

# XM-405EQX

## SERVICE MANUAL

US Model  
Canadian Model  
AEP Model  
UK Model  
E Model



### SPECIFICATIONS

#### AUDIO POWER SPECIFICATIONS (US, Canadian model)

##### POWER OUTPUT AND TOTAL HARMONIC DISTORTION

40 watts/100 watts per channel minimum continuous average power into 4 ohms, 5 channels driven from 20 Hz to 20 kHz/200 Hz with no more than 0.04% total harmonic distortion per Car Audio Ad Hoc Committee standards.

#### Other Specifications

Circuit system	OTL (output transformerless) circuit Pulse power supply
Inputs	RCA pin jacks High level input connector
Outputs	Speaker terminals
Speaker impedance	2 – 8 $\Omega$ (stereo) 4 – 8 $\Omega$ (when used as a bridging amplifier)
Maximum outputs	80 watts $\times$ 4 + 200 watts $\times$ 1 (at 4 $\Omega$ )
Rated outputs (supply voltage at 14.4 V)	
5 Speakers:	40 watts $\times$ 4 (20 Hz – 20 kHz, 0.04% THD, at 4 $\Omega$ ) + 100 watts $\times$ 1 (20 – 200 Hz, 0.04% THD, at 4 $\Omega$ ) 50 watts $\times$ 4 (20 Hz – 20 kHz, 0.1% THD, at 2 $\Omega$ ) + 125 watts $\times$ 1 (20 – 200 Hz, 0.1% THD, at 2 $\Omega$ )
3 Speakers:	100 watts $\times$ 2 (20 Hz – 20 kHz, 0.1% THD, at 4 $\Omega$ ) + 100 watts $\times$ 1 (20 – 200 Hz, 0.04% THD, at 4 $\Omega$ )
Frequency response	5 Hz – 100 kHz ( $\pm 3$ dB)
Harmonic distortion	0.005% or less (at 1 kHz, 4 $\Omega$ )

Input level adjustment range	0.2 – 4.0 V (RCA pin jacks) 0.4 – 8.0 V (High level input)
High-pass filter	50 – 200 Hz, –12 dB/oct
Low-pass filter	50 – 200 Hz, –12 dB/oct
Low boost	0 – 10 dB (40 Hz)
Power requirements	12 V DC car battery (negative ground)
Power supply voltage	10.5 – 16 V
Current drain	at rated output: 33 A Remote input: 1.5 mA
Dimensions	Approx. 260 $\times$ 55 $\times$ 450 mm (w/h/d) (10 $\frac{1}{4}$ $\times$ 2 $\frac{1}{4}$ $\times$ 17 $\frac{3}{4}$ in.) not incl. projecting parts and controls
Mass	Approx. 4.7 kg (10 lb. 6 oz.) not incl. accessories
Supplied accessories	Mounting screws (4), Terminal cap (1)

Design and specifications are subject to change without notice.

#### 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.

STEREO POWER AMPLIFIER



SONY®

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# SECTION 1 GENERAL

This section is extracted from instruction manual.

## Location and Function of Controls

### 1 POWER/PROTECTOR indicator

- OVER CURRENT lights up green during normal operation. The color will change from green to red when receiving a powerful signal.
- OFF SET lights up green during normal operation. The color will change from green to red when the voltage going out to the speaker terminal or the pin jack is too high.
- THERMAL lights up green during normal operation. The color will change from green to red when the temperature rises to an unsafe level. The color will return to green when the temperature returns to normal.

### 2 Power level indicator

Indicates the output levels of both the left and right sides. The scale is calibrated for use with 4 ohm speakers.

### 3 DIRECT switch

When the DIRECT switch is set to ON, the signal does not go through the high-pass filter and equalizer circuit.

### 4/10 LEVEL adjustment control

The input level can be adjusted with this control when using source equipment made by other manufacturers. Turn it to MAX when the output level of the car audio seems low. To reduce noise, turn the LEVEL control (gain) of the amplifier to MIN and the volume of the car audio up.

### 5 FILTER selector switch

When in the HPP position, the filter is set to high-pass. When the DIRECT switch is set to ON, these filters do not work.

### 6/9 Cut-off frequency adjustment control

Sets the cut-off frequency (50-200 Hz) for the high-pass or low-pass filters.

### 7 EQUALIZER level control

You can change the settings of the five band (50 Hz, 200 Hz, 800 Hz, 3.2 kHz, 12.8 kHz) equalizer. When the DIRECT switch is set to ON, this circuit is not activated.

### 8 LOWBOOST level control

Turn this control to boost the frequencies around 40 Hz to a maximum of 10 dB.

### 11 INPUT MODE select switch

When no input lead is connected to SUBWOOFER INPUT, the switch can be used to change the SUBWOOFER OUTPUT as follows.  
FRONT : Outputs the signal that has been input to the FRONT input jack.  
F+R : Outputs the signal that has been input to the FRONT and REAR input jacks.

### 12 SUBWOOFER LEVEL CONTROL connecting terminal (US model only)

When the optional subwoofer level controller is connected to this terminal, the subwoofer level can be adjusted with it. For details on the optional Subwoofer level controller, consult your nearest Sony Dealer.

#### Note

If you do not use the high-pass filter and equalizer circuit, set the DIRECT switch to ON for more enjoyable high quality sound.

## Emplacement et fonction des commandes

### 1 Indicateur POWER/PROTECTOR

- OVER CURRENT s'allume en vert en cours de fonctionnement normal. La couleur passe du vert au rouge lors de la réception d'un signal puissant.
- OFFSET s'allume en vert en cours de fonctionnement normal. La couleur passe du vert au rouge lorsque la tension transmise via la borne de haut-parleur ou la prise à broches est trop élevée.
- THERMAL s'allume en vert en cours de fonctionnement normal. La couleur passe du vert au rouge lorsque la température dépasse le niveau de sécurité. La couleur revient au vert dès que la température est redevenue normale.

### 2 Indicateur de niveau de puissance

Indique les niveaux de sortie des côtés gauche et droit. L'échelle est graduée pour une utilisation avec des haut-parleurs de 4 ohms.

### 3 Commutateur DIRECT

Lorsque le commutateur DIRECT est réglé sur ON, le signal ne passe pas par le filtre passe-bas, le filtre passe-haut et le circuit d'égalisation.

### 4/10 Commande de réglage LEVEL

Le niveau d'entrée peut se régler avec cette commande lors de l'utilisation d'équipements source d'autres fabricants. Mettez-le sur MAX lorsque le niveau de sortie de l'installation audio paraît faible. Pour réduire les parasites, tournez la commande LEVEL (gain) de l'amplificateur sur MIN et augmentez le volume sur l'autoradio.

### 5 Sélecteur FILTER

En position HPF, le filtre est réglé en mode passe-haut. Lorsque le commutateur DIRECT est réglé sur ON, ces filtres sont inopérants.

### 6/9 Commandes de réglage de la fréquence de coupure

Règle la fréquence de coupure (50-200 Hz) pour les filtres passe-bas ou passe-haut.

### 7 Commande de niveau EQUALIZER

Vous pouvez changer les réglages de l'égaliseur à cinq bandes (50 Hz, 200 Hz, 800 Hz, 3,2 kHz, 12,8 kHz). Lorsque le commutateur DIRECT est activé, ce circuit n'est pas activé.

### 8 Commande de niveau LOW BOOST

Tournez cette commande pour amplifier les fréquences autour de 40 Hz à un maximum de 10 dB.

### 11 Sélecteur INPUT MODE

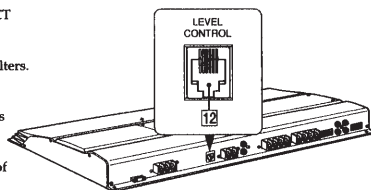
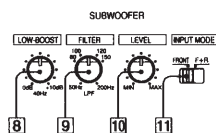
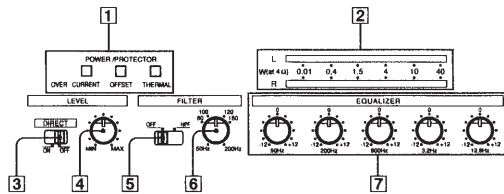
Si aucun fil d'entrée n'est raccordé à SUBWOOFER INPUT, le sélecteur peut être utilisé pour changer SUBWOOFER OUTPUT comme suit.  
FRONT : Sortie du signal entré via la prise d'entrée FRONT.  
F+R : Sortie du signal entré via les prises d'entrée FRONT et REAR.

### 12 SUBWOOFER LEVEL CONTROL CONNECTING TERMINAL (modèle pour les USA uniquement)

Si une commande de niveau de subwoofer en option est raccordée à cette borne, le niveau du subwoofer peut être ajusté à l'aide de la commande. Pour plus de détails sur la commande de niveau de subwoofer en option, consultez votre revendeur Sony.

#### Remarque

Si vous n'utilisez pas le filtre passe-haut et le circuit égaliseur, réglez le commutateur DIRECT sur ON pour exploiter pleinement la qualité sonore.



# Connections

## Precautions

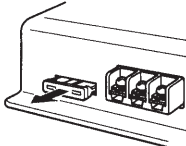
- This unit is designed for negative ground 12 V DC operation only.
- Use speakers with an impedance of 2 to 8 ohms (4 to 8 ohms when used as a bridging amplifier).
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so may damage the active speakers.
- 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 radio or antenna, interference may occur. In this case, relocate the amplifier away from the car radio or antenna.
- If no power is being supplied to the master 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 circuit 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 volume moderate so that you can still hear sounds outside your car.

## Fuse Replacement

If the fuse blows, check the power connection and replace the fuse. 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 activates 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.

## Caution

- 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.
- 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 lead as running them close together can generate some interference noise.
- This unit is a high-power 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 lead until all the other leads have been connected.

# Connexions

## Précautions

- Cet appareil est conçu pour fonctionner uniquement sur courant continu de 12 volts avec masse négative.
- Utilisez des haut-parleurs d'une impédance de 2 à 8 ohms (4 à 8 ohms lors de l'utilisation comme amplificateur en pont).
- Ne raccordez pas de haut-parleurs actifs (avec amplificateur intégré) aux bornes de haut-parleurs de cet appareil; ils pourraient être endommagés.
- N'installez pas l'appareil à un endroit exposé à:
  - de hautes températures comme sous le rayonnement direct du soleil ou près d'un conduit de chauffage
  - la pluie ou à l'humidité
  - de la poussière ou à des saletés.
- Si votre voiture était garée en plein soleil et que la température a considérablement augmenté à l'intérieur, laissez refroidir l'appareil avant de l'utiliser.
- Si vous installez l'appareil à l'horizontale, ne recouvrez pas les ailettes de ventilation par le tapis de sol ou autre chose.
- Si cet appareil est placé trop près de l'autoradio et de l'antenne, il se peut que des interférences se produisent. Dans ce cas, éloignez l'amplificateur de l'autoradio ou de l'antenne.
- Si l'appareil principal n'est pas alimenté, vérifiez les connexions.
- Cet amplificateur de puissance intègre un circuit de protection\* destiné à protéger les transistors et les haut-parleurs en cas de dysfonctionnement de l'amplificateur. N'essayez pas de tester le circuit de protection en recouvrant le dissipateur de chaleur ou en connectant des charges inappropriées.
- N'utilisez pas l'appareil sur une batterie faible, car sa performance maximale dépend d'une bonne alimentation en électricité.
- Pour des raisons de sécurité, écoutez l'autoradio à un volume modéré afin d'entendre les bruits extérieurs.

## Remplacement du fusible

Si le fusible saute, vérifiez les connexions du fil d'alimentation et remplacez le fusible. S'il saute de nouveau, un mauvais circuit interne peut en être la cause. Dans ce cas, consultez votre concessionnaire Sony.

### Avertissement

En cas de remplacement du fusible, veillez à utiliser un fusible dont l'intensité correspond à celle inscrite sur le porte-fusible. N'utilisez jamais de fusible dont l'intensité dépasse celle du fusible fourni avec l'appareil, car vous risqueriez d'endommager l'appareil.

### Circuit de protection

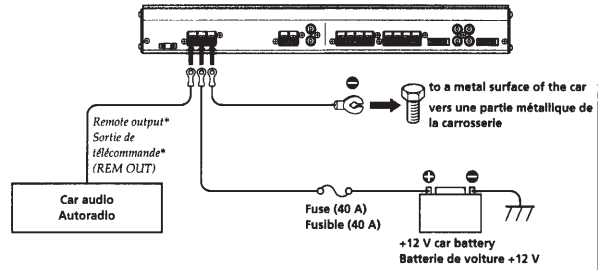
Cet amplificateur est équipé d'un circuit de protection qui s'active dans les cas suivants:  
 --- Surchauffe de l'appareil  
 --- Production d'un courant continu  
 --- Court-circuit aux bornes des haut-parleurs.  
 La couleur du témoin POWER/PROTECTOR passe du vert au rouge et l'appareil s'éteint.  
 Si le cas se présente, coupez l'alimentation de l'appareil raccorder et éjectez la cassette ou le disque compact avant d'examiner la cause de la défaillance. Si l'amplificateur est trop chaud, attendez qu'il refroidisse.

Pour toute question ou problème qui ne serait pas traité dans ce manuel, consultez votre concessionnaire Sony.

## Attention

- Avant d'effectuer les connexions, débranchez le fil de masse de la borne de la batterie pour éviter un court-circuit.
- Utilisez des haut-parleurs d'une capacité adéquate. Si vous utilisez des haut-parleurs de faible capacité, ils risquent d'être endommagés.
- Ne raccordez pas la borne ⊖ des haut-parleurs à la carrosserie de la voiture ni la borne ⊖ du haut-parleur droit à celle du haut-parleur gauche.
- Eloignez les cordons d'entrée et de sortie du fil d'alimentation électrique pour éviter que des interférences ne se produisent.
- Cet appareil est un amplificateur de haute puissance et il peut ne pas atteindre sa puissance maximale si les cordons de haut-parleurs originaux de la voiture lui sont raccordés.
- Si votre voiture est équipée d'un ordinateur de bord pour la navigation ou à toute autre fin, ne débranchez pas le fil de masse de la batterie de la voiture. Si vous débranchez ce fil, toute la mémoire de l'ordinateur sera effacée. Pour éviter un court-circuit lorsque vous effectuez les branchements, branchez le fil d'alimentation de +12 volts uniquement après avoir branché tous les autres fils.

## Power Connection Leads Câbles d'alimentation



\* If you have the factory original or some other car audio without a remote output on the amplifier, connect the remote input terminal (REMOTE) to the accessory power supply.  
 \* Si vous disposez du modèle d'origine ou d'un autre autoradio dont l'amplificateur ne comporte pas de sortie de télécommande, raccordez la borne d'entrée de télécommande (REMOTE) à la prise d'alimentation accessoire.

### Notes on the power supply

- Connect the +12 V power supply lead only after all the other leads have been connected.
- Be sure to connect the ground lead of the unit securely to a metal surface of the car. A loose connection may cause the amplifier to malfunction.
- Be sure to connect the remote control lead of the car audio to the remote terminal.
- When using a car audio without a remote output on the amplifier, connect the remote input terminal (REMOTE) to the accessory power supply.
- Place the fuse in the power supply lead as close as possible to the car battery.
- Make sure that the leads to be connected to the +12 V and GND terminals of this unit are larger than 10-Gauge (AWG-10) or have a sectional area of more than 5 mm<sup>2</sup>.
- When using the optional RC-46 power amplifier connecting cord, consult that manual for proper use.

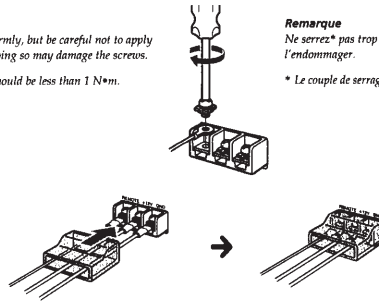
### Remarques sur l'alimentation électrique

- Raccordez le câble d'alimentation +12 V uniquement après avoir réalisé toutes les autres connexions.
- Raccordez correctement le fil de masse de l'appareil à une surface métallique de la voiture. Une connexion lâche peut provoquer un dysfonctionnement de l'amplificateur.
- Veillez à raccorder le fil de télécommande de l'autoradio à la borne de télécommande.
- Si vous utilisez un autoradio dont l'amplificateur ne comporte pas de sortie de télécommande, raccordez la borne d'entrée de la télécommande (REMOTE) à la prise d'alimentation accessoire.
- Utilisez un câble d'alimentation muni d'un fusible (40 A).
- Placez le fusible dans le câble d'alimentation le plus près possible de la batterie de voiture.
- Vous devez raccorder des câbles de calibre supérieurs à 10 (AWG-10) ou d'une section supérieure à 5 mm<sup>2</sup> aux bornes +12V et GND.
- Lorsque vous utilisez le cordon de raccordement pour amplificateur RC-46 en option, consultez le manuel pour une utilisation correcte.

## Make the terminal connections as illustrated below.

### Note

Tighten the screws firmly, but be careful not to apply too much force\* as doing so may damage the screws.  
 \* The torque value should be less than 1 N•m.



Pass the leads through the cap, connect the leads, then cover the terminals with the cap.

## Effectuez les connexions de la manière indiquée ci-dessous.

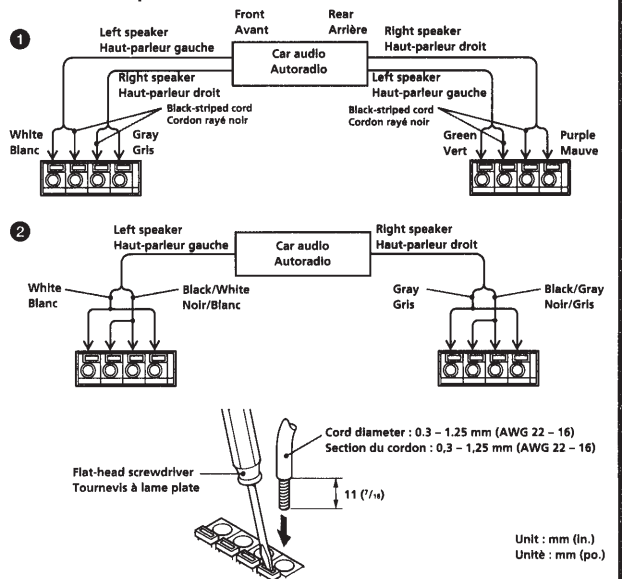
### Remarque

Ne serrez pas trop fort la vis car vous pourriez l'endommager.  
 \* Le couple de serrage devrait être inférieur à 1 N•m.

Faites passer les fils par le cache, raccordez les fils et recouvrez les bornes avec le cache.

## Direct speaker cord connection

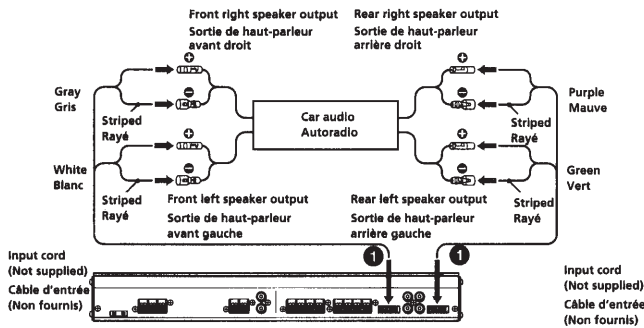
### Cordon de haut-parleur directement dans le connecteur



## Input Connections/Connexions d'entrée

### High Level Input Connection (with Speaker Connection 1) Connexion à l'entrée de haut niveau (avec connexion de haut-parleur 1)

**A**

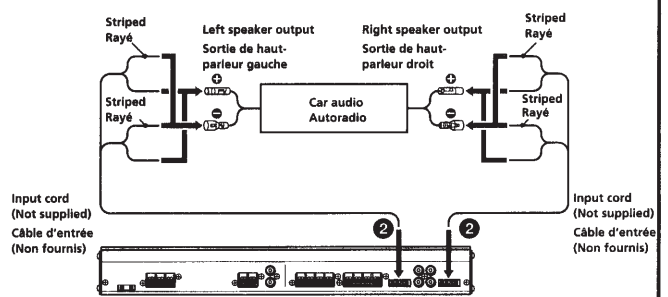


**Note**  
Make sure to set the INPUT MODE select switch to either "FRONT" or "F+R" (refer to "Location and Function of Controls".)

**Remarque**  
Réglez le sélecteur INPUT MODE sur "FRONT" ou "F+R" (voir "Emplacement et fonction des commandes").

### High Level Input Connection (with Speaker Connection 2) Connexion à l'entrée de haut niveau (avec connexion de haut-parleur 2)

**B**



**Notes**

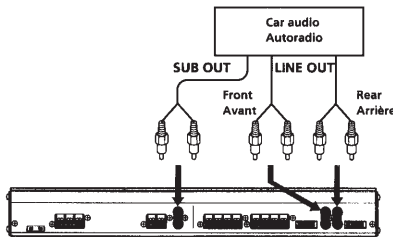
- Make sure that the right speaker output from the car audio is connected to the connector marked "REAR" on the unit, and the left to "FRONT".
- The INPUT MODE select switch must be set to "F+R" (refer to "Location and Function of Controls".)

**Remarques**

- Assurez-vous que la sortie de haut-parleur droite de l'autoradio est raccordée au connecteur "REAR" de l'appareil et la gauche à "FRONT".
- Le sélecteur INPUT MODE doit être réglé sur "F+R" (voir "Emplacement et fonction des commandes").

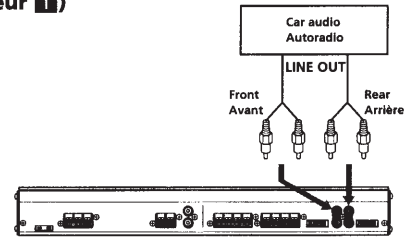
### Line Input Connection (with Speaker Connection 1) Connexion d'entrée de ligne (avec connexion de haut-parleur 1)

**C**



### Line Input Connection (with Speaker Connection 1) Connexion d'entrée de ligne (avec connexion de haut-parleur 1)

**D**

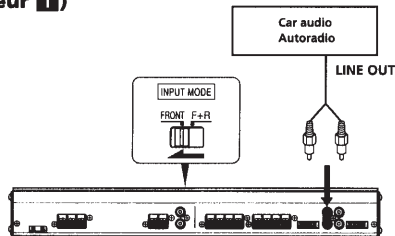


**Note**  
Make sure to set the INPUT MODE select switch to either "FRONT" or "F+R" (refer to "Location and Function of Controls".)

**Remarque**  
Réglez le sélecteur INPUT MODE sur "FRONT" ou "F+R" (voir "Emplacement et fonction des commandes").

### Line Input Connection (with Speaker Connection 1) Connexion d'entrée de ligne (avec connexion de haut-parleur 1)

**E**

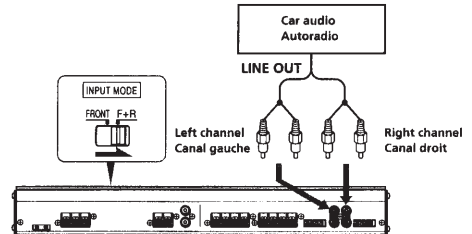


**Note**  
Make sure that the line output from the car audio is connected to the jack marked "FRONT INPUT" on the unit. In this system, the signals from FRONT INPUT are filtered through each circuit and output to the subwoofer and rear speaker.

**Remarque**  
Assurez-vous que la sortie de ligne de l'autoradio est raccordée à la prise "FRONT INPUT" de l'appareil. Dans ce système, les signaux de FRONT INPUT sont filtrés par chaque circuit et sortis vers le subwoofer et le haut-parleur arrière.

### Line Input Connection (with Speaker Connection 2) Connexion d'entrée de ligne (avec connexion de haut-parleur 2)

**F**



**Note**  
The INPUT MODE select switch must be set to "F+R" (refer to "Location and Function of Controls".)

**Remarque**  
Le sélecteur INPUT MODE doit être réglé sur "F+R" (voir "Emplacement et fonction des commandes").

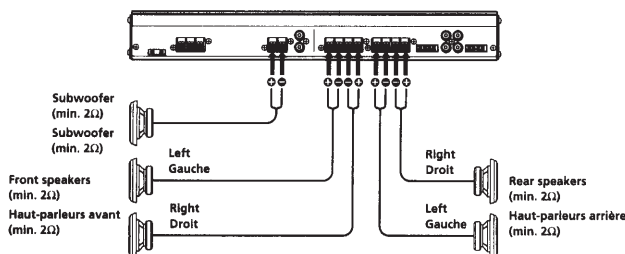
## Speaker Connections/Raccordement de haut-parleurs

### 5-Speaker System (with Input Connection A, C, D or E) Système à 5 haut-parleurs (avec connexion d'entrée A, C, D ou E)

**1**

For details on the settings of switches and controls, refer to "Location and Function of Controls."

Pour plus de détails sur les réglages des commutateurs et commandes, reportez-vous à "Emplacement et fonction des commandes".

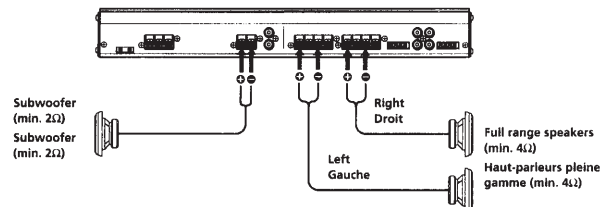


### 3-Speaker System (with Input Connection B or F) Système à 3 haut-parleurs (avec connexion d'entrée B ou F)

**2**

For details on the settings of switches and controls, refer to "Location and Function of Controls."

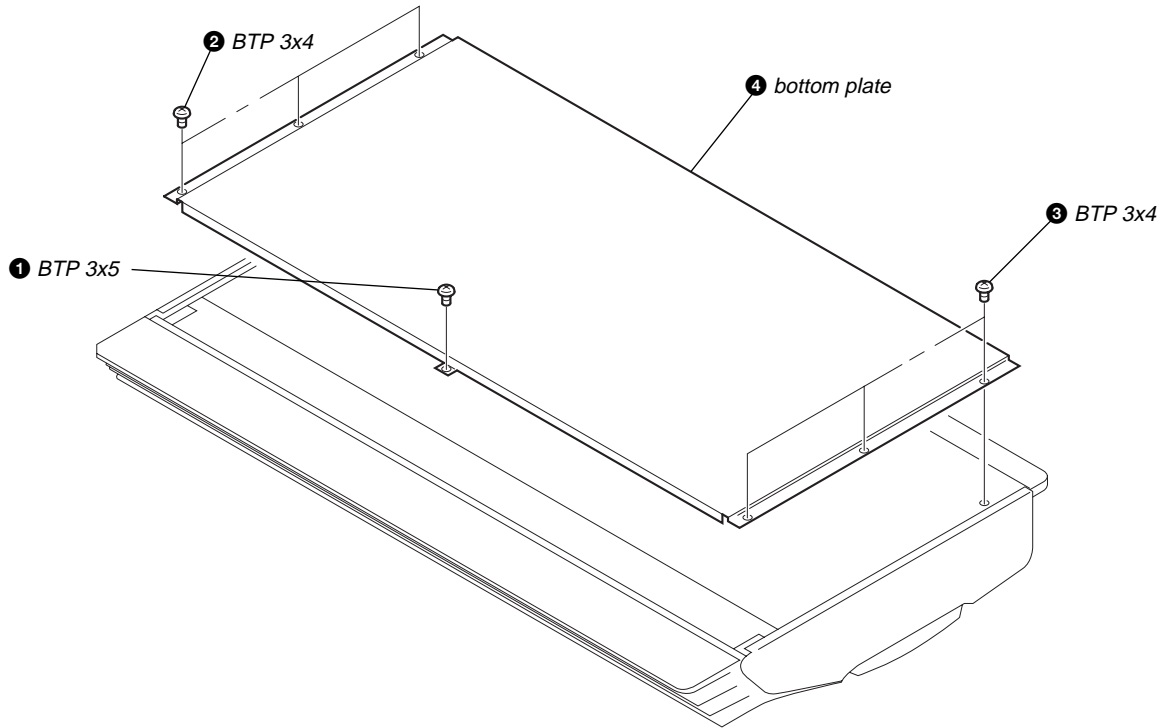
Pour plus de détails sur les réglages des commutateurs et commandes, reportez-vous à "Emplacement et fonction des commandes".



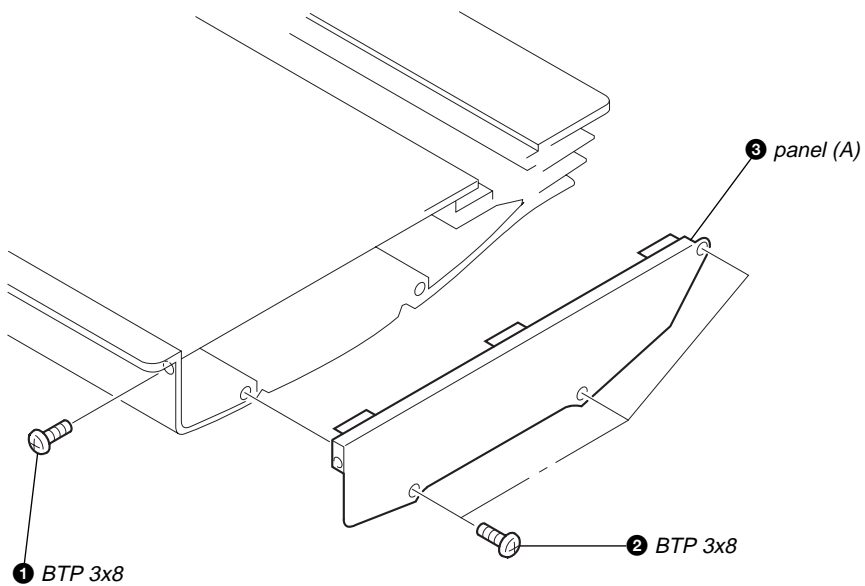
## SECTION 2 DISASSEMBLY

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

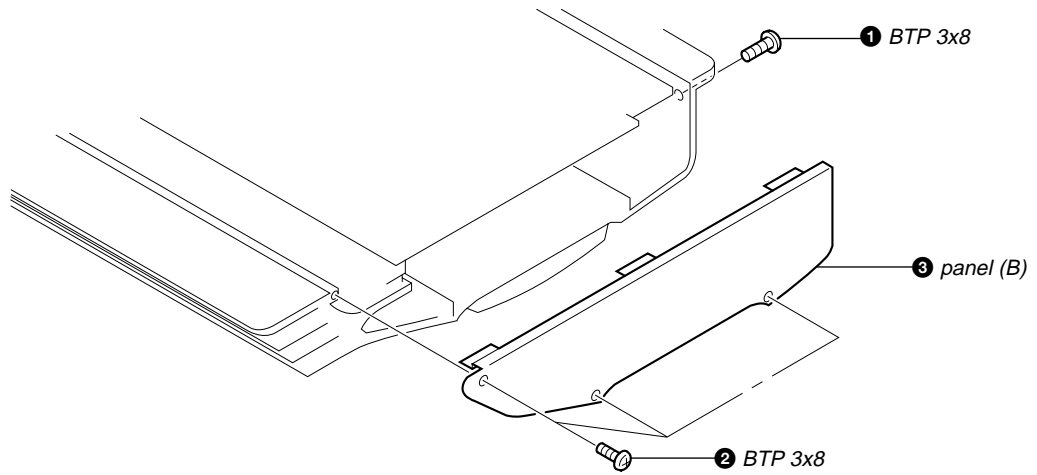
### 2-1. BOTTOM PLATE



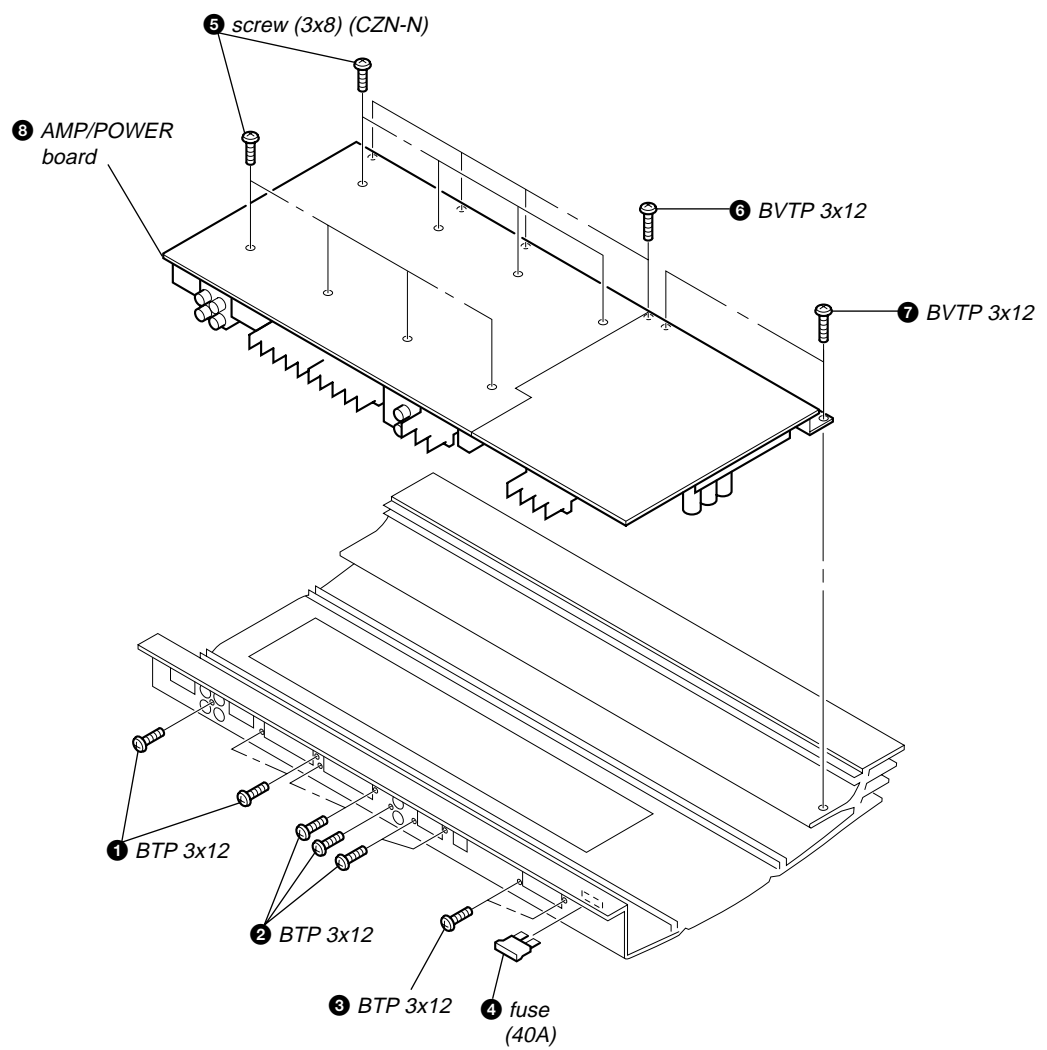
### 2-2. PANEL (A)



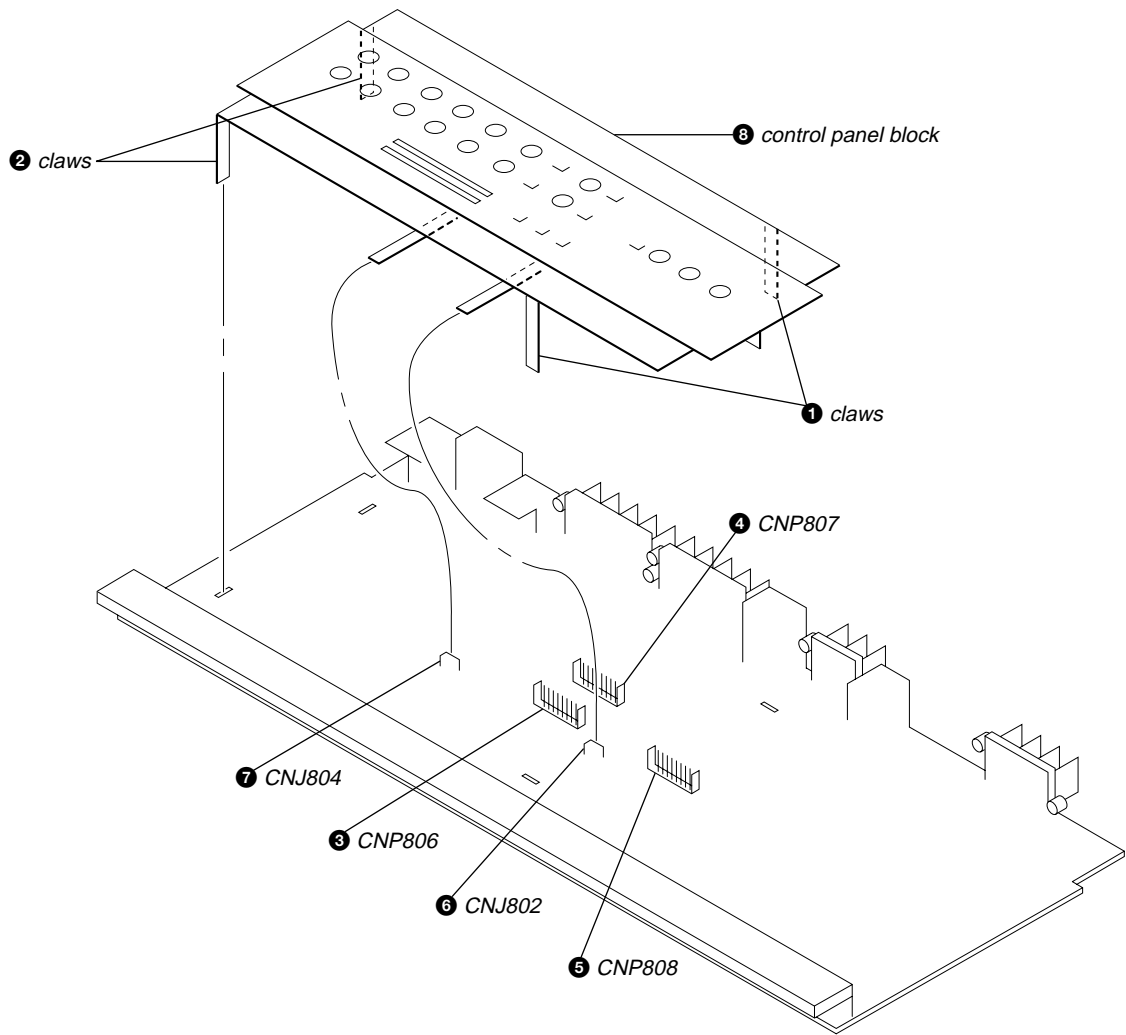
### 2-3. PANEL (B)



### 2-4. AMP/POWER BOARD



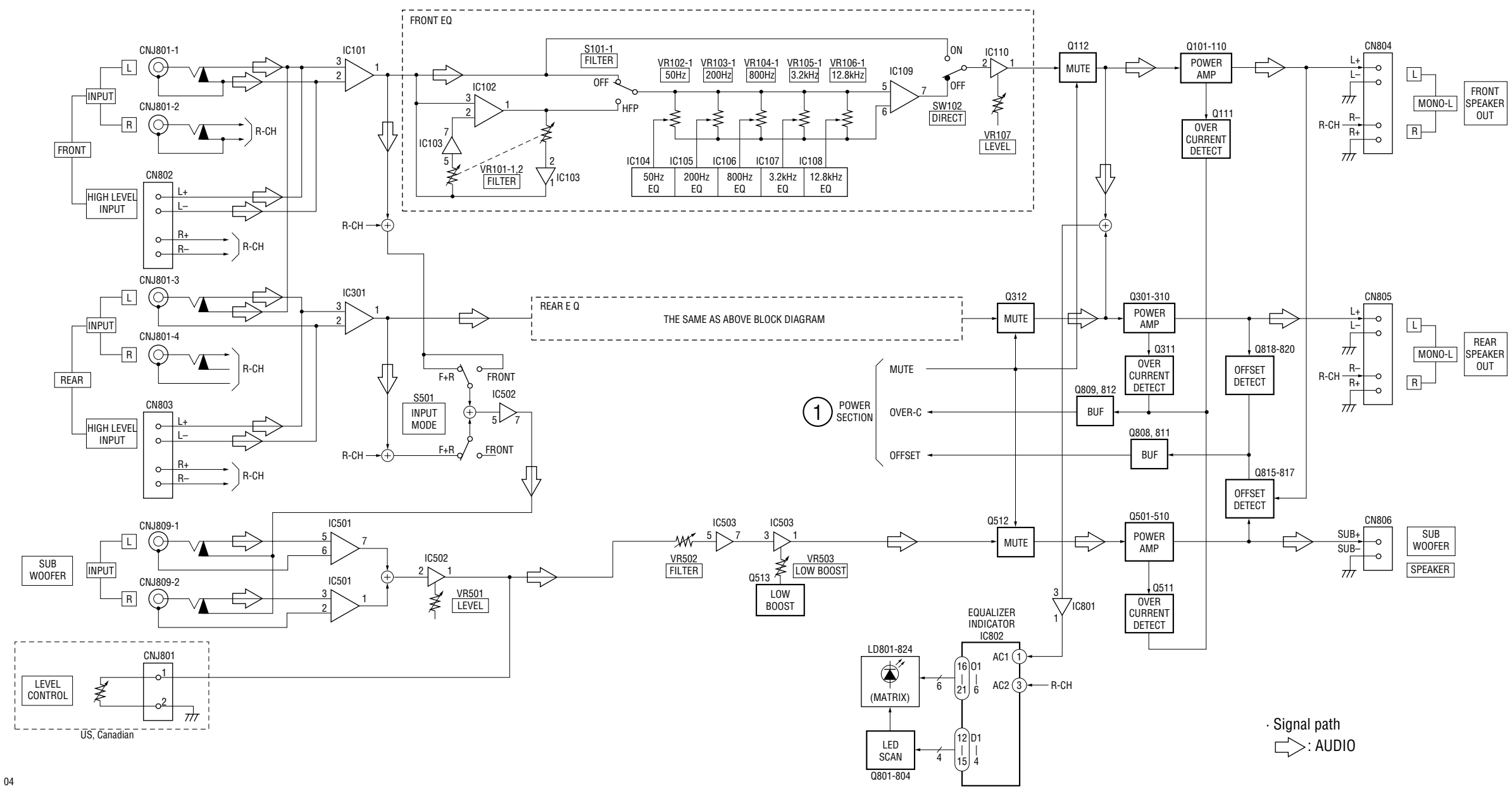
## 2-5. CONTROL PANEL BLOCK





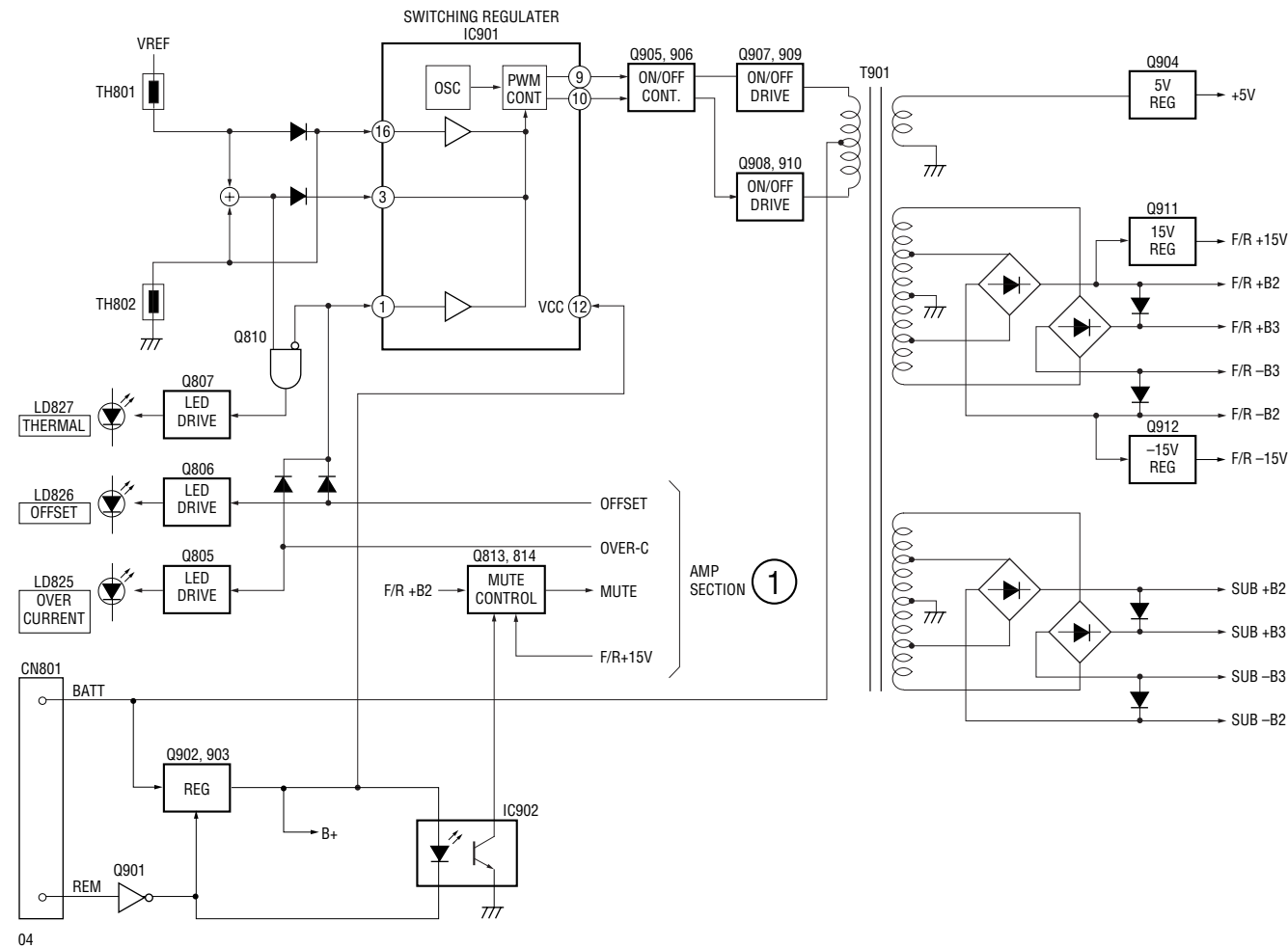
SECTION 3  
DIAGRAMS

3-1. BLOCK DIAGRAM — AMP SECTION —



· Signal path  
⇒ : AUDIO

3-2. BLOCK DIAGRAM — POWER SECTION —



**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 diagrams**

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\mu\text{F}$
- 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in  $\Omega$  and  $1/4$  W or less unless otherwise specified.
- % : indicates tolerance.
- : nonflammable resistor.
- : panel designation.
- : B+ Line.
- Power voltage is dc 14.4V and fed with regulated dc power supply from +12V and REMOTE terminals.
- Voltage is dc with respect to ground under no-signal condition.
- Voltages are taken with a VOM (Input impedance 10 M $\Omega$ ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
- : AUDIO

**for printed wiring boards**

- : parts extracted from the component side.
- : Through hole.
- : Pattern from the side which enables seeing. (The other layer's patterns are not indicated.)

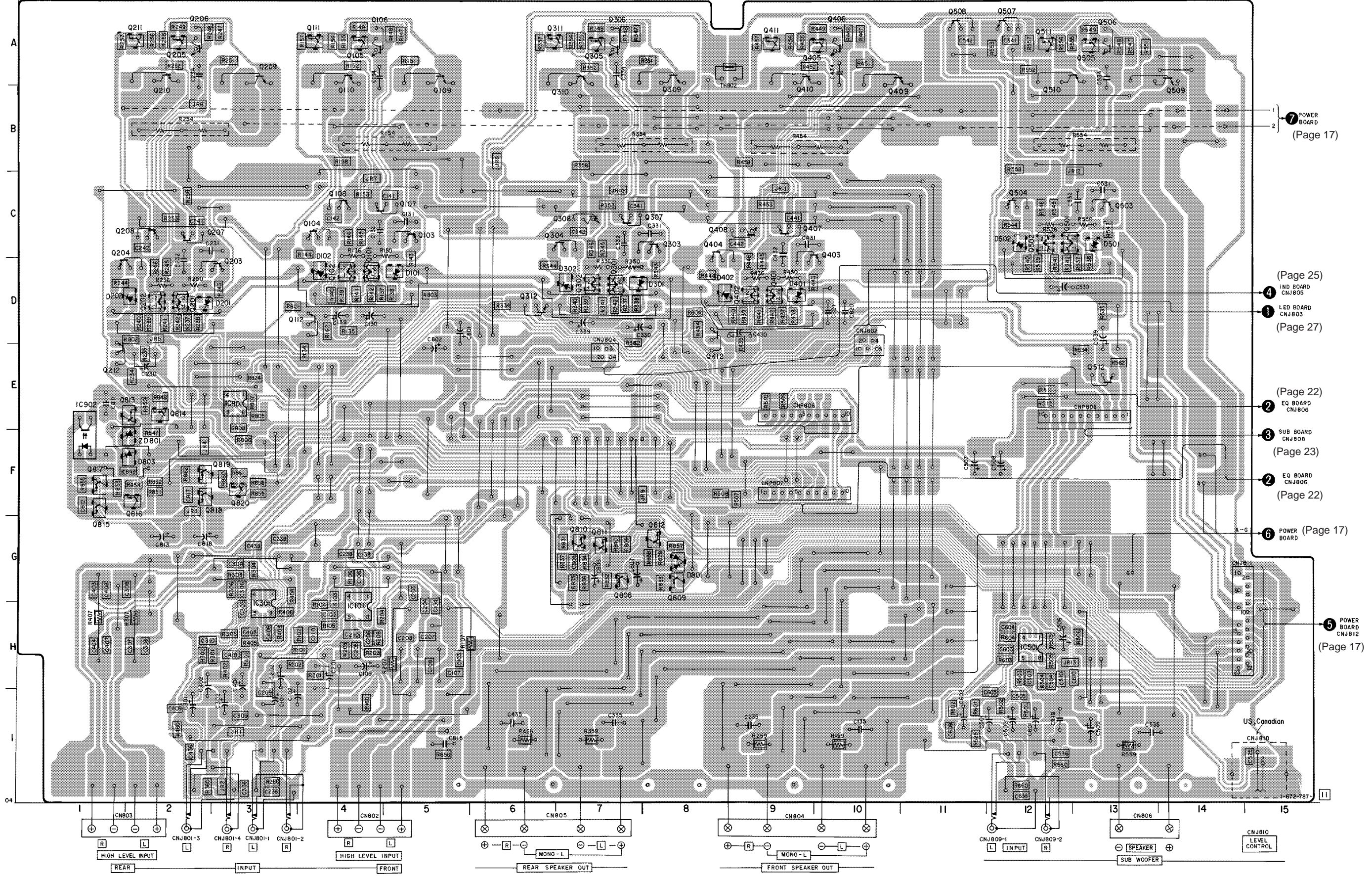
**Caution:**  
 Pattern face side: Parts on the pattern face side seen from the (Side B) pattern face are indicated.  
 Parts face side: Parts on the parts face side seen from the (Side A) parts face are indicated.

• Semiconductor Location (AMP Board)

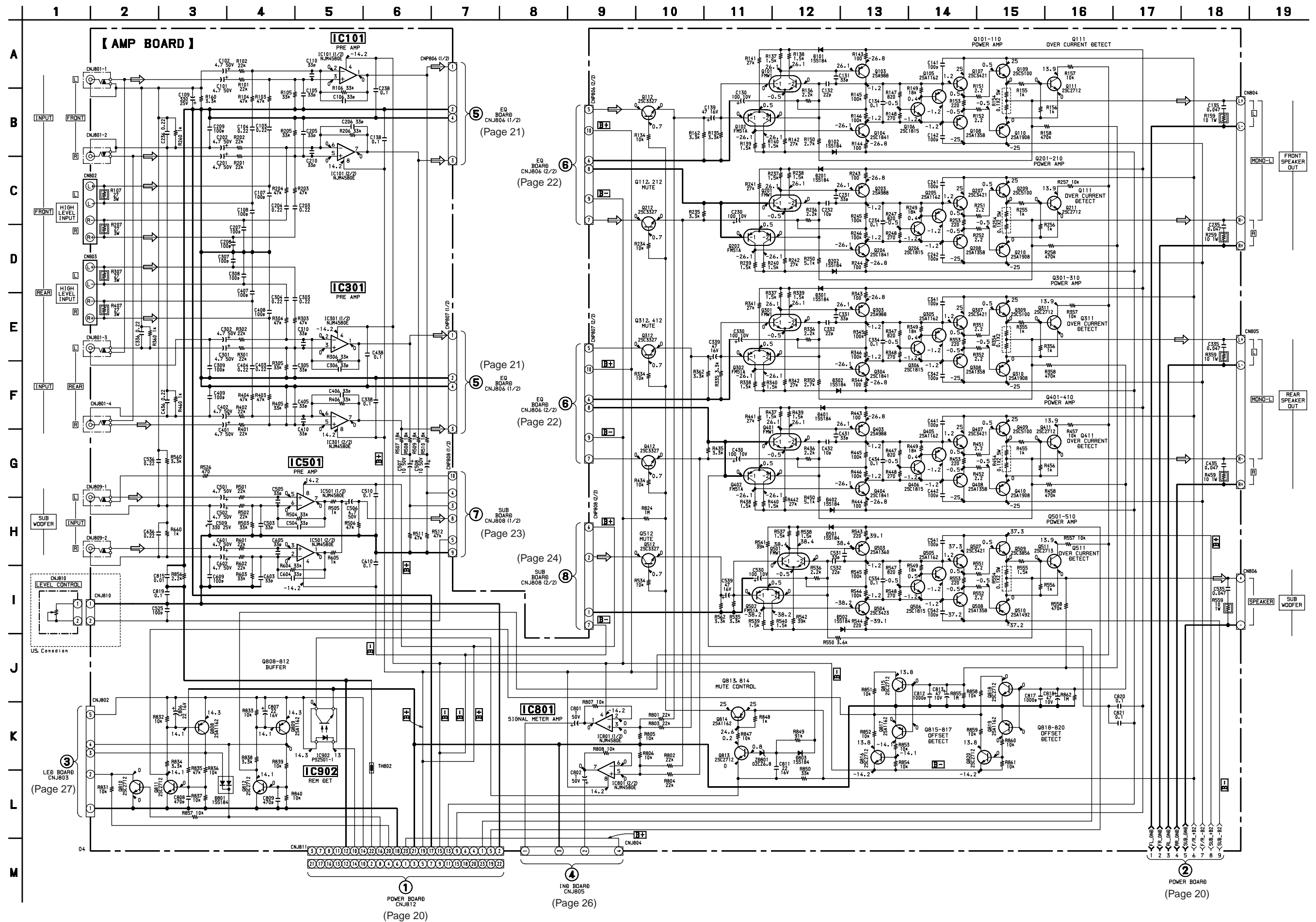
Ref. No.	Location	Ref. No.	Location
D101	D-5	Q305	A-7
D102	D-4	Q306	A-7
D201	D-3	Q307	C-8
D202	D-2	Q308	C-7
D301	D-8	Q309	B-8
D302	D-7	Q310	B-6
D401	D-9	Q311	A-6
D402	D-8	Q312	D-6
D501	D-13	Q401	D-9
D502	C-12	Q402	D-9
D801	G-8	Q403	D-10
D803	F-2	Q404	C-8
		Q405	A-9
		Q406	A-10
IC101	H-4	Q407	C-9
IC301	H-3	Q408	C-8
IC501	H-12	Q409	B-10
IC801	E-3	Q410	B-9
IC902	E-1	Q411	A-9
		Q412	E-8
Q101	C-4	Q501	C-12
Q102	D-4	Q502	C-12
Q103	C-5	Q503	C-13
Q104	C-4	Q504	C-12
Q105	A-4	Q505	A-13
Q106	A-4	Q506	A-13
Q107	C-5	Q507	A-12
Q108	C-4	Q508	A-11
Q109	B-5	Q509	B-14
Q110	B-4	Q510	B-12
Q111	A-4	Q511	A-12
Q112	D-4	Q512	E-13
Q201	D-2	Q808	G-7
Q202	D-2	Q809	G-8
Q203	D-3	Q810	G-7
Q204	C-2	Q811	G-7
Q205	A-2	Q812	G-8
Q206	A-2	Q813	E-2
Q207	C-3	Q814	E-2
Q208	C-2	Q815	G-1
Q209	A-3	Q816	F-2
Q210	B-2	Q817	F-1
Q211	A-2	Q818	F-3
Q212	E-1	Q819	F-3
Q301	D-7	Q820	F-3
Q302	D-7		
Q303	C-8		
Q304	C-6	ZD801	F-2

3-3. PRINTED WIRING BOARD — AMP SECTION — • Refer to page 12 for Semiconductor Location.

[AMP BOARD]



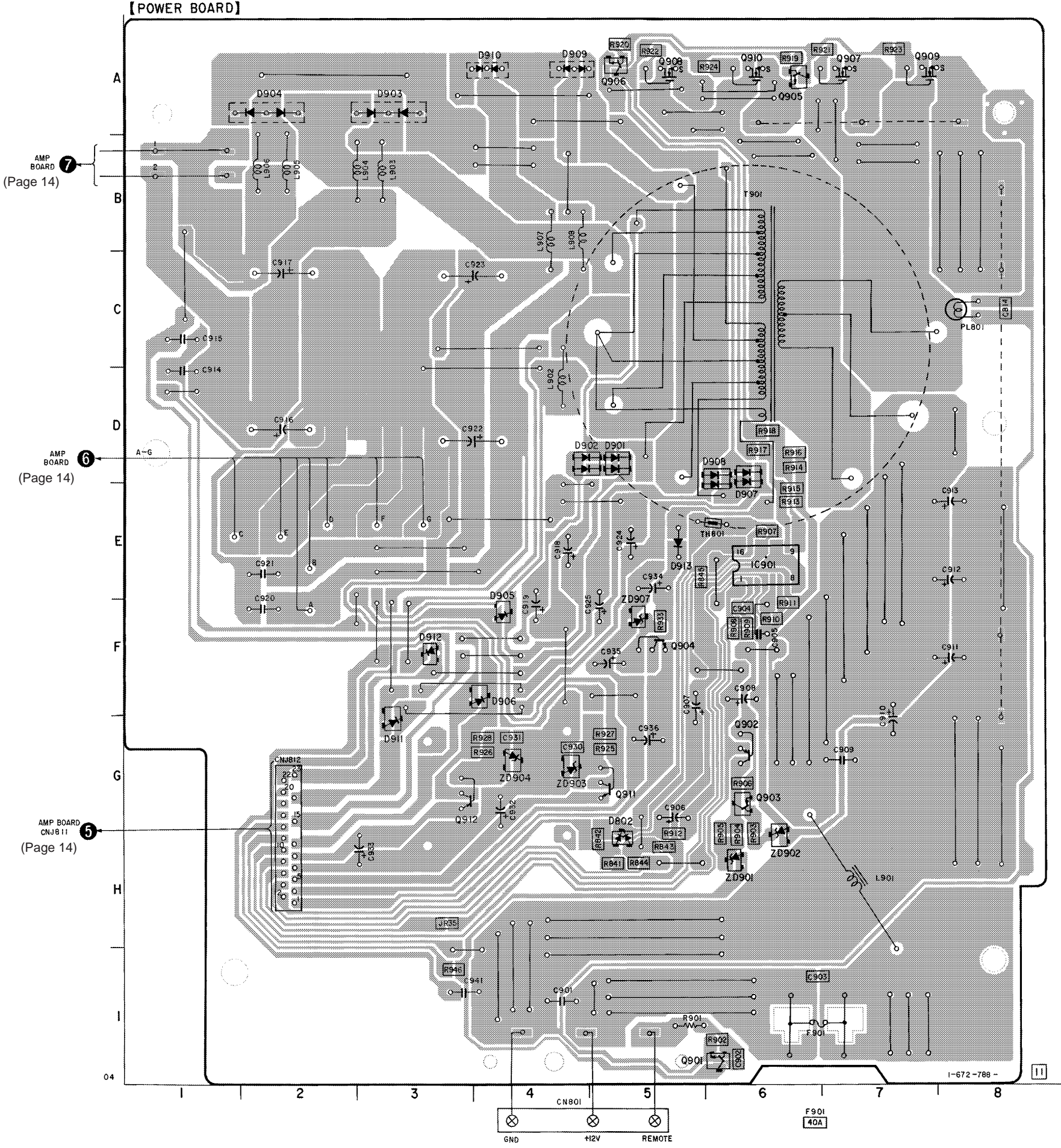
3-4. SCHEMATIC DIAGRAM — AMP SECTION —



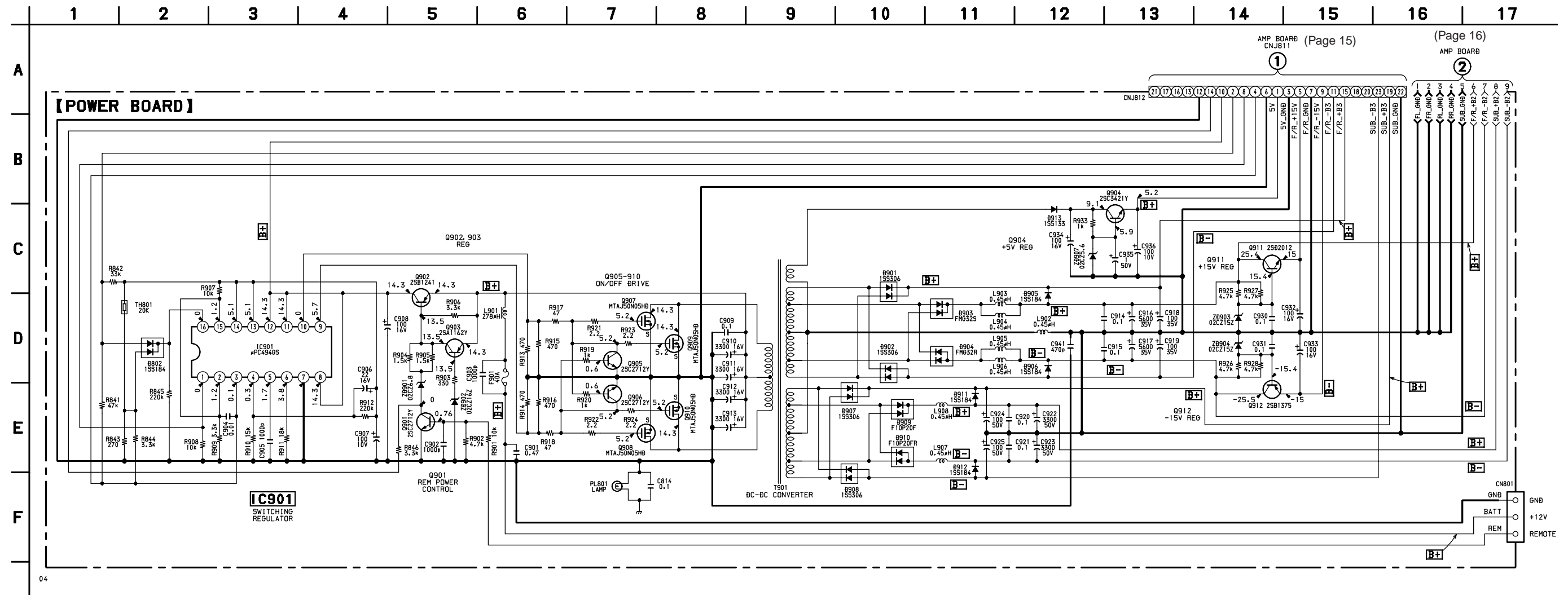
3-5. PRINTED WIRING BOARD — POWER SECTION —

• Semiconductor Location

Ref. No.	Location
D802	G-5
D901	D-5
D902	D-4
D903	A-3
D904	A-2
D905	F-4
D906	F-4
D907	E-6
D908	D-6
D909	A-4
D910	A-4
D911	G-3
D912	F-3
D913	E-5
IC901	E-6
Q901	I-5
Q902	G-6
Q903	G-6
Q904	F-5
Q905	A-6
Q906	A-5
Q907	A-7
Q908	A-5
Q909	A-7
Q910	A-6
Q911	G-5
Q912	G-3
ZD901	H-6
ZD902	H-6
ZD903	G-4
ZD904	G-4
ZD907	F-5

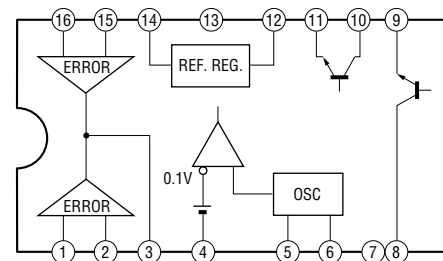


3-6. SCHEMATIC DIAGRAM — POWER SECTION —



• IC Block Diagram

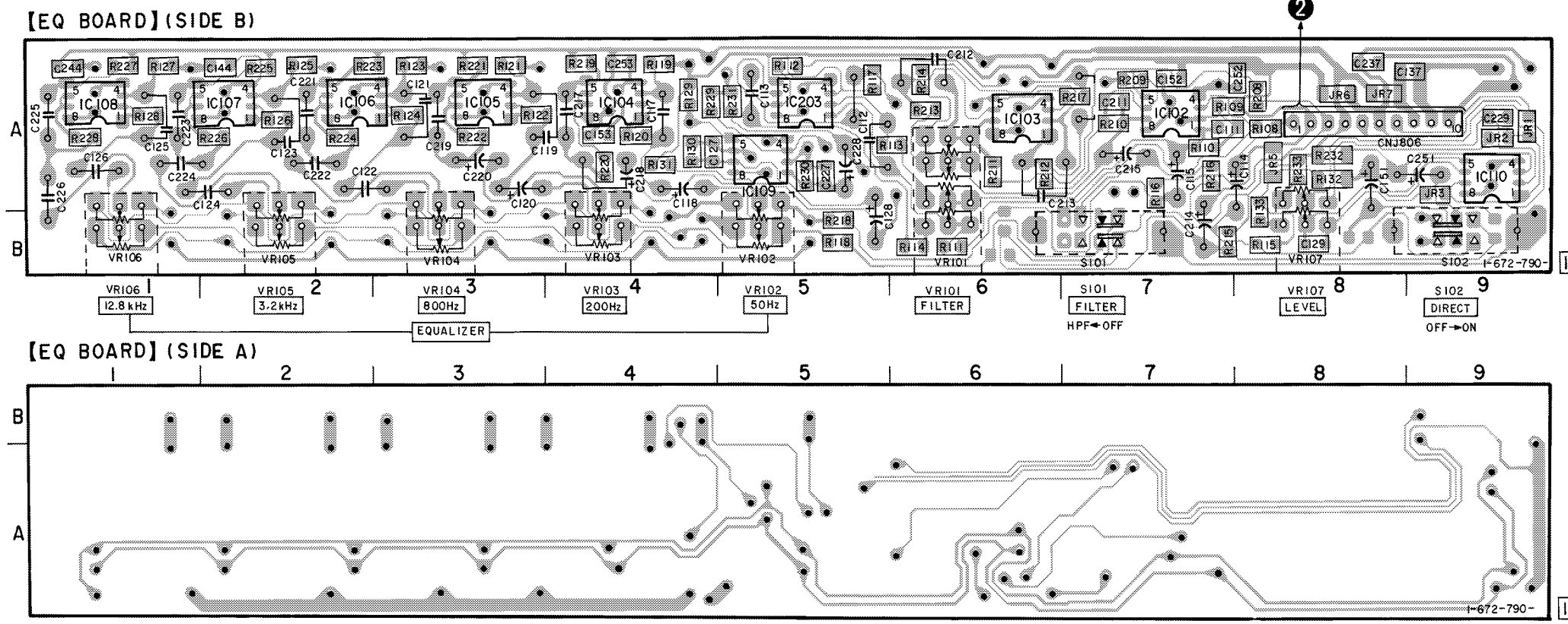
IC901  $\mu$ PC494GS



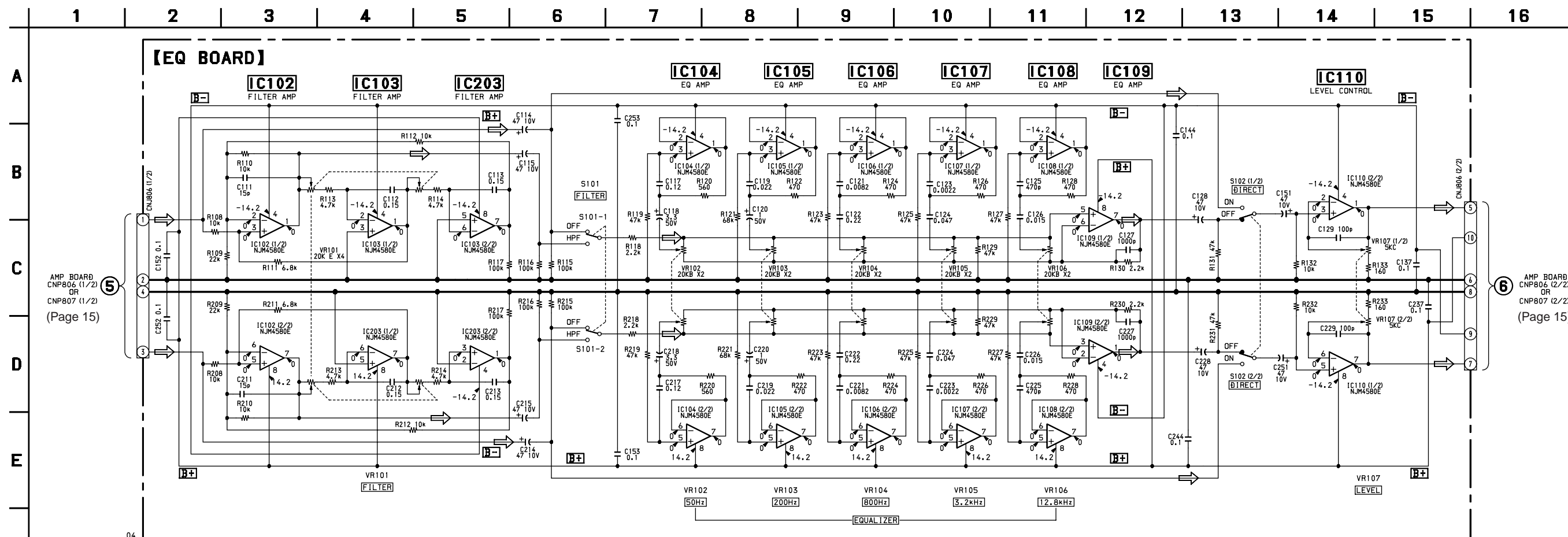
3-7. PRINTED WIRING BOARD — EQ SECTION —

• Semiconductor Location

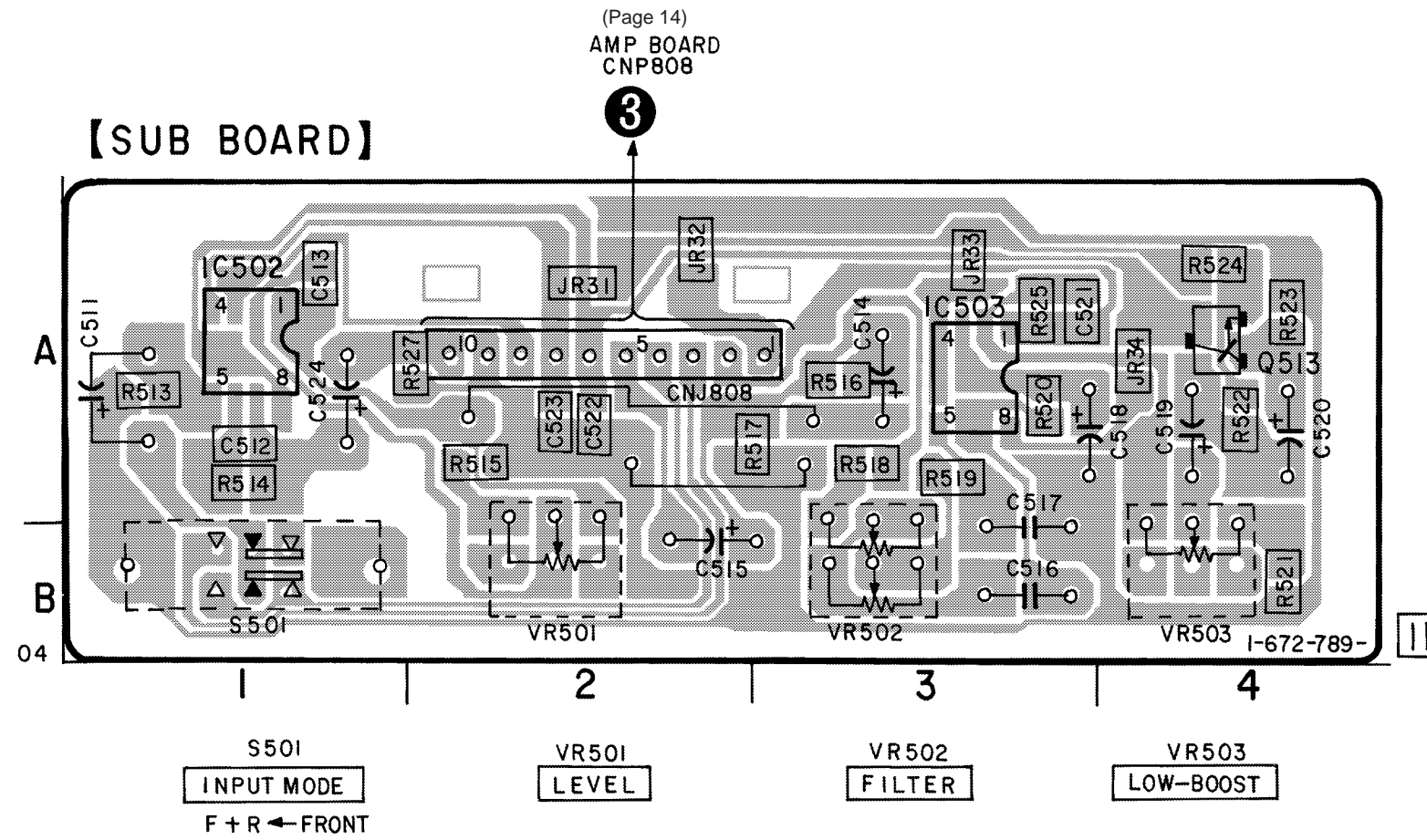
Ref. No.	Location
IC102	A-2
IC103	A-6
IC104	A-4
IC105	A-3
IC106	A-2
IC107	A-2
IC108	A-1
IC109	A-5
IC110	A-9
IC203	A-5



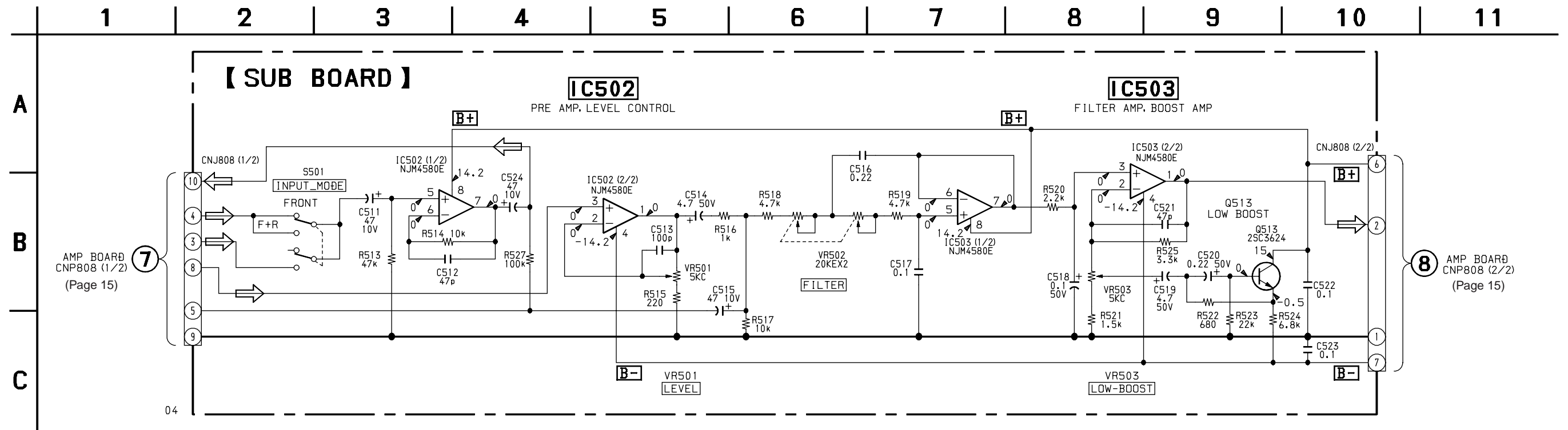
3-8. SCHEMATIC DIAGRAM — EQ SECTION —



3-9. PRINTED WIRING BOARD — SUB SECTION —

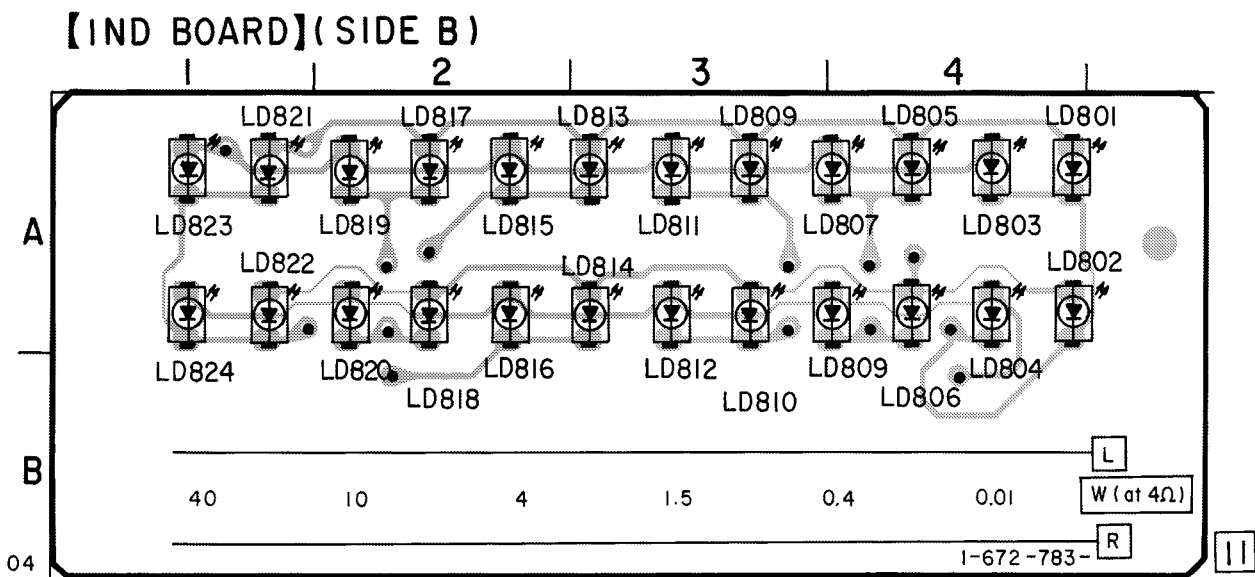
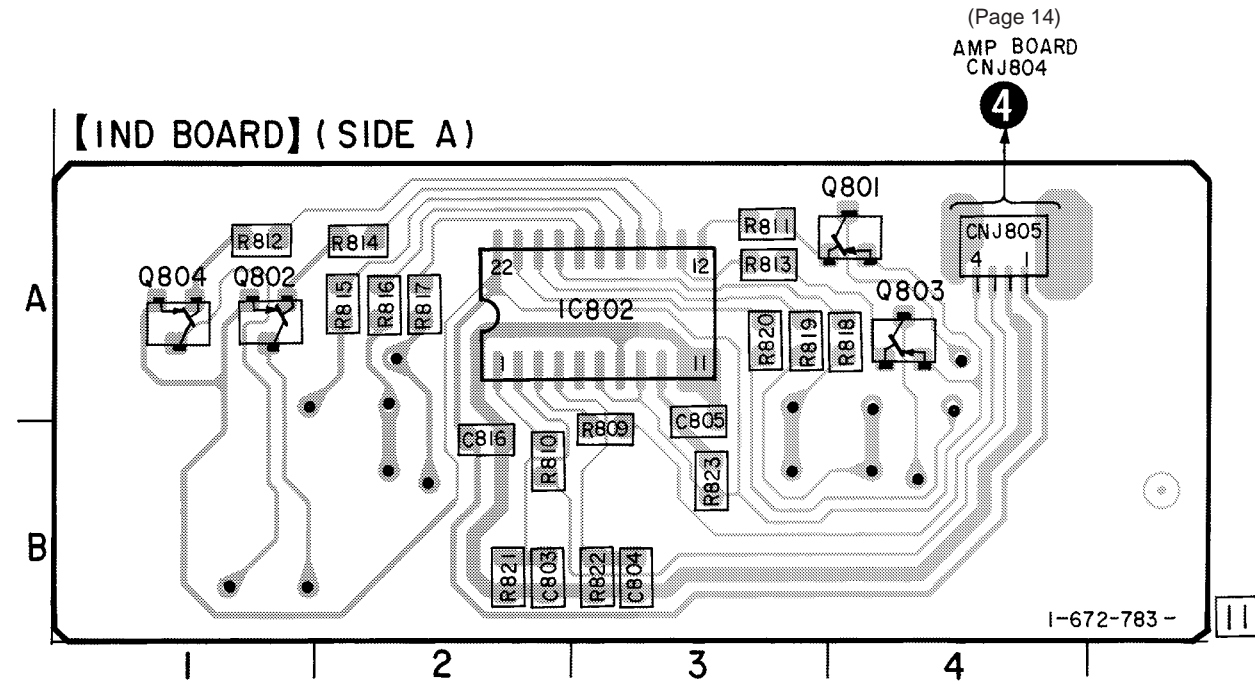


3-10. SCHEMATIC DIAGRAM — SUB SECTION —





3-11. PRINTED WIRING BOARD — IND SECTION —

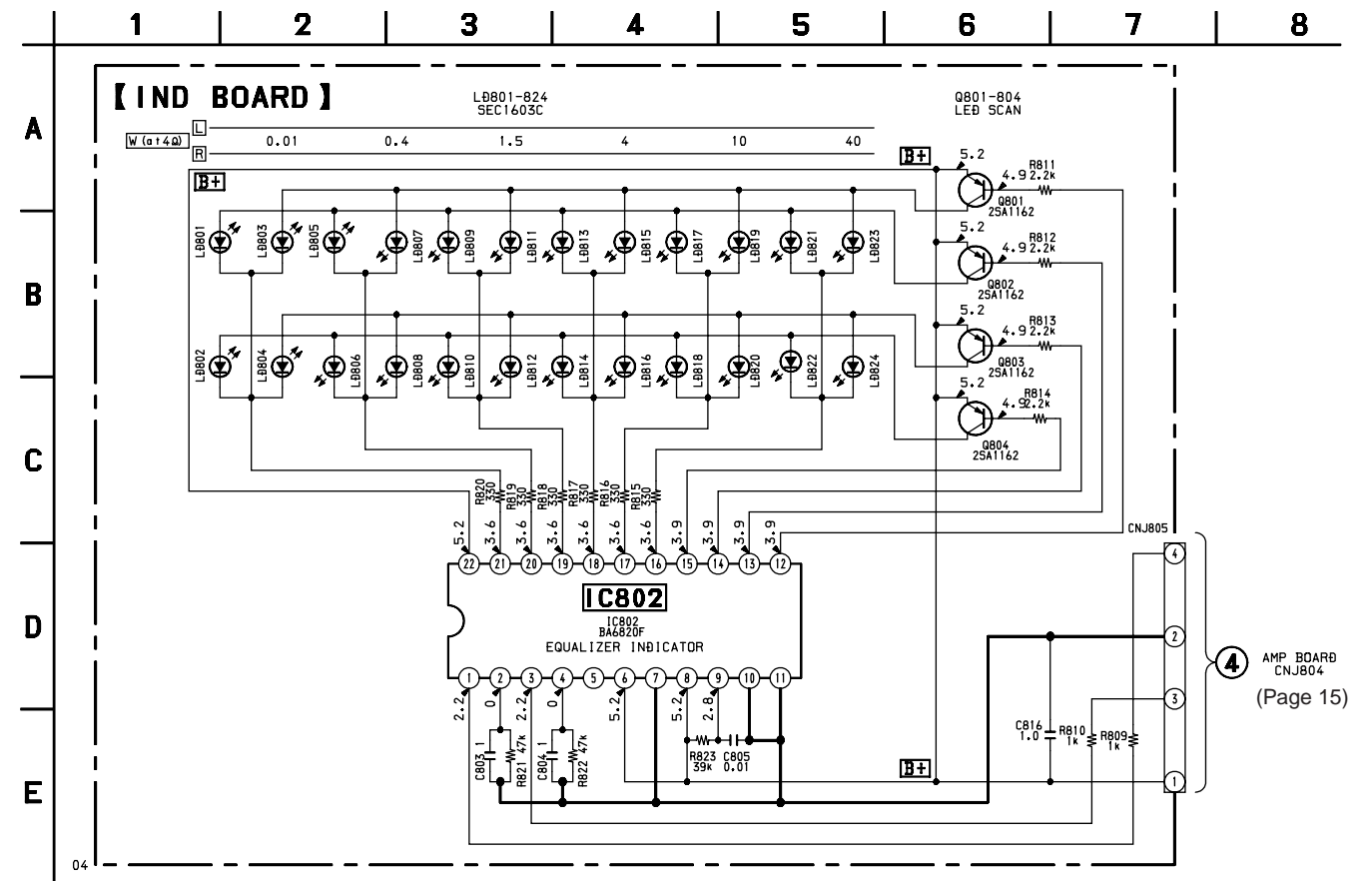


• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
(IC802)	A-2	LD815	A-2
LD801	A-4	LD816	B-2
LD802	A-4	LD817	A-2
LD803	A-3	LD818	B-2
LD804	B-4	LD819	A-2
LD805	A-4	LD820	B-2
LD806	B-4	LD821	A-1
LD807	A-4	LD822	A-1
LD808	B-4	LD823	A-1
LD809	A-3	LD824	B-1
LD810	B-3	(Q801)	A-3
LD811	A-3	(Q802)	A-1
LD812	B-3	(Q803)	A-4
LD813	A-3	(Q804)	A-1
LD814	A-3		

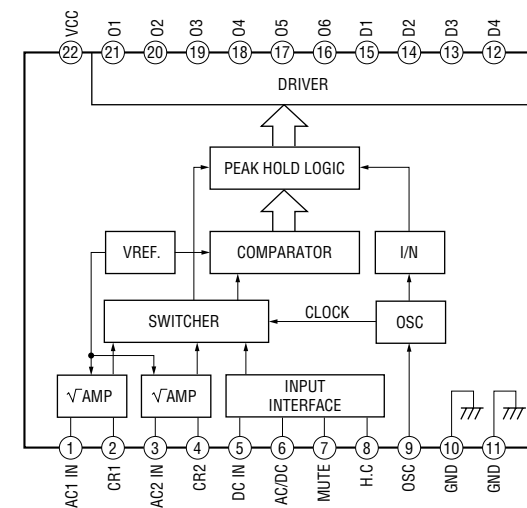
( ) : SIDE A

3-12. SCHEMATIC DIAGRAM — IND SECTION —

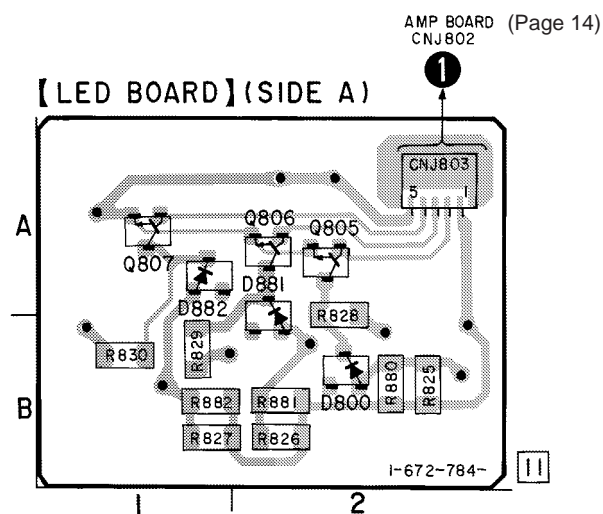


• IC Block Diagram

IC802 BA6820F



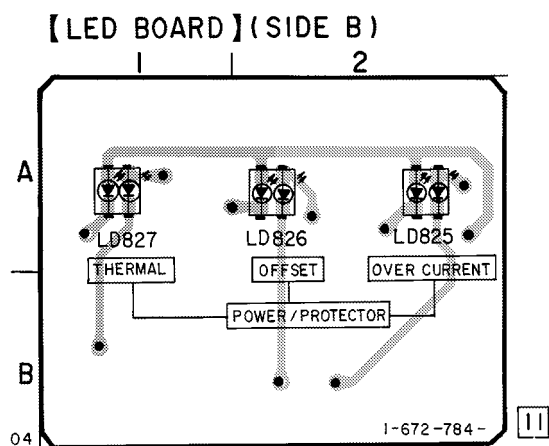
3-13. PRINTED WIRING BOARD — LED SECTION —



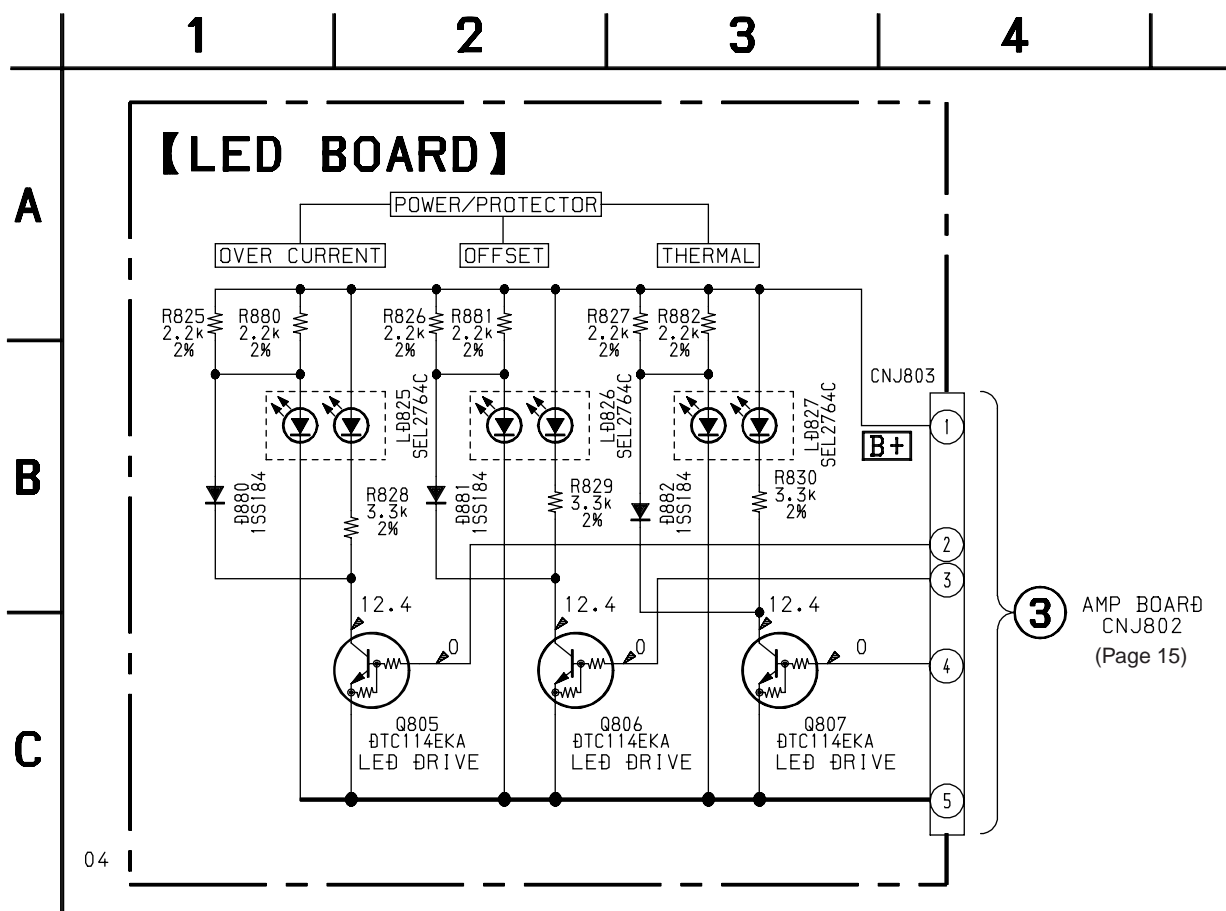
**• Semiconductor Location**

Ref. No.	Location
D880	B-2
D881	A-2
D882	A-1
(LD825)	A-2
(LD826)	A-2
(LD827)	A-1
Q805	A-2
Q806	A-2
Q807	A-1

( ) : SIDE B



3-14. SCHEMATIC DIAGRAM — LED SECTION —



# SECTION 4 EXPLODED VIEWS

**NOTE:**

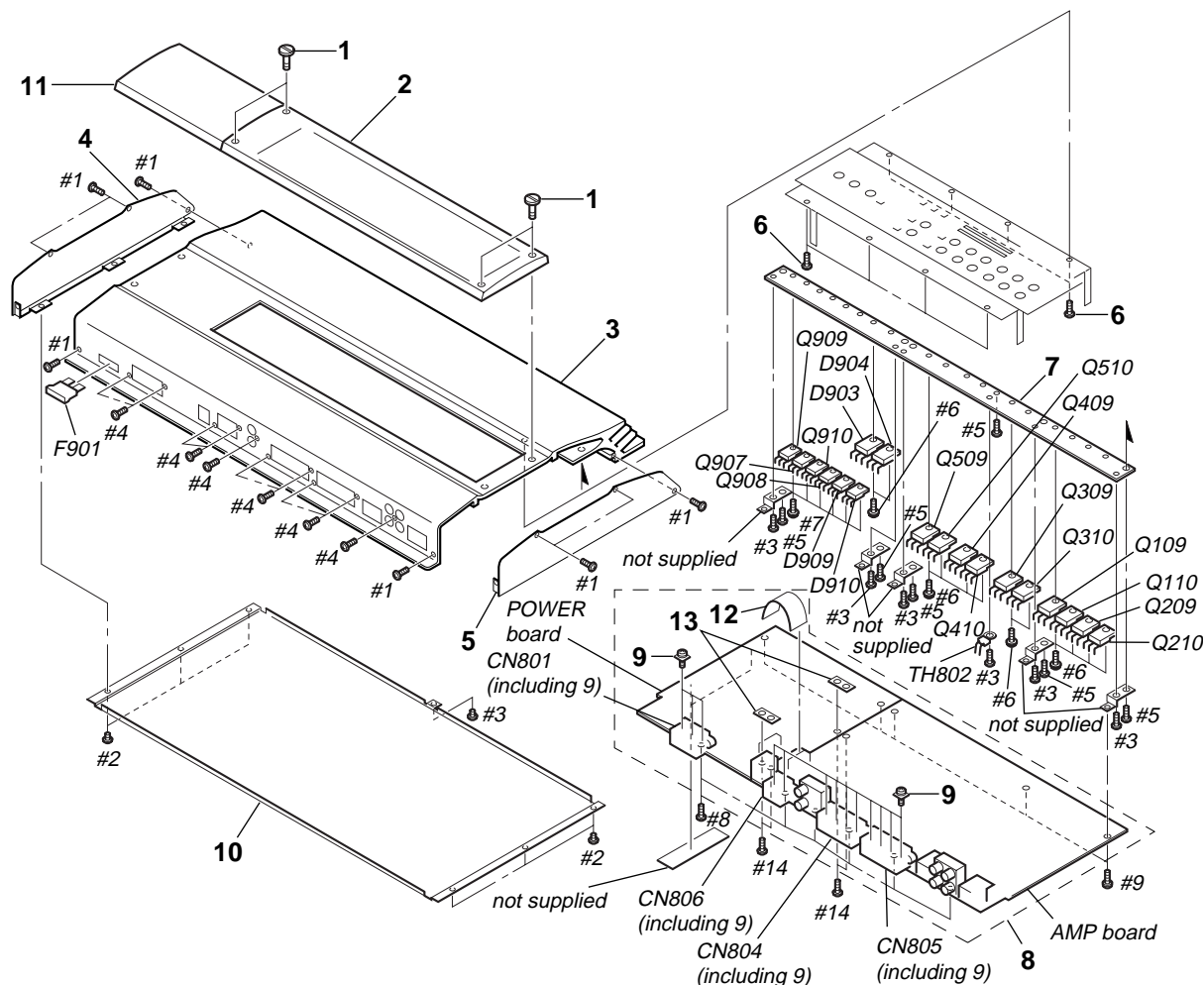
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation  
G: German model

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts  
Example :  
KNOB, BALANCE (WHITE) ... (RED)

- Accessories and packing materials and hardware (# mark) list are given in the last of this parts list.

Parts Color      Cabinet's Color

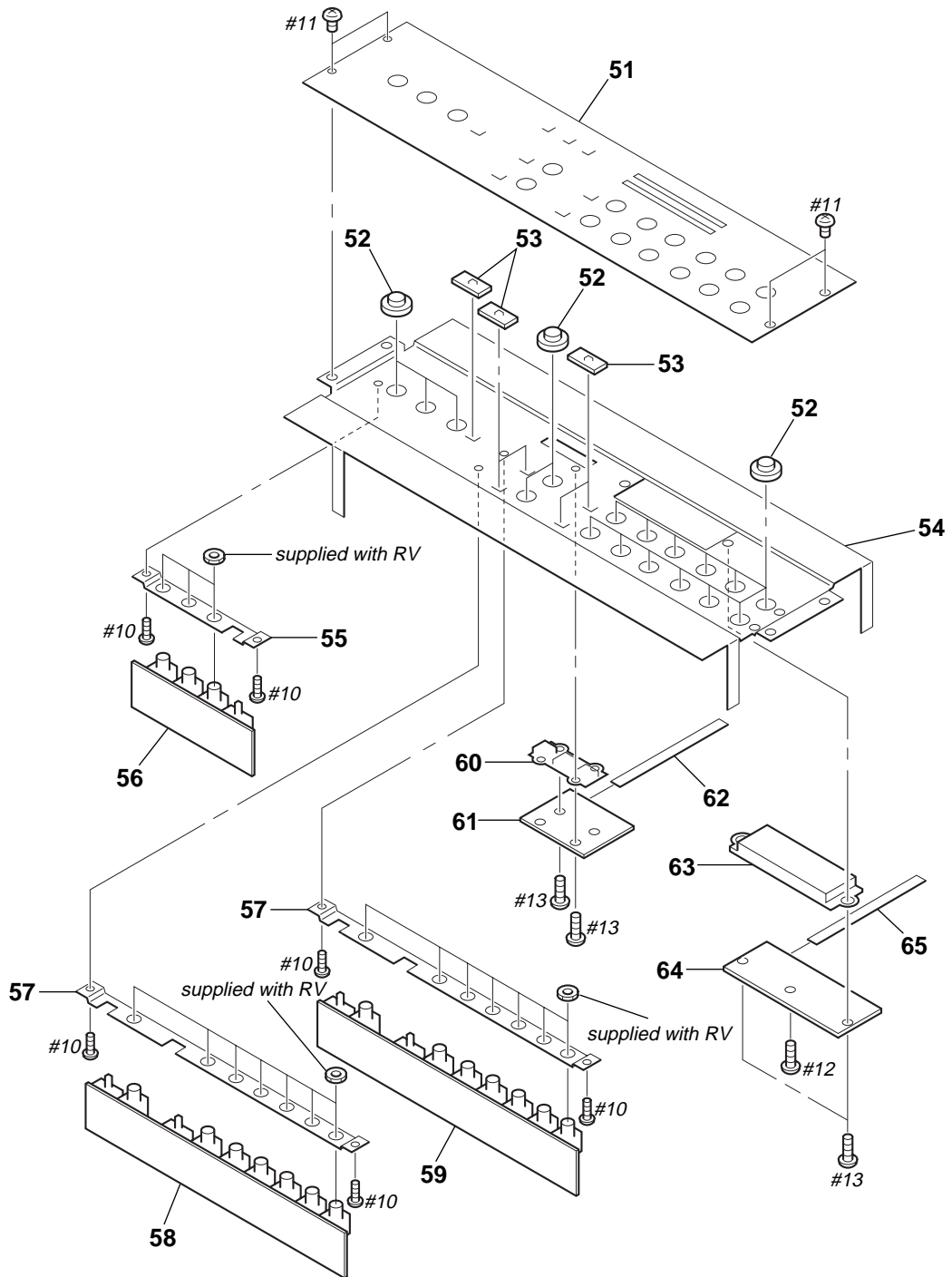
## 4-1. HEAT SINK SECTION



Ref. No.	Part No.	Description	Remark
1	3-013-266-01	SCREW, ORNAMENTAL	
2	3-033-970-21	PLATE, ORNAMENTAL	
* 3	3-034-323-01	HEAT SINK (US,Canadian)	
* 3	3-034-323-11	HEAT SINK (AEP,UK,E,G)	
4	3-035-756-01	PANEL (A)	
5	3-035-757-01	PANEL (B)	
6	3-933-766-01	SCREW (3X8) (CZN-N)	
* 7	3-035-965-01	HEAT SINK, SUB	
* 8	A-3317-742-A	AMP/POWER BOARD, COMPLETE (US,Canadian)	
* 8	A-3317-743-A	AMP/POWER BOARD, COMPLETE (AEP,UK,E,G)	
* 9	3-912-432-01	SCREW M4X8	
* 10	3-035-964-01	PLATE, BOTTOM	
11	3-034-325-01	PLATE, ORNAMENTAL	
12	1-790-766-11	CABLE, PARALLEL (23P)	
* 13	3-035-968-01	BRACKET (CHASSIS)	
CN801	1-694-511-11	TABLE, TERMINAL (3P) (REMOTE/+12V/GND)	
CN804	1-694-512-11	TABLE, TERMINAL (4P) (FRONT SPEAKER OUT)	
CN805	1-694-512-11	TABLE, TERMINAL (4P) (REAR SPEAKER OUT)	
CN806	1-694-510-11	TABLE, TERMINAL (2P) (SUBWOOFER SPEAKER OUT)	

Ref. No.	Part No.	Description	Remark
D903	8-719-023-35	DIODE FMG-32S	
D904	8-719-023-34	DIODE FMG-32R	
D909	8-719-210-30	DIODE F10P20F(R)	
D910	8-719-210-38	DIODE F10P20FR	
F901	1-533-743-11	FUSE (BLADE TYPE) (AUTO FUSE) (40A)	
Q109	8-729-024-80	TRANSISTOR 2SC5100-Y	
Q110	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q209	8-729-024-80	TRANSISTOR 2SC5100-Y	
Q210	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q309	8-729-024-80	TRANSISTOR 2SC5100-Y	
Q310	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q409	8-729-024-80	TRANSISTOR 2SC5100-Y	
Q410	8-729-024-77	TRANSISTOR 2SA1908-Y	
Q509	8-729-010-97	TRANSISTOR 2SC3856	
Q510	8-729-010-98	TRANSISTOR 2SA1492M-OPY	
Q907	8-729-030-72	FET MTAJ50N05HD	
Q908	8-729-030-72	FET MTAJ50N05HD	
Q909	8-729-030-72	FET MTAJ50N05HD	
Q910	8-729-030-72	FET MTAJ50N05HD	
TH802	1-809-664-51	THERMISTOR, POSITIVE	

## 4-2. CONTROL PANEL SECTION



Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
51	3-034-324-01	PLATE, ORNAMENTAL		* 58	A-3317-656-A	EQ BOARD, COMPLETE	
52	3-035-767-01	KNOB (VR)		59	3-035-765-01	LENS (A)	
53	3-035-768-01	KNOB (SW)		* 60	1-672-784-11	LED BOARD	
* 54	3-035-969-01	BRACKET (CONTROL BLOCK)		61	1-790-765-11	CABLE, PARALLEL (5P)	
* 55	3-035-967-01	BRACKET (SUB)		62	3-035-766-01	LENS (B)	
* 56	1-672-789-11	SUB BOARD		* 63	1-672-783-11	IND BOARD	
* 57	3-035-966-01	BRACKET (EQ)		64	1-790-764-11	CABLE, PARALLEL (4P)	

## SECTION 5 ELECTRICAL PARTS LIST

**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.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- 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 :  $\mu$ , for example:  
uA.. :  $\mu$ A.. uPA.. :  $\mu$ PA..  
uPB.. :  $\mu$ PB.. uPC.. :  $\mu$ PC.. uPD.. :  $\mu$ PD..
- CAPACITORS  
uF :  $\mu$ F
- COILS  
uH :  $\mu$ H

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

- Abbreviation  
G: German model

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	A-3317-742-A	AMP/POWER BOARD, COMPLETE (US,Canadian) (INCLUDING AMP BOARD, POWER BOARD)		C238	1-165-319-11	CERAMIC CHIP 0.1uF	50V
*	A-3317-743-A	AMP/POWER BOARD, COMPLETE (AEP,UK,E,G) (INCLUDING AMP BOARD, POWER BOARD) *****		C241	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
		AMP BOARD *****		C242	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
		< CAPACITOR >		C301	1-126-047-11	ELECT 4.7uF	20% 50V
C101	1-126-047-11	ELECT 4.7uF	20% 50V	C302	1-126-047-11	ELECT 4.7uF	20% 50V
C102	1-126-047-11	ELECT 4.7uF	20% 50V	C303	1-163-081-00	CERAMIC CHIP 0.22uF	25V
C103	1-163-081-00	CERAMIC CHIP 0.22uF	25V	C304	1-163-081-00	CERAMIC CHIP 0.22uF	25V
C104	1-163-081-00	CERAMIC CHIP 0.22uF	25V	C305	1-163-239-11	CERAMIC CHIP 33PF	5% 50V
C105	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C306	1-163-239-11	CERAMIC CHIP 33PF	5% 50V
C106	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C307	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C107	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C308	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C108	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C309	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C109	1-126-025-11	ELECT 330uF	20% 25V	C310	1-163-239-11	CERAMIC CHIP 33PF	5% 50V
C110	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C330	1-124-994-11	ELECT 100uF	20% 10V
C130	1-124-994-11	ELECT 100uF	20% 10V	C331	1-102-518-11	CERAMIC 33PF	5% 50V
C131	1-102-518-11	CERAMIC 33PF	5% 50V	C332	1-102-514-11	CERAMIC 22PF	5% 50V
C132	1-102-514-11	CERAMIC 22PF	5% 50V	C334	1-130-495-11	MYLAR 0.1uF	5% 50V
C134	1-130-495-11	MYLAR 0.1uF	5% 50V	C335	1-130-491-00	MYLAR 0.047uF	5% 50V
C135	1-130-491-00	MYLAR 0.047uF	5% 50V	C336	1-163-081-00	CERAMIC CHIP 0.22uF	25V
C138	1-165-319-11	CERAMIC CHIP 0.1uF	50V	C338	1-165-319-11	CERAMIC CHIP 0.1uF	50V
C139	1-126-022-11	ELECT 47uF	20% 16V	C339	1-126-022-11	ELECT 47uF	20% 16V
C141	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C341	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C142	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C342	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C201	1-126-047-11	ELECT 4.7uF	20% 50V	C401	1-126-047-11	ELECT 4.7uF	20% 50V
C202	1-126-047-11	ELECT 4.7uF	20% 50V	C402	1-126-047-11	ELECT 4.7uF	20% 50V
C203	1-163-081-00	CERAMIC CHIP 0.22uF	25V	C403	1-163-081-00	CERAMIC CHIP 0.22uF	25V
C204	1-163-081-00	CERAMIC CHIP 0.22uF	25V	C404	1-163-081-00	CERAMIC CHIP 0.22uF	25V
C205	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C405	1-163-239-11	CERAMIC CHIP 33PF	5% 50V
C206	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C406	1-163-239-11	CERAMIC CHIP 33PF	5% 50V
C207	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C407	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C208	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C408	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C209	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C409	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
C210	1-163-239-11	CERAMIC CHIP 33PF	5% 50V	C410	1-163-239-11	CERAMIC CHIP 33PF	5% 50V
C230	1-124-994-11	ELECT 100uF	20% 10V	C430	1-124-994-11	ELECT 100uF	20% 10V
C231	1-102-518-11	CERAMIC 33PF	5% 50V	C431	1-102-518-11	CERAMIC 33PF	5% 50V
C232	1-102-947-00	CERAMIC 10PF	5% 50V	C432	1-102-947-00	CERAMIC 10PF	5% 50V
C234	1-130-495-11	MYLAR 0.1uF	5% 50V	C434	1-130-495-11	MYLAR 0.1uF	5% 50V
C235	1-130-491-00	MYLAR 0.047uF	5% 50V	C435	1-130-491-00	MYLAR 0.047uF	5% 50V
C236	1-163-081-00	CERAMIC CHIP 0.22uF	25V	C436	1-163-081-00	CERAMIC CHIP 0.22uF	25V
				C438	1-165-319-11	CERAMIC CHIP 0.1uF	50V
				C441	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
				C442	1-163-251-11	CERAMIC CHIP 100PF	5% 50V
				C501	1-126-047-11	ELECT 4.7uF	20% 50V
				C502	1-126-047-11	ELECT 4.7uF	20% 50V
				C503	1-163-239-11	CERAMIC CHIP 33PF	5% 50V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C504	1-163-239-11	CERAMIC CHIP	33PF 5% 50V			< JACK >	
C505	1-163-239-11	CERAMIC CHIP	33PF 5% 50V				
C506	1-126-047-11	ELECT	4.7uF 20% 50V	CNJ801	1-779-078-41	JACK, PIN 4P (FRONT INPUT,REAR INPUT)	
C507	1-126-059-11	ELECT	10uF 20% 50V	CNJ809	1-779-078-61	JACK, PIN 2P (SUBWOOFER INPUT)	
C508	1-126-059-11	ELECT	10uF 20% 50V	CNJ810	1-566-865-21	JACK, MODULAR (SUBWOOFER LEVEL CONTROL) (US,Canadian)	
C509	1-126-025-11	ELECT	330uF 20% 25V			< CONNECTOR >	
C510	1-165-319-11	CERAMIC CHIP	0.1uF 50V				
C525	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	CNJ802	1-793-099-11	CONNECTOR, FFC/FPC (ZIF) 5P	
C530	1-124-994-11	ELECT	100uF 20% 10V	CNJ804	1-793-098-11	CONNECTOR, FFC/FPC (ZIF) 4P	
C531	1-102-518-11	CERAMIC	33PF 5% 50V	* CNJ811	1-774-350-11	CONNECTOR, FFC/FPC (ZIF) 23P	
C532	1-102-514-11	CERAMIC	22PF 5% 50V	CNP806	1-793-038-11	CONNECTOR, BOARD TO BOARD 10P	
C534	1-130-495-11	MYLAR	0.1uF 5% 50V	CNP807	1-793-038-11	CONNECTOR, BOARD TO BOARD 10P	
C535	1-130-491-00	MYLAR	0.047uF 5% 50V				
C536	1-163-081-00	CERAMIC CHIP	0.22uF 25V	CNP808	1-793-038-11	CONNECTOR, BOARD TO BOARD 10P	
C539	1-126-022-11	ELECT	47uF 20% 16V			< DIODE >	
C541	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	D101	8-719-801-78	DIODE 1SS184	
C542	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	D102	8-719-801-78	DIODE 1SS184	
C601	1-126-047-11	ELECT	4.7uF 20% 50V	D201	8-719-801-78	DIODE 1SS184	
C602	1-126-047-11	ELECT	4.7uF 20% 50V	D202	8-719-801-78	DIODE 1SS184	
C603	1-163-239-11	CERAMIC CHIP	33PF 5% 50V	D301	8-719-801-78	DIODE 1SS184	
C604	1-163-239-11	CERAMIC CHIP	33PF 5% 50V	D302	8-719-801-78	DIODE 1SS184	
C605	1-163-239-11	CERAMIC CHIP	33PF 5% 50V	D401	8-719-801-78	DIODE 1SS184	
C609	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	D402	8-719-801-78	DIODE 1SS184	
C610	1-165-319-11	CERAMIC CHIP	0.1uF 50V	D501	8-719-801-78	DIODE 1SS184	
C636	1-163-081-00	CERAMIC CHIP	0.22uF 25V	D502	8-719-801-78	DIODE 1SS184	
C801	1-126-044-11	ELECT	1uF 20% 50V	D801	8-719-801-78	DIODE 1SS184	
C802	1-126-044-11	ELECT	1uF 20% 50V	D803	8-719-801-78	DIODE 1SS184	
C806	1-126-006-11	ELECT	22uF 20% 16V			< IC >	
C807	1-126-006-11	ELECT	22uF 20% 16V	IC101	8-759-711-82	IC NJM4580E	
C808	1-163-133-00	CERAMIC CHIP	470PF 5% 50V	IC301	8-759-711-82	IC NJM4580E	
C809	1-163-133-00	CERAMIC CHIP	470PF 5% 50V	IC501	8-759-711-82	IC NJM4580E	
C811	1-126-006-11	ELECT	22uF 20% 16V	IC801	8-759-711-82	IC NJM4580E	
C812	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V			< PHOTO COUPLER >	
C813	1-126-022-11	ELECT	47uF 20% 10V	IC902	8-719-156-72	PHOTO COUPLER PS2501-1KA	
C815	1-130-495-11	MYLAR	0.1uF 5% 50V			< JUMPER RESISTOR >	
C817	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	JR1	1-216-296-00	METAL CHIP 0 5% 1/8W	
C818	1-126-022-11	ELECT	47uF 20% 10V	JR2	1-216-295-00	METAL CHIP 0 5% 1/10W	
C819	1-130-495-11	MYLAR	0.1uF 5% 50V	JR3	1-216-296-00	METAL CHIP 0 5% 1/8W	
C820	1-130-495-11	MYLAR	0.1uF 5% 50V	JR4	1-216-296-00	METAL CHIP 0 5% 1/8W	
C821	1-130-495-11	MYLAR	0.1uF 5% 50V	JR5	1-216-296-00	METAL CHIP 0 5% 1/8W	
		< CONNECTOR >		JR6	1-216-295-00	METAL CHIP 0 5% 1/10W	
CN802	1-784-904-21	CONNECTOR 4P (FRONT HIGH LEVEL INPUT)		JR7	1-216-295-00	METAL CHIP 0 5% 1/10W	
CN803	1-784-904-31	CONNECTOR 4P (REAR HIGH LEVEL INPUT)		JR8	1-216-296-00	METAL CHIP 0 5% 1/8W	
		< TERMINAL TABLE >		JR9	1-216-295-00	METAL CHIP 0 5% 1/10W	
CN804	1-694-512-11	TABLE, TERMINAL (4P) (FRONT SPEAKER OUT)		JR10	1-216-295-00	METAL CHIP 0 5% 1/10W	
CN805	1-694-512-11	TABLE, TERMINAL (4P) (REAR SPEAKER OUT)		JR11	1-216-295-00	METAL CHIP 0 5% 1/10W	
CN806	1-694-510-11	TABLE, TERMINAL (2P) (SUBWOOFER SPEAKER OUT)		JR12	1-216-295-00	METAL CHIP 0 5% 1/10W	
				JR13	1-216-295-00	METAL CHIP 0 5% 1/10W	

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>	<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
		< TRANSISTOR >					
Q101	8-729-903-10	TRANSISTOR FMW1		Q504	8-729-203-45	TRANSISTOR 2SC3423-0	
Q102	8-729-026-57	TRANSISTOR FMS1A-T148		Q505	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q103	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		Q506	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q104	8-729-184-53	TRANSISTOR 2SC1845-EA		Q507	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q105	8-729-216-21	TRANSISTOR 2SA1162-Y		Q508	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q106	8-729-119-78	TRANSISTOR 2SC2785-HFE		Q509	8-729-010-97	TRANSISTOR 2SC3856	
Q107	8-729-207-82	TRANSISTOR 2SC3421-Y		Q510	8-729-010-98	TRANSISTOR 2SA1492M-OPY	
Q108	8-729-207-89	TRANSISTOR 2SA1358-Y		Q511	8-729-271-31	TRANSISTOR 2SC2713-G	
Q109	8-729-024-80	TRANSISTOR 2SC5100-Y		Q512	8-729-203-48	TRANSISTOR 2SC3327-A	
Q110	8-729-024-77	TRANSISTOR 2SA1908-Y		Q808	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q111	8-729-230-49	TRANSISTOR 2SC2712-YG		Q809	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q112	8-729-203-48	TRANSISTOR 2SC3327-A		Q810	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q201	8-729-903-10	TRANSISTOR FMW1		Q811	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q202	8-729-026-57	TRANSISTOR FMS1A-T148		Q812	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q203	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		Q813	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q204	8-729-184-53	TRANSISTOR 2SC1845-EA		Q814	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q205	8-729-216-21	TRANSISTOR 2SA1162-Y		Q815	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q206	8-729-119-78	TRANSISTOR 2SC2785-HFE		Q816	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q207	8-729-207-82	TRANSISTOR 2SC3421-Y		Q817	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q208	8-729-207-89	TRANSISTOR 2SA1358-Y		Q818	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q209	8-729-024-80	TRANSISTOR 2SC5100-Y		Q819	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q210	8-729-024-77	TRANSISTOR 2SA1908-Y		Q820	8-729-230-49	TRANSISTOR 2SC2712-YG	
Q211	8-729-230-49	TRANSISTOR 2SC2712-YG				< RESISTOR >	
Q212	8-729-203-48	TRANSISTOR 2SC3327-A		R101	1-208-518-61	RES,CHIP 22K 2%	1/10W
Q301	8-729-903-10	TRANSISTOR FMW1		R102	1-208-518-61	RES,CHIP 22K 2%	1/10W
Q302	8-729-026-57	TRANSISTOR FMS1A-T148		R103	1-208-526-61	RES,CHIP 47K 2%	1/10W
Q303	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R104	1-208-526-61	RES,CHIP 47K 2%	1/10W
Q304	8-729-184-53	TRANSISTOR 2SC1845-EA		R105	1-208-522-61	RES,CHIP 33K 2%	1/10W
Q305	8-729-216-21	TRANSISTOR 2SA1162-Y		R106	1-208-522-61	RES,CHIP 33K 2%	1/10W
Q306	8-729-119-78	TRANSISTOR 2SC2785-HFE		R107	1-216-471-11	METAL OXIDE 27 5%	3W F
Q307	8-729-207-82	TRANSISTOR 2SC3421-Y		R134	1-208-510-61	RES,CHIP 10K 2%	1/8W
Q308	8-729-207-89	TRANSISTOR 2SA1358-Y		R135	1-208-449-61	RES,CHIP 3.3K 2%	1/10W
Q309	8-729-024-80	TRANSISTOR 2SC5100-Y		R136	1-249-421-11	CARBON 2.2K 5%	1/4W
Q310	8-729-024-77	TRANSISTOR 2SA1908-Y		R137	1-208-441-61	RES,CHIP 1.5K 2%	1/10W
Q311	8-729-230-49	TRANSISTOR 2SC2712-YG		R138	1-208-441-61	RES,CHIP 1.5K 2%	1/10W
Q312	8-729-203-48	TRANSISTOR 2SC3327-A		R139	1-208-441-61	RES,CHIP 1.5K 2%	1/10W
Q401	8-729-903-10	TRANSISTOR FMW1		R140	1-208-441-61	RES,CHIP 1.5K 2%	1/10W
Q402	8-729-026-57	TRANSISTOR FMS1A-T148		R141	1-216-685-11	METAL CHIP 27K 0.5%	1/10W
Q403	8-729-140-82	TRANSISTOR 2SA988-PAFAEA		R142	1-216-685-11	METAL CHIP 27K 0.5%	1/10W
Q404	8-729-184-53	TRANSISTOR 2SC1845-EA		R143	1-216-174-00	RES,CHIP 100 2%	1/8W
Q405	8-729-216-21	TRANSISTOR 2SA1162-Y		R144	1-216-174-00	RES,CHIP 100 2%	1/8W
Q406	8-729-119-78	TRANSISTOR 2SC2785-HFE		R145	1-208-534-61	RES,CHIP 100K 2%	1/10W
Q407	8-729-207-82	TRANSISTOR 2SC3421-Y		R146	1-208-534-61	RES,CHIP 100K 2%	1/10W
Q408	8-729-207-89	TRANSISTOR 2SA1358-Y		R147	1-208-435-61	RES,CHIP 820 2%	1/10W
Q409	8-729-024-80	TRANSISTOR 2SC5100-Y		R148	1-208-423-61	RES,CHIP 270 2%	1/10W
Q410	8-729-024-77	TRANSISTOR 2SA1908-Y		R149	1-208-812-11	RES,CHIP 18K 2%	1/10W
Q411	8-729-230-49	TRANSISTOR 2SC2712-YG		R150	1-249-422-11	CARBON 2.7K 5%	1/4W
Q412	8-729-203-48	TRANSISTOR 2SC3327-A		R151	1-208-373-11	RES,CHIP 2.2 2%	1/8W
Q501	8-729-903-10	TRANSISTOR FMW1		R152	1-208-373-11	RES,CHIP 2.2 2%	1/8W
Q502	8-729-026-57	TRANSISTOR FMS1A-T148		R153	1-216-182-00	RES,CHIP 220 2%	1/8W
Q503	8-729-209-18	TRANSISTOR 2SA1360-Y		R154	1-205-991-11	METAL PLATE 0.1X2 10%	5W
				R155	1-208-437-61	RES,CHIP 1K 2%	1/10W

Ref. No.	Part No.	Description			Remark	Ref. No.	Part No.	Description			Remark
R156	1-208-437-61	RES,CHIP	1K	2%	1/10W	R340	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R157	1-208-462-61	RES,CHIP	10K	2%	1/10W	R341	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R158	1-208-550-61	RES,CHIP	470K	2%	1/10W	R342	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R159	1-215-857-11	METAL OXIDE	10	5%	1W F	R343	1-216-174-00	RES,CHIP	100	2%	1/8W
R160	1-216-210-00	RES,CHIP	3.3K	2%	1/8W	R344	1-216-174-00	RES,CHIP	100	2%	1/8W
R162	1-208-449-61	RES,CHIP	3.3K	2%	1/10W	R345	1-208-534-61	RES,CHIP	100K	2%	1/10W
R201	1-208-518-61	RES,CHIP	22K	2%	1/10W	R346	1-208-534-61	RES,CHIP	100K	2%	1/10W
R202	1-208-518-61	RES,CHIP	22K	2%	1/10W	R347	1-208-435-61	RES,CHIP	820	2%	1/10W
R203	1-208-526-61	RES,CHIP	47K	2%	1/10W	R348	1-208-423-61	RES,CHIP	270	2%	1/10W
R204	1-208-526-61	RES,CHIP	47K	2%	1/10W	R349	1-208-812-11	RES,CHIP	18K	2%	1/10W
R205	1-208-522-61	RES,CHIP	33K	2%	1/10W	R350	1-249-422-11	CARBON	2.7K	5%	1/4W
R206	1-208-522-61	RES,CHIP	33K	2%	1/10W	R351	1-208-373-11	RES,CHIP	2.2	2%	1/8W
R207	1-216-471-11	METAL OXIDE	27	5%	3W F	R352	1-208-373-11	RES,CHIP	2.2	2%	1/8W
R234	1-208-510-61	RES,CHIP	10K	2%	1/8W	R353	1-208-182-00	RES,CHIP	220	2%	1/8W
R235	1-208-449-61	RES,CHIP	3.3K	2%	1/10W	R354	1-205-991-11	METAL PLATE	0.1X2	10%	5W
R236	1-249-421-11	CARBON	2.2K	5%	1/4W	R355	1-208-437-61	RES,CHIP	1K	2%	1/10W
R237	1-208-441-61	RES,CHIP	1.5K	2%	1/10W	R356	1-208-437-61	RES,CHIP	1K	2%	1/10W
R238	1-208-441-61	RES,CHIP	1.5K	2%	1/10W	R357	1-208-462-61	RES,CHIP	10K	2%	1/10W
R239	1-208-441-61	RES,CHIP	1.5K	2%	1/10W	R358	1-208-550-61	RES,CHIP	470K	2%	1/10W
R240	1-208-441-61	RES,CHIP	1.5K	2%	1/10W	R359	1-215-857-11	METAL OXIDE	10	5%	1W F
R241	1-216-685-11	METAL CHIP	27K	0.5%	1/10W	R360	1-208-486-61	RES,CHIP	1K	2%	1/8W
R242	1-216-685-11	METAL CHIP	27K	0.5%	1/10W	R362	1-208-449-61	RES,CHIP	3.3K	2%	1/10W
R243	1-216-174-00	RES,CHIP	100	2%	1/8W	R401	1-208-518-61	RES,CHIP	22K	2%	1/10W
R244	1-216-174-00	RES,CHIP	100	2%	1/8W	R402	1-208-518-61	RES,CHIP	22K	2%	1/10W
R245	1-208-534-61	RES,CHIP	100K	2%	1/10W	R403	1-208-526-61	RES,CHIP	47K	2%	1/10W
R246	1-208-534-61	RES,CHIP	100K	2%	1/10W	R404	1-208-526-61	RES,CHIP	47K	2%	1/10W
R247	1-208-435-61	RES,CHIP	820	2%	1/10W	R405	1-208-522-61	RES,CHIP	33K	2%	1/10W
R248	1-208-423-61	RES,CHIP	270	2%	1/10W	R406	1-208-522-61	RES,CHIP	33K	2%	1/10W
R249	1-208-812-11	RES,CHIP	18K	2%	1/10W	R407	1-216-471-11	METAL OXIDE	27	5%	3W F
R250	1-247-148-00	CARBON	5.1K	5%	1/4W	R434	1-208-510-61	RES,CHIP	10K	2%	1/8W
R251	1-208-373-11	RES,CHIP	2.2	2%	1/8W	R435	1-208-449-61	RES,CHIP	3.3K	2%	1/10W
R252	1-208-373-11	RES,CHIP	2.2	2%	1/8W	R436	1-249-421-11	CARBON	2.2K	5%	1/4W
R253	1-216-182-00	RES,CHIP	220	2%	1/8W	R437	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R254	1-205-991-11	METAL PLATE	0.1X2	10%	5W	R438	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R255	1-208-437-61	RES,CHIP	1K	2%	1/10W	R439	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R256	1-208-437-61	RES,CHIP	1K	2%	1/10W	R440	1-208-441-61	RES,CHIP	1.5K	2%	1/10W
R257	1-208-462-61	RES,CHIP	10K	2%	1/10W	R441	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R258	1-208-550-61	RES,CHIP	470K	2%	1/10W	R442	1-216-685-11	METAL CHIP	27K	0.5%	1/10W
R259	1-215-857-11	METAL OXIDE	10	5%	1W F	R443	1-216-174-00	RES,CHIP	100	2%	1/8W
R260	1-208-486-61	RES,CHIP	1K	2%	1/8W	R444	1-216-174-00	RES,CHIP	100	2%	1/8W
R301	1-208-518-61	RES,CHIP	22K	2%	1/10W	R445	1-208-534-61	RES,CHIP	100K	2%	1/10W
R302	1-208-518-61	RES,CHIP	22K	2%	1/10W	R446	1-208-534-61	RES,CHIP	100K	2%	1/10W
R303	1-208-526-61	RES,CHIP	47K	2%	1/10W	R447	1-208-435-61	RES,CHIP	820	2%	1/10W
R304	1-208-526-61	RES,CHIP	47K	2%	1/10W	R448	1-208-423-61	RES,CHIP	270	2%	1/10W
R305	1-208-522-61	RES,CHIP	33K	2%	1/10W	R449	1-208-812-11	RES,CHIP	18K	2%	1/10W
R306	1-208-522-61	RES,CHIP	33K	2%	1/10W	R450	1-247-148-00	CARBON	5.1K	5%	1/4W
R307	1-216-471-11	METAL OXIDE	27	5%	3W F	R451	1-208-373-11	RES,CHIP	2.2	2%	1/8W
R334	1-208-510-61	RES,CHIP	10K	2%	1/8W	R452	1-208-373-11	RES,CHIP	2.2	2%	1/8W
R335	1-208-449-61	RES,CHIP	3.3K	2%	1/10W	R453	1-216-182-00	RES,CHIP	220	2%	1/8W
R336	1-249-421-11	CARBON	2.2K	5%	1/4W	R454	1-205-991-11	METAL PLATE	0.1X2	10%	5W
R337	1-208-441-61	RES,CHIP	1.5K	2%	1/10W	R455	1-208-437-61	RES,CHIP	1K	2%	1/10W
R338	1-208-441-61	RES,CHIP	1.5K	2%	1/10W	R456	1-208-437-61	RES,CHIP	1K	2%	1/10W
R339	1-208-441-61	RES,CHIP	1.5K	2%	1/10W	R457	1-208-462-61	RES,CHIP	10K	2%	1/10W



Ref. No.	Part No.	Description	Remark
R458	1-208-550-61	RES,CHIP	470K 2% 1/10W
R459	1-215-857-11	METAL OXIDE	10 5% 1W F
R460	1-208-486-61	RES,CHIP	1K 2% 1/8W
R501	1-208-518-61	RES,CHIP	22K 2% 1/10W
R502	1-208-518-61	RES,CHIP	22K 2% 1/10W
R503	1-208-522-61	RES,CHIP	33K 2% 1/10W
R504	1-208-522-61	RES,CHIP	33K 2% 1/10W
R505	1-208-437-61	RES,CHIP	1K 2% 1/10W
R506	1-208-526-61	RES,CHIP	47K 2% 1/10W
R507	1-208-812-11	RES,CHIP	18K 2% 1/10W
R508	1-208-812-11	RES,CHIP	18K 2% 1/10W
R509	1-208-812-11	RES,CHIP	18K 2% 1/10W
R510	1-208-812-11	RES,CHIP	18K 2% 1/10W
R511	1-208-526-61	RES,CHIP	47K 2% 1/10W
R512	1-208-526-61	RES,CHIP	47K 2% 1/10W
R526	1-208-774-11	RES,CHIP	470 2% 1/10W
R534	1-208-510-61	RES,CHIP	10K 2% 1/8W
R535	1-208-449-61	RES,CHIP	3.3K 2% 1/10W
R536	1-249-421-11	CARBON	2.2K 5% 1/4W
R537	1-208-441-61	RES,CHIP	1.5K 2% 1/10W
R538	1-208-441-61	RES,CHIP	1.5K 2% 1/10W
R539	1-208-441-61	RES,CHIP	1.5K 2% 1/10W
R540	1-208-441-61	RES,CHIP	1.5K 2% 1/10W
R541	1-216-689-11	METAL CHIP	39K 0.5% 1/10W
R542	1-216-689-11	METAL CHIP	39K 0.5% 1/10W
R543	1-216-182-00	RES,CHIP	220 2% 1/8W
R544	1-216-182-00	RES,CHIP	220 2% 1/8W
R545	1-208-534-61	RES,CHIP	100K 2% 1/10W
R546	1-208-534-61	RES,CHIP	100K 2% 1/10W
R547	1-208-435-61	RES,CHIP	820 2% 1/10W
R548	1-208-423-61	RES,CHIP	270 2% 1/10W
R549	1-208-812-11	RES,CHIP	18K 2% 1/10W
R550	1-249-565-11	CARBON	3.6K 5% 1/4W
R551	1-208-373-11	RES,CHIP	2.2 2% 1/8W
R552	1-208-373-11	RES,CHIP	2.2 2% 1/8W
R553	1-216-182-00	RES,CHIP	220 2% 1/8W
R554	1-205-991-11	METAL PLATE	0.1X2 10% 5W
R555	1-208-441-61	RES,CHIP	1.5K 2% 1/10W
R556	1-208-437-61	RES,CHIP	1K 2% 1/10W
R557	1-208-462-61	RES,CHIP	10K 2% 1/10W
R558	1-208-550-61	RES,CHIP	470K 2% 1/10W
R559	1-215-857-11	METAL OXIDE	10 5% 1W F
R560	1-216-210-00	RES,CHIP	3.3K 2% 1/8W
R562	1-208-449-61	RES,CHIP	3.3K 2% 1/10W
R601	1-208-518-61	RES,CHIP	22K 2% 1/10W
R602	1-208-518-61	RES,CHIP	22K 2% 1/10W
R603	1-208-522-61	RES,CHIP	33K 2% 1/10W
R604	1-208-522-61	RES,CHIP	33K 2% 1/10W
R605	1-208-437-61	RES,CHIP	1K 2% 1/10W
R660	1-208-486-61	RES,CHIP	1K 2% 1/8W
R801	1-208-518-61	RES,CHIP	22K 2% 1/10W
R802	1-208-518-61	RES,CHIP	22K 2% 1/10W
R803	1-208-518-61	RES,CHIP	22K 2% 1/10W

Ref. No.	Part No.	Description	Remark
R804	1-208-518-61	RES,CHIP	22K 2% 1/10W
R805	1-208-462-61	RES,CHIP	10K 2% 1/10W
R806	1-208-462-61	RES,CHIP	10K 2% 1/10W
R807	1-208-462-61	RES,CHIP	10K 2% 1/10W
R808	1-208-462-61	RES,CHIP	10K 2% 1/10W
R824	1-208-558-61	RES,CHIP	1M 2% 1/10W
R831	1-208-462-61	RES,CHIP	10K 2% 1/10W
R832	1-208-462-61	RES,CHIP	10K 2% 1/10W
R833	1-208-462-61	RES,CHIP	10K 2% 1/10W
R834	1-208-449-61	RES,CHIP	3.3K 2% 1/10W
R835	1-208-526-61	RES,CHIP	47K 2% 1/10W
R836	1-208-462-61	RES,CHIP	10K 2% 1/10W
R837	1-208-462-61	RES,CHIP	10K 2% 1/10W
R838	1-208-449-61	RES,CHIP	3.3K 2% 1/10W
R839	1-208-462-61	RES,CHIP	10K 2% 1/10W
R840	1-208-462-61	RES,CHIP	10K 2% 1/10W
R847	1-208-510-61	RES,CHIP	10K 2% 1/8W
R848	1-208-437-61	RES,CHIP	1K 2% 1/10W
R849	1-216-698-11	METAL CHIP	91K 0.5% 1/10W
R850	1-208-522-61	RES,CHIP	33K 2% 1/10W
R851	1-208-462-61	RES,CHIP	10K 2% 1/10W
R852	1-208-462-61	RES,CHIP	10K 2% 1/10W
R853	1-208-462-61	RES,CHIP	10K 2% 1/10W
R854	1-208-462-61	RES,CHIP	10K 2% 1/10W
R855	1-208-558-61	RES,CHIP	1M 2% 1/10W
R856	1-208-494-61	RES,CHIP	2.2K 2% 1/8W
R857	1-208-462-61	RES,CHIP	10K 2% 1/10W
R858	1-208-462-61	RES,CHIP	10K 2% 1/10W
R859	1-208-462-61	RES,CHIP	10K 2% 1/10W
R860	1-208-462-61	RES,CHIP	10K 2% 1/10W
R861	1-208-462-61	RES,CHIP	10K 2% 1/10W
R862	1-208-558-61	RES,CHIP	1M 2% 1/10W
TH802	1-809-664-51	THERMISTOR, POSITIVE	
ZD801	8-719-025-34	DIODE 02CZ6.8-TE85L	
*****			
*	A-3317-656-A	EQ BOARD, COMPLETE	
*****			
< CAPACITOR >			
C111	1-163-231-11	CERAMIC CHIP	15PF 5% 50V
C112	1-130-497-00	MYLAR	0.15uF 5% 50V
C113	1-130-497-00	MYLAR	0.15uF 5% 50V
C114	1-126-022-11	ELECT	47uF 20% 10V
C115	1-126-022-11	ELECT	47uF 20% 10V
C117	1-130-496-00	MYLAR	0.12uF 5% 50V
C118	1-126-046-11	ELECT	3.3uF 20% 50V
C119	1-130-487-00	MYLAR	0.022uF 5% 50V
C120	1-126-044-11	ELECT	1uF 20% 50V

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
C121	1-136-293-11	MYLAR	0.0082uF 5% 50V			< RESISTOR >	
C122	1-130-499-00	MYLAR	0.22uF 5% 50V				
C123	1-130-475-00	MYLAR	0.0022uF 5% 50V	R108	1-208-462-61	RES,CHIP 10K 2% 1/10W	
C124	1-130-491-00	MYLAR	0.047uF 5% 50V	R109	1-208-518-61	RES,CHIP 22K 2% 1/10W	
C125	1-130-467-00	MYLAR	470PF 5% 50V	R110	1-208-462-61	RES,CHIP 10K 2% 1/10W	
				R111	1-216-671-11	METAL CHIP 6.8K 0.5% 1/10W	
C126	1-130-485-00	MYLAR	0.015uF 5% 50V	R112	1-208-462-61	RES,CHIP 10K 2% 1/10W	
C127	1-163-275-11	CERAMIC CHIP	0.001uF 5% 50V				
C128	1-126-022-11	ELECT	47uF 20% 10V	R113	1-208-453-61	RES,CHIP 4.7K 2% 1/10W	
C129	1-163-251-11	CERAMIC CHIP	100PF 5% 50V	R114	1-208-453-61	RES,CHIP 4.7K 2% 1/10W	
C137	1-165-319-11	CERAMIC CHIP	0.1uF 50V	R115	1-208-534-61	RES,CHIP 100K 2% 1/10W	
				R116	1-208-534-61	RES,CHIP 100K 2% 1/10W	
C144	1-165-319-11	CERAMIC CHIP	0.1uF 50V	R117	1-208-534-61	RES,CHIP 100K 2% 1/10W	
C151	1-126-022-11	ELECT	47uF 20% 10V				
C152	1-165-319-11	CERAMIC CHIP	0.1uF 50V	R118	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
C153	1-165-319-11	CERAMIC CHIP	0.1uF 50V	R119	1-208-526-61	RES,CHIP 47K 2% 1/10W	
C211	1-163-231-11	CERAMIC CHIP	15PF 5% 50V	R120	1-208-776-11	RES,CHIP 560 2% 1/10W	
				R121	1-208-826-11	RES,CHIP 68K 2% 1/10W	
C212	1-130-497-00	MYLAR	0.15uF 5% 50V	R122	1-208-774-11	RES,CHIP 470 2% 1/10W	
C213	1-130-497-00	MYLAR	0.15uF 5% 50V				
C214	1-126-022-11	ELECT	47uF 20% 10V	R123	1-208-526-61	RES,CHIP 47K 2% 1/10W	
C215	1-126-022-11	ELECT	47uF 20% 10V	R124	1-208-774-11	RES,CHIP 470 2% 1/10W	
C217	1-130-496-00	MYLAR	0.12uF 5% 50V	R125	1-208-526-61	RES,CHIP 47K 2% 1/10W	
				R126	1-208-774-11	RES,CHIP 470 2% 1/10W	
C218	1-126-046-11	ELECT	3.3uF 20% 50V	R127	1-208-526-61	RES,CHIP 47K 2% 1/10W	
C219	1-130-487-00	MYLAR	0.022uF 5% 50V				
C220	1-126-044-11	ELECT	1uF 20% 50V	R128	1-208-774-11	RES,CHIP 470 2% 1/10W	
C221	1-136-293-11	MYLAR	0.0082uF 5% 50V	R129	1-208-526-61	RES,CHIP 47K 2% 1/10W	
C222	1-130-499-00	MYLAR	0.22uF 5% 50V	R130	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
				R131	1-208-526-61	RES,CHIP 47K 2% 1/10W	
C223	1-130-475-00	MYLAR	0.0022uF 5% 50V	R132	1-208-510-61	RES,CHIP 10K 2% 1/8W	
C224	1-130-491-00	MYLAR	0.047uF 5% 50V				
C225	1-130-467-00	MYLAR	470PF 5% 50V	R133	1-208-370-31	RES,CHIP 160 2% 1/10W	
C226	1-130-485-00	MYLAR	0.015uF 5% 50V	R208	1-208-462-61	RES,CHIP 10K 2% 1/10W	
C227	1-163-275-11	CERAMIC CHIP	0.001uF 5% 50V	R209	1-208-518-61	RES,CHIP 22K 2% 1/10W	
				R210	1-208-462-61	RES,CHIP 10K 2% 1/10W	
C228	1-126-022-11	ELECT	47uF 20% 10V	R211	1-216-671-11	METAL CHIP 6.8K 0.5% 1/10W	
C229	1-163-251-11	CERAMIC CHIP	100PF 5% 50V				
C237	1-165-319-11	CERAMIC CHIP	0.1uF 50V	R212	1-208-462-61	RES,CHIP 10K 2% 1/10W	
C244	1-165-319-11	CERAMIC CHIP	0.1uF 50V	R213	1-208-453-61	RES,CHIP 4.7K 2% 1/10W	
C251	1-126-022-11	ELECT	47uF 20% 10V	R214	1-208-453-61	RES,CHIP 4.7K 2% 1/10W	
				R215	1-208-534-61	RES,CHIP 100K 2% 1/10W	
C252	1-165-319-11	CERAMIC CHIP	0.1uF 50V	R216	1-208-534-61	RES,CHIP 100K 2% 1/10W	
C253	1-165-319-11	CERAMIC CHIP	0.1uF 50V				
		< CONNECTOR >		R217	1-208-534-61	RES,CHIP 100K 2% 1/10W	
CNJ806	1-793-041-11	CONNECTOR, BOARD TO BOARD 10P		R218	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
		< IC >		R219	1-208-526-61	RES,CHIP 47K 2% 1/10W	
IC102	8-759-711-82	IC NJM4580E		R220	1-208-776-11	RES,CHIP 560 2% 1/10W	
IC103	8-759-711-82	IC NJM4580E		R221	1-208-826-11	RES,CHIP 68K 2% 1/10W	
IC104	8-759-711-82	IC NJM4580E					
IC105	8-759-711-82	IC NJM4580E		R222	1-208-774-11	RES,CHIP 470 2% 1/10W	
IC106	8-759-711-82	IC NJM4580E		R223	1-208-526-61	RES,CHIP 47K 2% 1/10W	
				R224	1-208-774-11	RES,CHIP 470 2% 1/10W	
IC107	8-759-711-82	IC NJM4580E		R225	1-208-526-61	RES,CHIP 47K 2% 1/10W	
IC108	8-759-711-82	IC NJM4580E		R226	1-208-774-11	RES,CHIP 470 2% 1/10W	
IC109	8-759-711-82	IC NJM4580E					
IC110	8-759-711-82	IC NJM4580E		R227	1-208-526-61	RES,CHIP 47K 2% 1/10W	
IC203	8-759-711-82	IC NJM4580E		R228	1-208-774-11	RES,CHIP 470 2% 1/10W	
				R229	1-208-526-61	RES,CHIP 47K 2% 1/10W	
				R230	1-216-659-11	METAL CHIP 2.2K 0.5% 1/10W	
				R231	1-208-526-61	RES,CHIP 47K 2% 1/10W	
				R232	1-208-510-61	RES,CHIP 10K 2% 1/8W	

Ref. No.	Part No.	Description	Remark
R233	1-208-370-31	RES,CHIP      160      2%      1/10W	
		< SWITCH >	
S101	1-692-721-11	SWITCH, SLIDE (FILTER)	
S102	1-692-721-11	SWITCH, SLIDE (DIRECT)	
		< VARIABLE RESISTOR >	
VR101	1-225-647-11	RES, VAR      20KX4 (FILTER)	
VR102	1-225-835-11	RES, VAR      20K (EQUALIZER 50Hz)	
VR103	1-225-835-11	RES, VAR      20K (EQUALIZER 200Hz)	
VR104	1-225-835-11	RES, VAR      20K (EQUALIZER 800Hz)	
VR105	1-225-835-11	RES, VAR      20K (EQUALIZER 3.2kHz)	
VR106	1-225-835-11	RES, VAR      20K (EQUALIZER 12.8kHz)	
VR107	1-225-648-11	RES, VAR      5KX2 (LEVEL)	
*****			
*	1-672-783-11	IND BOARD *****	
		< CAPACITOR >	
C803	1-107-682-11	CERAMIC CHIP    1uF      10%      16V	
C804	1-107-682-11	CERAMIC CHIP    1uF      10%      16V	
C805	1-163-021-11	CERAMIC CHIP    0.01uF    10%      50V	
C816	1-165-319-11	CERAMIC CHIP    0.1uF      50V	
		< IC >	
IC802	8-759-970-62	IC BA6820F	
		< DIODE >	
LD801	8-719-074-70	LED SEC1603C	
LD802	8-719-074-70	LED SEC1603C	
LD803	8-719-074-70	LED SEC1603C	
LD804	8-719-074-70	LED SEC1603C	
LD805	8-719-074-70	LED SEC1603C	
LD806	8-719-074-70	LED SEC1603C	
LD807	8-719-074-70	LED SEC1603C	
LD808	8-719-074-70	LED SEC1603C	
LD809	8-719-074-70	LED SEC1603C	
LD810	8-719-074-70	LED SEC1603C	
LD811	8-719-074-70	LED SEC1603C	
LD812	8-719-074-70	LED SEC1603C	
LD813	8-719-074-70	LED SEC1603C	
LD814	8-719-074-70	LED SEC1603C	
LD815	8-719-074-70	LED SEC1603C	
LD816	8-719-074-70	LED SEC1603C	
LD817	8-719-074-70	LED SEC1603C	
LD818	8-719-074-70	LED SEC1603C	
LD819	8-719-074-70	LED SEC1603C	
LD820	8-719-074-70	LED SEC1603C	
LD821	8-719-074-70	LED SEC1603C	
LD822	8-719-074-70	LED SEC1603C	
LD823	8-719-074-70	LED SEC1603C	
LD824	8-719-074-70	LED SEC1603C	

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q801	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q802	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q803	8-729-216-21	TRANSISTOR 2SA1162-Y	
Q804	8-729-216-21	TRANSISTOR 2SA1162-Y	
		< RESISTOR >	
R809	1-208-437-61	RES,CHIP      1K      2%      1/10W	
R810	1-208-437-61	RES,CHIP      1K      2%      1/10W	
R811	1-216-659-11	METAL CHIP    2.2K      0.5%    1/10W	
R812	1-216-659-11	METAL CHIP    2.2K      0.5%    1/10W	
R813	1-216-659-11	METAL CHIP    2.2K      0.5%    1/10W	
R814	1-216-659-11	METAL CHIP    2.2K      0.5%    1/10W	
R815	1-208-425-61	RES,CHIP      330      2%      1/10W	
R816	1-208-425-61	RES,CHIP      330      2%      1/10W	
R817	1-208-425-61	RES,CHIP      330      2%      1/10W	
R818	1-208-425-61	RES,CHIP      330      2%      1/10W	
R819	1-208-425-61	RES,CHIP      330      2%      1/10W	
R820	1-208-425-61	RES,CHIP      330      2%      1/10W	
R821	1-208-526-61	RES,CHIP      47K      2%      1/10W	
R822	1-208-526-61	RES,CHIP      47K      2%      1/10W	
R823	1-216-689-11	METAL CHIP    39K      0.5%    1/10W	
*****			
*	1-672-784-11	LED BOARD *****	
		< CONNECTOR >	
CNJ803	1-750-159-21	CONNECTOR, FPC 5P	
		< DIODE >	
D880	8-719-801-78	DIODE 1SS184	
D881	8-719-801-78	DIODE 1SS184	
D882	8-719-801-78	DIODE 1SS184	
LD825	8-719-070-01	LED SEC2764C (OVER CURRENT (POWER/PROTECTOR))	
LD826	8-719-070-01	LED SEC2764C (OFFSET (POWER/PROTECTOR))	
LD827	8-719-070-01	LED SEC2764C (THERMAL (POWER PROTECTOR))	
		< TRANSISTOR >	
Q805	8-729-900-53	TRANSISTOR DTC114EK	
Q806	8-729-900-53	TRANSISTOR DTC114EK	
Q807	8-729-900-53	TRANSISTOR DTC114EK	
		< RESISTOR >	
R825	1-208-494-61	RES,CHIP      2.2K      2%      1/8W	
R826	1-208-494-61	RES,CHIP      2.2K      2%      1/8W	
R827	1-208-494-61	RES,CHIP      2.2K      2%      1/8W	
R828	1-216-210-00	RES,CHIP      3.3K      2%      1/8W	
R829	1-216-210-00	RES,CHIP      3.3K      2%      1/8W	
R830	1-216-210-00	RES,CHIP      3.3K      2%      1/8W	
R880	1-208-494-61	RES,CHIP      2.2K      2%      1/8W	

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
R881	1-208-494-61	RES,CHIP	2.2K 2% 1/8W	D902	8-719-054-55	DIODE 1SS306(TE85L)	
R882	1-208-494-61	RES,CHIP	2.2K 2% 1/8W	D903	8-719-023-35	DIODE FMG-32S	
*****							
POWER BOARD (SUPPLIED WITH AMP/POWER BOARD, COMPLETE)							
*****							
< CAPACITOR >							
C814	1-165-319-11	CERAMIC CHIP	0.1uF 50V	D904	8-719-023-34	DIODE FMG-32R	
C901	1-136-899-11	MYLAR	0.47uF 5% 50V	D905	8-719-801-78	DIODE 1SS184	
C902	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	D906	8-719-801-78	DIODE 1SS184	
C903	1-163-009-11	CERAMIC CHIP	0.001uF 10% 50V	D907	8-719-054-55	DIODE 1SS306(TE85L)	
C904	1-163-021-11	CERAMIC CHIP	0.01uF 10% 50V	D908	8-719-054-55	DIODE 1SS306(TE85L)	
C905	1-130-471-00	MYLAR	0.001uF 5% 50V	D909	8-719-210-30	DIODE F10P20F(R)	
C906	1-126-006-11	ELECT	22uF 20% 16V	D910	8-719-210-38	DIODE F10P20FR	
C907	1-124-994-11	ELECT	100uF 20% 10V	D911	8-719-801-78	DIODE 1SS184	
C908	1-126-023-11	ELECT	100uF 20% 16V	D912	8-719-801-78	DIODE 1SS184	
C909	1-130-495-11	MYLAR	0.1uF 5% 50V	D913	8-719-991-33	DIODE 1SS133T-77	
C910	1-126-015-11	ELECT	3300uF 20% 16V	< IC >			
C911	1-126-015-11	ELECT	3300uF 20% 16V	IC901	8-759-144-88	IC uPC494GS	
C912	1-126-015-11	ELECT	3300uF 20% 16V	< JUMPER RESISTOR >			
C913	1-126-015-11	ELECT	3300uF 20% 16V	JR35	1-216-295-00	METAL CHIP 0 5% 1/10W	
C914	1-130-495-11	MYLAR	0.1uF 5% 50V	< COIL >			
C915	1-130-495-11	MYLAR	0.1uF 5% 50V	L901	1-416-322-11	INDUCTOR 278uH	
C916	1-115-410-11	ELECT(BLOCK)	5600uF 20% 35V	L902	1-410-396-71	INDUCTOR 0.45uH	
C917	1-115-410-11	ELECT(BLOCK)	5600uF 20% 35V	L903	1-410-396-71	INDUCTOR 0.45uH	
C918	1-126-052-11	ELECT	100uF 20% 35V	L904	1-410-396-71	INDUCTOR 0.45uH	
C919	1-126-052-11	ELECT	100uF 20% 35V	L905	1-410-396-71	INDUCTOR 0.45uH	
C920	1-130-495-11	MYLAR	0.1uF 5% 50V	L906	1-410-396-71	INDUCTOR 0.45uH	
C921	1-130-495-11	MYLAR	0.1uF 5% 50V	L907	1-410-396-71	INDUCTOR 0.45uH	
C922	1-128-712-11	ELECT(BLOCK)	3300uF 20% 50V	L908	1-410-396-71	INDUCTOR 0.45uH	
C923	1-128-712-11	ELECT(BLOCK)	3300uF 20% 50V	< PILOT LAMP >			
C924	1-126-052-11	ELECT	100uF 20% 50V	PL801	1-518-540-00	LAMP, PILOT	
C925	1-126-052-11	ELECT	100uF 20% 50V	< TRANSISTOR >			
C930	1-165-319-11	CERAMIC CHIP	0.1uF 50V	Q901	8-729-230-49	TRANSISTOR 2SC2712-YG	
C931	1-165-319-11	CERAMIC CHIP	0.1uF 50V	Q902	8-729-041-38	TRANSISTOR 2SB1241TV2Q	
C932	1-126-023-11	ELECT	100uF 20% 16V	Q903	8-729-216-21	TRANSISTOR 2SA1162-Y	
C933	1-126-023-11	ELECT	100uF 20% 16V	Q904	8-729-207-82	TRANSISTOR 2SC3421-Y	
C934	1-126-023-11	ELECT	100uF 20% 16V	Q905	8-729-230-49	TRANSISTOR 2SC2712-YG	
C935	1-126-044-11	ELECT	1uF 20% 50V	Q906	8-729-230-49	TRANSISTOR 2SC2712-YG	
C936	1-124-994-11	ELECT	100uF 20% 10V	Q907	8-729-030-72	FET MTAJ50N05HD	
C941	1-130-467-00	MYLAR	470PF 5% 50V	Q908	8-729-030-72	FET MTAJ50N05HD	
< TERMINAL TABLE >							
CN801	1-694-511-11	TABLE, TERMINAL (3P) (REMOTE/+12V/GND)		Q909	8-729-030-72	FET MTAJ50N05HD	
< CONNECTOR >							
* CNJ812	1-774-350-11	CONNECTOR, FFC/FPC (ZIF) 23P		Q910	8-729-030-72	FET MTAJ50N05HD	
< DIODE >							
D802	8-719-801-78	DIODE 1SS184		Q911	8-729-209-15	TRANSISTOR 2SD2012	
D901	8-719-054-55	DIODE 1SS306(TE85L)		Q912	8-729-141-83	TRANSISTOR 2SB1094-LK	
< RESISTOR >							
R841	1-208-526-61	RES,CHIP	47K 2% 1/10W	R841	1-208-526-61	RES,CHIP	47K 2% 1/10W
R842	1-208-522-61	RES,CHIP	33K 2% 1/10W	R842	1-208-522-61	RES,CHIP	33K 2% 1/10W
R843	1-208-423-61	RES,CHIP	270 2% 1/10W	R843	1-208-423-61	RES,CHIP	270 2% 1/10W
R844	1-208-449-61	RES,CHIP	3.3K 2% 1/10W	R844	1-208-449-61	RES,CHIP	3.3K 2% 1/10W
R845	1-208-583-61	RES,CHIP	220K 2% 1/8W	R845	1-208-583-61	RES,CHIP	220K 2% 1/8W

<b>POWER</b>	<b>SUB</b>
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Ref. No.	Part No.	Description	Remark
R846	1-216-210-00	RES,CHIP	3.3K 2% 1/8W
R901	1-249-429-11	CARBON	10K 5% 1/4W
R902	1-208-453-61	RES,CHIP	4.7K 2% 1/10W
R903	1-208-474-61	RES,CHIP	330 2% 1/8W
R904	1-216-202-00	RES,CHIP	1.5K 2% 1/8W
R905	1-216-202-00	RES,CHIP	1.5K 2% 1/8W
R906	1-208-449-61	RES,CHIP	3.3K 2% 1/10W
R907	1-208-462-61	RES,CHIP	10K 2% 1/10W
R908	1-208-462-61	RES,CHIP	10K 2% 1/10W
R909	1-208-449-61	RES,CHIP	3.3K 2% 1/10W
R910	1-208-810-11	RES,CHIP	15K 2% 1/10W
R911	1-208-812-11	RES,CHIP	18K 2% 1/10W
R912	1-208-583-61	RES,CHIP	220K 2% 1/8W
R913	1-208-478-11	RES,CHIP	470 2% 1/8W
R914	1-208-478-11	RES,CHIP	470 2% 1/8W
R915	1-208-478-11	RES,CHIP	470 2% 1/8W
R916	1-208-478-11	RES,CHIP	470 2% 1/8W
R917	1-208-405-61	RES,CHIP	47 2% 1/8W
R918	1-208-405-61	RES,CHIP	47 2% 1/8W
R919	1-208-437-61	RES,CHIP	1K 2% 1/10W
R920	1-208-437-61	RES,CHIP	1K 2% 1/10W
R921	1-208-373-11	RES,CHIP	2.2 2% 1/8W
R922	1-208-373-11	RES,CHIP	2.2 2% 1/8W
R923	1-208-373-11	RES,CHIP	2.2 2% 1/8W
R924	1-208-373-11	RES,CHIP	2.2 2% 1/8W
R925	1-216-214-00	RES,CHIP	4.7K 2% 1/8W
R926	1-216-214-00	RES,CHIP	4.7K 2% 1/8W
R927	1-216-214-00	RES,CHIP	4.7K 2% 1/8W
R928	1-216-214-00	RES,CHIP	4.7K 2% 1/8W
R933	1-208-437-61	RES,CHIP	1K 2% 1/10W
< TRANSFORMER >			
T901	1-433-854-11	TRANSFORMER, DC-DC CONVERTER	
< THERMISTOR >			
TH801	1-808-877-11	THERMISTOR	
< DIODE >			
ZD901	8-719-025-34	DIODE 02CZ6.8-TE85L	
ZD902	8-719-025-50	DIODE 02CZ16-TE85L	
ZD903	8-719-025-49	DIODE 02CZ15-TE85L	
ZD904	8-719-025-49	DIODE 02CZ15-TE85L	
ZD907	8-719-025-31	DIODE 02CZ5.6-TE85L	
*****			
*	1-672-789-11	SUB BOARD	*****
< CAPACITOR >			
C511	1-126-022-11	ELECT	47uF 20% 10V
C512	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
C513	1-163-251-11	CERAMIC CHIP	100PF 5% 50V
C514	1-126-047-11	ELECT	4.7uF 20% 50V
C515	1-126-022-11	ELECT	47uF 20% 10V

Ref. No.	Part No.	Description	Remark
C516	1-130-499-00	MYLAR	0.22uF 5% 50V
C517	1-130-495-11	MYLAR	0.1uF 5% 50V
C518	1-111-247-11	ELECT	0.1uF 20% 50V
C519	1-126-047-11	ELECT	4.7uF 20% 50V
C520	1-124-464-11	ELECT	0.22uF 20% 50V
C521	1-163-243-11	CERAMIC CHIP	47PF 5% 50V
C522	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C523	1-165-319-11	CERAMIC CHIP	0.1uF 50V
C524	1-126-022-11	ELECT	47uF 20% 10V
< CONNECTOR >			
CNJ808	1-793-041-11	CONNECTOR, BOARD TO BOARD 10P	
< IC >			
IC502	8-759-711-82	IC NJM4580E	
IC503	8-759-711-82	IC NJM4580E	
< JUMPER RESISTOR >			
JR31	1-216-296-00	METAL CHIP	0 5% 1/8W
JR32	1-216-296-00	METAL CHIP	0 5% 1/8W
JR33	1-216-296-00	METAL CHIP	0 5% 1/8W
JR34	1-216-296-00	METAL CHIP	0 5% 1/8W
< TRANSISTOR >			
Q513	8-729-422-29	TRANSISTOR 2SD601A-S	
< RESISTOR >			
R513	1-208-526-61	RES,CHIP	47K 2% 1/10W
R514	1-208-462-61	RES,CHIP	10K 2% 1/10W
R515	1-216-635-11	METAL CHIP	220 0.5% 1/10W
R516	1-208-437-61	RES,CHIP	1K 2% 1/10W
R517	1-208-462-61	RES,CHIP	10K 2% 1/10W
R518	1-208-453-61	RES,CHIP	4.7K 2% 1/10W
R519	1-208-453-61	RES,CHIP	4.7K 2% 1/10W
R520	1-216-659-11	METAL CHIP	2.2K 0.5% 1/10W
R521	1-208-441-61	RES,CHIP	1.5K 2% 1/10W
R522	1-216-647-11	METAL CHIP	680 0.5% 1/10W
R523	1-208-518-61	RES,CHIP	22K 2% 1/10W
R524	1-216-671-11	METAL CHIP	6.8K 0.5% 1/10W
R525	1-208-449-61	RES,CHIP	3.3K 2% 1/10W
R527	1-208-534-61	RES,CHIP	100K 2% 1/10W
< SWITCH >			
S501	1-692-721-11	SWITCH, SLIDE (INPUT MODE)	
< VARIABLE RESISTOR >			
VR501	1-225-648-11	RES, VAR	5KX2 (LEVEL)
VR502	1-225-834-11	RES, VAR	20K (FILTER)
VR503	1-225-648-11	RES, VAR	5KX2 (LOW-BOOST)
*****			

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Remark</u>
		MISCELLANEOUS *****	
12	1-790-766-11	CABLE, PARALLEL (23P)	
61	1-790-765-11	CABLE, PARALLEL (5P)	
64	1-790-764-11	CABLE, PARALLEL (4P)	
F901	1-533-743-11	FUSE (BLADE TYPE) (AUTO FUSE) (40A)	
*****			
		ACCESSORIES & PACKING MATERIALS *****	
	3-013-264-01	COVER, 3P TERMINAL TABLE	
	3-367-410-01	SCREW (DIA. 5X15), TAPPING	
	3-866-148-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH) (EXCEPT G)	
	3-866-148-21	MANUAL, INSTRUCTION (GERMAN,ITALIAN) (AEP,UK,E,G)	
	3-866-148-31	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (AEP,UK,E)	
	3-866-148-41	MANUAL, INSTRUCTION (DUTCH,SWEDISH) (AEP,UK,E)	
	3-866-148-51	MANUAL, INSTRUCTION (RUSSIAN) (G)	
*****			
		***** HARDWARE LIST *****	
#1	7-685-546-19	SCREW +BTP 3X8 TYPE2 N-S	
#2	7-685-543-21	SCREW +BTP 3X4 TYPE2	
#3	7-685-544-11	SCREW +BTP 3X5 TYPE2 N-S	
#4	7-685-548-19	SCREW +BTP 3X12 TYPE2 N-S	
#5	7-685-648-79	SCREW +BVTP 3X12 TYPE2 IT-3	
#6	7-682-949-01	SCREW +PSW 3X10	
#7	7-682-948-01	SCREW +PSW 3X8	
#8	7-685-146-01	SCREW +P 3X8 TYPE1	
#9	7-682-648-09	SCREW +PS 3X8	
#10	7-685-790-09	SCREW +PTT 2.6X4 (S)	
#11	7-621-775-20	+B 2.6X5	
#12	7-685-103-19	SCREW +P 2X5 TYPE2 SLIT	
#13	7-685-783-09	SCREW +PTT 2X6 (S)	
#14	7-682-546-09	+B 3X5	

