negative ground 12 V DC operation only.
- Use speakers with an impedance of 2 to 8 Ω (4 to 8 Ω when used as a bridging amplifier).
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers.
- Avoid installing the unit in areas subject to:
  — high temperatures such as from direct sunlight or hot air from the heater
  — rain or moisture
  — dust or dirt.
- If your car is parked in direct sunlight and there is a considerable rise in temperature inside the car, allow the unit to cool down before use.
- When installing the unit horizontally, be sure not to cover the fins with the floor carpet etc.
- If this unit is placed too close to the car audio unit or antenna, interference may occur. In this case, relocate the amplifier away from the car audio unit or antenna.
- If no power is being supplied to the car audio unit, check the connections.
- This power amplifier employs a protection circuit* to protect the transistors and speakers if the amplifier malfunctions. Do not attempt to test the protection circuits by covering the heat sink or connecting improper loads.
- Do not use the unit on a weak battery as its optimum performance depends on a good power supply.
- For safety reasons, keep your car audio unit volume moderate so that you can still hear sounds outside your car.

Fuse Replacement

If the fuse blows, check the power connection and replace both the fuses. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

Warning

When replacing the fuse, be sure to use one matching the amperage stated above the fuse holder. Never use a fuse with an amperage rating exceeding the one supplied with the unit as this could damage the unit.



* ***Protection circuit***
This amplifier is provided with a protection circuit that operates in the following cases:
— when the unit is overheated
— when a DC current is generated
— when the speaker terminals are short-circuited.
The color of the POWER/PROTECTOR indicator will change from green to red, and the unit will shut down.
If this happens, turn off the connected equipment, take out the cassette tape or disc, and determine the cause of the malfunction. If the amplifier has overheated, wait until the unit cools down before use.

If you have any questions or problems concerning your unit that are not covered in this manual, please consult your nearest Sony dealer.

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.

The manufacturer of this product is Sony Corporation, 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan.
The Authorized Representative for EMC and product safety is Sony Deutschland GmbH, Hedelfinger Strasse 61, 70327 Stuttgart, Germany. For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

Precauções

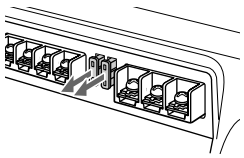
- Este aparelho foi concebido para operar apenas com CC de 12 V fio terra.
- Utilize alto-falantes com uma impedância de 2 a 8 Ω (4 a 8 Ω quando utilizado como amplificador em ponte).
- Não ligue alto-falantes ativos (com amplificação) aos terminais dos alto-falantes do aparelho. Se o fizer, pode provocar avarias nos alto-falantes ativos.
- Evite instalar o aparelho em zonas:
  — em que esteja exposto a altas temperaturas como, por exemplo, à luz direta dos raios solares ou ao ar quente proveniente do aquecedor
  — em que esteja exposto à chuva ou umidade
  — em que esteja exposto ao pó ou sujeira.
- Se o automóvel estiver estacionado ao sol e a temperatura no seu interior subir consideravelmente, deixe o aparelho arrefecer antes utilizá-lo.
- Quando instalar o aparelho horizontalmente, não tape a grelha de ventilação com o tapete etc.
- Se colocar o aparelho muito perto do rádio automotivo ou da antena, podem ocorrer interferências. Se isso acontecer, afaste o amplificador do rádio automotivo ou da antena do automóvel.
- Se o aparelho não estiver recebendo corrente, verifique as conexões.
- Este amplificador de potência possui um circuito de proteção* que protege os transistores e as colunas, se o amplificador funcionar mal. Não teste os circuitos de proteção tapando as aberturas de arrefecimento ou ligando-os a cargas inadequadas.
- Não utilize o aparelho com a bateria fraca, pois para que funcione em condições adequadas, deve haver uma boa fonte de alimentação.
- Por razões de segurança, mantenha o volume do rádio automotivo a um nível moderado para poder ouvir os sons do exterior.

Substituir o fusível

Se o fusível queimar, verifique as conexões de alimentação e substitua os dois fusíveis. Se, depois de o ter substituído, o fusível voltar a queimar, pode existir uma avaria interna. Nesse caso, consulte o distribuidor da Sony mais próximo.

Aviso

Quando substituir o fusível, verifique se está utilizando um fusível com a amperagem idêntica à indicada no fusível que retirou. Nunca utilize um fusível com uma amperagem superior à do aparelho porque pode provocar uma avaria.



* ***Circuito de proteção***
Este amplificador está equipado com um circuito de proteção que funciona nas seguintes situações:
— se houver sobreaquecimento do aparelho
— se for gerada corrente CC
— se ocorrer um curto-circuito nos terminais dos alto-falantes.
A cor do indicador POWER/PROTECTOR muda de verde para vermelho e o aparelho é desligado.
Se isso acontecer, desligue o equipamento, retire a fita cassete ou o disco e verifique a causa da avaria. Se houver sobreaquecimento do aparelho, aguarde até que este arrefeça antes de voltar a utilizá-lo.

Se tiver dúvidas ou problemas referentes ao aparelho que não se encontrem neste manual, consulte o distribuidor Sony mais próximo.

Connections/Conexiones/Conexões

Installation

Before Installation

- Mount the unit either inside the trunk or under a seat.
- Choose the mounting location carefully so the unit will not interfere with the normal movements of the driver and it will not be exposed to direct sunlight or hot air from the heater.
- Do not install the unit under the floor carpet, where the heat dissipation from the unit will be considerably impaired.

First, place the unit where you plan to install it, and mark the positions of the 4 screw holes on the mounting board (not supplied). Then drill a 3 mm ($^1/_8$ in) pilot hole at each mark and mount the unit onto the board with the supplied mounting screws. The mounting screws are all 15 mm ($^{19}/_{32}$ in) long, so make sure that the mounting board is thicker than 15 mm ($^{19}/_{32}$ in).

Instalación

Antes de realizar la instalación

- Monte la unidad en el interior del maletero o debajo de un asiento.
- Elija cuidadosamente el lugar de instalación de forma que la unidad no dificulte las maniobras normales del conductor y no quede expuesta a la luz solar directa ni al aire caliente de la calefacción.
- No instale la unidad debajo de la moqueta del suelo, en cuyo caso la disipación de calor de la misma disminuirá considerablemente.

En primer lugar, coloque la unidad donde tenga previsto instalarla y marque sobre la superficie del tablero de montaje (no suministrado) las posiciones de los 4 orificios para los tornillos. A continuación, perfore los orificios con un diámetro de aproximadamente 3 mm y monte la unidad sobre el tablero con los tornillos de montaje suministrados. Ya que la longitud de estos tornillos es de 15 mm, compruebe que el grosor del tablero de montaje sea superior a 15 mm.

Instalação

Antes de fazer a instalação

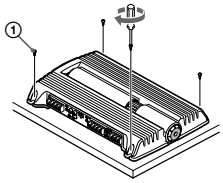
- Monte o aparelho dentro do porta-mala ou por baixo do banco.
- Escolha cuidadosamente o local de montagem de modo que o aparelho não interfira nos movimentos normais do motorista e não fique exposto à luz dos raios solares nem ao ar quente proveniente do sistema de aquecimento.
- Não instale o aparelho por baixo do tapete do carro porque impedirá a dissipação de calor do aparelho.

Em primeiro lugar, coloque o aparelho no local onde pretende instalá-lo e marque as posições dos 4 furos para os parafusos na placa de montagem (não fornecida). Depois, faça um furo de 3 mm em cada marca e monte o aparelho na placa, utilizando os parafusos de montagem fornecidos. Como os parafusos de montagem têm 15 mm de comprimento, deve verificar se a placa de montagem tem uma espessura superior a 15 mm.

Mount the unit as illustrated.

Monte la unidad tal como se muestra en la ilustración.

Monte o aparelho conforme exibido na figura.



Cautions

- Before making any connections, disconnect the ground terminal of the car battery to avoid short circuits.
- Be sure to use speakers with an adequate power rating. If you use small capacity speakers, they may be damaged.
- This is a Phase-Inverted Amplifier.
- Do not connect the ⊖ terminal of the speaker system to the car chassis, and do not connect the ⊖ terminal of the right speaker with that of the left speaker.
- Install the input and output cords away from the power supply wire as running them close together can generate some interference noise.
- This unit is a high powered amplifier. Therefore, it may not perform to its full potential if used with the speaker cords supplied with the car.
- If your car is equipped with a computer system for navigation or some other purpose, do not remove the ground wire from the car battery. If you disconnect the wire, the computer memory may be erased. To avoid short circuits when making connections, disconnect the +12 V power supply wire until all the other wires have been connected.

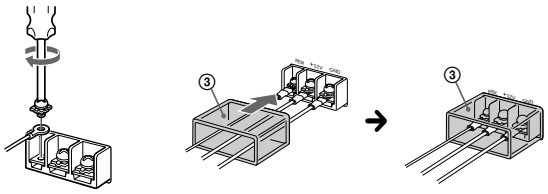
Precaución

- Antes de realizar las conexiones, desconecte el terminal de toma a tierra de la batería del automóvil para evitar cortocircuitos.
- Asegúrese de utilizar altavoces con una potencia nominal adecuada. Si emplea altavoces de capacidad reducida, pueden dañarse.
- Este amplificador es de fase invertida.
- No conecte el terminal ⊖ del sistema de altavoces al chasis del automóvil, ni el terminal ⊖ del altavoz derecho al del altavoz izquierdo.
- Instale los cables de entrada y salida alejados del cable de la fuente de alimentación, ya que en caso contrario puede generarse ruido por interferencias.
- Esta unidad es un amplificador de alta potencia. Por tanto, puede no funcionar a pleno rendimiento si se utiliza con los cables de altavoz suministrados con el automóvil.
- Si el automóvil está equipado con un sistema de ordenador para la navegación o para otra finalidad, no desconecte el conductor de toma a tierra de la batería del automóvil. Si lo desconecta, la memoria del ordenador puede borrarse. Para evitar cortocircuitos al realizar las conexiones, desconecte el cable de la fuente de alimentación de +12 V hasta conectar todos los cables.

Cuidado

- Antes de executar qualquer conexão, desligue o terminal terra da bateria do automóvel para evitar curto-circuitos.
- Verifique se as colunas utilizadas têm uma potência nominal adequada. Se utilizar colunas de baixa capacidade, pode danificá-las.
- Este amplificador é um amplificador de fase invertida.
- Não ligue o terminal ⊖ do sistema de colunas ao chassis do automóvel nem o terminal ⊖ da coluna direita ao terminal da coluna esquerda.
- Instale os cabos de entrada e de saída longe do cabo de alimentação de corrente porque se estiverem muito perto podem gerar interferências.
- Este aparelho é um amplificador de grande potência. Como tal, é possível que não consiga utilizá-lo com a potência máxima se usar os cabos para colunas fornecidos com o automóvel.
- Se o automóvel estiver equipado com um computador de bordo para navegação, não retire o fio de conexão terra da bateria do automóvel. Se desligar o fio, a memória do computador é apagada. Para evitar curtos-circuitos quando fizer as conexões, ligue o cabo de conexão à corrente de +12 V somente depois de ligar todos os outros cabos.

Make the terminal connections as illustrated below.
Realice las conexiones de terminal como se ilustra a continuación.
Ligue os terminais conforme exibido na figura abaixo.

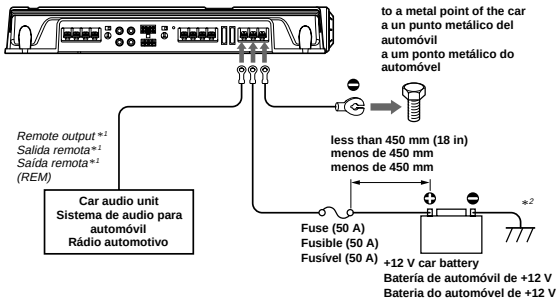


Pass the wires through the cap, connect the wires, then cover the terminals with the cap.
Note
When you tighten the screw, be careful not to apply too much torque as doing so may damage the screw.*
** The torque value should be less than 1 N•m.*

Pase los cables a través de la cubierta, conéctelos y cubra los terminales con dicha cubierta.
Nota
Al apretar el tornillo, tenga cuidado de no aplicar demasiada fuerza de torsión, ya que puede dañarlo.*
** El valor de fuerza de torsión debe ser inferior a 1 N•m.*

Passe o fio pela capa de proteção, ligue-o e depois tape os terminais com a capa de proteção.
Nota
Aperte bem o parafuso, mas não com demasiada força para evitar danificá-lo.*
** O torque aplicado deve ser inferior a 1 N•m.*

Power Connection Wires (not supplied)
Cables de conexión de alimentación (no suministrados)
Cabos de conexão à corrente (não fornecidos)



**1 If you have the factory original or some other car audio unit without a remote output for the amplifier, connect the remote input terminal (REMOTE) to the accessory power supply. In High level input connection, car audio unit can also be activated without need for REMOTE connection. However, this function is not guaranteed for all car audio units.*

**1 Si dispone del sistema de audio para automóvil original de fábrica o de otro sistema sin una salida remota para el amplificador, conecte el terminal de entrada remota (REMOTE) a la fuente de alimentación auxiliar. En la conexión de entrada de alto nivel, el sistema de audio para automóvil también puede activarse sin necesidad de conexión REMOTE. No obstante, esta función no se garantiza en todos los sistemas de audio para automóvil.*

**1 Se tiver o rádio automotivo original fornecido de fábrica ou outro sistema de som para automóvel sem uma saída remota no amplificador, ligue o terminal de entrada remota (REMOTE) à fonte de alimentação para acessórios. Na conexão de entrada de nível alto, o rádio automotivo também pode ser ligado sem necessidade de conexão REMOTE. No entanto, essa função não é garantida em todos os rádios automotivos.*

Notes on the power supply

- *Connect the +12 V power supply wire only after all the other wires have been connected.*
- ***Be sure to connect the ground wire of the unit securely to a metal point of the car. A loose connection may cause a malfunction of the amplifier.***
- *Be sure to connect the remote control wire of the car audio unit to the remote terminal.*
- *When using a car audio unit without a remote output on the amplifier, connect the remote input terminal (REMOTE) to the accessory power supply.*
- *Use a power supply wire with a fuse attached (50 A).*
- *All power wires connected to the positive battery post should be fused within 450 mm (18 in) of the battery post, and before they pass through any metal.*
- *Make sure that the vehicle's battery wires connected to the vehicle (ground to chassis)*2 are of a wire gauge at least equal to that of the main power wire connected from the battery to the amplifier.*
- *During full-power operation, a current of more than 50 A will run through the system. Therefore, make sure that the wires to be connected to the **+12 V** and **GND** terminals of this unit are at least 10-Gauge (AWG-10) or have a sectional area of more than 5 mm² ($^7/_{32}$ in²).*

Notas sobre la fuente de alimentación

- *Conecte el cable de la fuente de alimentación de +12 V sólo después de haber conectado los otros cables.*
- ***Asegúrese de conectar firmemente el cable de toma a tierra de la unidad a un punto metálico del automóvil. Una conexión floja puede causar fallos de funcionamiento del amplificador.***
- *Compruebe que conecta el cable de control remoto del sistema de audio para automóvil al terminal remoto.*
- *Si utiliza un sistema de audio para automóvil sin salida remota en el amplificador, conecte el terminal de entrada remota (REMOTE) a la fuente de alimentación auxiliar.*
- *Emplee el cable de la fuente de alimentación con un fusible fijado (50 A).*
- *Todos los cables de alimentación conectados al polo positivo de la batería deben conectarse a un fusible situado a menos de 450 mm del polo de la batería, y antes de pasar por ninguna pieza metálica.*
- *Asegúrese de que los cables de la batería del vehículo conectados al mismo (a la masa del chasis)*2 tienen una anchura igual o superior a la del cable de alimentación principal que conecta la batería con el amplificador.*
- *Durante el funcionamiento a pleno rendimiento, fluye por el sistema una corriente superior a 50 A. Por tanto, compruebe que los cables que va a conectar a los terminales de **+12 V** y **GND** de esta unidad son del calibre 10 (AWG 10) como mínimo o presentan un área de sección superior a 5 mm².*

Notas sobre o fornecimento de corrente

- *Ligue o cabo de conexão à corrente de +12 V somente depois de ter conectado todos os outros cabos.*
- ***Conecte o fio terra do aparelho a um ponto metálico do automóvel. Uma conexão mal feita pode avariar o amplificador.***
- *Verifique se conectou o cabo do controle remoto do rádio automotivo ao terminal remoto.*
- *Quando utilizar um rádio automotivo sem saída para telecomando no amplificador, conecte o terminal de entrada remota (REMOTE) à fonte de alimentação para acessórios.*
- *Utilize um cabo de alimentação com um fusível incorporado (50 A).*
- *Todos os fios de alimentação conectados ao polo positivo da bateria devem ser ligados a 450 mm do polo da bateria antes de passar por qualquer metal.*
- *Verifique se os fios da bateria conectados ao veículo (do terra ao chassis)*2 são, pelo menos, da mesma espessura que o fio de alimentação principal que conecta a bateria ao amplificador.*
- *Durante o funcionamento com potência total, o sistema é percorrido por uma corrente superior a 50 A. Assim, verifique se os cabos que vai ligar aos terminais **+12 V** e **GND** deste aparelho têm uma capacidade superior a 10-Gauge (AWG-10) ou uma seção superior a 5 mm².*

Speaker Connections

Turn on or off the LPF and HPF switch at the unit rear as illustrated below.

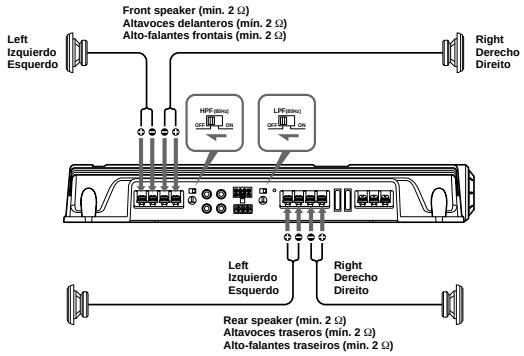
Conexiones de los altavoces

Encienda o apague los interruptores LPF y HPF situados en la parte posterior de la unidad, como se muestra a continuación.

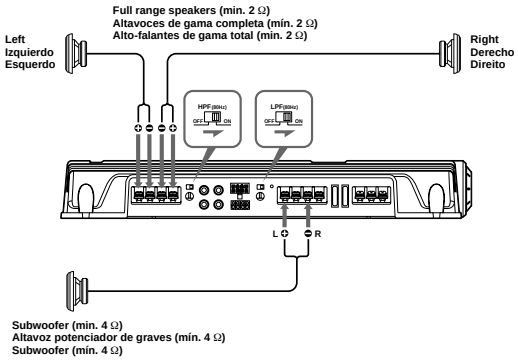
Conexões dos alto-falantes

Ligue ou desligue os interruptores LPF e HPF da parte de trás do rádio automotivo, conforme mostrado nas ilustrações.

1 4-Speaker System
Sistema de 4 altavoces
Sistema de 4 alto-falantes



2 3-Speaker System
Sistema de 3 altavoces
Sistema de 3 alto-falantes

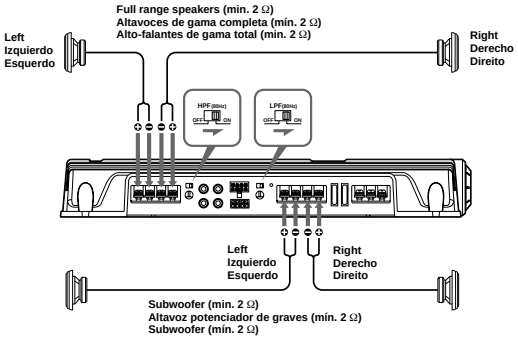


Notes
- *In this system, the volume of the subwoofer will be controlled by the car audio unit fader control.*
- *In this system, the output signals to the subwoofer will be the combination of both the REAR L and R INPUT jacks or the REAR high level input connector signals.*

Notas
- *En este sistema, el volumen del altavoz potenciador de graves se controla mediante el control de equilibrio entre altavoces del sistema de audio para automóvil.*
- *En este sistema, las señales de salida que recibe el altavoz potenciador de graves serán la combinación de las tomas REAR L y R INPUT o de las señales del conector de entrada de alto nivel REAR.*

Notas
- *Neste sistema, o volume do subwoofer é comandado pelo controle de fader do som do automóvel.*
- *Neste sistema, os sinais de saída para o subwoofer serão uma combinação das tomadas REAR L e R INPUT ou dos sinais do conector de entrada de nível alto REAR.*

3 2-Way System
Sistema de 2 vías
Sistema de 2 vias



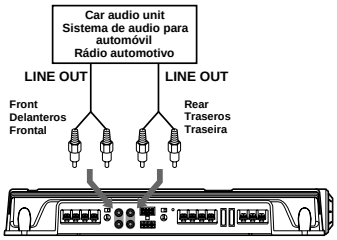
Note
In this system, the volume of the subwoofer will be controlled by the car audio unit fader control.

Nota
En este sistema, el volumen del altavoz potenciador de graves se controla mediante el control de equilibrio entre altavoces del sistema de audio para automóvil.

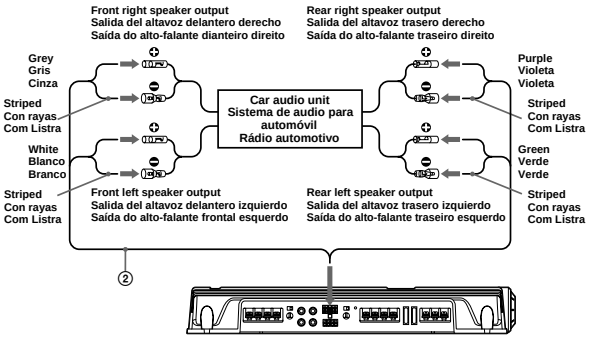
Nota
Neste sistema, o volume dos subwoofers será comandado pelo controle de fader do som do automóvel.

Input Connections/Conexiones de entrada/Conexões de entrada

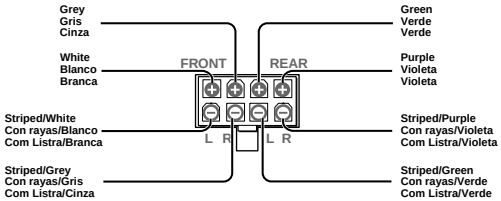
A **Line Input Connection**
Conexión de entrada de línea
Conexão de entrada de linha



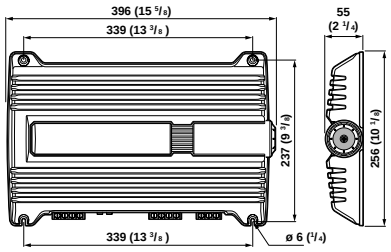
B **High Level Input Connection**
Conexión de entrada de alto nivel
Conexão de entrada de nível elevado



High Level Input Connector
Conector de entrada de alto nivel
Conector de entrada de nível alto



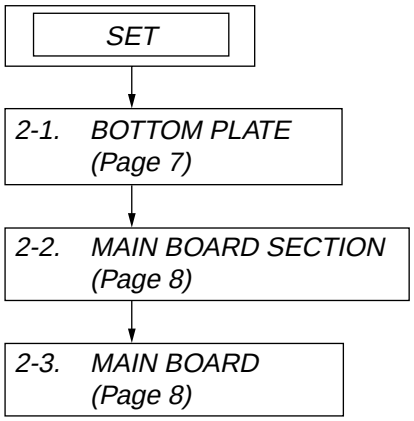
Dimensions/Dimensiones/Dimensões



Unit: mm (in)
Unidad: mm
Unidade: mm

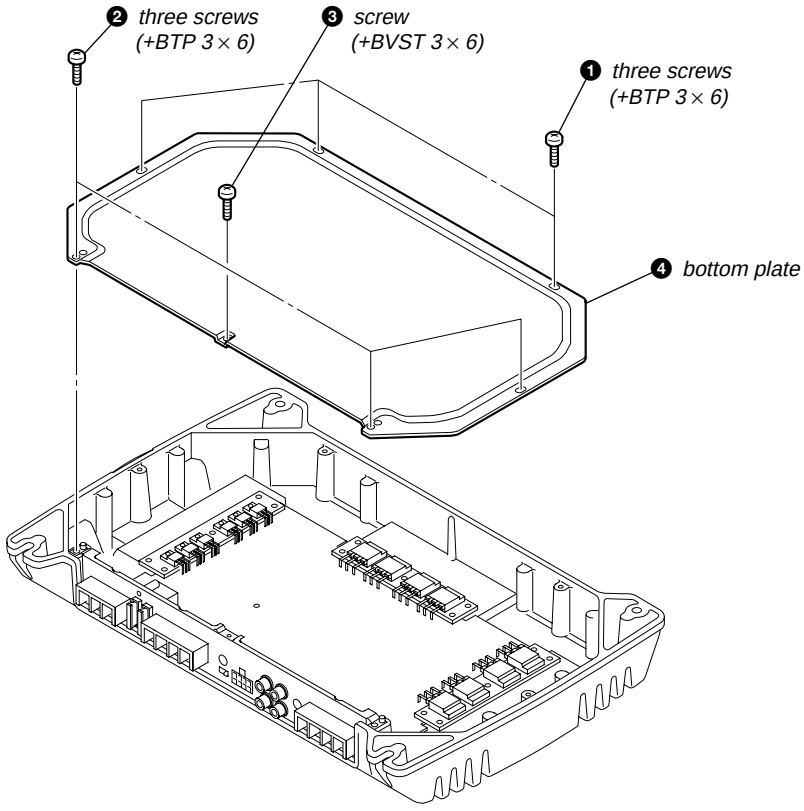
SECTION 2
DISASSEMBLY

Note : This set can be disassemble according to the following sequence.

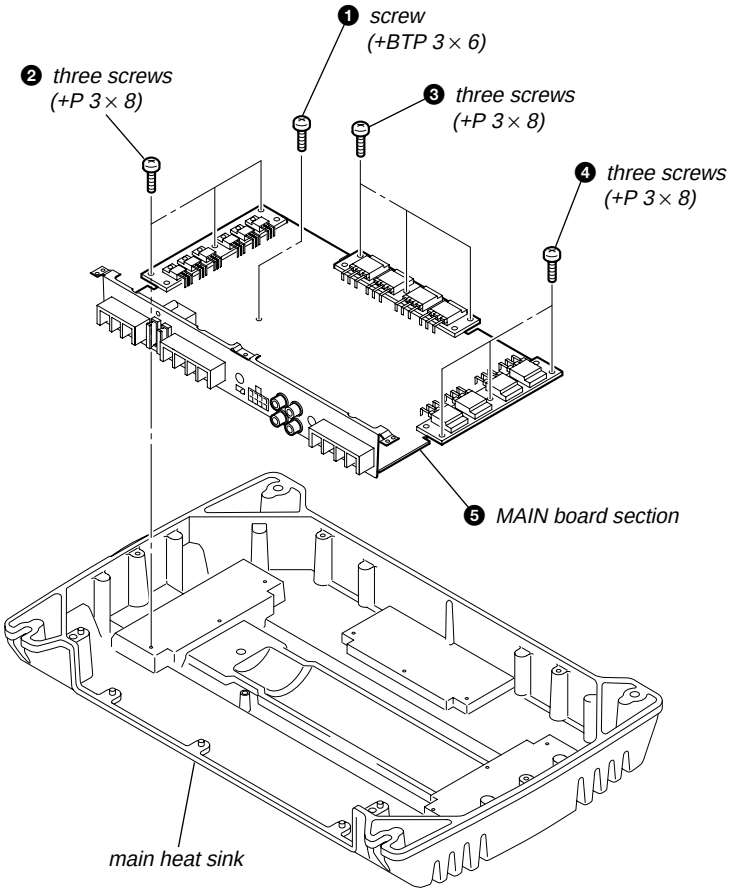


Note : Follow the disassembly procedure in the numerical order given.

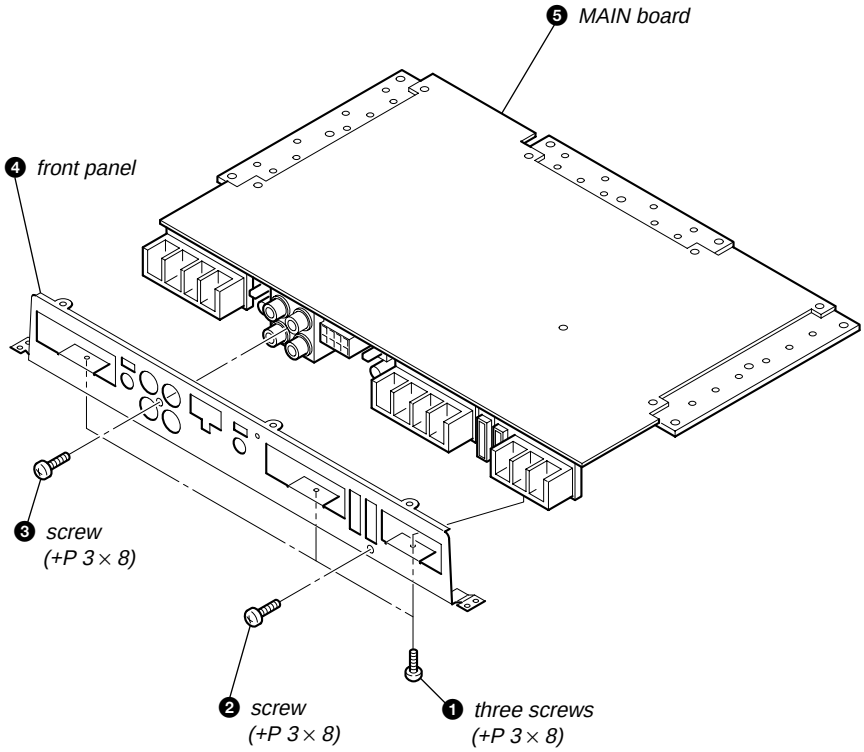
2-1. BOTTOM PLATE



2-2. MAIN BOARD SECTION

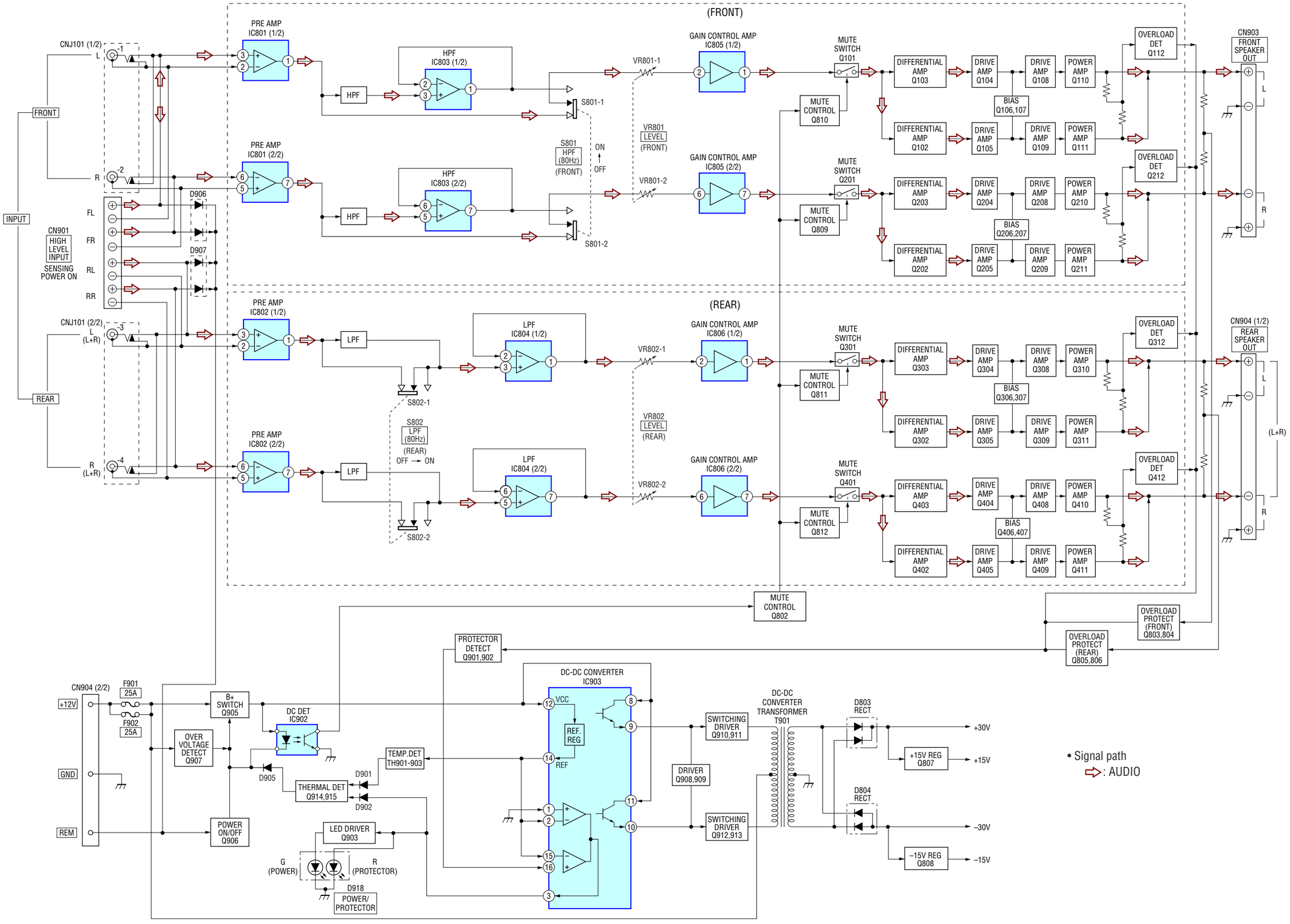


2-3. MAIN BOARD



SECTION 3
DIAGRAMS

3-1. BLOCK DIAGRAM



THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

for schematic diagram:

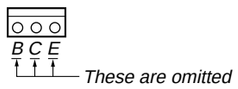
- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- ▬▬ : B+ Line.
- ▬ ▬ ▬ : B– Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from +12V and REM terminals.
- Voltage is dc with respect to ground under no-signal condition.
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : AUDIO

for printed wiring boards:

- o——— : parts extracted from the component side.
- ▬▬ : Pattern from the side which enables seeing.

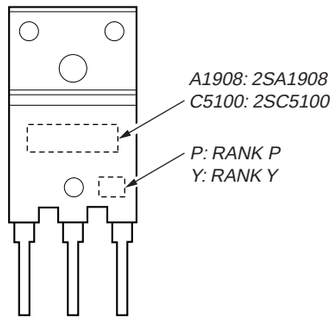


• Note for Replacement of the Transistors

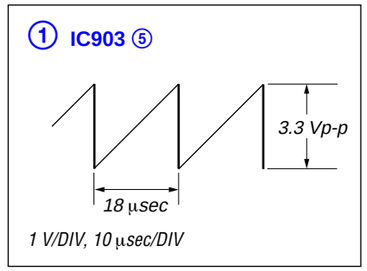
The transistors Q110, 111, 210, 211, 310, 311, 410 and 411 have two different ranks: P rank and Y rank.
The rank of these transistors need to be selected properly according to each channel. When replacing any one of these transistors, check its rank and replace with the appropriate transistor of the same rank.

Rank	Q110, 210, 310, 410	Q111, 211, 311, 411
P	2SC5100-P (8-729-024-79)	2SA1908-P (8-872-024-76)
Y	2SC5100-Y (8-729-024-80)	2SA1908-Y (8-872-024-77)

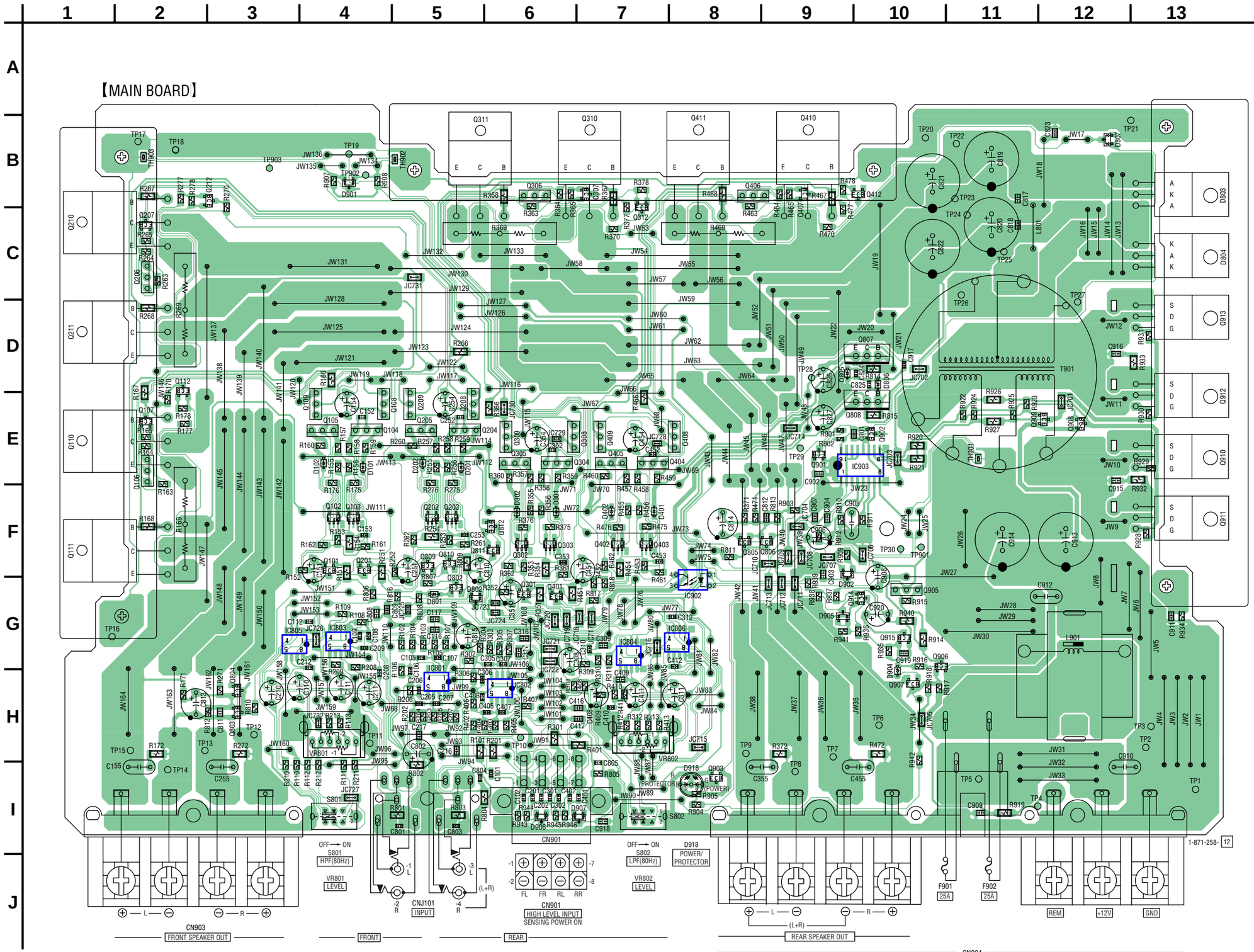
DISCRIMINATION:



• Waveform



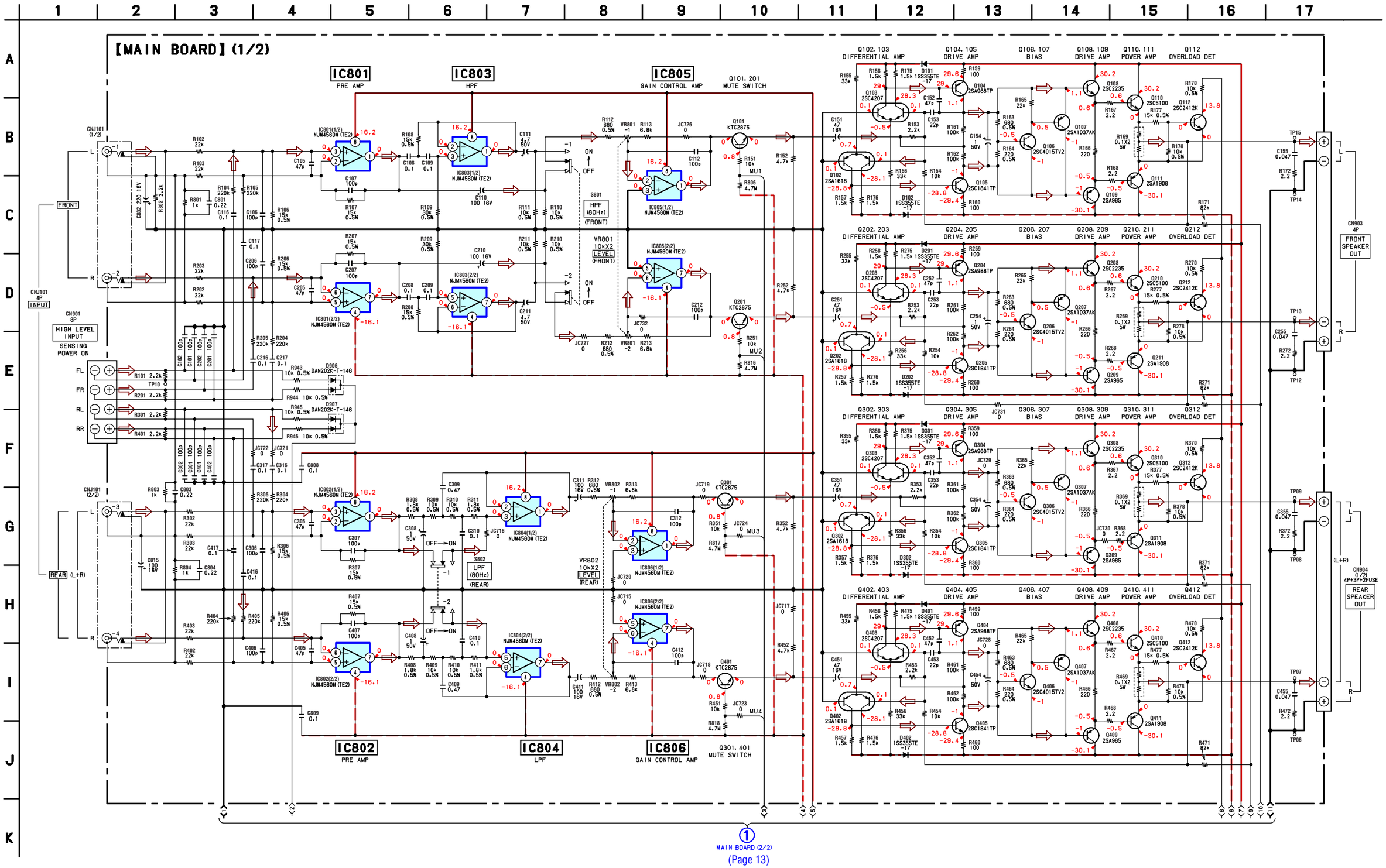
3-2. PRINTED WIRING BOARD : Uses unleaded solder.



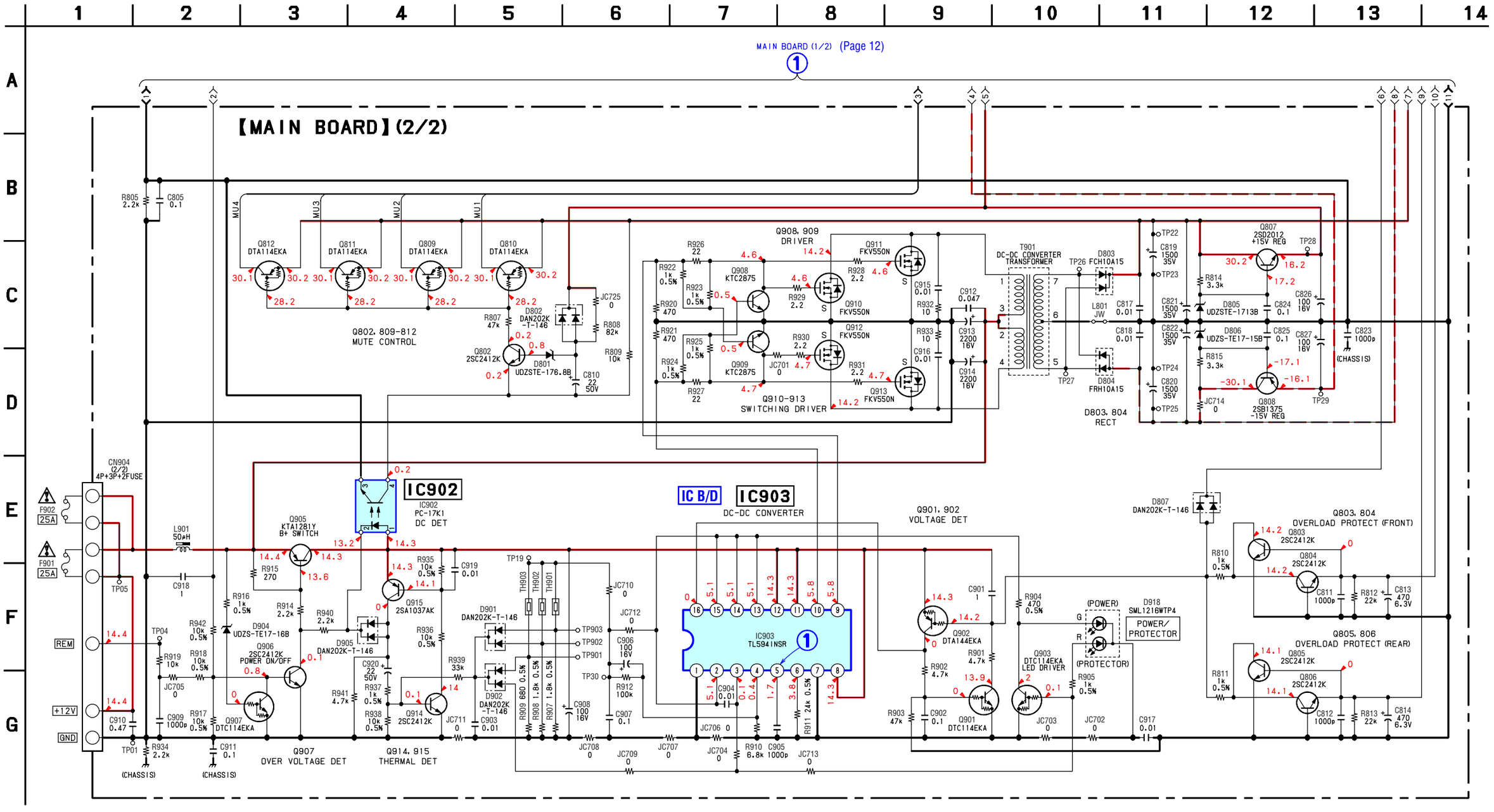
• **Semiconductor Location**

Ref. No.	Location	Ref. No.	Location
D101	E-4	Q210	C-1
D102	E-4	Q211	D-1
D201	E-5	Q212	B-2
D202	E-5	Q301	F-6
D301	F-6	Q302	F-6
D302	F-6	Q303	F-6
D401	F-7	Q304	E-6
D402	F-7	Q305	E-6
D801	G-5	Q306	B-6
D802	G-5	Q307	B-7
D803	B-13	Q308	E-6
D804	C-13	Q309	E-6
D805	D-9	Q310	A-7
D806	D-10	Q311	A-5
D807	B-12	Q312	C-7
D901	B-4	Q401	G-6
D902	F-9	Q402	F-7
D904	G-10	Q403	F-7
D905	G-9	Q404	E-7
D906	I-6	Q405	E-7
D907	I-7	Q406	B-8
D918	I-8	Q407	B-9
		Q408	E-7
IC801	H-5	Q409	E-7
IC802	H-6	Q410	A-9
IC803	G-4	Q411	A-8
IC804	G-7	Q412	B-9
IC805	G-3	Q802	G-5
IC806	G-8	Q803	H-3
IC902	F-8	Q804	H-3
IC903	E-10	Q805	F-8
		Q806	F-9
Q101	F-4	Q807	D-10
Q102	F-4	Q808	D-10
Q103	F-4	Q809	F-5
Q104	E-4	Q810	F-5
Q105	E-4	Q811	F-6
Q106	E-2	Q812	F-6
Q107	E-2	Q901	E-9
Q108	E-4	Q902	E-10
Q109	E-4	Q903	I-8
Q110	E-1	Q905	G-10
Q111	F-1	Q906	G-10
Q112	D-2	Q907	H-10
Q201	F-4	Q908	E-12
Q202	F-5	Q909	E-11
Q203	F-5	Q910	E-13
Q204	E-5	Q911	F-13
Q205	E-5	Q912	E-13
Q206	C-2	Q913	D-13
Q207	C-2	Q914	G-10
Q208	E-5	Q915	G-10
Q209	E-5		

3-3. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) —

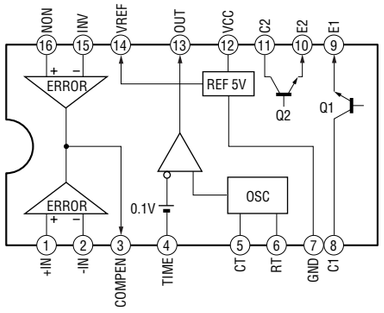


3-4. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) — • Refer to page 10 for Waveform and page 14 for IC Block Diagram.



• IC Block Diagram

IC903 TL594INSR (MAIN BOARD (2/2))

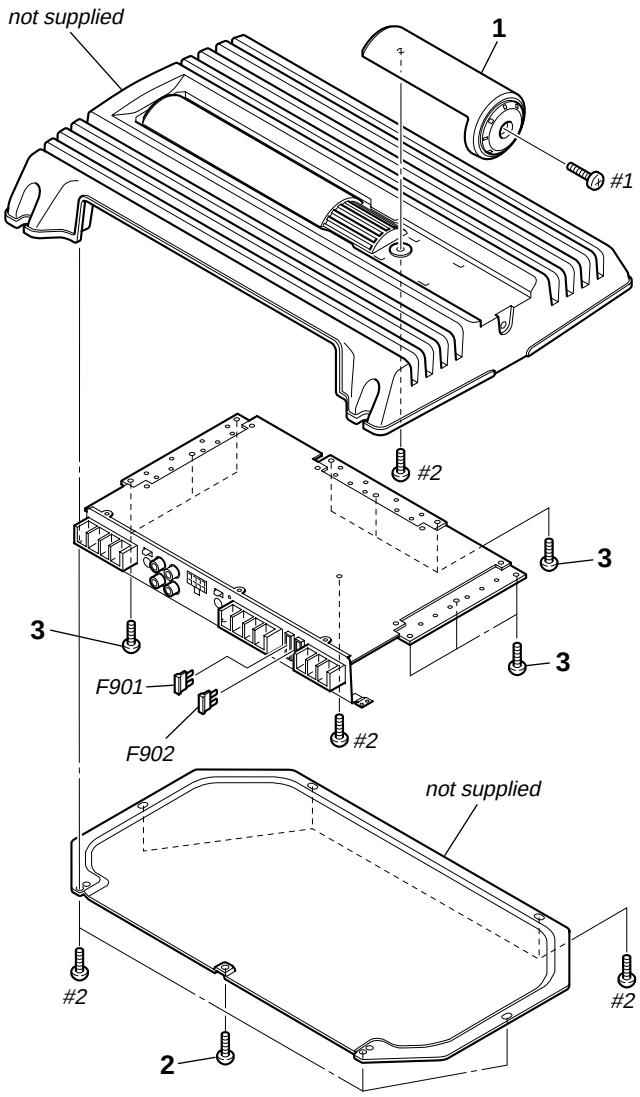


SECTION 4
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  Parts Color Cabinet's Color
- Accessories are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

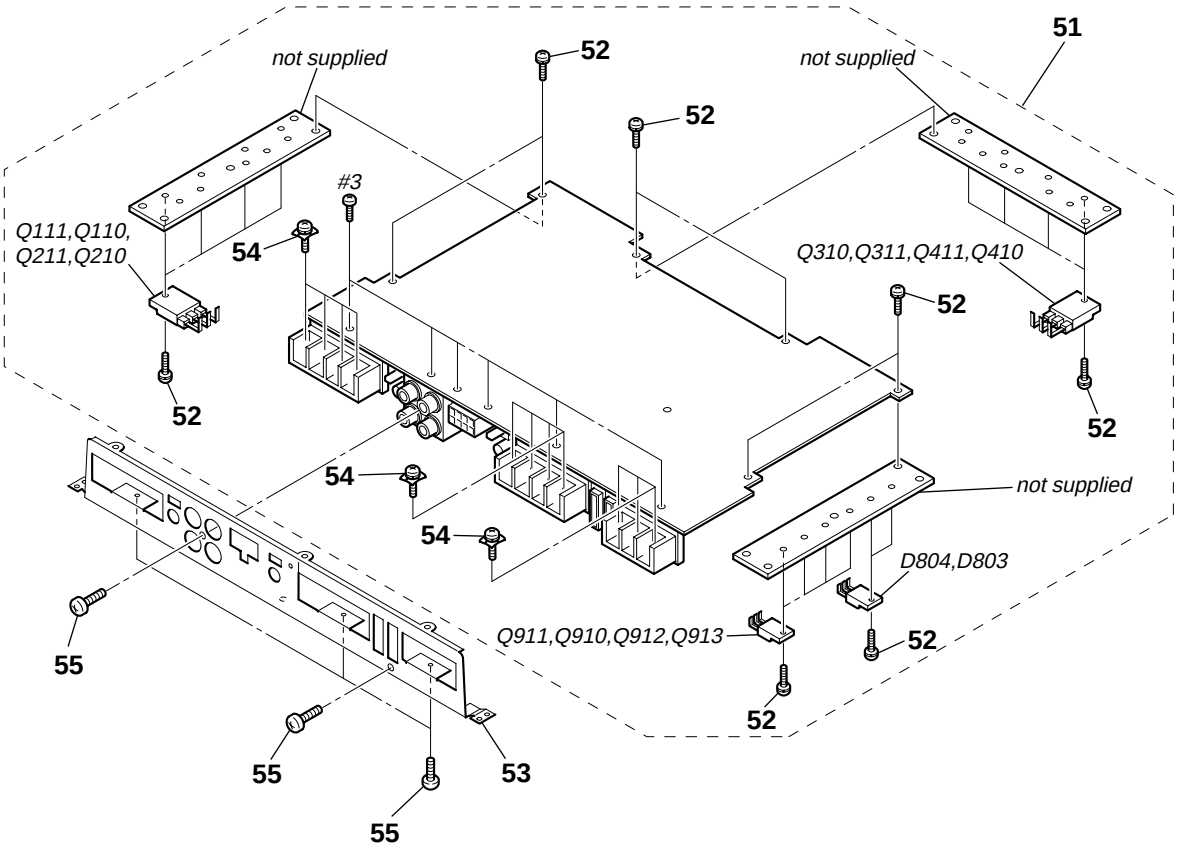
4-1. MAIN HEAT SINK SECTION



Ref. No.	Part No.	Description	Remark
1	3-213-269-01	PLATE, TOP (RED LOGO)	
1	3-213-515-01	PLATE, TOP (CONCAVE LOGO)	
2	2-580-628-01	SCREW +BVST 3X6	
3	2-894-279-11	SCREW (+P 3X8)	

Ref. No.	Part No.	Description	Remark
⚠F901	1-576-256-11	FUSE (BLADE TYPE) (AUTO FUSE) (25A)	
⚠F902	1-576-256-11	FUSE (BLADE TYPE) (AUTO FUSE) (25A)	
#1	7-685-549-19	SCREW +BTP 3X14 TYPE2 N-S	
#2	7-685-545-19	SCREW +BTP 3X6 TYPE2 N-S	

4-2. MAIN BOARD SECTION



Ref. No.	Part No.	Description	Remark
51	A-1219-711-B	MAIN BOARD, COMPLETE	
52	3-225-184-12	SCREW (+PS.TT.3XL)	
53	2-693-613-21	PANEL, FRONT	
54	3-912-431-01	SCREW (+–P)	
55	2-894-279-11	SCREW (+P 3X8)	
D803	8-719-079-00	DIODE FCH10A15	
D804	8-719-079-01	DIODE FRH10A15	
☆Q110	8-729-024-79	TRANSISTOR 2SC5100-P	
☆Q110	8-729-024-80	TRANSISTOR 2SC5100-Y	
☆Q111	8-729-024-76	TRANSISTOR 2SA1908-P	
☆Q111	8-729-024-77	TRANSISTOR 2SA1908-Y	
☆Q210	8-729-024-79	TRANSISTOR 2SC5100-P	
☆Q210	8-729-024-80	TRANSISTOR 2SC5100-Y	
☆Q211	8-729-024-76	TRANSISTOR 2SA1908-P	

Ref. No.	Part No.	Description	Remark
☆Q211	8-729-024-77	TRANSISTOR 2SA1908-Y	
☆Q310	8-729-024-79	TRANSISTOR 2SC5100-P	
☆Q310	8-729-024-80	TRANSISTOR 2SC5100-Y	
☆Q311	8-729-024-76	TRANSISTOR 2SA1908-P	
☆Q311	8-729-024-77	TRANSISTOR 2SA1908-Y	
☆Q410	8-729-024-79	TRANSISTOR 2SC5100-P	
☆Q410	8-729-024-80	TRANSISTOR 2SC5100-Y	
☆Q411	8-729-024-76	TRANSISTOR 2SA1908-P	
☆Q411	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q910	6-550-341-01	FET FKV550N	
Q911	6-550-341-01	FET FKV550N	
Q912	6-550-341-01	FET FKV550N	
Q913	6-550-341-01	FET FKV550N	
#3	7-685-646-19	SCREW +P 3X8 TYPE2 NON-SLIT	

☆ Refer to page 10 for Note for Replacement of the Transistors.

SECTION 5
ELECTRICAL PARTS LIST

MAIN

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- RESISTORS
  All resistors are in ohms.
  METAL:Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F:nonflammable
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : µ, for example:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

When indicating parts by reference number, please include the board.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
	A-1219-711-B	MAIN BOARD, COMPLETE			
		**********			
	3-225-184-12	SCREW (+PS.TT.3XL)			
	3-912-431-01	SCREW (+–P)			
	7-685-646-19	SCREW +P 3X8 TYPE2 NON-SLIT			
		< CAPACITOR >			
C101	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C102	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C105	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C106	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C107	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C108	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C109	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C110	1-126-933-11	ELECT	100uF	20%	16V
C111	1-126-963-11	ELECT	4.7uF	20%	50V
C112	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C116	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C117	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C151	1-126-947-11	ELECT	47uF	20%	35V
C152	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C153	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C154	1-126-960-11	ELECT	1uF	20%	50V
C155	1-136-161-00	FILM	0.047uF	5%	50V
C201	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C202	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C205	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C206	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C207	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C208	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C209	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C210	1-126-933-11	ELECT	100uF	20%	16V
C211	1-126-963-11	ELECT	4.7uF	20%	50V
C212	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C216	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C217	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C251	1-126-947-11	ELECT	47uF	20%	35V
C252	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C253	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C254	1-126-960-11	ELECT	1uF	20%	50V
C255	1-136-161-00	FILM	0.047uF	5%	50V
C301	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C302	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C305	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C306	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C307	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C308	1-126-960-11	ELECT	1uF	20%	50V
C309	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C310	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C311	1-126-933-11	ELECT	100uF	20%	16V
C312	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C316	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C317	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C351	1-126-947-11	ELECT	47uF	20%	35V
C352	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C353	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C354	1-126-960-11	ELECT	1uF	20%	50V
C355	1-136-161-00	FILM	0.047uF	5%	50V
C401	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C402	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C405	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C406	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C407	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C408	1-126-960-11	ELECT	1uF	20%	50V
C409	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C410	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C411	1-126-933-11	ELECT	100uF	20%	16V
C412	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C416	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C417	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C451	1-126-947-11	ELECT	47uF	20%	35V
C452	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C453	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C454	1-126-960-11	ELECT	1uF	20%	50V
C455	1-136-161-00	FILM	0.047uF	5%	50V
C801	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C802	1-126-934-11	ELECT	220uF	20%	16V
C803	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C804	1-127-715-11	CERAMIC CHIP	0.22uF	10%	16V
C805	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C808	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C809	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C810	1-126-965-11	ELECT	22uF	20%	50V
C811	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C812	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C813	1-104-655-11	ELECT	470uF	20%	6.3V
C814	1-104-655-11	ELECT	470uF	20%	6.3V
C815	1-126-933-11	ELECT	100uF	20%	16V
C817	1-162-974-11	CERAMIC CHIP	0.01uF		50V

MAIN

Ref. No.	Part No.	Description			Remark
C818	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C819	1-165-949-41	ELECT	1500uF	20%	35V
C820	1-165-949-41	ELECT	1500uF	20%	35V
C821	1-165-949-41	ELECT	1500uF	20%	35V
C822	1-165-949-41	ELECT	1500uF	20%	35V
C823	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C824	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C825	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C826	1-126-933-11	ELECT	100uF	20%	16V
C827	1-126-933-11	ELECT	100uF	20%	16V
C901	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C902	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C903	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C904	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C905	1-130-471-00	MYLAR	0.001uF	5%	50V
C906	1-126-933-11	ELECT	100uF	20%	16V
C907	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C908	1-126-933-11	ELECT	100uF	20%	16V
C909	1-115-416-11	CERAMIC CHIP	0.001uF	5%	25V
C910	1-137-194-81	FILM	0.47uF	5%	50V
C911	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C912	1-136-161-00	FILM	0.047uF	5%	50V
C913	1-131-731-12	ELECT	2200uF	20%	16V
C914	1-131-731-12	ELECT	2200uF	20%	16V
C915	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C916	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C917	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C918	1-100-352-11	CERAMIC CHIP	1uF	20%	16V
C919	1-162-974-11	CERAMIC CHIP	0.01uF		50V
C920	1-126-965-11	ELECT	22uF	20%	50V
		< CONNECTOR >			
CN901	1-580-283-11	PIN, CONNECTOR (PC BOARD) 8P (HIGH LEVEL INPUT (SENSING POWER ON))			
		< TERMINAL BOARD >			
CN903	1-780-132-11	TERMINAL BOARD (4P) (FRONT SPEAKER OUT)			
CN904	1-780-134-12	TERMINAL BOARD (4P+3P+2FUSE) (REAR SPEAKER OUT,REM,+12V,GND,25A,25A)			
		< JACK >			
CNJ101	1-779-078-21	JACK, PIN 4P (INPUT)			
		< DIODE >			
D101	8-719-988-61	DIODE 1SS355TE-17			
D102	8-719-988-61	DIODE 1SS355TE-17			
D201	8-719-988-61	DIODE 1SS355TE-17			
D202	8-719-988-61	DIODE 1SS355TE-17			
D301	8-719-988-61	DIODE 1SS355TE-17			
D302	8-719-988-61	DIODE 1SS355TE-17			
D401	8-719-988-61	DIODE 1SS355TE-17			
D402	8-719-988-61	DIODE 1SS355TE-17			
D801	8-719-978-33	DIODE DTZ-TT11-6.8B			
D802	8-719-914-43	DIODE DAN202K			
D803	8-719-079-00	DIODE FCH10A15			
D804	8-719-079-01	DIODE FRH10A15			
D805	8-719-083-63	DIODE UDZSTE-1713B			
D806	8-719-083-83	DIODE UDZS-TE17-15B			

Ref. No.	Part No.	Description	Remark
D807	8-719-914-43	DIODE DAN202K	
D901	8-719-914-43	DIODE DAN202K	
D902	8-719-914-43	DIODE DAN202K	
D904	8-719-083-52	DIODE UDZSTE-1716B	
D905	8-719-914-43	DIODE DAN202K	
D906	8-719-914-43	DIODE DAN202K	
D907	8-719-914-43	DIODE DAN202K	
D918	8-719-025-62	DIODE SML1216W	
		< FUSE >	
⚠F901	1-576-256-11	FUSE (BLADE TYPE) (AUTO FUSE) (25A)	
⚠F902	1-576-256-11	FUSE (BLADE TYPE) (AUTO FUSE) (25A)	
		< IC >	
IC801	8-759-710-97	IC NJM4565M-D	
IC802	8-759-710-97	IC NJM4565M-D	
IC803	8-759-710-97	IC NJM4565M-D	
IC804	8-759-710-97	IC NJM4565M-D	
IC805	8-759-710-97	IC NJM4565M-D	
IC806	8-759-710-97	IC NJM4565M-D	
IC902	6-600-354-01	IC PC-17K1	
IC903	6-703-643-01	IC TL594INSR	
		< JUMPER RESISTOR >	
JC701	1-216-296-11	SHORT CHIP 0	
JC702	1-216-296-11	SHORT CHIP 0	
JC703	1-216-296-11	SHORT CHIP 0	
JC704	1-216-296-11	SHORT CHIP 0	
JC705	1-216-296-11	SHORT CHIP 0	
JC706	1-216-296-11	SHORT CHIP 0	
JC707	1-216-296-11	SHORT CHIP 0	
JC708	1-216-296-11	SHORT CHIP 0	
JC709	1-216-296-11	SHORT CHIP 0	
JC710	1-216-296-11	SHORT CHIP 0	
JC711	1-216-296-11	SHORT CHIP 0	
JC712	1-216-296-11	SHORT CHIP 0	
JC713	1-216-296-11	SHORT CHIP 0	
JC714	1-216-296-11	SHORT CHIP 0	
JC715	1-216-296-11	SHORT CHIP 0	
JC716	1-216-296-11	SHORT CHIP 0	
JC717	1-216-296-11	SHORT CHIP 0	
JC718	1-216-296-11	SHORT CHIP 0	
JC719	1-216-296-11	SHORT CHIP 0	
JC720	1-216-296-11	SHORT CHIP 0	
JC721	1-216-296-11	SHORT CHIP 0	
JC722	1-216-296-11	SHORT CHIP 0	
JC723	1-216-864-11	SHORT CHIP 0	
JC724	1-216-864-11	SHORT CHIP 0	
JC725	1-216-864-11	SHORT CHIP 0	
JC726	1-216-296-11	SHORT CHIP 0	
JC727	1-216-296-11	SHORT CHIP 0	
JC728	1-216-864-11	SHORT CHIP 0	
JC729	1-216-864-11	SHORT CHIP 0	
JC730	1-216-296-11	SHORT CHIP 0	
JC731	1-216-296-11	SHORT CHIP 0	
JC732	1-216-864-11	SHORT CHIP 0	

Ref. No.	Part No.	Description	Remark
		< COIL >	
L901	1-411-756-21	COIL, CHOKE 50uH	
		< TRANSISTOR >	
Q101	6-550-686-01	TRANSISTOR KTC2875-B-RTK	
Q102	8-729-014-85	TRANSISTOR 2SA1618-YGRTE85R	
Q103	8-729-014-87	TRANSISTOR 2SC4207(T5RSONY,F)	
Q104	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q105	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q106	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q107	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q108	8-729-020-80	TRANSISTOR 2SC2235-O/Y(TPE6)	
Q109	8-729-232-32	TRANSISTOR 2SA965	
☆Q110	8-729-024-79	TRANSISTOR 2SC5100-P	
☆Q110	8-729-024-80	TRANSISTOR 2SC5100-Y	
☆Q111	8-729-024-76	TRANSISTOR 2SA1908-P	
☆Q111	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q112	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q201	6-550-686-01	TRANSISTOR KTC2875-B-RTK	
Q202	8-729-014-85	TRANSISTOR 2SA1618-YGRTE85R	
Q203	8-729-014-87	TRANSISTOR 2SC4207(T5RSONY,F)	
Q204	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q205	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q206	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q207	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q208	8-729-020-80	TRANSISTOR 2SC2235-O/Y(TPE6)	
Q209	8-729-232-32	TRANSISTOR 2SA965	
☆Q210	8-729-024-79	TRANSISTOR 2SC5100-P	
☆Q210	8-729-024-80	TRANSISTOR 2SC5100-Y	
☆Q211	8-729-024-76	TRANSISTOR 2SA1908-P	
☆Q211	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q212	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q301	6-550-686-01	TRANSISTOR KTC2875-B-RTK	
Q302	8-729-014-85	TRANSISTOR 2SA1618-YGRTE85R	
Q303	8-729-014-87	TRANSISTOR 2SC4207(T5RSONY,F)	
Q304	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q305	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q306	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q307	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q308	8-729-020-80	TRANSISTOR 2SC2235-O/Y(TPE6)	
Q309	8-729-232-32	TRANSISTOR 2SA965	
☆Q310	8-729-024-79	TRANSISTOR 2SC5100-P	
☆Q310	8-729-024-80	TRANSISTOR 2SC5100-Y	
☆Q311	8-729-024-76	TRANSISTOR 2SA1908-P	
☆Q311	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q312	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q401	6-550-686-01	TRANSISTOR KTC2875-B-RTK	
Q402	8-729-014-85	TRANSISTOR 2SA1618-YGRTE85R	
Q403	8-729-014-87	TRANSISTOR 2SC4207(T5RSONY,F)	
Q404	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q405	8-729-140-84	TRANSISTOR 2SC1841-PAFAEA	
Q406	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q407	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q408	8-729-020-80	TRANSISTOR 2SC2235-O/Y(TPE6)	
Q409	8-729-232-32	TRANSISTOR 2SA965	
☆Q410	8-729-024-79	TRANSISTOR 2SC5100-P	
☆Q410	8-729-024-80	TRANSISTOR 2SC5100-Y	
☆Q411	8-729-024-76	TRANSISTOR 2SA1908-P	
☆Q411	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q412	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q802	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q803	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q804	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q805	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q806	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q807	8-729-209-15	TRANSISTOR 2SD2012	
Q808	8-729-209-60	TRANSISTOR 2SB1375	
Q809	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q810	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q811	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q812	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q901	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q902	8-729-027-38	TRANSISTOR DTA144EKA-T146	
Q903	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q905	8-729-052-82	TRANSISTOR KTA1281Y-AT	
Q906	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q907	8-729-027-43	TRANSISTOR DTC114EKA-T146	
Q908	6-550-686-01	TRANSISTOR KTC2875-B-RTK	
Q909	6-550-686-01	TRANSISTOR KTC2875-B-RTK	
Q910	6-550-341-01	FET FKV550N	
Q911	6-550-341-01	FET FKV550N	
Q912	6-550-341-01	FET FKV550N	
Q913	6-550-341-01	FET FKV550N	
Q914	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q915	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
		< RESISTOR >	

Ref. No.	Part No.	Description			
R101	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R102	1-216-837-11	METAL CHIP	22K	5%	1/10W
R103	1-216-837-11	METAL CHIP	22K	5%	1/10W
R104	1-216-849-11	METAL CHIP	220K	5%	1/10W
R105	1-216-849-11	METAL CHIP	220K	5%	1/10W
R106	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R107	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R108	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R109	1-218-882-11	METAL CHIP	30K	0.5%	1/10W
R110	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R111	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R112	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R113	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R151	1-216-222-00	RES-CHIP	10K	5%	1/8W
R152	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R153	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R154	1-216-222-00	RES-CHIP	10K	5%	1/8W
R155	1-216-839-11	METAL CHIP	33K	5%	1/10W
R156	1-216-839-11	METAL CHIP	33K	5%	1/10W
R157	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R158	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R159	1-216-809-11	METAL CHIP	100	5%	1/10W
R160	1-216-809-11	METAL CHIP	100	5%	1/10W
R161	1-216-845-11	METAL CHIP	100K	5%	1/10W
R162	1-216-845-11	METAL CHIP	100K	5%	1/10W
R163	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R164	1-218-831-11	METAL CHIP	220	0.5%	1/10W
R165	1-216-837-11	METAL CHIP	22K	5%	1/10W

☆ Refer to page 10 for Note for Replacement of the Transistors.

MAIN

Ref. No.	Part No.	Description			Remark
R166	1-216-182-00	RES-CHIP	220	5%	1/8W
R167	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R168	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R169	1-205-991-11	ENCAPSULATED COMPONENT 0.1X2 5W			
R170	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R171	1-216-844-11	METAL CHIP	82K	5%	1/10W
R172	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R175	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R176	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R177	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R178	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R201	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R202	1-216-837-11	METAL CHIP	22K	5%	1/10W
R203	1-216-837-11	METAL CHIP	22K	5%	1/10W
R204	1-216-849-11	METAL CHIP	220K	5%	1/10W
R205	1-216-849-11	METAL CHIP	220K	5%	1/10W
R206	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R207	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R208	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R209	1-218-882-11	METAL CHIP	30K	0.5%	1/10W
R210	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R211	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R212	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R213	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R251	1-216-222-00	RES-CHIP	10K	5%	1/8W
R252	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R253	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R254	1-216-222-00	RES-CHIP	10K	5%	1/8W
R255	1-216-839-11	METAL CHIP	33K	5%	1/10W
R256	1-216-839-11	METAL CHIP	33K	5%	1/10W
R257	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R258	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R259	1-216-809-11	METAL CHIP	100	5%	1/10W
R260	1-216-809-11	METAL CHIP	100	5%	1/10W
R261	1-216-845-11	METAL CHIP	100K	5%	1/10W
R262	1-216-845-11	METAL CHIP	100K	5%	1/10W
R263	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R264	1-218-831-11	METAL CHIP	220	0.5%	1/10W
R265	1-216-837-11	METAL CHIP	22K	5%	1/10W
R266	1-216-182-00	RES-CHIP	220	5%	1/8W
R267	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R268	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R269	1-205-991-11	ENCAPSULATED COMPONENT 0.1X2 5W			
R270	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R271	1-216-844-11	METAL CHIP	82K	5%	1/10W
R272	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R275	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R276	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R277	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R278	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R301	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R302	1-216-837-11	METAL CHIP	22K	5%	1/10W
R303	1-216-837-11	METAL CHIP	22K	5%	1/10W
R304	1-216-849-11	METAL CHIP	220K	5%	1/10W
R305	1-216-849-11	METAL CHIP	220K	5%	1/10W
R306	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R307	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R308	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R309	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R310	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R311	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R312	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R313	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R351	1-216-222-00	RES-CHIP	10K	5%	1/8W
R352	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R353	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R354	1-216-222-00	RES-CHIP	10K	5%	1/8W
R355	1-216-839-11	METAL CHIP	33K	5%	1/10W
R356	1-216-839-11	METAL CHIP	33K	5%	1/10W
R357	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R358	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R359	1-216-809-11	METAL CHIP	100	5%	1/10W
R360	1-216-809-11	METAL CHIP	100	5%	1/10W
R361	1-216-845-11	METAL CHIP	100K	5%	1/10W
R362	1-216-845-11	METAL CHIP	100K	5%	1/10W
R363	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R364	1-218-831-11	METAL CHIP	220	0.5%	1/10W
R365	1-216-837-11	METAL CHIP	22K	5%	1/10W
R366	1-216-182-00	RES-CHIP	220	5%	1/8W
R367	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R368	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R369	1-205-991-11	ENCAPSULATED COMPONENT 0.1X2 5W			
R370	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R371	1-216-844-11	METAL CHIP	82K	5%	1/10W
R372	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R375	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R376	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R377	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R378	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R401	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R402	1-216-837-11	METAL CHIP	22K	5%	1/10W
R403	1-216-837-11	METAL CHIP	22K	5%	1/10W
R404	1-216-849-11	METAL CHIP	220K	5%	1/10W
R405	1-216-849-11	METAL CHIP	220K	5%	1/10W
R406	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R407	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R408	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R409	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R410	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R411	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R412	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R413	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R451	1-216-222-00	RES-CHIP	10K	5%	1/8W
R452	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R453	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R454	1-216-222-00	RES-CHIP	10K	5%	1/8W
R455	1-216-839-11	METAL CHIP	33K	5%	1/10W
R456	1-216-839-11	METAL CHIP	33K	5%	1/10W
R457	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R458	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R459	1-216-809-11	METAL CHIP	100	5%	1/10W
R460	1-216-809-11	METAL CHIP	100	5%	1/10W
R461	1-216-845-11	METAL CHIP	100K	5%	1/10W
R462	1-216-845-11	METAL CHIP	100K	5%	1/10W
R463	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R464	1-218-831-11	METAL CHIP	220	0.5%	1/10W

Ref. No.	Part No.	Description			Remark
R465	1-216-837-11	METAL CHIP	22K	5%	1/10W
R466	1-216-182-00	RES-CHIP	220	5%	1/8W
R467	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R468	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R469	1-205-991-11	ENCAPSULATED COMPONENT 0.1X2 5W			
R470	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R471	1-216-844-11	METAL CHIP	82K	5%	1/10W
R472	1-216-134-00	RES-CHIP	2.2	5%	1/8W
R475	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R476	1-216-823-11	METAL CHIP	1.5K	5%	1/10W
R477	1-218-875-11	METAL CHIP	15K	0.5%	1/10W
R478	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R801	1-216-198-11	RES-CHIP	1K	5%	1/8W
R802	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R803	1-216-198-11	RES-CHIP	1K	5%	1/8W
R804	1-216-198-11	RES-CHIP	1K	5%	1/8W
R805	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R806	1-220-397-11	METAL CHIP	4.7M	5%	1/10W
R807	1-216-841-11	METAL CHIP	47K	5%	1/10W
R808	1-216-844-11	METAL CHIP	82K	5%	1/10W
R809	1-216-222-00	RES-CHIP	10K	5%	1/8W
R810	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R811	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R812	1-216-837-11	METAL CHIP	22K	5%	1/10W
R813	1-216-837-11	METAL CHIP	22K	5%	1/10W
R814	1-216-210-00	RES-CHIP	3.3K	5%	1/8W
R815	1-216-210-00	RES-CHIP	3.3K	5%	1/8W
R816	1-220-397-11	METAL CHIP	4.7M	5%	1/10W
R817	1-220-397-11	METAL CHIP	4.7M	5%	1/10W
R818	1-220-397-11	METAL CHIP	4.7M	5%	1/10W
R901	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R902	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R903	1-216-841-11	METAL CHIP	47K	5%	1/10W
R904	1-218-839-11	METAL CHIP	470	0.5%	1/10W
R905	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R907	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R908	1-218-853-11	METAL CHIP	1.8K	0.5%	1/10W
R909	1-218-843-11	METAL CHIP	680	0.5%	1/10W
R910	1-218-867-11	METAL CHIP	6.8K	0.5%	1/10W
R911	1-218-880-11	METAL CHIP	24K	0.5%	1/10W
R912	1-216-845-11	METAL CHIP	100K	5%	1/10W
R914	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R915	1-216-814-11	METAL CHIP	270	5%	1/10W
R916	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R917	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R918	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R919	1-216-222-00	RES-CHIP	10K	5%	1/8W
R920	1-216-190-00	RES-CHIP	470	5%	1/8W
R921	1-216-190-00	RES-CHIP	470	5%	1/8W
R922	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R923	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R924	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R925	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R926	1-216-158-00	RES-CHIP	22	5%	1/8W
R927	1-216-158-00	RES-CHIP	22	5%	1/8W
R928	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R929	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R930	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R931	1-216-789-11	METAL CHIP	2.2	5%	1/10W
R932	1-216-150-11	RES-CHIP	10	5%	1/8W
R933	1-216-150-11	RES-CHIP	10	5%	1/8W
R934	1-216-825-11	METAL CHIP	2.2K	5%	1/10W
R935	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R936	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R937	1-218-847-11	METAL CHIP	1K	0.5%	1/10W
R938	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R939	1-216-839-11	METAL CHIP	33K	5%	1/10W
R940	1-216-206-00	RES-CHIP	2.2K	5%	1/8W
R941	1-216-829-11	METAL CHIP	4.7K	5%	1/10W
R942	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R943	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R944	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R945	1-218-871-11	METAL CHIP	10K	0.5%	1/10W
R946	1-218-871-11	METAL CHIP	10K	0.5%	1/10W

< SWITCH >

S801	1-554-222-00	SWITCH, SLIDE (HPF(80Hz) (FRONT))
S802	1-554-222-00	SWITCH, SLIDE (LPF(80Hz) (REAR))

< TRANSFORMER >

T901	1-443-277-21	TRANSFORMER, DC-DC CONVERTER

< THERMISTOR >

TH901	1-801-597-11	THERMISTOR
TH902	1-801-597-11	THERMISTOR
TH903	1-801-597-11	THERMISTOR

< VARIABLE RESISTOR >

VR801	1-227-768-11	RES, VAR, CARBON 10KX2 (LEVEL (FRONT))
VR802	1-227-768-11	RES, VAR, CARBON 10KX2 (LEVEL (REAR))

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ACCESSORIES

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3-214-760-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH, PORTUGUESE)
3-214-760-21	MANUAL, INSTRUCTION (FRENCH,GERMAN, ITALIAN) (AEP,UK)
3-214-760-31	MANUAL, INSTRUCTION (DUTCH,SWEDISH, POLISH) (AEP,UK)
3-214-760-41	MANUAL, INSTRUCTION (GREEK,RUSSIAN, UKRAINIAN) (AEP,UK)
3-214-760-51	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE, TRADITIONAL CHINESE,ARABIC) (AEP,UK,E)

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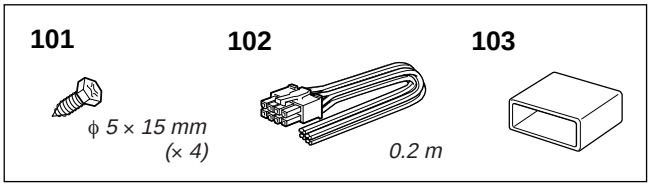
Ref. No.	Part No.	Description	Remark
		PARTS FOR INSTALLATION AND CONNECTIONS	
		**********	
101	X-2108-372-1	SCREW SUB ASSY (MOUNTING SCREW)	
102	1-823-952-11	CORD (WITH CONNECTOR) (HIGH LEVEL INPUT) (0.2m)	
103	2-695-957-01	COVER (POWER)	



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REVISION HISTORY

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Also, clicking the version at the top of the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2007. 07	New
1.1	2007. 08	Correction of PROTECTOR OPERATION CHECK. (ENG-07006)