

JVC

SERVICE MANUAL

AUDIO/VIDEO CONTROL RECEIVER

RX-6042S

Area suffix

E ----- Continental Europe
EN ----- Northern Europe
EV ----- Eastern Europe

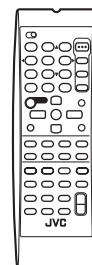
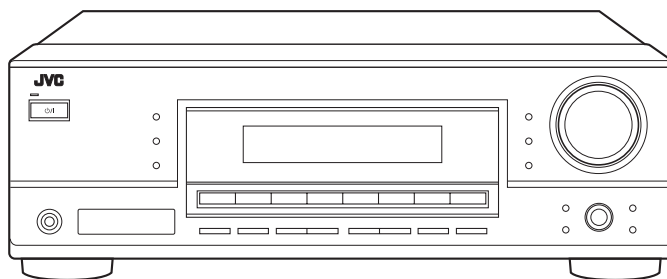


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SPECIFICATION

Amplifier

Output Power		
At Stereo operation	Front channels	100 W per channel, min. RMS, driven into 8 Ω, 40 Hz to 20 kHz with no more than 0.8% total harmonic distortion.
At Surround operation	Front channels	100 W per channel, min. RMS, driven into 8 Ω, at 1 kHz with no more than 0.8% total harmonic distortion.
	Center channel	100 W, min. RMS, driven into 8 Ω, at 1 kHz with no more than 0.8% total harmonic distortion.
	Surround channels	100 W per channel, min. RMS, driven into 8 Ω, at 1 kHz with no more than 0.8% total harmonic distortion.
Audio		
Audio Input Sensitivity/Impedance (1 kHz)	CD, TAPE/CDR, VCR, TV SOUND, DVD:220 mV/47 kΩ	
Audio Input (DIGITAL IN)*	Coaxial	DIGITAL 1 (DVD):0.5 V(p-p)/75 Ω
	Optical	DIGITAL 2 (CD), DIGITAL 3 (TV):-21 dBm to -15 dBm (660 nm ±30 nm)
* Corresponding to Linear PCM, Dolby Digital, and DTS Digital Surround (with sampling frequency-32 kHz, 44.1 kHz, 48 kHz)		
Recording Output Level	TAPE/CDR, VCR:220 mV	
Signal-to-Noise Ratio ('66 IHF/'78 IHF)	CD, TAPE/CDR, VCR, TV SOUND, DVD:87 dB/74 dB	
Frequency Response (8 Ω)	CD, TAPE/CDR, VCR, TV SOUND, DVD:20 Hz to 50 kHz (+1 dB, -3 dB)	
Bass Boost	+3 dB ±1 dB at 100 Hz	
Equalization (5 bands)	63 Hz, 250 Hz, 1 kHz, 4 kHz, 16 kHz(±8 dB in 2 dB steps)	
Video		
Video Input Sensitivity/Impedance	Composite video:DVD, VCR	1 V(p-p)/75 Ω
	S-video:DVD, VCR	(Y: luminance):1 V(p-p)/75 Ω
		(C: chrominance, burst):0.286 V(p-p)/75 Ω
Component:DVD, VCR	(Y: luminance):1 V(p-p)/75 Ω	
	(PB, PR):0.7 V(p-p)/75 Ω	
Video Output Level	Composite video:VCR, MONITOR OUT	1 V(p-p)/75 Ω
	S-video:VCR, MONITOR OUT	(Y: luminance):1 V(p-p)/75 Ω
		(C: chrominance, burst):0.286 V(p-p)/75 Ω
Component:MONITOR OUT	(Y: luminance):1 V(p-p)/75 Ω	
		(PB, PR):0.7 V(p-p)/75 Ω
Synchronization	Negative	
Signal-to-Noise Ratio	45 dB	
FM tuner (IHF)		
Tuning Range	87,50 MHz - 108,00 MHz	
Usable Sensitivity	Monaural:17,0 dBf (1,9 μV/75 Ω)	
50 dB Quieting Sensitivity	Monaural:21,3 dBf (3,2 μV/75 Ω)	
	Stereo:41,3 dBf (31,8 μV/75 Ω)	
Stereo Separation at OUT (REC)	35 dB at 1 kHz	
AM tuner		
Tuning Range	522 kHz to 1 629 kHz	
General		
Power Requirements	AC 230V , 50 Hz	
Power Consumption	200 W, 2 W (in standby mode)	
Dimensions (W × H × D)	435 mm × 146.5 mm × 409.5 mm	
Mass	8.8 kg	

Designs and specifications are subject to change without notice.

SECTION 1 PRECAUTION

1.1 Safety Precautions

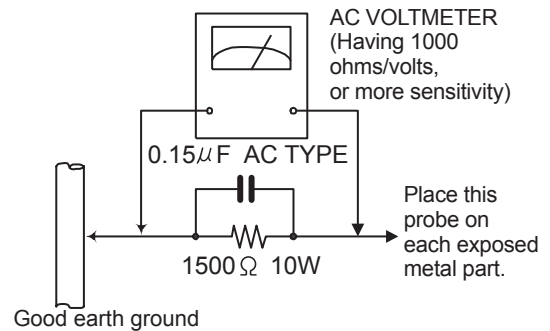
- (1) This design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
- (4) The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after reassembling.
- (5) Leakage shock hazard testing

After reassembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock. Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
- Alternate check method
Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 Ω per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC

voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Voltage measured any must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



1.2 Warning

- (1) This equipment has been designed and manufactured to meet international safety standards.
- (2) It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
- (3) Repairs must be made in accordance with the relevant safety standards.
- (4) It is essential that safety critical components are replaced by approved parts.
- (5) If mains voltage selector is provided, check setting for local voltage.

1.3 Caution

Burrs formed during molding may be left over on some parts of the chassis.

Therefore, pay attention to such burrs in the case of preforming repair of this system.

1.4 Critical parts for safety

In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (\blacksquare), diode (\blacksquare) and ICP (\bullet) or identified by the " Δ " mark nearby are critical for safety. When replacing them, be sure to use the parts of the same type and rating as specified by the manufacturer.
(This regulation does not Except the J and C version)

SECTION 2 SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3 DISASSEMBLY

3.1 Removing the top cover (See Fig.1)

- (1) From the right and left sides of the main body, remove the four screws **A** attaching the top cover.
- (2) From the back side of the main body, remove the three screws **B** attaching the top cover.
- (3) Remove the top cover in the direction of the arrow 2 while extending the lower sections of the top cover in the direction of the arrow 1.

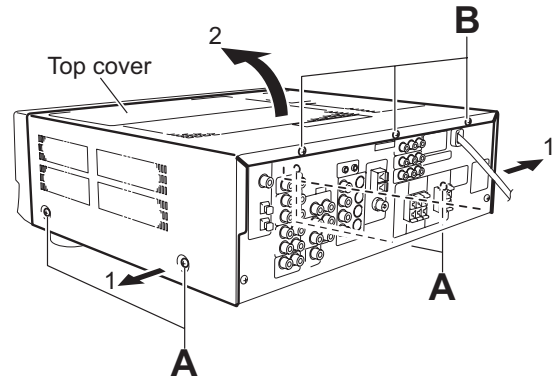


Fig.1

3.2 Removing the front panel assembly (See Figs.2 and 3)

- Prior to performing the following procedure, remove the top cover.
- (1) Disconnect the card wire from the connector [CN402](#) on the audio board. (See Fig.2)
- (2) Disconnect the card wire from the connector [CN201](#) on the power supply board. (See Fig.2)
- (3) Remove the tie bands. (See Fig.2)
- (4) Remove the wire protection board fixing the card wire. (See Fig.2)
- (5) Disconnect the wire from the connector [CN403](#) on audio board. (See Fig.2)
- (6) Remove the three screws **C** attaching the front panel assembly. (See Fig.2)
- (7) From the bottom side of the main body, remove the four screws **D** attaching the front panel assembly. (See Fig.3)
- (8) Remove the front panel assembly in the direction of the arrow. (See Fig.3)

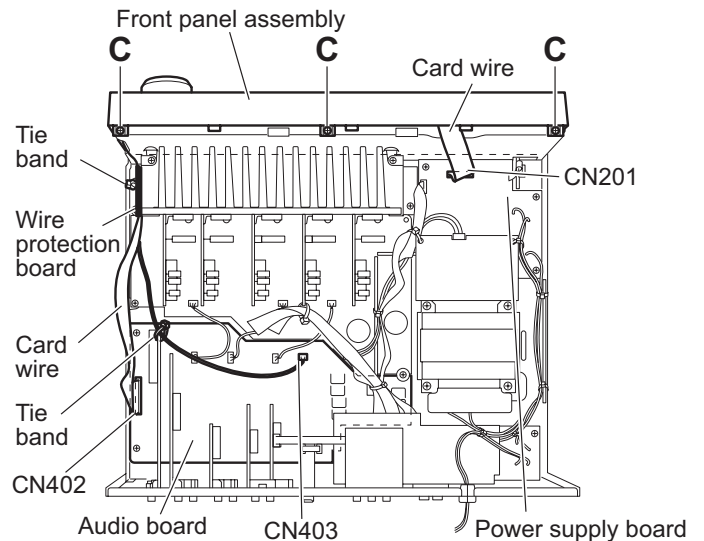


Fig.2

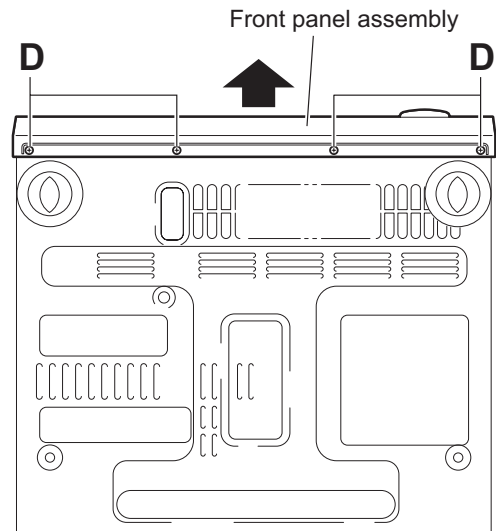


Fig.3

3.3 Removing the rear panel (See Fig.4)

- Prior to performing the following procedure, remove the top cover.
 - (1) From the back side of the main body, remove the strain relief from the rear panel in the direction of the arrow.
 - (2) Remove the twenty-six screws **E** and four screws **F** attaching the rear panel.

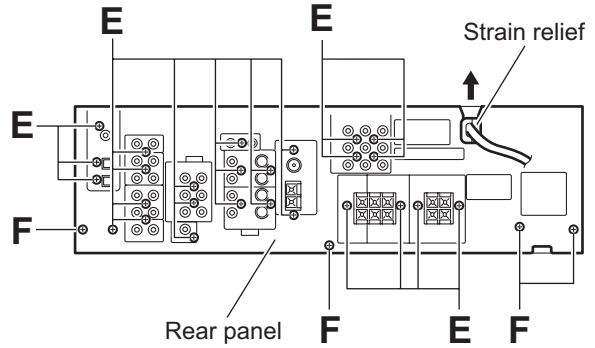


Fig.4

3.4 Removing the component board and tuner unit (See Figs.5 and 6)

- Prior to performing the following procedure, remove the top cover.
 - (1) From the top side of the main body, disconnect the parallel wire from the connector [CN511](#) on the S-Video board. (See Fig.5)
 - (2) From the back side of the main body, remove the four screws **G** attaching the component board. (See Fig.6)
 - (3) From the top side of the main body, disconnect the card wire from the connector [CN1](#) on the tuner unit. (See Fig.5)
 - (4) From the back side of the main body, remove the two screws **H** attaching the tuner unit. (See Fig.6)

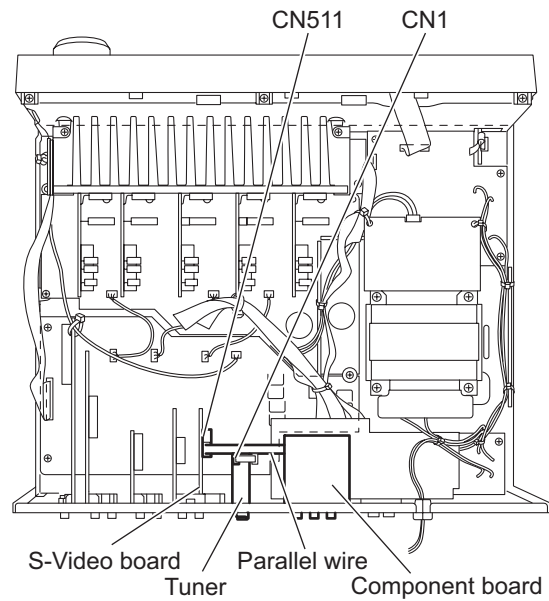


Fig.5

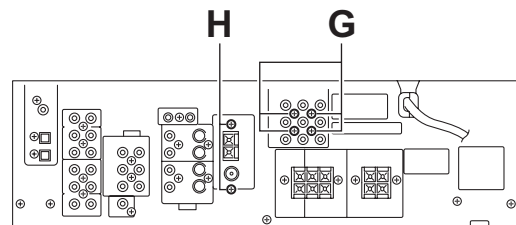


Fig.6

3.5 Removing the DSP board, audio input board, DVD board and video board (See Fig.7)

- Prior to performing the following procedure, remove the top cover and rear panel.
 - (1) From the top side of the main body, Remove the tie band.
 - (2) Disconnect the DSP board from the connector [CN481](#) on the audio board.
 - (3) Disconnect the audio input board from the connector [CN421](#) on the audio board.
 - (4) Disconnect the DVD board from the connector [CN431](#) on the audio board.
 - (5) Disconnect the video board from the connector [CN441](#) on the audio board.

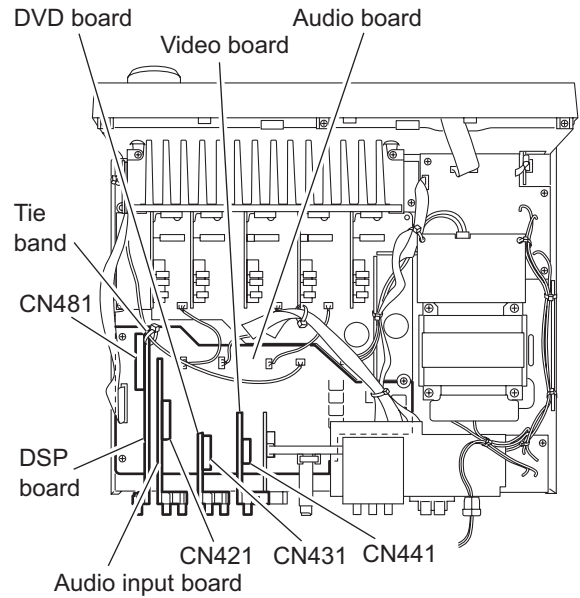


Fig.7

3.6 Removing the S-Video board (See Fig.8)

- Prior to performing the following procedure, remove the top cover and rear panel.
 - (1) From the top side of the main body, disconnect the parallel wire from the connector [CN511](#) on the S-Video board.
 - (2) Disconnect the S-Video board from the connector [CN461](#) on the audio board.

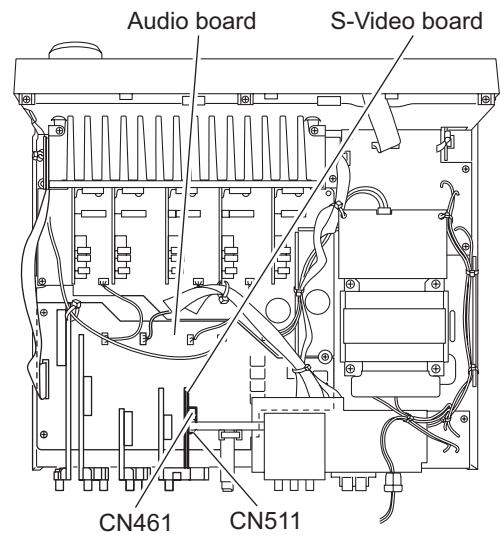
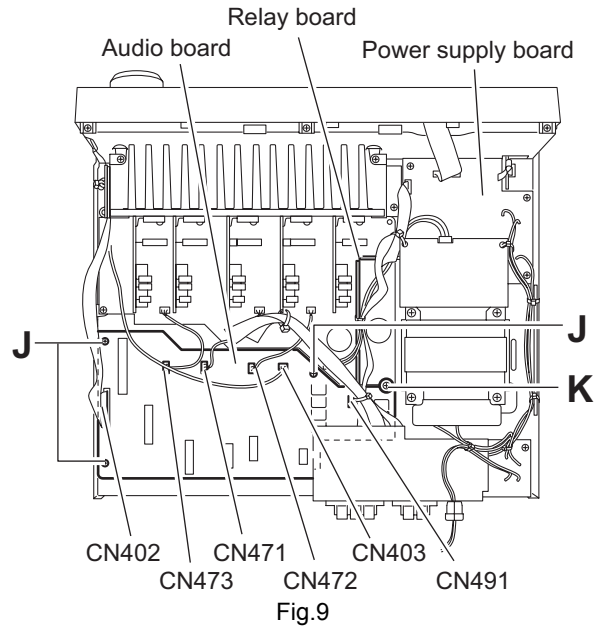


Fig.8

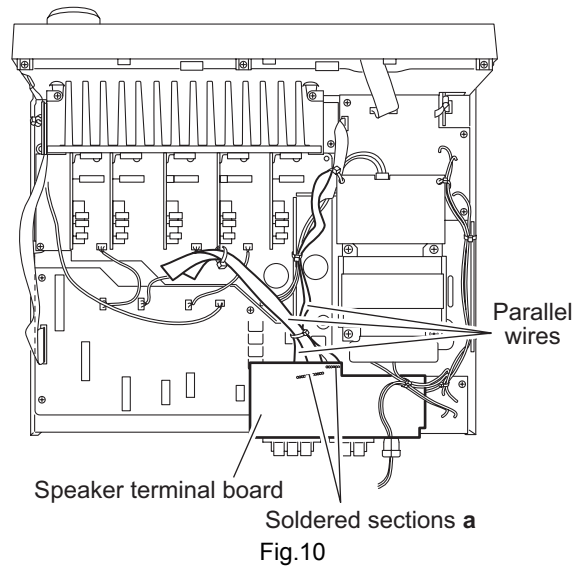
3.7 Removing the audio board (See Fig.9)

- Prior to performing the following procedure, remove the top cover, rear panel, component video board, DSP board, audio input board, DVD board, video board, S-Video board and tuner unit.
 - (1) From the top side of the main body, disconnect the card wire from the connector [CN402](#) on the audio board.
 - (2) Disconnect the relay board from the connector [CN491](#) on the audio board.
 - (3) Disconnect the wires from the connectors [CN471](#), [CN472](#) and [CN473](#) on the audio board.
 - (4) Remove the three screws **J** attaching the audio board.
 - (5) Loosen the screw **K** attaching the audio board.



3.8 Removing the speaker terminal board (See Fig.10)

- Prior to performing the following procedure, remove the top cover and rear panel.
 - (1) From the top side of the main body, remove the solders from the soldered sections **a** on the speaker terminal board.



3.9 Removing the main board (See Fig.11)

- Prior to performing the following procedure, remove the top cover.
- (1) From the top side of the main body, remove the tie bands fixing the wires.
- (2) Remove the tie band and wire protection board fixing the card wire.
- (3) Remove the solders from the soldered section **b** on the speaker terminal board attaching the parallel wires.
- (4) Disconnect the relay board from the connectors (CN291, CN491) on the power supply board and audio board.
- (5) Disconnect the parallel wire from the connector CN241 on the power supply board.
- (6) Disconnect the wire from the connector CN251 on the power transformer board 1.
- (7) Disconnect the wires from the connectors CN471, CN472 and CN473 on the audio board.
- (8) Remove the screw **L**, two screws **M** and four screws **N** attaching the main board.
- (9) Take out the main board.

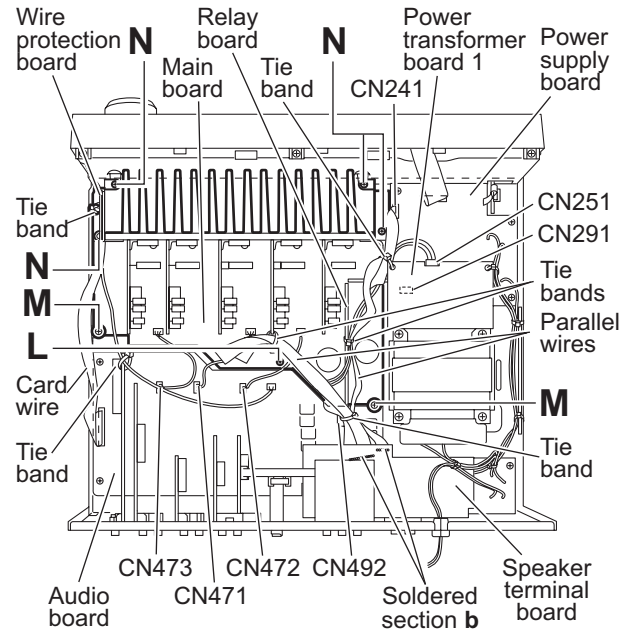


Fig.11

3.10 Removing the heat sink (See Figs.12 and 13)

- Prior to performing the following procedure, remove the top cover and main board.
- (1) Remove the ten screws **P** attaching the heat sink. (See Fig.12)
- (2) From the reverse side of the main board, remove the two screws **Q** attaching the heat sink. (See Fig.13)

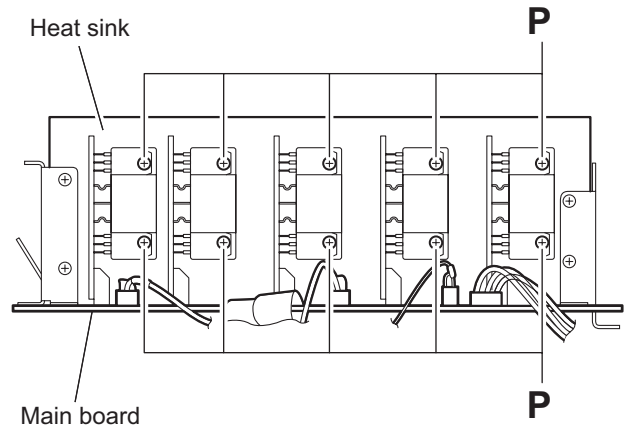


Fig.12

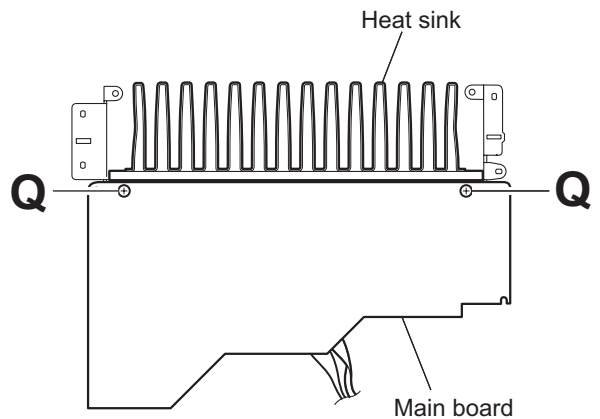


Fig.13

3.11 Removing the center amp. board, front amp. boards (L/R) and rear amp. boards (L/R) (See Figs.12 and 14)

- Prior to performing the following procedure, remove the top cover and main board.
 - (1) Remove the ten screws **P** attaching the heat sink. (See Fig.12)
 - (2) Disconnect the center amp. board from the connector [CN321](#) on the main board. (See Fig.14)
 - (3) Disconnect the front amp. board (L) from the connector [CN311](#) on the main board. (See Fig.14)
 - (4) Disconnect the front amp. board (R) from the connector [CN312](#) on the main board. (See Fig.14)
 - (5) Disconnect the rear amp. board (L) from the connector [CN331](#) on the main board. (See Fig.14)
 - (6) Disconnect the rear amp. board (R) from the connector [CN332](#) on the main board. (See Fig.14)

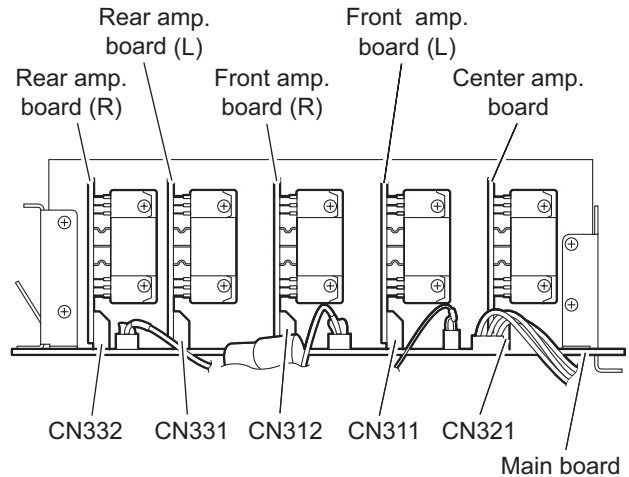


Fig.14

3.12 Removing the power transformer (See Fig.15)

- Prior to performing the following procedure, remove the top cover.
 - (1) From the top side of the main body, remove the tie bands fixing the wires.
 - (2) Remove the solders from the soldered section **c** on the power transformer board 1.
 - (3) Remove the solders from the soldered sections **d** on the power transformer board 2.
 - (4) Disconnect the wire from the connector [CN251](#) on the power transformer board 1.
 - (5) Remove the four screws **R** attaching the power transformer.

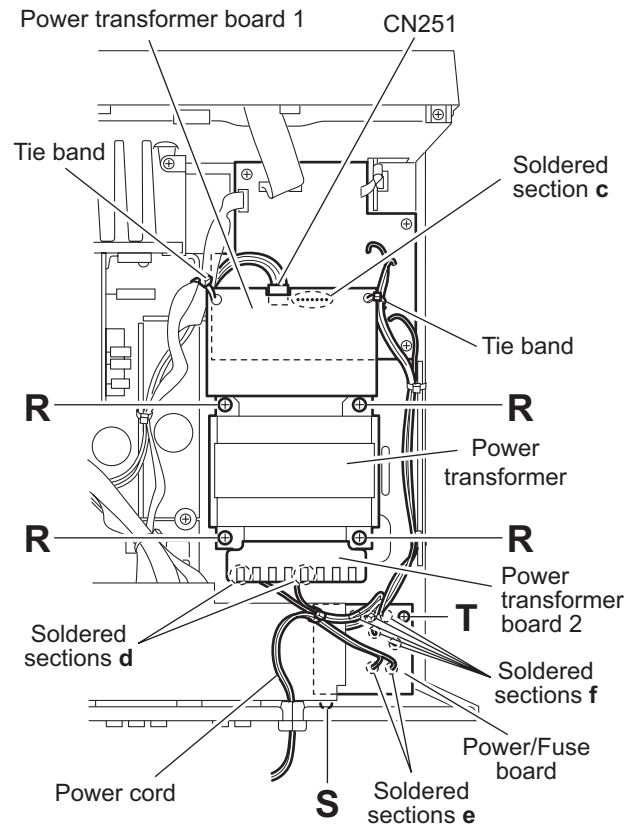


Fig.15

3.13 Removing the power/fuse board (See Fig.15)

- Prior to performing the following procedure, remove the top cover.
 - (1) From the back and top sides of the main body, remove the screw **S** and screw **T** attaching the power/fuse board.
 - (2) Remove the solders from the soldered sections **e** attaching the power cord.
 - (3) From the reverse side of the power/fuse board, remove the solders from the soldered sections **f** attaching the wires.

3.14 Removing the power supply board (See Fig.16)

- Prior to performing the following procedure, remove the top cover.
- (1) From the top side of the main body, disconnect the parallel wires from the connectors [CN203](#) and [CN241](#) on the power supply board.
- (2) Disconnect the card wire from the connector [CN201](#) on the power supply board.
- (3) Disconnect the relay board from the connector [CN291](#) on the power supply board.
- (4) Disconnect the parallel wire from the connector [CN101](#) on the headphone jack board.
- (5) Remove the solders from the soldered section **c** on the power transformer board 1.
- (6) Remove the two screws **U** and the screw **V** attaching the power supply board.
- (7) Remove the power supply board from the hook **g** of the chassis base bracket in the direction of the arrow, take out the power supply board.
- (8) Turn over the power supply board, remove the solders from the soldered sections **h** attaching the wires.

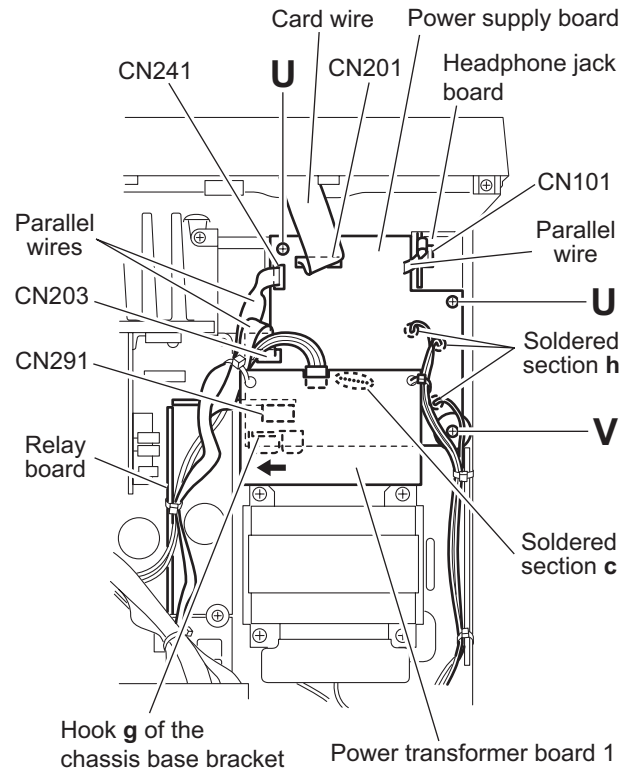


Fig.16

3.15 Removing the headphone jack board (See Figs.16 and 17)

- Prior to performing the following procedure, remove the top cover and front panel assembly.
- (1) From the top side of the main body, disconnect the parallel wire from the connector [CN101](#) on the headphone jack board. (See Fig.16)
- (2) From the front side of the main body, remove the nut and screw **W** attaching the bracket(phones) to the chassis base. (See Fig.17)

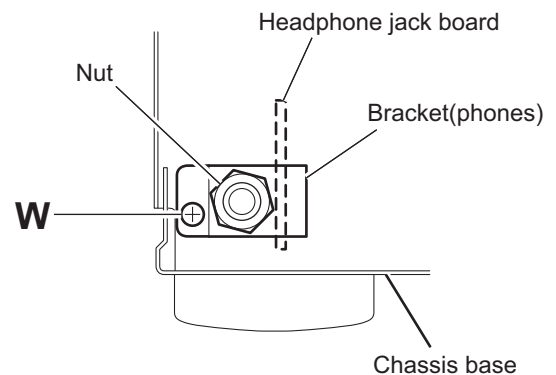


Fig.17

3.16 Removing the system control board and power switch board (See Figs.18 and 19)

- Prior to performing the following procedure, remove the top cover and front panel assembly.
 - (1) Pull out the volume and jog knobs from the front side of the front panel assembly, remove the nut attaching the system control board. (See Fig.18)
 - (2) From the back side of the front panel assembly, remove the nine screws **X** attaching the system control board. (See Fig.19)
 - (3) Remove the solders of the soldered section **j** on the system control board and disconnect the parallel wire. (See Fig.19)
 - (4) Remove the two screws **Y** attaching the power switch board. (See Fig.19)

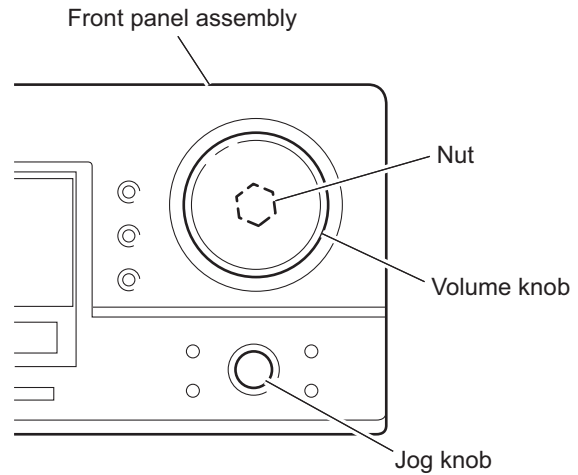


Fig.18

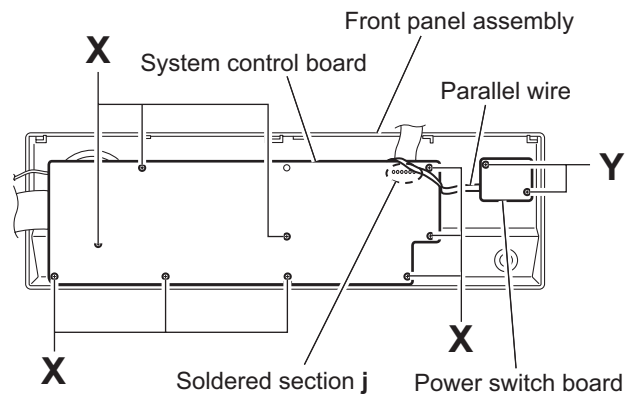


Fig.19

SECTION 4 ADJUSTMENT

4.1 Tuner section

4.1.1 Tuner range

FM : 87.5 MHz to 108.0 MHz

AM : 522 kHz to 1629 kHz

4.2 Power amplifier section

4.2.1 Adjustment of idling current

Measurement location : [TP301](#) (Lch) , [TP302](#) (Rch)

Adjustment part : [VR301](#) (Lch) , [VR302](#) (Rch)

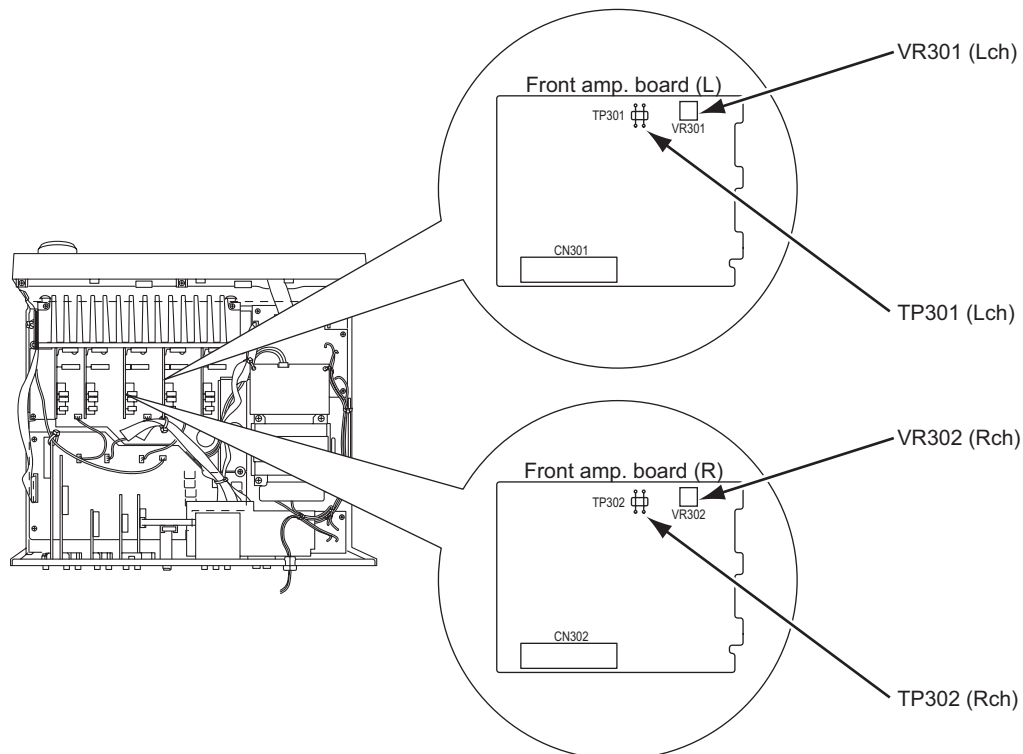
Attention :

This adjustment does not obtain a correct adjustment value immediately after the amplifier is used (state that an internal temperature has risen).

Please adjust immediately after using the amplifier after turning off the power supply of the amplifier and falling an internal temperature.

Adjustment method

- (1) Set the volume control to minimum during this adjustment. (No signal & No load)
 - (2) Set the surround mode OFF.
 - (3) Turn [VR301](#) and [VR302](#) fully counterclockwise to warm up before adjustment.
If the heat sink is already warm from previous use the correct adjustment can not be made.
 - (4) For L-ch, connect a DC voltmeter between [TP301](#)'s [B216](#) and [B217](#) (Lch) and, connect it between [TP302](#)'s [B218](#) and [B219](#) (Rch).
 - (5) Adjust the [VR301](#) (Lch) and [VR302](#) (Rch) so that the DC voltmeter indicates 2.0mV immediately after turning the power on.
- It is not abnormal though the idling current might not become 0mA even if it is finished to turn variable resistance ([VR301](#), [VR302](#)) in the direction of counterclockwise.



SECTION 5 TROUBLESHOOTING

This service manual does not describe TROUBLESHOOTING.



JVC

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