XM-450G

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION
50 watts per channel minimum continuous average power into 4 ohms, both channels driven from 20 Hz to 20 kHz with no more than 0.03% 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
Outputs: Speaker terminals
Speaker impedance
1 – 8 ohms (stereo)
2 – 8 ohms (when used as a bridging amplifier)
Maximum output
100 W per channel with 4-speaker system (at 4 ohms)
200 W per channel with 4-speaker system (at 2 ohms)
380 W per channel with 2-speaker system (at 4 ohms)
500 W per channel with 2-speaker system (at 2 ohms)
Rated outputs (supply voltage at 14.4 V)
50 W per channel with 4-speaker system (20 Hz – 20 kHz, 0.03 % THD, at 4 ohms)
95 W per channel with 4-speaker system (20 Hz – 20 kHz, 0.08 % THD, at 2 ohms)
125 W per channel with 4-speaker system (20 Hz – 20 kHz, 0.1 % THD, at 1 ohms)
50 W × 2 (20 Hz – 20 kHz, 0.03 % THD, at 4 ohms) + 190 W × 1 (20 Hz – 20 kHz, 0.08 % THD, at 4 ohms) with 3-speaker system
95 W × 2 (20 Hz – 20 kHz, 0.08 % THD, at 2 ohms) + 250 W × 1 (20 Hz – 20 kHz, 0.1 % THD, at 2 ohms) with 3-speaker system
190 W per channel with 2-speaker system (20 Hz – 20 kHz, 0.08 % THD, at 4 ohms)
250 W per channel with 2-speaker system (20 Hz – 20 kHz, 0.1 % THD, at 2 ohms)

– Continued on next page –

STEREO POWER AMPLIFIER

SONY®

SECTION 1
GENERAL

This section is extracted from instruction manual.

Frequency response	5 Hz – 100 kHz ($^{+0}_{-3}$ dB)
Harmonic distortion	0.003 % or less (at 1kHz, 4 ohms, 16 W)
Input level adjustment range	0.2 – 2 V
High-pass filter (INPUT A, B, C and D)	80 Hz, – 12 dB/oct
Low-pass filter for subwoofer (INPUT A, B, C and D)	50 Hz, 80 Hz, – 18 dB/oct
Power requirements	12 V DC car battery (negative ground)
Power supply voltage	10.5 – 16 V
Current drain	at rated output: 27 A (4 ohms, 40 W × 4) at 10 % THD: 32 A Remote input: 5 mA
Dimensions	Approx. 230 × 60 × 360 mm (w/h/d) ($9\ ^1/_8 \times 2\ ^3/_8 \times 14\ ^1/_4$ in.) not incl. projecting parts and controls
Mass	Approx. 4.6 kg (10 lb. 7 oz.) not incl. accessories
Supplied accessories	Mounting screws (4) Remote control lead (1)

Design and specifications are subject to change without notice.

Precaution

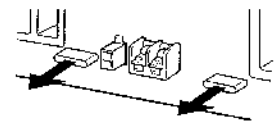
- This unit is designed for negative ground 12 V DC operation only.
- Use speakers with an impedance of 1 to 8 ohms. (2 to 8 ohms when used as a bridging amplifier)
- Do not connect any active speakers (with built-in amplifiers) to the speaker terminals of the unit. Doing so many damage the active speakers.
- Avoid installing the unit where:
  — it would be subject to high temperatures such as from direct sunlight or hot air from the heater
  — it would be exposed to rain or moisture
  — it would be subject to 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, interference may occur. In this case, relocate the amplifier away from the car radio.
- If no power is being supplied to the cassette player or tuner, 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 volume moderate so that you can still hear sounds outside your car.

Fuse Replacement

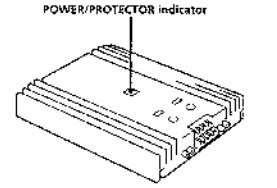
If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In such a case, consult your nearest Sony dealer.

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 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.

Features

- Rated power output of 50 watts per channel (at 4 ohms).
- The XM-450G can be used as 2 channel amplifier with a rated output of 190 watts (at 4 ohms).
- Dual mode connection possible a multi-speaker system.
- Protection circuit provided.
- Pulse power supply* for stable, regulated output power.
- New circuit which removes the source resistance from the final MOS FET output stage, and drives the speaker directly.
- Twin power supply with rectification circuits for each channel.

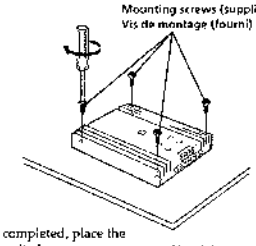
* ***Pulse power supply***
This unit has a built-in power regulator which converts the power supplied by the DC 12 V car battery into high speed pulses using a semiconductor switch. These pulses are stepped up by the built-in pulse transformer and separated into both positive and negative power supplies before being converted into direct current again. This is to regulate fluctuating voltage from the car battery. This light weight power supply system provides a highly efficient power supply with a low impedance output.

Installation

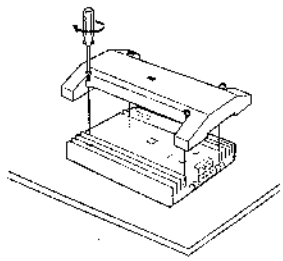
Before Installation

- Mount the unit either inside the trunk or under a seat.
- Choose the mounting location carefully so that 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.

Firstly, use the template printed on the back of the carton to mark the positions of the four screw holes on the surface of the mounting board (not supplied). Then drill the holes whose diameter should be approximately 3 millimeters (mm) and mount the unit onto the board with the supplied mounting screws. The supplied mounting screws are 15 mm long. Therefore, make sure that the mounting board is thicker than 15 mm.



After all the connections are completed, place the cover on the unit with the supplied screws as shown below.



Installation

Avant l'installation

- Installez l'appareil dans le coffre ou sous un siège.
- Choisissez avec soin l'emplacement de sorte que l'appareil ne gêne pas les mouvements du conducteur et qu'il ne soit pas exposé au soleil ou à l'air chaud du chauffage.
- N'installez pas l'appareil sous le tapis de sol car la dissipation thermique ne pourrait pas se faire correctement.

Utilisez le gabarit imprimé au dos du carton pour marquer la position des quatre trous sur la plaque de montage (non fournie). Percez des trous d'environ 3 millimètres (mm) de diamètre, puis fixez l'appareil à l'aide des vis fournies. Celles-ci font 15 mm de long; vérifiez, par conséquent, que la plaque fait au moins 15 mm d'épaisseur.

Une fois que toutes les connexions sont terminées, installez le cache sur l'appareil à l'aide des vis fournies, comme illustré ci-dessous.

Connections

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 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 to 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.

Make the terminal connections as illustrated below.

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.*

Connexions

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 la voiture est équipée d'un ordinateur de navigation ou d'un autre appareil, ne débranchez pas le fil de masse de la batterie de la voiture, sinon les données mémorisées seront effacées. 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.

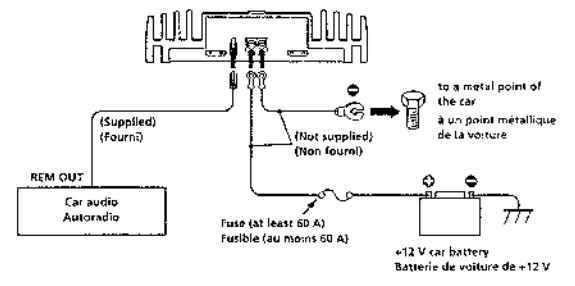
Effectuez les connexions de la manière indiquée ci-dessous.

Remarque

Ne serrez pas trop fort la vis car vous pourriez l'endommager.

** Le couple de serrage devrait être inférieur à 1 N•m*

Power Connection Leads
Fils d'alimentation électrique



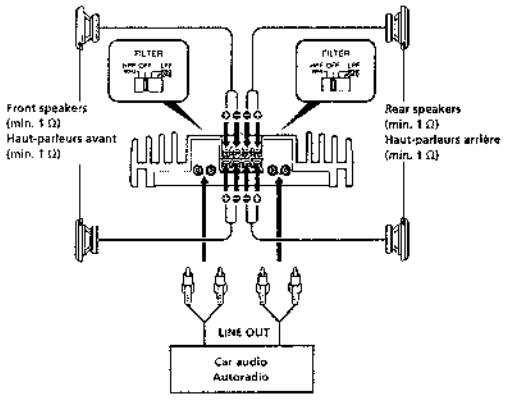
Notes on the power supply

- *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 point of the car. A loose connection may cause a malfunction of the amplifier.***
- *Be sure to connect the remote control lead of the car audio to the remote terminal.*
- *Use the power supply lead with a fuse attached (at least 60 A).*
- *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 respectively must be larger than 8-Gauge (AWG-8) or with the sectional area of more than 8 mm².*

Remarques sur l'alimentation électrique

- *Raccordez le fil d'alimentation de +12 volts uniquement après avoir établi toutes les autres connexions.*
- ***Raccordez solidement le fil de masse de l'appareil à une partie métallique de la voiture, car une connexion relâchée peut être à l'origine d'une défaillance de l'amplificateur.***
- *Assurez-vous que le fil de télécommande de l'autoradio est raccordé à la borne de télécommande.*
- *Utilisez un fil d'alimentation équipé d'un fusible d'au moins 60 ampères.*
- *Fixez le fusible du fil d'alimentation électrique le plus près possible de la batterie de la voiture.*
- *Vous devez raccorder des fils de calibre supérieur à 8 (AWG-8) ou d'une section supérieure à 8 mm² aux bornes +12V et GND.*

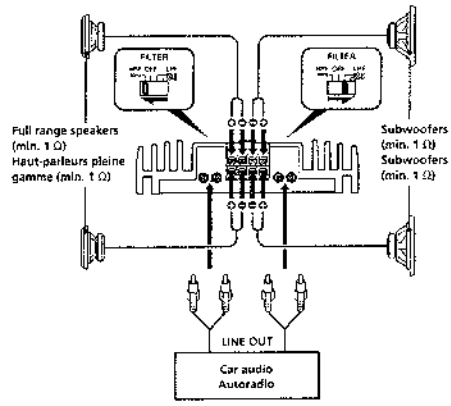
4-Speaker system
Système à 4 haut-parleurs



Note
The A, B, C and D INPUT jacks correspond with the SPEAKER OUT terminals. Make sure the car audio LINE OUT cords follow through to the correct speaker.

Remarque
Les prises A, B, C et D INPUT correspondent aux bornes SPEAKER OUT. Veillez à brancher le câble audio de voiture LINE OUT sur le haut-parleur adéquat.

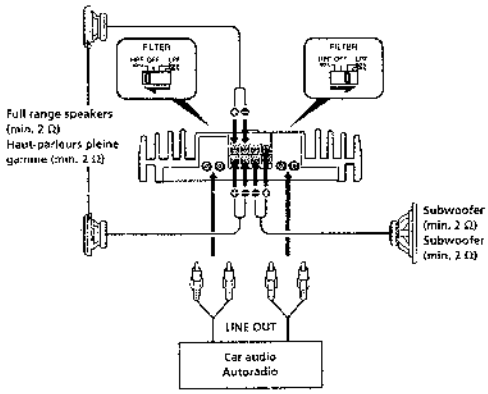
2-Way System
Système à 2 voies



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

Remarque
Dans ce système, le volume des subwoofers est contrôlé par le fader de l'autoradio.

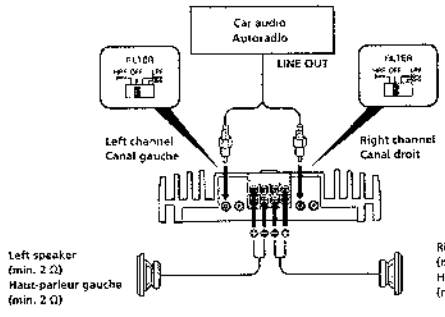
3-Speaker System
Système à 3 haut-parleurs



Notes
- *In this system, the volume of the subwoofer will be controlled by the car audio fader control.*
- *If you wish to use a subwoofer as a monaural speaker, connect the speaker as illustrated above. The output signals to the subwoofer will be the combination of the both right and left output signals.*

Remarques
- *Dans ce système, le volume du subwoofer est contrôlé par le fader de l'autoradio.*
- *Si vous souhaitez utiliser un subwoofer comme haut-parleur mono, raccordez le haut-parleur comme indiqué sur l'illustration ci-dessus. Les signaux de sortie du subwoofer sont constitués des signaux de sortie des canaux gauche et droit.*

2-Speaker System
Système à 2 haut-parleurs



Note
Use only the A and C INPUT jacks for connecting the outputs from the car audio and connect the speaker leads to the ⊕-A (MONO)-⊖ and ⊕-C (MONO)-⊖ terminals of this unit.

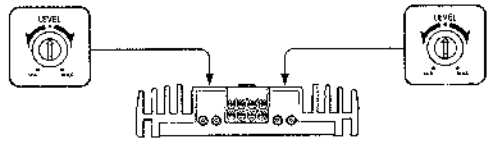
Remarque
Utilisez uniquement les prises INPUT A et C pour connecter les sorties de l'autoradio et raccordez les fils de haut-parleurs aux bornes ⊕-A (MONO)-⊖ et ⊕-C (MONO)-⊖ de l'amplificateur.

Level Adjustment Control

The input level can be adjusted with this control when using source equipment of other manufacturers. Turn it to MAX when the output level of the car audio seems low.

Commande de réglage de niveau

Le niveau d'entrée peut être modifié par cette commande. Utilisez-la pour ajuster le niveau d'entrée du son quand vous utilisez un appareil d'un autre fabricant. Réglez-le sur MAX si le niveau de sortie de l'autoradio semble trop faible.



SECTION 2
ELECTRICAL ADJUSTMENT

IDLING CURRENT ADJUSTMENT

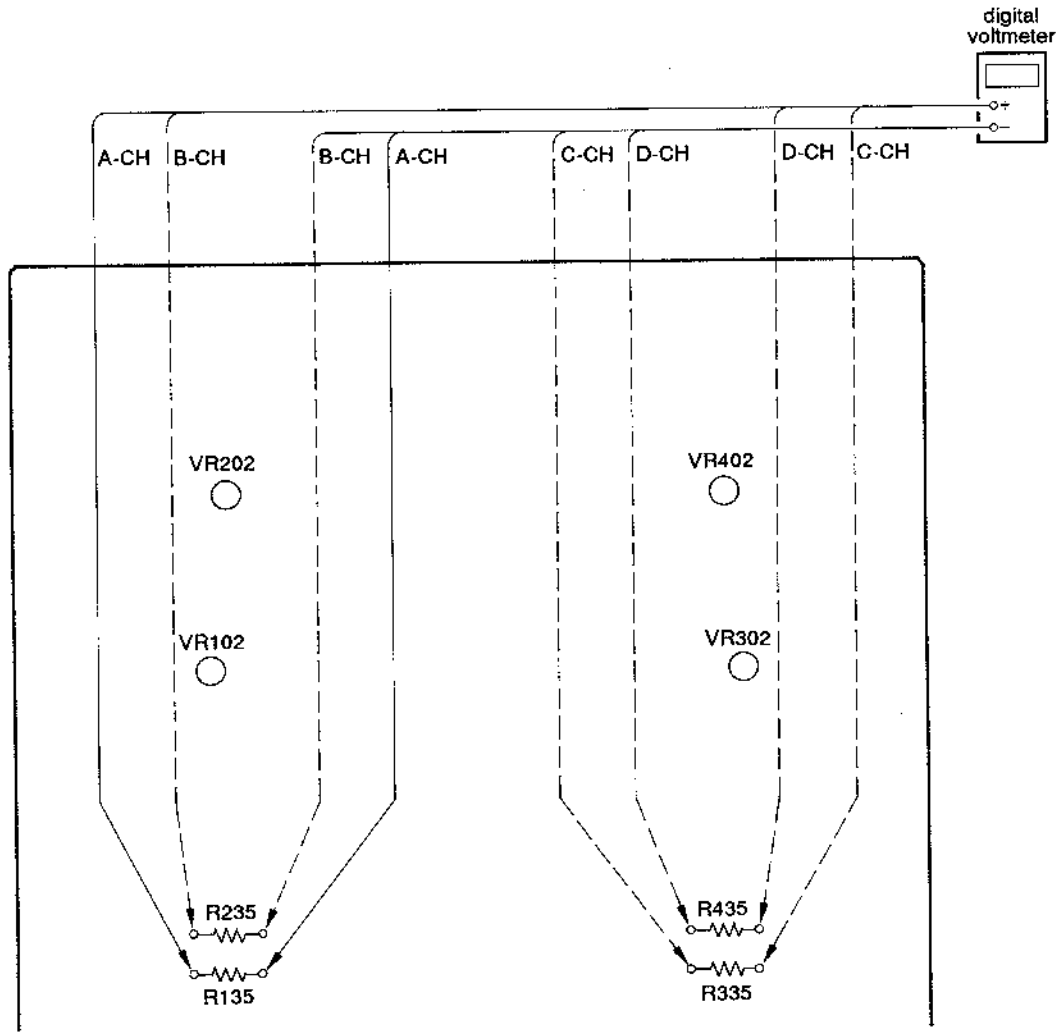
Procedure :

1. Rotate Semi-fixed resistors VR102, VR202, VR302 and VR402 fully counterclockwise as viewed from the solder side.
2. No signal is entered, as input signal.
3. Apply the source voltage 14.4 V between +12 V, REMOTE and GND terminals.
4. Adjust the VR102 (A-CH), VR202 (B-CH), VR302 (C-CH) and VR402 (D-CH) so that the digital voltmeter reading becomes the adjustment limits below.

Adjustment Limits : 1.5 ±0.5 mV

Adjustment Location :

[MAIN AMP BOARD] (Conductor Side)

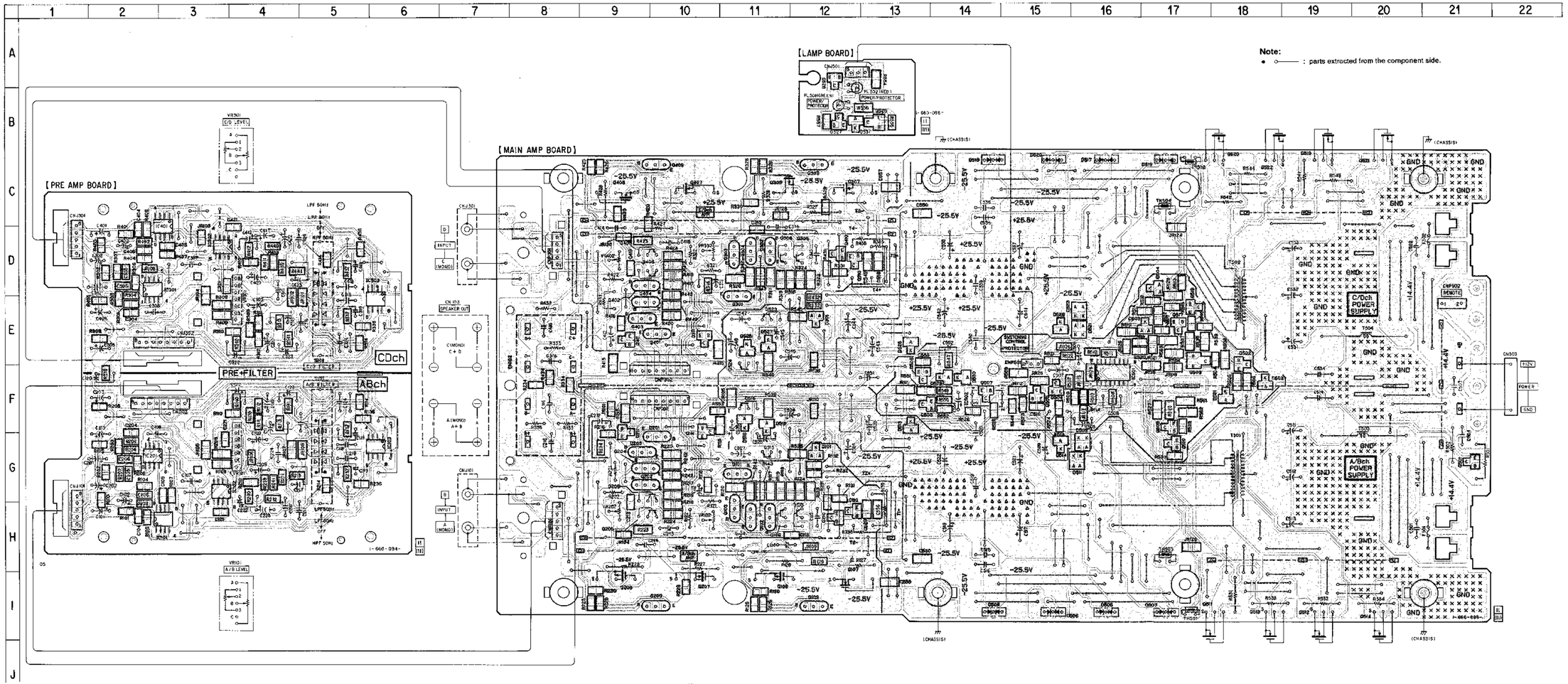


SECTION 3
DIAGRAMS

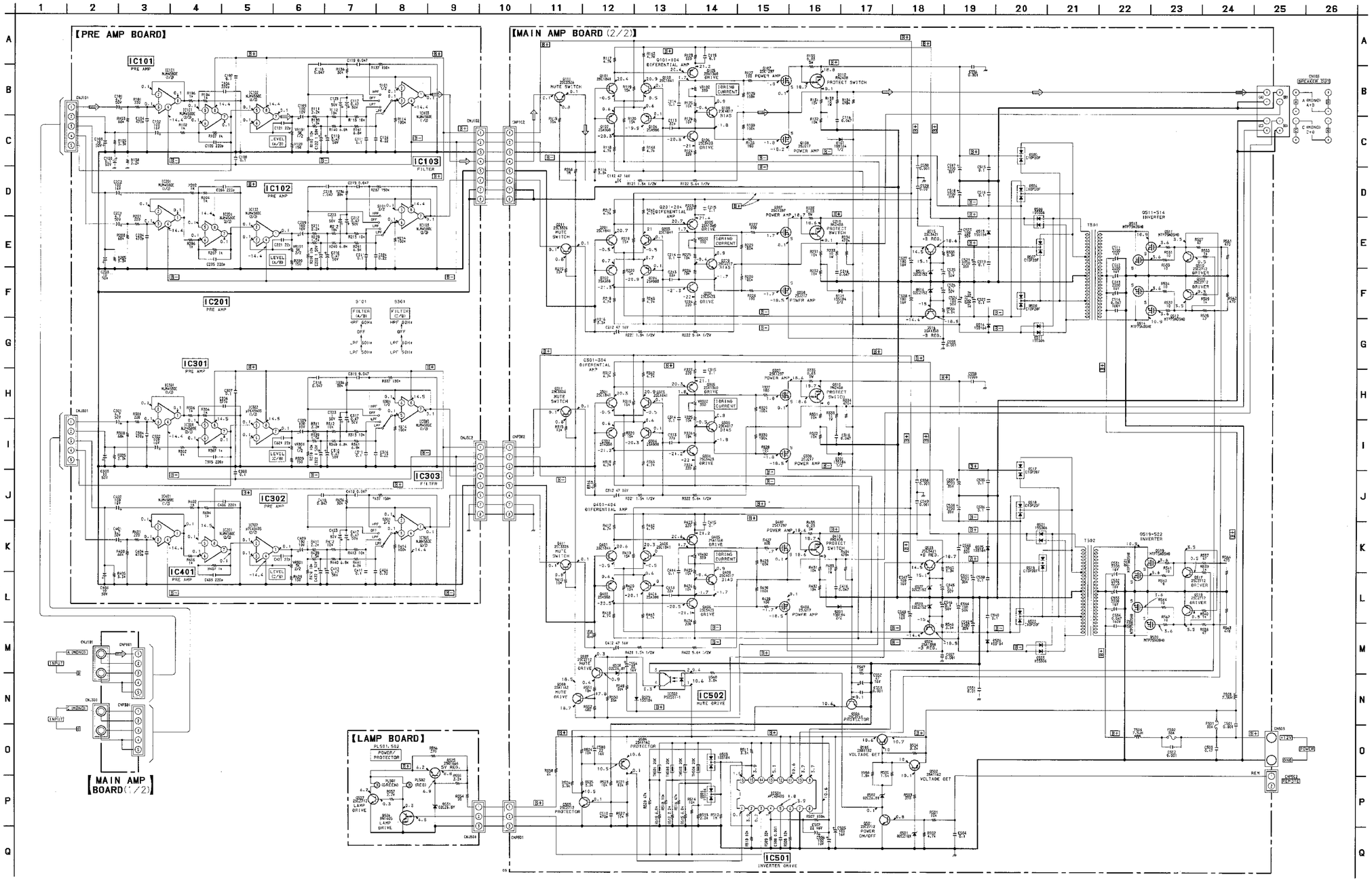
3-1. PRINTED WIRING BOARDS

• Semiconductor Location

Ref. No.	Location	Ref. No.	Location
D101	G-12	Q205	H-9
D301	E-12	Q206	G-9
D501	F-18	Q207	I-10
D502	F-18	Q208	I-9
D503	E-16	Q209	I-10
D504	E-17	Q210	H-12
D505	I-16	Q211	G-9
D506	I-16	Q301	F-11
D507	I-17	Q302	D-11
D508	I-14	Q303	D-11
D509	G-16	Q304	D-11
D511	I-16	Q305	D-12
D513	F-13	Q306	D-11
D514	G-15	Q307	C-12
D515	F-11	Q308	C-11
D516	G-11	Q309	C-12
D517	C-16	Q310	D-12
D518	C-14	Q311	E-10
D519	C-17	Q401	E-10
D520	C-15	Q402	E-9
D521	E-16	Q403	E-9
D523	E-15	Q404	E-9
D525	E-13	Q405	D-9
D526	E-15	Q406	D-10
D527	E-11	Q407	C-10
D528	E-11	Q408	C-9
D529	F-14	Q409	C-10
D530	F-14	Q410	D-12
D531	B-13	Q411	E-9
		Q501	E-21
IC101	H-3	Q502	E-18
IC102	G-4	Q503	F-17
IC103	G-6	Q504	F-15
IC201	G-2	Q505	F-15
IC301	D-3	Q506	F-13
IC302	D-3	Q507	F-14
IC303	D-6	Q508	F-13
IC401	D-3	Q509	F-17
IC501	F-16	Q510	G-17
IC502	F-14	Q511	I-17
		Q512	I-19
Q101	G-11	Q513	I-18
Q102	H-11	Q514	I-20
Q103	H-11	Q515	G-11
Q104	H-11	Q516	F-11
Q105	H-12	Q517	E-17
Q106	H-11	Q518	D-17
Q107	I-12	Q519	B-19
Q108	I-11	Q520	B-18
Q109	I-12	Q521	C-20
Q110	H-12	Q522	C-18
Q111	G-10	Q523	E-11
Q201	F-10	Q524	F-11
Q202	G-9	Q525	B-13
Q203	G-9	Q526	A-12
Q204	G-9	Q527	B-12

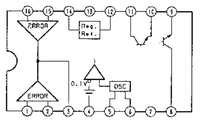


3-2. SCHEMATIC DIAGRAM



• IC Block Diagram

IC501 μPC494GS



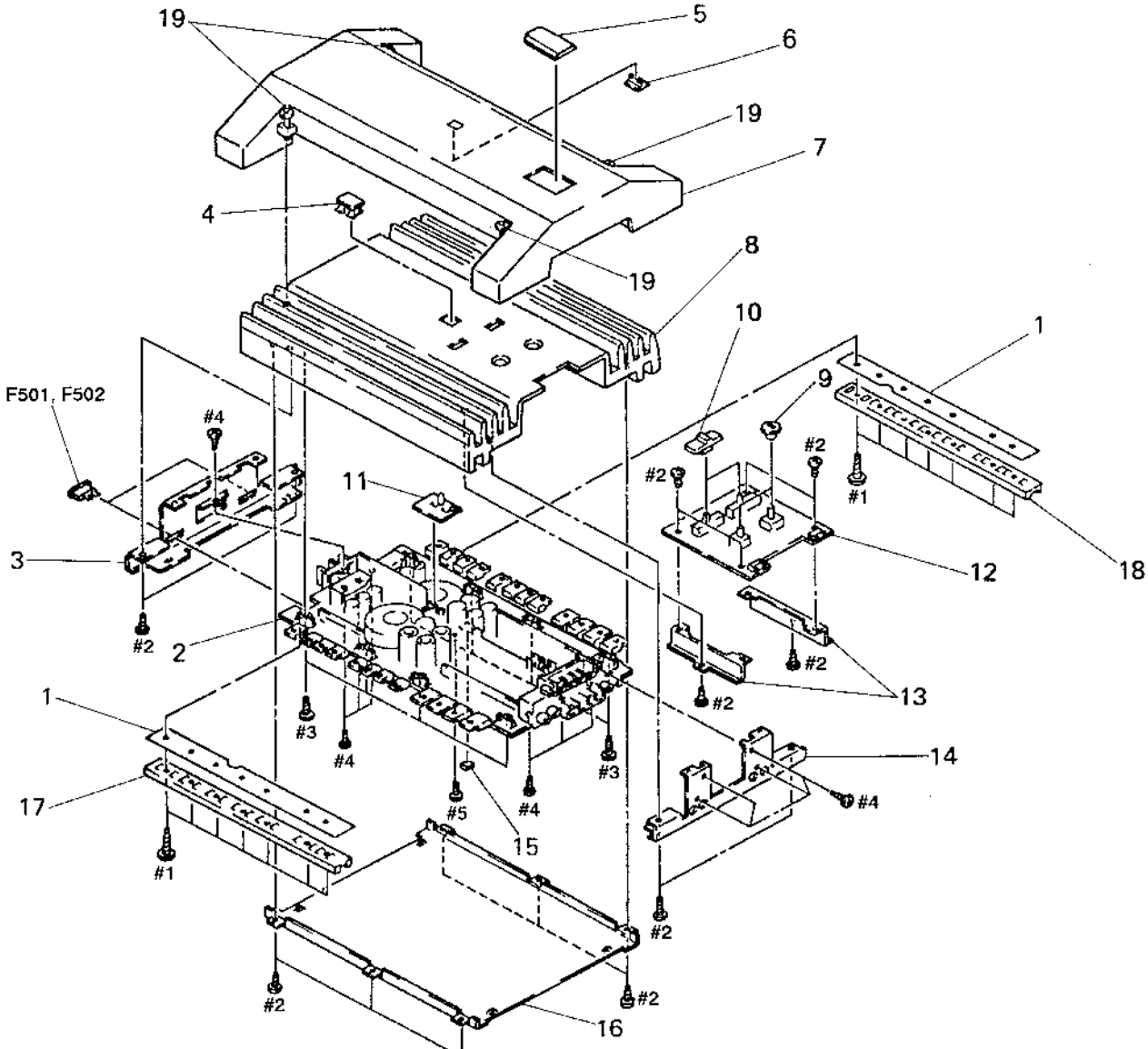
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : B+ Line.
- B− : B− Line.
- ▭ : adjustment for repair.
- Power voltage is dc 14.4 V and fed with regulated dc power supply from CN502, CN503.
- Voltages are dc with respect to ground under no-signal conditions.
- Voltages are taken with a VOM (10 MΩ/V). Voltage variations may be noted due to normal production tolerances.
- Signal path. ⇨

SECTION 4
EXPLODED VIEW

NOTE:

- -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)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.



Ref. No.	Part No.	Description	Remark
1	3-934-370-01	SHEET, INSULATING	
* 2	A-3309-196-A	MAIN AMP BOARD, COMPLETE	
* 3	3-934-364-01	PANEL (B)	
4	3-926-387-01	PLATE, LIGHT GUIDE	
5	3-925-536-01	EMBLEM (MOBIL ES) (US/Canadian)	
5	3-933-978-01	EMBLEM (10HM DRIVE) (AEP, UK, E, German)	
* 6	3-926-390-01	INDICATOR	
* 7	3-926-399-11	COVER	
* 8	3-934-371-01	SINK, HEAT	
* 9	3-934-363-01	KNOB (VOL)	
* 10	3-934-366-01	KNOB (SW)	
* 11	1-660-096-11	LAMP BOARD	
* 12	A-3309-195-A	PRE AMP BOARD, COMPLETE	
* 13	3-934-369-01	BRACKET (PCB)	
* 14	3-926-384-01	PANEL (A)	
* 15	3-395-832-01	SPACER	
* 16	3-926-398-01	PLATE, BOTTOM	
* 17	3-934-367-01	BRACKET (L)	
* 18	3-934-368-01	BRACKET (R)	
19	3-929-468-01	SCREW (M3X16)	
F501	1-532-947-11	FUSE (BRADE TYPE) (AUTO FUSE) (30A)	
F502	1-532-947-11	FUSE (BRADE TYPE) (AUTO FUSE) (30A)	

LAMP **MAIN AMP**

SECTION 5
ELECTRICAL PARTS LIST

SEE ADDITIONAL INFORMATION

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: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.

Ref.No.	Part No.	Description			Remark
*	1-660-096-11	LAMP BOARD			
		**********			
		< DIODE >			
D531	8-719-025-34	DIODE 02CZ6.8-TE85L			
		< PILOT LAMP >			
PL501	1-517-460-11	LAMP, PILOT (GREEN) (POWER/PROTECTOR)			
PL502	1-517-460-21	LAMP, PILOT (RED) (POWER/PROTECTOR)			
		< TRANSISTOR >			
Q525	8-729-106-68	TRANSISTOR 2SD1615A-GP			
Q526	8-729-207-60	TRANSISTOR RN1405			
Q527	8-729-271-21	TRANSISTOR 2SC2712Y-TE85L			
		< RESISTOR >			
R554	1-220-242-11	METAL GLAZE	22	5% 1/4W	
R555	1-216-659-11	METAL CHIP	2.2K	0.5% 1/10W	
R556	1-218-780-11	METAL GLAZE	270	5% 1/4W	
R557	1-216-659-11	METAL CHIP	2.2K	0.5% 1/10W	
**********					
*	A-3309-196-A	MAIN AMP BOARD, COMPLETE			
		**********			
	1-537-479-11	TERMINAL			
		< CAPACITOR >			
C112	1-124-910-11	ELECT	47uF	20% 50V	
C113	1-163-235-11	CERAMIC CHIP	22PF	5% 50V	
C114	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C115	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C116	1-136-161-00	FILM	0.047uF	5% 50V	
C212	1-124-910-11	ELECT	47uF	20% 50V	
C213	1-163-235-11	CERAMIC CHIP	22PF	5% 50V	
C214	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C215	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C216	1-136-161-00	FILM	0.047uF	5% 50V	
C312	1-124-910-11	ELECT	47uF	20% 50V	
C313	1-163-235-11	CERAMIC CHIP	22PF	5% 50V	
C314	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C315	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C316	1-136-161-00	FILM	0.047uF	5% 50V	
C412	1-124-910-11	ELECT	47uF	20% 50V	
C413	1-163-235-11	CERAMIC CHIP	22PF	5% 50V	
C414	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C415	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C416	1-136-161-00	FILM	0.047uF	5% 50V	
C501	1-130-471-00	MYLAR	0.001uF	5% 50V	
C502	1-130-471-00	MYLAR	0.001uF	5% 50V	
C503	1-136-173-00	FILM	0.47uF	5% 50V	
C504	1-136-165-00	FILM	0.1uF	5% 50V	
C505	1-126-933-11	ELECT	100uF	20% 16V	
C506	1-126-933-11	ELECT	100uF	20% 10V	
C507	1-126-233-11	ELECT	22uF	20% 50V	
C508	1-130-471-00	MYLAR	0.001uF	5% 50V	
C509	1-126-233-11	ELECT	22uF	20% 50V	
C510	1-163-133-00	CERAMIC CHIP	470PF	5% 50V	
C511	1-128-320-11	ELECT	2200uF	20% 16V	
C512	1-128-320-11	ELECT	2200uF	20% 16V	
C513	1-128-320-11	ELECT	2200uF	20% 16V	
C514	1-136-961-11	FILM	0.047uF	10% 160V	
C515	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C516	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C517	1-111-100-11	ELECT	2700uF	20% 35V	
C518	1-111-100-11	ELECT	2700uF	20% 35V	
C519	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C520	1-162-806-11	CERAMIC	0.1uF	10% 50V	
C521	1-111-100-11	ELECT	2700uF	20% 35V	
C522	1-111-100-11	ELECT	2700uF	20% 35V	
C523	1-126-052-11	ELECT	100uF	20% 50V	
C524	1-126-052-11	ELECT	100uF	20% 50V	
C525	1-126-956-91	ELECT	0.1uF	20% 50V	
C526	1-126-956-91	ELECT	0.1uF	20% 50V	
C527	1-126-052-11	ELECT	100uF	20% 16V	
C528	1-126-052-11	ELECT	100uF	20% 16V	
C529	1-163-205-00	CERAMIC CHIP	0.001uF	5% 50V	
C530	1-163-205-00	CERAMIC CHIP	0.001uF	5% 50V	
C531	1-128-320-11	ELECT	2200uF	20% 16V	

Ref.No.	Part No.	Description			Remark
C532	1-128-320-11	ELECT	2200uF	20%	16V
C533	1-128-320-11	ELECT	2200uF	20%	16V
C534	1-136-961-11	FILM	0.047uF	10%	160V
C535	1-162-806-11	CERAMIC	0.1uF	10%	50V
C536	1-162-806-11	CERAMIC	0.1uF	10%	50V
C537	1-111-100-11	ELECT	2700uF	20%	35V
C538	1-111-100-11	ELECT	2700uF	20%	35V
C539	1-162-806-11	CERAMIC	0.1uF	10%	50V
C540	1-162-806-11	CERAMIC	0.1uF	10%	50V
C541	1-111-100-11	ELECT	2700uF	20%	35V
C542	1-111-100-11	ELECT	2700uF	20%	35V
C543	1-126-052-11	ELECT	100uF	20%	50V
C544	1-126-052-11	ELECT	100uF	20%	50V
C545	1-126-956-91	ELECT	0.1uF	20%	50V
C546	1-126-956-91	ELECT	0.1uF	20%	50V
C547	1-126-052-11	ELECT	100uF	20%	16V
C548	1-126-052-11	ELECT	100uF	20%	16V
C549	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C550	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C551	1-136-153-00	FILM	0.01uF	5%	50V
C552	1-126-967-11	ELECT	47uF	20%	16V
C553	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C554	1-126-233-11	ELECT	22uF	20%	50V
C555	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C556	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C557	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
C558	1-163-205-00	CERAMIC CHIP	0.001uF	5%	50V
		< CONNECTOR >			
CN103	1-694-072-11	TERMINAL BOARD 8P (SPEAKER OUT)			
CN503	1-537-920-11	TERMINAL BOARD (SP) (POWER)			
		< JACK >			
CNJ101	1-770-068-21	JACK, PIN 2P (INPUT A/B)			
CNJ301	1-770-068-21	JACK, PIN 2P (INPUT C/D)			
		< CONNECTOR >			
CNP101	1-766-801-11	CONNECTOR, BOARD TO BOARD 5P			
CNP102	1-766-929-11	CONNECTOR, BOARD TO BOARD 8P			
CNP301	1-766-801-11	CONNECTOR, BOARD TO BOARD 5P			
CNP302	1-766-929-11	CONNECTOR, BOARD TO BOARD 8P			
* CNP501	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
* CNP502	1-750-140-11	PIN, CONNECTOR (PC BOARD) 2P (REMOTE)			
		< DIODE >			
D101	8-719-801-78	DIODE 1SS184			
D301	8-719-801-78	DIODE 1SS184			
D501	8-719-025-51	DIODE 02CZ18-TE85L			
D502	8-719-025-34	DIODE 02CZ6.8-TE85L			
D503	8-719-801-78	DIODE 1SS184			
D504	8-719-801-78	DIODE 1SS184			
D505	8-719-058-11	DIODE C10P20F			
D506	8-719-058-11	DIODE C10P20F			
D507	8-719-058-11	DIODE C10P20F			
D508	8-719-058-11	DIODE C10P20F			
D509	8-719-054-55	DIODE 1SS306(TE85L)			
D511	8-719-054-55	DIODE 1SS306(TE85L)			
D513	8-719-801-78	DIODE 1SS184			
D514	8-719-801-78	DIODE 1SS184			
D515	8-719-025-49	DIODE 02CZ15-TE85L			
D516	8-719-025-49	DIODE 02CZ15-TE85L			
D517	8-719-058-11	DIODE C10P20F			
D518	8-719-058-11	DIODE C10P20F			
D519	8-719-058-11	DIODE C10P20F			
D520	8-719-058-11	DIODE C10P20F			
D521	8-719-054-55	DIODE 1SS306(TE85L)			
D523	8-719-054-55	DIODE 1SS306(TE85L)			
D525	8-719-801-78	DIODE 1SS184			
D526	8-719-801-78	DIODE 1SS184			
D527	8-719-025-49	DIODE 02CZ15-TE85L			
D528	8-719-025-49	DIODE 02CZ15-TE85L			
D529	8-719-801-78	DIODE 1SS184			
D530	8-719-025-34	DIODE 02CZ6.8-TE85L			
		< IC >			
IC501	8-759-144-88	IC uPC494GS			
IC502	8-719-156-73	IC PHOTO COUPLER PS2501-1LA			
		< CHIP CONDUCTOR >			
JR101	1-216-295-00	CONDUCTOR, CHIP			(2012)
JR104	1-216-295-00	CONDUCTOR, CHIP			(2012)
JR105	1-216-296-00	CONDUCTOR, CHIP			(3216)
JR106	1-216-295-00	CONDUCTOR, CHIP			(2012)
JR109	1-216-295-00	CONDUCTOR, CHIP			(2012)
JR110	1-216-295-00	CONDUCTOR, CHIP			(2012)
JR111	1-216-296-00	CONDUCTOR, CHIP			(3216)
JR112	1-216-296-00	CONDUCTOR, CHIP			(3216)
JR113	1-216-295-00	CONDUCTOR, CHIP			(2012)
JR114	1-216-295-00	CONDUCTOR, CHIP			(2012)
JR115	1-216-296-00	CONDUCTOR, CHIP			(3216)
JR116	1-216-296-00	CONDUCTOR, CHIP			(3216)
JR117	1-216-295-00	CONDUCTOR, CHIP			(2012)
JR118	1-216-296-00	CONDUCTOR, CHIP			(3216)
JR119	1-216-296-00	CONDUCTOR, CHIP			(3216)
JR120	1-216-296-00	CONDUCTOR, CHIP			(3216)
JR121	1-216-296-00	CONDUCTOR, CHIP			(3216)

MAIN AMP

Ref.No.	Part No.	Description		Remark
JR122	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR123	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR124	1-216-296-00	CONDUCTOR, CHIP	(3216)	
JR125	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JR126	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JR128	1-216-295-00	CONDUCTOR, CHIP	(2012)	
JR130	1-216-295-00	CONDUCTOR, CHIP	(2012)	

< TRANSISTOR >

Q101	8-729-184-53	TRANSISTOR	2SC1845-EA	
Q102	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q103	8-729-184-53	TRANSISTOR	2SC1845-EA	
Q104	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q105	8-729-209-18	TRANSISTOR	2SA1360-Y	
Q106	8-729-203-45	TRANSISTOR	2SC3423-O	
Q107	8-729-031-83	TRANSISTOR	2SK1304	
Q108	8-729-031-81	TRANSISTOR	2SJ217	
Q109	8-729-954-51	TRANSISTOR	2SC1545	
Q110	8-729-207-74	TRANSISTOR	RN2408	
Q111	8-729-202-38	TRANSISTOR	2SC3326N	
Q201	8-729-184-53	TRANSISTOR	2SC1845-EA	
Q202	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q203	8-729-184-53	TRANSISTOR	2SC1845-EA	
Q204	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q205	8-729-209-18	TRANSISTOR	2SA1360-Y	
Q206	8-729-203-45	TRANSISTOR	2SC3423-O	
Q207	8-729-031-83	TRANSISTOR	2SK1304	
Q208	8-729-031-81	TRANSISTOR	2SJ217	
Q209	8-729-954-51	TRANSISTOR	2SC1545	
Q210	8-729-207-74	TRANSISTOR	RN2408	
Q211	8-729-202-38	TRANSISTOR	2SC3326N	
Q301	8-729-184-53	TRANSISTOR	2SC1845-EA	
Q302	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q303	8-729-184-53	TRANSISTOR	2SC1845-EA	
Q304	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q305	8-729-209-18	TRANSISTOR	2SA1360-Y	
Q306	8-729-203-45	TRANSISTOR	2SC3423-O	
Q307	8-729-031-83	TRANSISTOR	2SK1304	
Q308	8-729-031-81	TRANSISTOR	2SJ217	
Q309	8-729-954-51	TRANSISTOR	2SC1545	
Q310	8-729-207-74	TRANSISTOR	RN2408	
Q311	8-729-202-38	TRANSISTOR	2SC3326N	
Q401	8-729-184-53	TRANSISTOR	2SC1845-EA	
Q402	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q403	8-729-184-53	TRANSISTOR	2SC1845-EA	
Q404	8-729-140-82	TRANSISTOR	2SA988-PAFAEA	
Q405	8-729-209-18	TRANSISTOR	2SA1360-Y	
Q406	8-729-203-45	TRANSISTOR	2SC3423-O	
Q407	8-729-031-83	TRANSISTOR	2SK1304	
Q408	8-729-031-81	TRANSISTOR	2SJ217	
Q409	8-729-954-51	TRANSISTOR	2SC1545	
Q410	8-729-207-74	TRANSISTOR	RN2408	
Q411	8-729-202-38	TRANSISTOR	2SC3326N	
Q501	8-729-271-21	TRANSISTOR	2SC2712Y-TE85L	
Q502	8-729-216-22	TRANSISTOR	2SA1162-G	
Q503	8-729-106-60	TRANSISTOR	2SB1115A	
Q504	8-729-216-22	TRANSISTOR	2SA1162-G	
Q505	8-729-271-21	TRANSISTOR	2SC2712Y-TE85L	
Q506	8-729-271-21	TRANSISTOR	2SC2712Y-TE85L	
Q507	8-729-271-21	TRANSISTOR	2SC2712Y-TE85L	
Q508	8-729-216-22	TRANSISTOR	2SA1162-G	
Q509	8-729-271-21	TRANSISTOR	2SC2712Y-TE85L	
Q510	8-729-271-21	TRANSISTOR	2SC2712Y-TE85L	
Q511	8-729-035-83	TRANSISTOR	MTP75N06HD	
Q512	8-729-035-83	TRANSISTOR	MTP75N06HD	
Q513	8-729-035-83	TRANSISTOR	MTP75N06HD	
Q514	8-729-035-83	TRANSISTOR	MTP75N06HD	
Q515	8-729-207-82	TRANSISTOR	2SC3421-Y	
Q516	8-729-207-89	TRANSISTOR	2SA1358-Y	
Q517	8-729-271-21	TRANSISTOR	2SC2712Y-TE85L	
Q518	8-729-271-21	TRANSISTOR	2SC2712Y-TE85L	
Q519	8-729-035-83	TRANSISTOR	MTP75N06HD	
Q520	8-729-035-83	TRANSISTOR	MTP75N06HD	
Q521	8-729-035-83	TRANSISTOR	MTP75N06HD	
Q522	8-729-035-83	TRANSISTOR	MTP75N06HD	
Q523	8-729-207-82	TRANSISTOR	2SC3421-Y	
Q524	8-729-207-89	TRANSISTOR	2SA1358-Y	

< RESISTOR >

R115	1-208-510-61	METAL GLAZE	10K	2%	1/8W
R116	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R117	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R118	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R119	1-208-810-11	METAL GLAZE	15K	2%	1/8W
R120	1-208-810-11	METAL GLAZE	15K	2%	1/8W
R121	1-249-677-11	CARBON	1.5K	5%	1/2W
R122	1-249-691-11	CARBON	5.6K	5%	1/2W
R123	1-216-182-00	METAL GLAZE	220	2%	1/8W
R124	1-216-182-00	METAL GLAZE	220	2%	1/8W
R125	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R126	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R127	1-249-528-11	CARBON	100	5%	1/4W
R128	1-249-528-11	CARBON	100	5%	1/4W
R129	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R130	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R131	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R132	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R133	1-215-857-11	METAL OXIDE	10	5%	1W

Ref. No.	Part No.	Description			Remark
R134	1-208-550-61	METAL GLAZE	470K	2%	1/10W
R135	1-219-695-11	REGISTER	0.03		5W
R142	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R143	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R215	1-208-510-61	METAL GLAZE	10K	2%	1/8W
R216	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R217	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R218	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R219	1-208-810-11	METAL GLAZE	15K	2%	1/8W
R220	1-208-810-11	METAL GLAZE	15K	2%	1/8W
R221	1 249 677-11	CARBON	1.5K	5%	1/2W
R222	1-249-691-11	CARBON	5.6K	5%	1/2W
R223	1-216-182-00	METAL GLAZE	220	2%	1/8W
R224	1-216-182-00	METAL GLAZE	220	2%	1/8W
R225	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R226	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R227	1-249-528-11	CARBON	100	5%	1/4W
R228	1-249-528-11	CARBON	100	5%	1/4W
R229	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R230	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R231	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R232	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R233	1-215-857-11	METAL OXIDE	10	5%	1W
R234	1-208-550-61	METAL GLAZE	470K	2%	1/10W
R235	1-219-695-11	REGISTER	0.03		5W
R242	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R243	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R315	1-208-510-61	METAL GLAZE	10K	2%	1/8W
R316	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R317	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R318	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R319	1 208 810 11	METAL GLAZE	15K	2%	1/8W
R320	1-208-810-11	METAL GLAZE	15K	2%	1/8W
R321	1-249-677-11	CARBON	1.5K	5%	1/2W
R322	1-249-691-11	CARBON	5.6K	5%	1/2W
R323	1-216-182-00	METAL GLAZE	220	2%	1/8W
R324	1-216-182-00	METAL GLAZE	220	2%	1/8W
R325	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R326	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R327	1-249-528-11	CARBON	100	5%	1/4W
R328	1-249-528-11	CARBON	100	5%	1/4W
R329	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R330	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R331	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R332	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R333	1-215-857-11	METAL OXIDE	10	5%	1W
R334	1-208-550-61	METAL GLAZE	470K	2%	1/10W
R335	1-219-695-11	REGISTER	0.03		5W

Ref. No.	Part No.	Description			Remark
R342	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R343	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R415	1-208-510-61	METAL GLAZE	10K	2%	1/8W
R416	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R417	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R418	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R419	1-208-810-11	METAL GLAZE	15K	2%	1/8W
R420	1-208-810-11	METAL GLAZE	15K	2%	1/8W
R421	1-249-677-11	CARBON	1.5K	5%	1/2W
R422	1-249-691-11	CARBON	5.6K	5%	1/2W
R423	1-216-182-00	METAL GLAZE	220	2%	1/8W
R424	1-216-182-00	METAL GLAZE	220	2%	1/8W
R425	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R426	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R427	1-249-528-11	CARBON	100	5%	1/4W
R428	1-249-528-11	CARBON	100	5%	1/4W
R429	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R430	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R431	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R432	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R433	1-215-857-11	METAL OXIDE	10	5%	1W
R434	1-208-550-61	METAL GLAZE	470K	2%	1/10W
R435	1-219-695-11	REGISTER	0.03		5W
R442	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R443	1-216-214-00	METAL GLAZE	4.7K	2%	1/8W
R501	1-247-725-11	CARBON	10K	5%	1/4W
R502	1-247-721-11	CARBON	4.7K	5%	1/4W
R503	1-208-474-61	METAL GLAZE	330	2%	1/8W
R504	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R505	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R506	1-216-655-11	METAL CHIP	1.5K	0.5%	1/10W
R507	1-218-756-11	METAL GLAZE	150K	2%	1/10W
R508	1-208-464-61	METAL GLAZE	12K	2%	1/10W
R509	1-208-522-61	METAL GLAZE	33K	2%	1/10W
R510	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R511	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R512	1-208-558-61	METAL GLAZE	1M	2%	1/10W
R513	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R514	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R515	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R516	1-208-526-61	METAL GLAZE	47K	2%	1/10W
R517	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R518	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R519	1-208-506-11	METAL GLAZE	6.8K	2%	1/8W
R520	1-208-526-61	METAL GLAZE	47K	2%	1/10W
R521	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R522	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R523	1-208-462-61	METAL GLAZE	10K	2%	1/10W

MAIN AMP PRE AMP

Ref. No.	Part No.	Description			Remark
R524	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R525	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R526	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R527	1-208-405-61	METAL GLAZE	47	2%	1/8W
R528	1-208-405-61	METAL GLAZE	47	2%	1/8W
R529	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R530	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R531	1-249-504-11	CARBON	10	5%	1/4W
R532	1-249-504-11	CARBON	10	5%	1/4W
R533	1-249-504-11	CARBON	10	5%	1/4W
R534	1-249-504-11	CARBON	10	5%	1/4W
R535	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R536	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R537	1-208-405-61	METAL GLAZE	47	2%	1/8W
R538	1-208-405-61	METAL GLAZE	47	2%	1/8W
R539	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R540	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R541	1-249-504-11	CARBON	10	5%	1/4W
R542	1-249-504-11	CARBON	10	5%	1/4W
R543	1-249-504-11	CARBON	10	5%	1/4W
R544	1-249-504-11	CARBON	10	5%	1/4W
R545	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R546	1-216-210-00	METAL GLAZE	3.3K	2%	1/8W
R547	1-208-558-61	METAL GLAZE	1M	2%	1/10W
R548	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R549	1-216-698-11	METAL CHIP	91K	0.5%	1/10W
R550	1-208-522-61	METAL GLAZE	33K	2%	1/10W
R551	1-208-510-61	METAL GLAZE	10K	2%	1/8W
R552	1-216-647-11	METAL CHIP	680	0.5%	1/10W
R553	1-208-558-61	METAL GLAZE	1M	2%	1/10W
R558	1-220-242-11	METAL GLAZE	22	5%	1/4W
R561	1-208-478-61	METAL GLAZE	470	2%	1/8W
R562	1-208-478-61	METAL GLAZE	470	2%	1/8W
R563	1-208-478-61	METAL GLAZE	470	2%	1/8W
R564	1-208-478-61	METAL GLAZE	470	2%	1/8W

< TRANSFORMER >

T501	1-429-665-11	TRANSFORMER, DC-DC CONVERTER
T502	1-429-665-11	TRANSFORMER, DC-DC CONVERTER
T503	1-424-112-11	COIL, CHOKE 7.5UH
T504	1-424-112-11	COIL, CHOKE 7.5UH

< THERMISTOR >

TH501	1-808-877-11	THERMISTOR
TH502	1-808-877-11	THERMISTOR
TH503	1-808-877-11	THERMISTOR
TH504	1-808-877-11	THERMISTOR

Ref. No.	Part No.	Description			Remark
		< VARIABLE RESISTOR >			
VR102	1-241-683-11	RES, ADJ, CARBON	22Ω		
VR202	1-241-683-11	RES, ADJ, CARBON	22Ω		
VR302	1-241-683-11	RES, ADJ, CARBON	22Ω		
VR402	1-241-683-11	RES, ADJ, CARBON	22Ω		

****

*	A-3309-195-A	PRE AMP BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-124-720-11	ELECT	4.7uF	20%	50V
C102	1-126-052-11	ELECT	100uF	20%	16V
C103	1-126-048-11	ELECT	10uF	20%	50V
C104	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C105	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C106	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C107	1-136-165-00	FILM	0.1uF	5%	50V
C108	1-136-165-00	FILM	0.1uF	5%	50V
C109	1-124-994-11	ELECT	100uF	20%	10V
C110	1-126-772-11	ELECT	0.47uF	20%	50V
C111	1-136-165-00	FILM	0.1uF	5%	50V
C117	1-126-772-11	ELECT	0.47uF	20%	50V
C118	1-136-161-00	FILM	0.047uF	5%	50V
C119	1-136-161-00	FILM	0.047uF	5%	50V
C120	1-126-956-91	ELECT	0.1uF	20%	50V
C121	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C122	1-126-044-11	ELECT	1uF	20%	50V
C123	1-126-044-11	ELECT	1uF	20%	50V
C124	1-136-169-00	FILM	0.22uF	5%	50V
C201	1-124-720-11	ELECT	4.7uF	20%	50V
C202	1-126-052-11	ELECT	100uF	20%	16V
C203	1-126-048-11	ELECT	10uF	20%	50V
C204	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C205	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C206	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C209	1-124-994-11	ELECT	100uF	20%	10V
C210	1-126-772-11	ELECT	0.47uF	20%	50V
C211	1-136-165-00	FILM	0.1uF	5%	50V
C217	1-126-772-11	ELECT	0.47uF	20%	50V
C218	1-136-161-00	FILM	0.047uF	5%	50V
C219	1-136-161-00	FILM	0.047uF	5%	50V
C221	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C222	1-126-044-11	ELECT	1uF	20%	50V
C223	1-126-044-11	ELECT	1uF	20%	50V
C224	1-136-169-00	FILM	0.22uF	5%	50V
C301	1-124-720-11	ELECT	4.7uF	20%	50V
C302	1-126-052-11	ELECT	100uF	20%	16V
C303	1-126-048-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description			Remark
C304	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C305	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C306	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C307	1-136-165-00	FILM	0.1uF	5%	50V
C308	1-136-165-00	FILM	0.1uF	5%	50V
C309	1-124-994-11	ELECT	100uF	20%	10V
C310	1-126-772-11	ELECT	0.47uF	20%	50V
C311	1-136-165-00	FILM	0.1uF	5%	50V
C317	1-126-772-11	ELECT	0.47uF	20%	50V
C318	1-136-161-00	FILM	0.047uF	5%	50V
C319	1-136-161-00	FILM	0.047uF	5%	50V
C321	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C322	1-126-044-11	ELECT	1uF	20%	50V
C323	1-126-044-11	ELECT	1uF	20%	50V
C324	1-136-169-00	FILM	0.22uF	5%	50V
C401	1-124-720-11	ELECT	4.7uF	20%	50V
C402	1-126-052-11	ELECT	100uF	20%	16V
C403	1-126-048-11	ELECT	10uF	20%	50V
C404	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C405	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C406	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C409	1-124-994-11	ELECT	100uF	20%	10V
C410	1-126-772-11	ELECT	0.47uF	20%	50V
C411	1-136-165-00	FILM	0.1uF	5%	50V
C417	1-126-772-11	ELECT	0.47uF	20%	50V
C418	1-136-161-00	FILM	0.047uF	5%	50V
C419	1-136-161-00	FILM	0.047uF	5%	50V
C421	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C422	1-126-044-11	ELECT	1uF	20%	50V
C423	1-126-044-11	ELECT	1uF	20%	50V
C424	1-136-169-00	FILM	0.22uF	5%	50V

< CONNECTOR >

CNJ101	1-766-798-11	CONNECTOR, BOARD TO BOARD 5P	
CNJ102	1-766-928-11	CONNECTOR, BOARD TO BOARD 8P	
CNJ301	1-766-798-11	CONNECTOR, BOARD TO BOARD 5P	
CNJ302	1-766-928-11	CONNECTOR, BOARD TO BOARD 8P	

< IC >

IC101	8-759-711-82	IC	NJM4580E
IC102	8-759-711-82	IC	NJM4580E
IC103	8-759-711-82	IC	NJM4580E
IC201	8-759-711-82	IC	NJM4580E
IC301	8-759-711-82	IC	NJM4580E
IC302	8-759-711-82	IC	NJM4580E
IC303	8-759-711-82	IC	NJM4580E
IC401	8-759-711-82	IC	NJM4580E

Ref. No.	Part No.	Description		Remark

< CHIP CONDUCTOR >

JR101	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR102	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR103	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR104	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR105	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR106	1-216-295-00	CONDUCTOR, CHIP	(2012)
JR107	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR108	1-216-296-00	CONDUCTOR, CHIP	(3216)
JR109	1-216-295-00	CONDUCTOR, CHIP	(2012)

< RESISTOR >

R101	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R102	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R103	1-208-826-11	METAL GLAZE	68K	2%	1/10W
R104	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R105	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R106	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R107	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R109	1-216-029-00	METAL CHIP	150	5%	1/10W
R110	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R111	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R112	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R113	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R114	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R136	1-208-817-11	METAL GLAZE	30K	2%	1/10W
R137	1-218-756-11	METAL GLAZE	150K	2%	1/10W
R138	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R139	1-208-441-61	METAL GLAZE	1.5K	2%	1/10W
R140	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R141	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R201	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R202	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R203	1-208-826-11	METAL GLAZE	68K	2%	1/10W
R204	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R205	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R206	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R207	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R209	1-216-029-00	METAL CHIP	150	5%	1/10W
R210	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R211	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R212	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R213	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R214	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R236	1-208-817-11	METAL GLAZE	30K	2%	1/10W
R237	1-218-756-11	METAL GLAZE	150K	2%	1/10W
R239	1-208-441-61	METAL GLAZE	1.5K	2%	1/10W
R240	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W

PRE AMP

SEE ADDITIONAL INFORMATION

Ref. No.	Part No.	Description			Remark
R241	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R301	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R302	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R303	1-208-826-11	METAL GLAZE	68K	2%	1/10W
R304	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R305	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R306	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R307	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R309	1-216-029-00	METAL CHIP	150	5%	1/10W
R310	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R311	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R312	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R313	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R314	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R336	1-208-817-11	METAL GLAZE	30K	2%	1/10W
R337	1-218-756-11	METAL GLAZE	150K	2%	1/10W
R339	1-208-441-61	METAL GLAZE	1.5K	2%	1/10W
R340	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R341	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R401	1-216-635-11	METAL CHIP	220	0.5%	1/10W
R402	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R403	1-208-826-11	METAL GLAZE	68K	2%	1/10W
R404	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R405	1-208-449-61	METAL GLAZE	3.3K	2%	1/10W
R406	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R407	1-208-437-61	METAL GLAZE	1K	2%	1/10W
R409	1-216-029-00	METAL CHIP	150	5%	1/10W
R410	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R411	1-216-659-11	METAL CHIP	2.2K	0.5%	1/10W
R412	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R413	1-208-462-61	METAL GLAZE	10K	2%	1/10W
R414	1-208-534-61	METAL GLAZE	100K	2%	1/10W
R436	1-208-817-11	METAL GLAZE	30K	2%	1/10W
R437	1-218-756-11	METAL GLAZE	150K	2%	1/10W
R439	1-208-441-61	METAL GLAZE	1.5K	2%	1/10W
R440	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W
R441	1-216-671-11	METAL CHIP	6.8K	0.5%	1/10W

< SWITCH >

S101	1-762-716-11	SWITCH, SLIDE (A/B FILTER)
S301	1-762-716-11	SWITCH, SLIDE (C/D FILTER)

< VARIABLE RESISTOR >

VR101	1-225-295-11	RES, ADJ CARBON 5k
VR301	1-225-295-11	RES, ADJ CARBON 5k

****

Ref. No.	Part No.	Description	Remark

MISCELLANEOUS

****

F501	1-532-947-11	FUSE (BRADE TYPE) (AUTO FUSE) (30A)
F502	1-532-947-11	FUSE (BRADE TYPE) (AUTO FUSE) (30A)

****

HARDWARE LIST

****

#1	7-685-562-19	SCREW +BTP 4X14 TYPE2 N-S
#2	7-682-546-04	SCREW +PTT 3X5 (S)
#3	7-685-548-19	SCREW +BTP 3X12 TYPE2 N-S
#4	7-682-548-09	SCREW +PTT 3X8 (S)
#5	7-685-544-19	SCREW +BTP 3X5 TYPE2 N-S

****

ACCESSORIES & PACKING MATERIALS

****

*	3-701-634-00	BAG, POLYETHYLENE
	3-810-862-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH)
	3-810-862-21	MANUAL, INSTRUCTION (GERMAN, ITALIAN) (AEP, UK, E, German)
	3-810-862-31	MANUAL, INSTRUCTION (SPANISH, PORTUGUESE) (AEP, UK, E)
	3-810-862-41	MANUAL, INSTRUCTION (DUTCH, SWEDISH) (AEP, UK, E)
	3-927-239-01	SCREW (+PTT 5X35)

English
96A0587-1
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9-923-499-11

Sony Corporation
Mobile Electronics Company

Published by Home A&V Products Div.
Quality Engineering Dept.

XM-450G

SONY
SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

SUPPLEMENT-1

File this Supplement with the Service Manual.

Subject : ELECTRICAL PARTS LIST

(ENG-96016)

		Before change			After change		
Page	Ref. No.	Part No.	Description	Remark	Part No.	Description	Remark
20	—	———————————			1-782-013-11	CORD (WITH CONNECTOR) (REMOTE CONTROL)	

9-923-499-81

Sony Corporation
Personal & Mobile Communication Company

English
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XM-450G

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

CORRECTION-1

Correct your service manual as shown below.

☛ : **Indicates corrected portion.**

Page	INCORRECT				CORRECT			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
14	PL501	1-517-460-11	LAMP, PILOT (GREEN) (POWER/PROTECTOR)		PL501	1-517-460-21 ☛	LAMP, PILOT (GREEN) (POWER/PROTECTOR)	
	PL501	1-517-460-21	LAMP, PILOT (RED) (POWER/PROTECTOR)		PL501	1-517-460-11 ☛	LAMP, PILOT (RED) (POWER/PROTECTOR)	

(RPC-99001)

9-923-499-91

Sony Corporation
Mobile Electronics Division Company

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XM-450G

SONY

SERVICE MANUAL

US Model
Canadian Model
AEP Model
UK Model
E Model

CORRECTION-2

Correct your service manual as shown below.

☛ : **Indicates corrected portion.**

Page	INCORRECT				CORRECT			
	Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
18	T503	1-424-112-11	COIL, CHOKE 7.5uH		T503	1-419-851-11	COIL, CHOKE 50uH	
	T504	1-424-112-11	COIL, CHOKE 7.5uH		T504	1-419-851-11	COIL, CHOKE 50uH	

(ECN-CSA20800)

9-923-499-92

Sony Corporation
Audio Entertainment Group

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