JVC SERVICE MANUAL

AUDIO/VIDEO CONTROL RECEIVER

RX-8030VBK



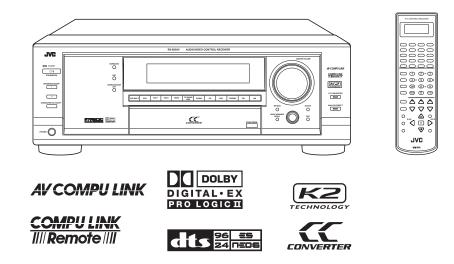


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SPECIFICATION

		Amplifier			
Output Power					
At Stereo operation	Front ch	100 W per channel, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harm distortion. (IEC 268-3/DIN)			
At Surround operation	Front ch	100 W per channel, min. RMS, driven into 8 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.			
	Center ch	100 W, min. RMS, driven into 8 Ω at 1 kHz, with	no more than 0.8% total harmonic distortion.		
	Surround ch	100 W per channel, min. RMS, driven into 8 Ω at distortion.	1 kHz, with no more than 0.8% total harmonic		
	Surround Back ch	100 W, min. RMS, driven into 8 Ω at 1 kHz, with	no more than 0.8% total harmonic distortion.		
Audio		•			
Audio Input Sensitivity/	PHONO IN (MM) : 2.5 mV/47 kΩ				
Impedance (1 kHz)	DVD IN, VCR 1 IN, VCR 2 IN, TV SOUND/DBS IN, VIDEO IN : 200 mV/47 kΩ				
	CD IN, CDR IN, TAPE/MD IN : 200 mV/47 k Ω				
Audio Input (DIGITAL IN)*	Coaxial DIGITAL 1 (DVD) : 0.5 V(p-p)/75 Ω				
	Optical	DIGITAL 2 (CD), DIGITAL 3 (TV), DIGITAL 4 (CI	DR) : -21 dBm to -15 dBm (660 nm ±30 nm)		
* Corresponding to Linear PCN		DTS Digital Surround (with sampling frequency -3.			
Audio Output Level	PRE OUT : 1 V				
Recording Output Level	VCR 1 OUT, VCR	2 OUT, CDR OUT, TAPE/MD OUT : 200 mV			
Digital output	Optical : DIGITAL OUTPUT				
	Signal wave length : 660 nm				
	Output level : -21 dBm to -15 dBm				
Signal-to-Noise Ratio	PHONO IN : 70 dE				
('66 IHF/DIN)	DVD IN, VCR 1 IN, VCR 2 IN, TV SOUND/DBS IN, VIDEO : 87 dB/67 dB				
	CD IN, CDR IN, TAPE/MD IN : 87 dB/67 dB				
Frequency Response (8 Ω)	PHONO IN : 20 Hz to 20 kHz (±1 dB)				
	DVD IN, VCR 1 IN, VCR 2 IN, TV SOUND/DBS IN, VIDEO : 20 Hz to 100 kHz (+1 dB, -3 dB)				
	CD IN, CDR IN, TAPE/MD IN : 20 Hz to 100 kHz (+1 dB, -3 dB)				
RIAA Phono Equalization	±1 dB (20 Hz to 20 kHz)				
Equalization (5 bands)	63 Hz, 250 Hz, 1 kHz, 4 kHz, 16 kHz (±8 dB)				
Bass boost	+6 dB ±1 dB at 10				
Video					
Video Input Sensitivity/ Impedance	Composite video : DVD IN, VCR 1 IN, VCR 2 IN, TV SOUND/DBS 1 V(p-p)/75 Ω IN, VIDEO				
	S-video : DVD IN,	VCR 1 IN, VCR 2 IN, TV SOUND/DBS IN, VIDEO	(Y: luminance) : 1 V(p-p)/75 Ω		
			(C: chrominance, burst) : 0.286 V(p-p)/75 Ω		
	Component video	: DVD IN, DBS IN	(Y: luminance) : 1 V(p-p)/75 Ω		
			(PB/PR) : 0.7 V(p-p)/75 Ω		
Video Output Level	Composite video :	VCR 1 OUT, VCR 2 OUT, MONITOR OUT	1 V(p-p)/75 Ω		
	S-video : VCR 1 OUT, VCR 2 OUT, MONITOR OUT		(Y: luminance) : 1 V(p-p)/75 Ω		
			(C: chrominance, burst) : 0.286 V(p-p)/75 Ω		
	Component video		(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 to 108.	00 MHz			
Usable Sensitivity					
50 dB Quieting Sensitivity	Monaural : 16.0 dl	onaural : 16.0 dBf (1.7 μV/75 Ω)			
	Stereo : 37.5 dBf (20.5 μV/75 Ω)				
Stereo Separation at REC OU	T 35 dB at 1 kHz				
		AM tuner			
Tuning Range	531 kHz to 1 602 l	531 kHz to 1 602 kHz (at 9 kHz intervals)			
	530 kHz to 1 600 l	kHz (at 10 kHz intervals)			
		General			
Power Requirements	AC 110 V/127 V/2	20 V/230 V - 240 V , adjustable with the voltage set ${\sf V}$	elector, 50 Hz/60 Hz		
Power Consumption	250 W (at operatio				
	4.5 W (in standby				
	105 157	10E			
Dimensions (W \times H \times D)	$435 \text{ mm} \times 157 \text{ mm}$	1 × 425 mm			

Designs & 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 manufacturers warranty and will further relieve the manufacture 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.

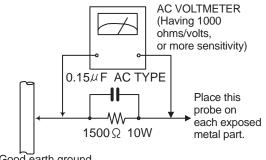
· Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).

Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, $1,000\Omega$ per volt or more sensitivity in the following manner. Connect a $1,500\Omega$ 10W resistor paralleled by a 0.15µF 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.).



Good earth ground

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 and ICP (\blacksquare) 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 dose not Except the J and C version)

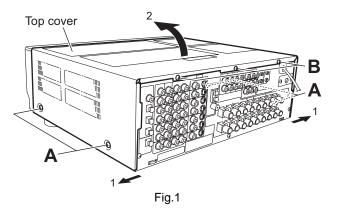
SECTION 2 SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3 DISASSEMBLY

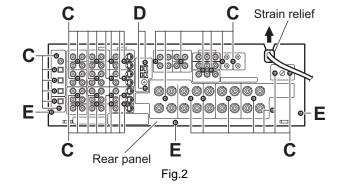
3.1 Removing the top cover (See Fig.1)

- (1) From the both 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.



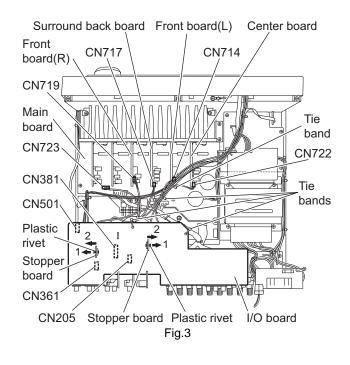
3.2 Removing the rear panel (See Fig.2)

- Prior to performing the following procedures, 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 thirty-six screws **C**, two screws **D** and three screws **E** attaching the rear panel.



3.3 Removing the I/O board (See Fig.3)

- Prior to performing the following procedures, remove the top cover and rear panel.
 - (1) From the top side of the main body, remove the two plastic rivets in the direction of the arrow 1.and remove the stopper boards in the direction of the arrow 2.
 - (2) Remove the tie bands bundling the wires.
 - (3) Disconnect the wire from the connector <u>CN722</u> on the center board.
 - (4) Disconnect the wire from the connector <u>CN714</u> on the front board (L).
 - (5) Disconnect the wire from the connector <u>CN717</u> on the surround back board.
 - (6) Disconnect the wire from the connector <u>CN719</u> on the front board (R).
 - (7) Disconnect the wire from the connector <u>CN723</u> on the main board.
 - (8) Disconnect the I/O board from the connectors <u>CN205</u>, <u>CN361</u>, <u>CN381</u> and <u>CN501</u> in an upward direction.



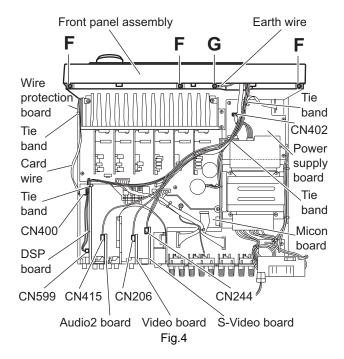
3.4 Removing the front panel assembly (See Figs.4 and 5)

- Prior to performing the following procedures, remove the top cover, rear panel and I/O board.
 - (1) From the top side of the main body, remove the tie bands bundling the wires. (See Fig.4)
 - (2) Disconnect the wire from the connector <u>CN599</u> on the DSP board. (See Fig.4)
 - (3) Disconnect the wire from the connector <u>CN415</u> on the Audio2 board. (See Fig.4)
 - (4) Disconnect the wire from the connector <u>CN206</u> on the Video board. (See Fig.4)
 - (5) Disconnect the wire from the connector <u>CN244</u> on the S-Video board. (See Fig.4)
 - (6) Disconnect the card wire from connector <u>CN402</u> on the power supply board. (See Fig.4)
 - (7) Disconnect the card wire from connector <u>CN400</u> on the micon board. (See Fig.4)
 - (8) Remove the tie band and wire protection board fixing the card wire. (See Fig.4)
 - (9) Remove the three screws **F** and screw **G** attaching the front panel assembly. (See Fig.4)

REFERENCE :

When attaching the screw G, attach the earth wire with it. (10) From the bottom side of the main body, remove the four

- screws **H** attaching the front panel assembly. (See Fig.5) (11) Remove the front panel assembly in the direction of the ar
 - row. (See Fig.5)



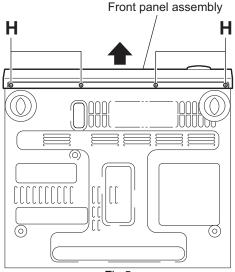


Fig.5

3.5 Removing the tuner, DSP board, Audio board, Audio2 board, Video board and S-Video board (See Fig.6)

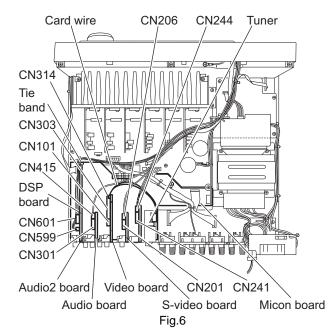
- Prior to performing the following procedures, remove the top cover, rear panel and I/O board.
 - (1) From the top side of the main body, remove the tie band bundling the wire.
 - (2) Disconnect the card wire from connector <u>CN314</u> on the Audio board, and take out the tuner.
 - (3) Disconnect the wire from the connector <u>CN599</u> on the DSP board.
 - (4) Disconnect the DSP board from the connector <u>CN601</u> on the micon board, and take out the DSP board.
 - (5) Disconnect the Audio board from the connectors (<u>CN101</u>, <u>CN303</u>) on the micon board, and take out the Audio board.
 - (6) Disconnect the wire from the connector <u>CN415</u> on the Audio2 board.
 - (7) Disconnect the Audio2 board from the connector <u>CN301</u> on the micon board, and take out the Audio2 board.
 - (8) Disconnect the wire from the connector <u>CN206</u> on the Video board.
 - (9) Disconnect the Video board from the connector <u>CN201</u> on the micon board, and take out the Video board.
- (10) Disconnect the wire from the connector <u>CN244</u> on the S-Video board.
- (11) Disconnect the S-Video board from the connector <u>CN241</u> on the micon board, and take out the S-Video board.

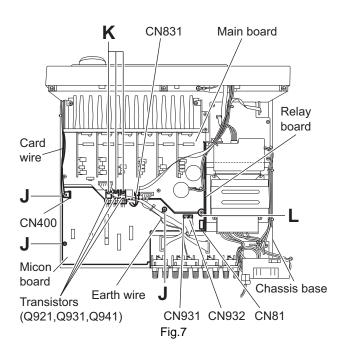
3.6 Removing the micon board (See Fig.7)

- Prior to performing the following procedures, remove the top cover, rear panel, I/O board, tuner, DSP board, Audio board, Audio2 board, Video board and S-Video board.
 - From the top side of the main body, disconnect the card wire from the connector <u>CN400</u> on the micon board.
 - (2) Disconnect the relay board from the connector <u>CN81</u> on the micon board.
 - (3) Disconnect the parallel wire from the connectors <u>CN931</u> and <u>CN932</u> on the micon board.
 - (4) Disconnect the parallel wire from the connector <u>CN831</u> on the main board.
 - (5) Remove the three screws J attaching the micon board.

REFERENCE :

- When attaching the screw J, attach the earth wire with it.
- (6) Remove the three screws **K** attaching the transistors (<u>Q921</u>, <u>Q931</u>, <u>Q941</u>) to the chassis base.
- (7) Loosen the screw L attaching the micon board.





3.7 Removing the speaker board (See Fig.8)

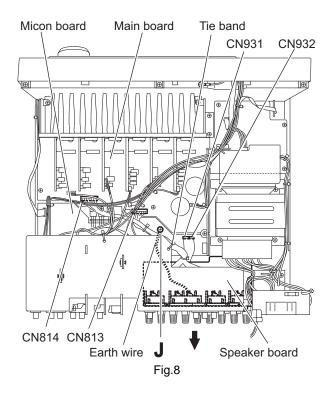
- Prior to performing the following procedures, remove the top cover, rear panel.
 - (1) From the top side of the main body, remove the tie band bundling the wires.
 - (2) Disconnect the wires from the connectors (<u>CN813</u>, <u>CN814</u>) on the main board.
 - (3) Disconnect the parallel wire from the connectors (<u>CN931</u>, <u>CN932</u>) on the micon board.
 - (4) Remove the screw ${\boldsymbol J}$ attaching the micon board.

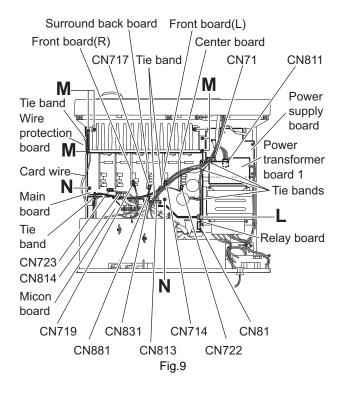
REFERENCE :

- When attaching the screw \mathbf{J} , attach the earth wire with it.
- (5) Take out the speaker board in the direction of the arrow.

3.8 Removing the main board (See Fig.9)

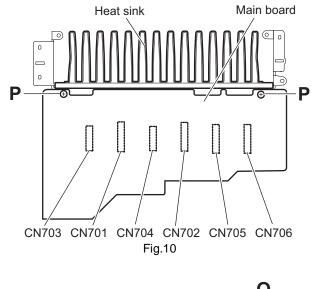
- Prior to performing the following procedures, remove the top cover.
 - (1) From the top side of the main body, remove the tie bands bundling the card wire and wires.
 - (2) Remove the tie band and wire protection board bundling the card wire.
 - (3) Disconnect the wire from the connector <u>CN811</u> on the power transformer board 1.
 - (4) Disconnect the relay board from the connector (<u>CN71</u>, <u>CN81</u>) on the power supply board and micon board.
 - (5) Disconnect the parallel wire from the connectors (<u>CN831</u>, <u>CN881</u>) on the main board.
 - (6) Disconnect the wire from the connectors (<u>CN723</u>, <u>CN813</u>, <u>CN814</u>) on the main board.
 - (7) Disconnect the wire from the connector <u>CN722</u> on the center board.
 - (8) Disconnect the wire from the connector <u>CN714</u> on the front board (L).
 - (9) Disconnect the wire from the connector <u>CN717</u> on the surround back board.
- (10) Disconnect the wire from the connector <u>CN719</u> on the front board (R).
- (11) Remove the screw L, six screws M and two screws N attaching the main board.
- (12) Take out the main board.





3.9 Removing the heat sink (See Figs.10 and 11)

- Prior to performing the following procedures, remove the top cover and main board.
 - From the reverse side of the main board, remove the two screws P attaching the main board to the heat sink. (See Fig.10)
 - (2) Disconnect the connector (<u>CN701</u> to <u>CN706</u>) on the main board, remove the main board. (See Fig.10)
 - (3) Remove the twelve screws **Q** attaching the heat sink. (See Fig.11)
- 3.10 Removing the center board, front boards (L/R), surround boards (L/R) and surround back board (See Figs.10 and 12)
- Prior to performing the following procedures, remove the top cover and main board.
 - From the reverse side of the main board, remove the two screws P attaching the main board to the heat sink. (See Fig.10)
 - (2) Disconnect the connectors (<u>CN701</u> to <u>CN706</u>) on the main board, remove the main board. (See Fig.10)
 - (3) Remove the two screws **Q** attaching the center board. (See Fig.12)
 - (4) Remove the two screws **Q** attaching the front board (L). (See Fig.12)
 - (5) emove the two screws **Q** attaching the surround back board. (See Fig.12)
 - (6) Remove the two screws **Q** attaching the front board (R). (See Fig.12)
 - (7) Remove the two screws Q attaching the surround board (L). (See Fig.12)
 - (8) Remove the two screws Q attaching the surround board (R). (See Fig.12)



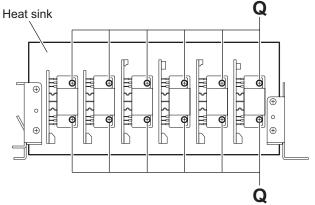
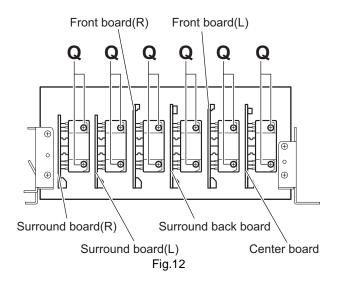


Fig.11



3.11 Removing the voltage selector board (See Figs.13 and 14)

- Prior to performing the following procedures, remove the top cover.
 - (1) From the back side of the main body, remove the two screws ${\bf R}$ attaching the voltage board. (See Fig.13)
 - (2) Remove the solders from the soldered sections a on the power transformer board 2 and remove the wires of the voltage selector board. (See Fig.14)
 - (3) Take out the voltage selector board.

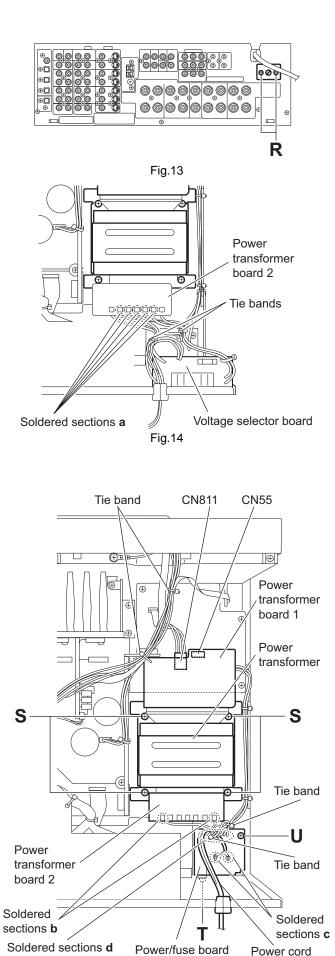


Fig.15

3.12 Removing the power transformer (See Fig.15)

- Prior to performing the following procedures, remove the top cover.
 - (1) From the top side of the main body, remove the tie band bundling the wires.
 - (2) Disconnect the wire from the connectors (CN55, CN811) on the power transformer board 1.
 - (3) Remove the solders from the soldered sections **b** on the power transformer board 2.
 - (4) Remove the four screws **S** attaching the power transformer.

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

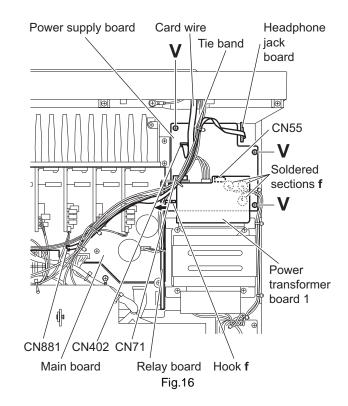
- Prior to performing the following procedures, remove the top cover.
 - (1) From the back side and top side of the main body, remove the tie band from the bundling the wires and the power cord.
 - (2) Remove the screws **T** and screw **U** attaching the power/ fuse board.
 - (3) Remove the solders from the soldered sections **c** attaching the power cord.
 - (4) From the reverse side of the power/fuse board, remove the solders from the soldered sections **d** attaching the wires.

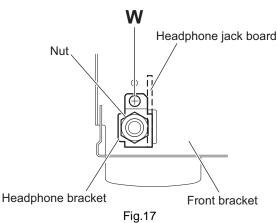
3.14 Removing the power supply board (See Fig.16)

- Prior to performing the following procedures, remove the top cover.
 - From the top side of the main body, disconnect the parallel wire from the connector <u>CN55</u> on the power transformer board 1.
 - (2) Disconnect the card wire from the connector <u>CN402</u> on the power supply board.
 - (3) Disconnect the relay board from the connector <u>CN71</u> on the power supply board.
 - (4) Remove the three screws **V** attaching the power supply board.
 - (5) Remove the power supply board from the hook **e** of the chassis base bracket in the direction of the arrow, and take out the power supply board.
 - (6) Turn over the power supply board, and remove the solders from the soldered sections **f** attaching the wire.

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

- Prior to performing the following procedures, remove the top cover, rear panel, I/O board and front panel assembly.
 - From the top side of the main body, disconnect the parallel wire from the connector <u>CN881</u> on the main board. (See Fig.16)
 - (2) From the front side of the main body, remove the nut and screw ${\bf W}$ attaching the headphone bracket to the front bracket. (See Fig.17)
 - (3) Remove the three screws **V** attaching the power supply board. (See Fig.16)
 - (4) Take out the headphone jack board from the inside of the chassis base while lifting the power supply board.



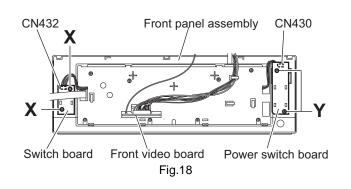


3.16 Removing the switch board (See Fig.18)

- Prior to performing the following procedures, remove the top cover, rear panel, I/O board and front panel assembly.
 - (1) From the back side of the front panel assembly, remove the two screws **X** attaching the switch board.
 - (2) Take out the switch board, disconnect the wire from the connector <u>CN432</u> on the switch board.

3.17 Removing the power switch board (See Fig.18)

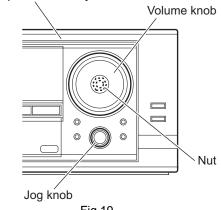
- Prior to performing the following procedures, remove the top cover, rear panel, I/O board and front panel assembly.
 - (1) From the back side of the front panel assembly, remove the two screws **Y** attaching the power switch board.
 - (2) Take out the power switch board, disconnect the wire from the connector <u>CN430</u> on the power switch board.



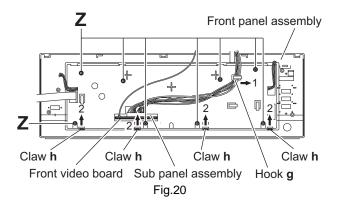
3.18 Removing the front key & system control board, front video board (See Figs.19 to 22)

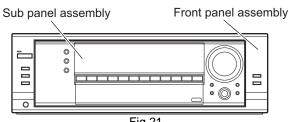
- Prior to performing the following procedures, remove the top cover, rear panel, I/O board, front panel assembly, switch board and power switch board.
 - (1) From the front side of the front panel assembly, pull out the volume and jog knobs, and remove the nut attaching the front key & system control board. (See Fig.19)
 - (2) From the back side of the front panel assembly, remove the eight screws Z attaching the sub panel assembly. (See Fig.20)
 - (3) Remove the wires of the front video board from the hook g of the front panel assembly in the direction of the arrow 1. (See Fig.20)
 - (4) Remove the sub panel assembly while releasing the clawsh in the direction of the arrow 2. (See Fig.20 and 21)
 - (5) From the front side of the front panel assembly, disconnect the wire from the connector <u>CN412</u> on the front key & system control board, and take out the front video board. (See Fig.22)
 - (6) Remove the claws i attaching the front key & system control board in the direction of the arrow and take out the front key & system control board. (See Fig.22)

Front panel assembly

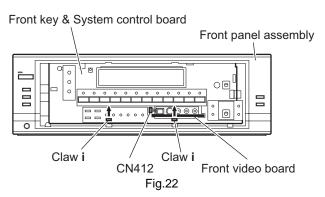












SECTION 4 ADJUSTMENT

4.1 Adjustment method

Tuner section

1. Tuner range

FM 87.5MHz to 108.0MHz

AM 530kHz to 1710kHz

Power amplifier section

Adjustment of idling current

Measurement location <u>B2204</u>-<u>B2205</u> (Lch), <u>B2213-B2214</u> (Rch)

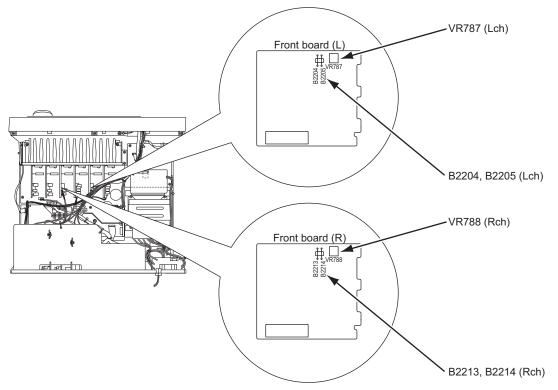
Adjustment part VR787 (Lch), VR788 (Rch)

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 <u>VR787</u> and <u>VR788</u> 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 <u>B2204</u> and <u>B2205</u> (Lch) and, connect it between <u>B2213</u> and <u>B2214</u> (Rch).
- (5) 30 minutes later after power on, adjust <u>VR787</u> for Lch, or <u>VR788</u> for Rch so that the DC voltmeter value has 1mV to 10mV.
- It is not abnormal though the idling current might not become 0mA even if it is finished to turn variable resistance (<u>VR787</u>, <u>VR788</u>) in the direction of counterclockwise.



SECTION 5 TROUBLESHOOTING

5.1 Self-diagnose function

This model incorporates the following self-diagnostic functions.

1. PROTECTOR

 The PROTECTOR IN port detects errors such as speaker overcurrent and DC voltage output errors (Active: L). Immediately after detection, all relays are switched off and the alarm display as shown below (blinking at intervals of 0.5 sec. ON and 0.5 sec. OFF) is displayed in the lower part of the FL matrix.

During the alarm display, all other FL and LED segments are turned off.

OVERLOAD

- The overload status can be canceled by switching the power off. When the power is switched on again, the unit is turned on in the same abnormal status as before. Lower the volume level for 10 steps for protection. (If the previous volume level was between 0 and 9, lower it to 0).
- The detection by the protector is not performed for 4 seconds after power on.

2. Supply voltage error detection

- When the power is switched on, the supply voltage at the A/D input port (pins 2 to 5 and 7) is monitored and, when an error is detected continuously for 1 second, the unit immediately enters the standby mode.
- When the power is switched on again, the unit is turned on in the same abnormal status as before.
- The supply voltage error detection is not performed for 4 seconds after power on.
- The following table shows the error detection thresholds.

	At abnormal state (Low voltage)	At normal state	At abnormal state (High voltage)
Pin 2	Analog value : 0 - 2.2	Analog value : 2.2 - 2.8	Analog value : 2.8 - 5.0
	Digital value : 000 - 1C0	Digital value : 1C1 - 240	Digital value : 241 - 3FF
Pin 3	Analog value : 0 - 2.2	Analog value : 2.2 - 2.8	Analog value : 2.8 - 5.0
	Digital value : 000 - 1C0	Digital value : 1C1 - 240	Digital value : 241 - 3FF
Pin 4	Analog value : 0 - 2.2	Analog value : 2.2 - 2.8	Analog value : 2.8 - 5.0
	Digital value : 000 - 1C0	Digital value : 1C1 - 240	Digital value : 241 - 3FF
Pin 5	Analog value : 0 - 2.2	Analog value : 2.2 - 2.8	Analog value : 2.8 - 5.0
	Digital value : 000 - 1C0	Digital value : 1C1 - 240	Digital value : 241 - 3FF
Pin 7	Analog value : 0 - 2.2	Analog value : 2.2 - 2.8	Analog value : 2.8 - 5.0
	Digital value : 000 - 1C0	Digital value : 1C1 - 240	Digital value : 241 - 3FF



