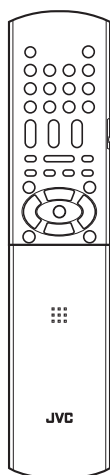


JVC

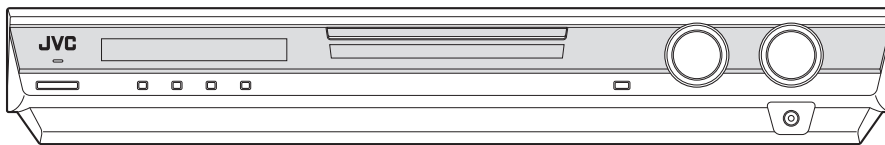
SERVICE MANUAL

HOME THEATER RECEIVER

RX-F10S



Area suffix	
J	U.S.A.
C	Canada



AV COMPU LINK

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SPECIFICATION

Amplifier			
Output Power	At stereo operation	Front channels	100 W per channel, min. RMS, both channels driven into 6 Ω at 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 6 Ω at 1 kHz with no more than 0.8% total harmonic distortion.
		Center channel	100 W, min. RMS, driven into 6 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.
		Surround channels	100 W per channel, min. RMS, driven into 6 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.
		Surround back channel	100 W, min. RMS, driven into 6 Ω at 1 kHz, with no more than 0.8% total harmonic distortion.
Audio			
Audio Input Sensitivity/Impedance	DVR/DVD (DVD MULTI), VCR, DBS, TV:330 mV/47 kΩ		
Audio Input (DIGITAL IN)*1	Coaxial	DIGITAL IN 1(DVR/DVD):0.5 V(p-p)/75 Ω	
	Optical	DIGITAL IN 2(DBS), 3(VCR): -21 dBm to -15 dBm (660 nm ±30 nm)	
Audio Output Level	DVR, VCR, MONITOR OUT:330 mV		
Signal-to-Noise Ratio ('66 IHF/DIN)	80 dB/62 dB		
Frequency Response (6 Ω)	20 Hz to 20 kHz (±1 dB)		
Bass Boost	+4 dB ±1 dB at 100 Hz		
Equalization (at DSP operation)	Center frequency:63 Hz, 250 Hz, 1 kHz, 4 kHz, 16 kHz		
	Control range:±8 dB		
Video			
Video Input Sensitivity/Impedance	Composite video:DVR/DVD, VCR, DBS	1 V(p-p)/75 Ω	
	S-video:DVR/DVD, VCR, DBS	Y (luminance):1 V(p-p)/75 Ω	
		C (chrominance, burst):0.286 V(p-p)/75 Ω	
	Component:DVR/DVD, VCR	Y (luminance):1 V(p-p)/75 Ω	
PB, PR:0.7 V(p-p)/75 Ω			
Video Output Level/Impedance	Composite video:DVR, VCR, MONITOR OUT	1 V(p-p)/75 Ω	
	S-video:DVR, 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		
FM tuner (IHF)			
Tuning Range	87.5 MHz to 108.0 MHz		
Usable Sensitivity	Monaura:12.8 dBf (1.2 μV/75 Ω)		
50 dB Quieting Sensitivity	Monaural:16.0 dBf (1.7 μV/75 Ω) Stereo:37.5 dBf (20.5 μV/75 Ω)		
Stereo Separation at REC OUT	35 dB at 1 kHz		
AM tuner			
Tuning Range	530 kHz to 1 710 kHz		
General			
Power Requirements	AC 120 V , 60 Hz		
Power Consumption	120 W/160 VA (at operation) 2 W (in standby mode)		
Dimensions (W × H × D)	435 mm × 70 mm × 329.5 mm (17 3/16 inches × 2 13/16 inches × 13 inches)		
Mass	6.3 kg (13.9 lbs)		

*1: Corresponding to Linear PCM, Dolby Digital, and DTS (with sampling frequency -32 kHz, 44.1 kHz, 48 kHz).
 Designs & specifications are subject to change without notice.

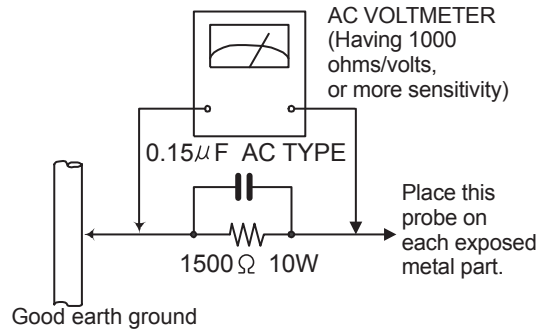
SECTION 1 PRECAUTION

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 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

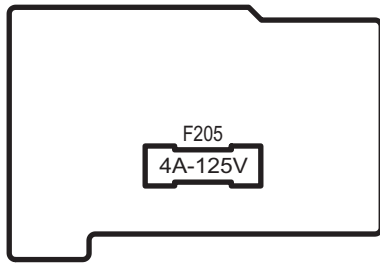
Burrs formed during molding may be left over on some parts of the chassis.
Therefore, pay attention to such burrs in the case of pre-forming repair of this system.

1.4 Critical parts for safety

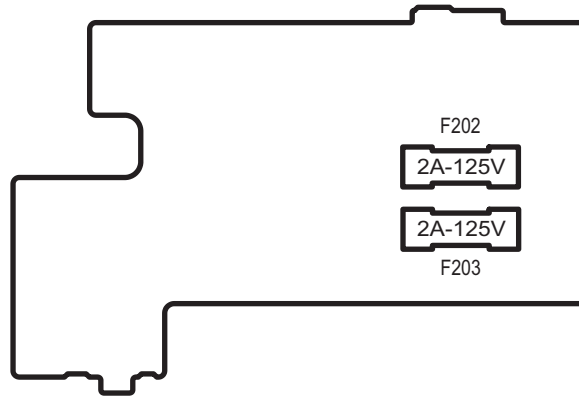
In regard with component parts appearing on the silk-screen printed side (parts side) of the PWB diagrams, the parts that are printed over with black such as the resistor (\blacksquare), diode (\blacksquare) and ICP (\bullet) or identified by the " Δ " mark nearby are critical for safety. When replacing 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)

1.5 Importance administering point on the safety

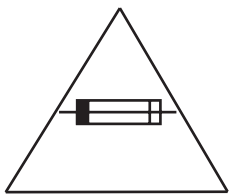
Primary board



Secondary board



For USA and Canada / pour Etats - Unis d' Amérique et Canada



Caution: For continued protection against risk of fire, replace only with same type 4 A/125 V for F205, 2 A/125 V for F202 and F203.

This symbol specifies the type of fast operating fuse.

Précaution: Pour la protection continue contre les risques d'incendie, remplacer uniquement par le même type: fusible 4 A/125 V pour le F205, 2 A/125 V pour le F202 et F203.

Ce symbole spécifie le type de fusible à action rapide.

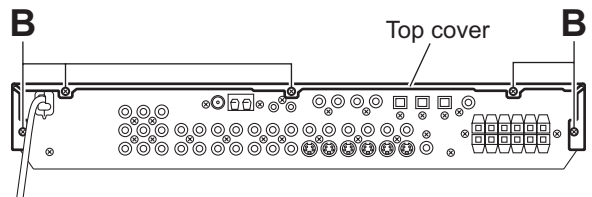
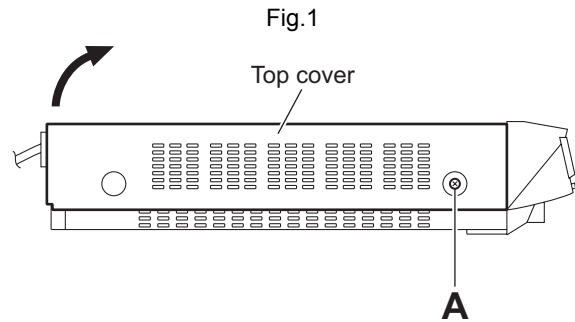
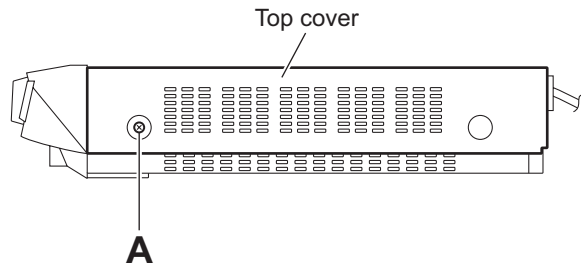
SECTION 2
SPECIFIC SERVICE INSTRUCTIONS

This service manual does not describe SPECIFIC SERVICE INSTRUCTIONS.

SECTION 3 DISASSEMBLY

3.1 Removing the top cover (See Figs.1 to 3)

- (1) From the both sides of the main body, remove the two screws **A** attaching the top cover. (See Figs.1 and 2.)
- (2) From the back side of the main body, remove the five screws **B** attaching the top cover. (See Fig.3.)
- (3) Lift the rear section of the top cover in the direction of the arrow while extending the lower sections of the top cover and remove the top cover from the main body. (See Figs.1 and 2.)



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

- Remove the top cover.
 - (1) From the top side of the main body, remove the divider. (See Fig.4.)

Reference:

After attaching the front panel assembly, attach the divider as before. (See Fig.4.)

- (2) Disconnect the wire from the connector **CN421** on the connection 2 board. (See Fig.4.)
- (3) Remove the tie band and wire clamps. (See Fig.4.)
- (4) Disconnect the wire from the connector **CN412** on the secondary board. (See Fig.4.)

Reference:

After connecting the wire to the connector, bundle the wires with the other wires using the wire clamps and new tie band as before. (See Fig.4.)

- (5) Remove the screw **C** and two screws **C'** attaching the front panel assembly. (See Fig.4.)

Reference:

When attaching the screws **C'**, attach the earth wires with them. (See Fig.4.)

- (6) From the bottom side of the main body, remove the four screws **D** attaching the front panel assembly. (See Fig.5.)
- (7) Release the two claws **a** and claw **b**, remove the front panel assembly in the direction of the arrow. (See Fig.5.)

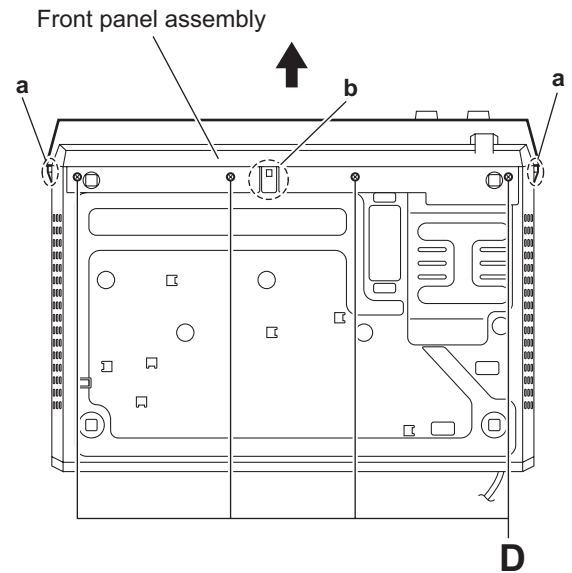
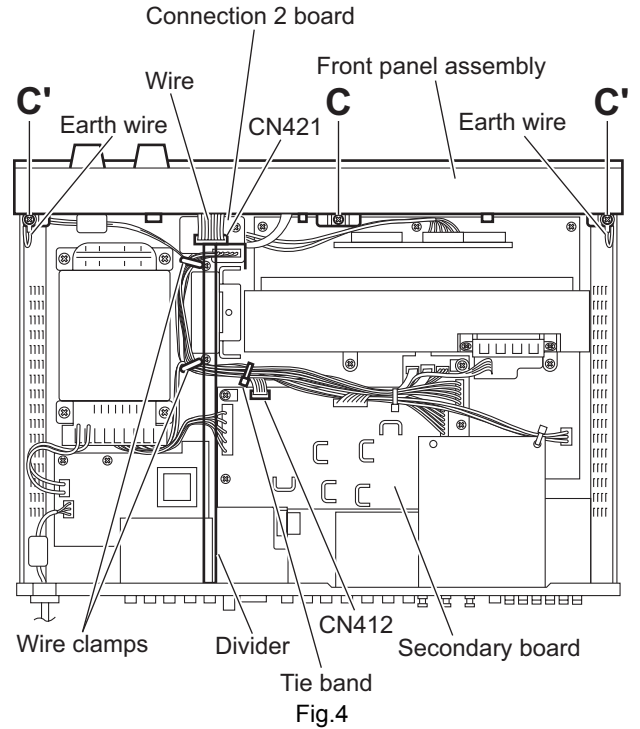


Fig.5

3.3 Removing the rear panel (See Fig.6)

- Remove the top cover.
 - (1) From the back side of the main body, remove the strain relief attaching the power cord in the direction of the arrow.
 - (2) Remove the twenty-five screws **E** attaching the rear panel.
 - (3) Release the engagement sections **c** and remove the rear panel from the main body.

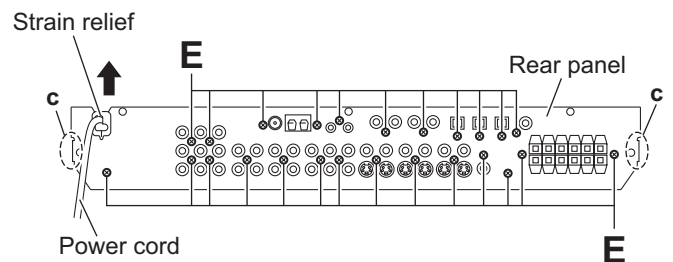


Fig.6

3.4 Removing the tuner (See Figs.7 and 8)

- Remove the top cover.
 - (1) From the top side of the main body, disconnect the card wire from the connector [CN1](#) on the tuner. (See Fig.7.)
 - (2) From the back side of the main body, remove the two screws **F** attaching the tuner. (See Fig.8.)
 - (3) Take out the tuner from the main body.

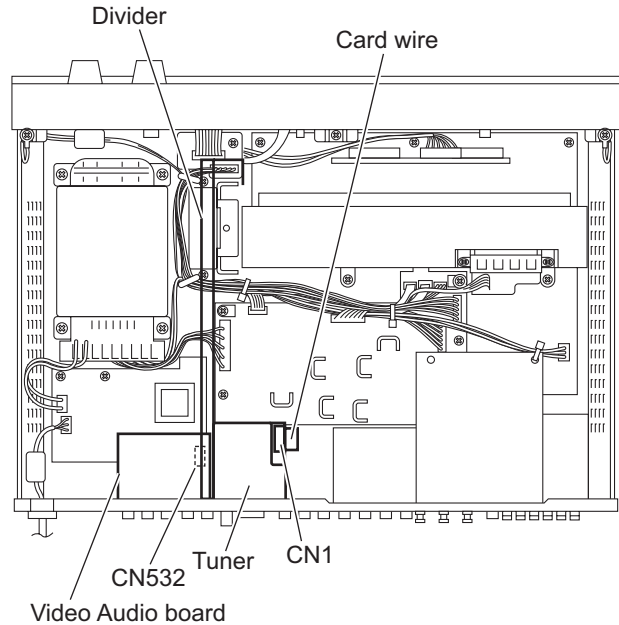


Fig.7

3.5 Removing the video/audio board (See Figs.7 and 8)

- Remove the top cover.
 - (1) From the top side of the main body, remove the divider.

Reference:
When reassembly, attach the divider as before.
 - (2) From the back side of the main body, remove the four screws **G** attaching the video/audio board. (See Fig.8.)
 - (3) From the top side of the main body, take out the video/audio board from the main body and disconnect the card wire from the connector [CN532](#) on the forward side of the video/audio board. (See Fig.7.)

Reference:
Remove the divider as required. (See Fig.7.)

3.6 Removing the DSP board (See Figs.8 and 9)

- Remove the top cover.
 - (1) From the back side of the main body, remove the four screws **H** attaching the DSP board. (See Fig.8.)
 - (2) From the top side of the main body, remove the tie bands bundling the wires. (See Fig.9.)

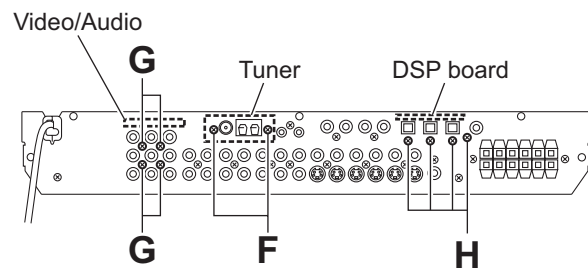


Fig.8

Reference:
After reassembling, bundle the wires with the new tie bands as before. (See Fig.9.)

- (3) From the forward side of the DSP board, release the lock **d** of the connector [CN601](#) in the direction of the arrow and disconnect the DSP board from the connection 1 board. (See Fig.9.)

Note:
When releasing the lock **d** of the connector [CN601](#), take care not to break the lock. (See Fig.9.)

- (4) From the forward side of the DSP board, disconnect the card wire from the connector [CN602](#). (See Fig.9.)

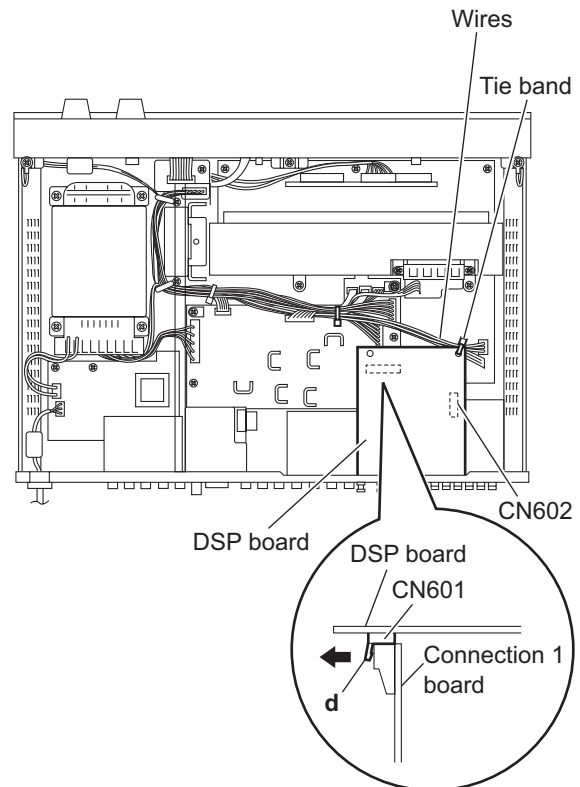


Fig.9

3.7 Removing the compu board (See Fig.10)

- Remove the top cover.
 - (1) Remove the screws **J** attaching the compu board.
 - (2) Disconnect the wire from the connector [CN565](#) on the compu board.
 - (3) Take out the compu board from the main body.

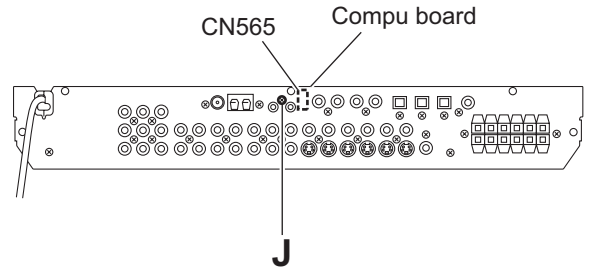


Fig.10

3.8 Removing the primary board (See Fig.11)

- Remove the top cover and video/audio board.
 - (1) From the top side of the main body, remove the divider.
 - (2) Disconnect the wire from the connector [CN208](#) on the secondary board.
 - (3) Disconnect the wire and power cord from the connectors ([CN202](#), [CN203](#)) on the primary board.
 - (4) Remove the four screws **K** attaching the primary board.
 - (5) Take out the primary board from the main body.

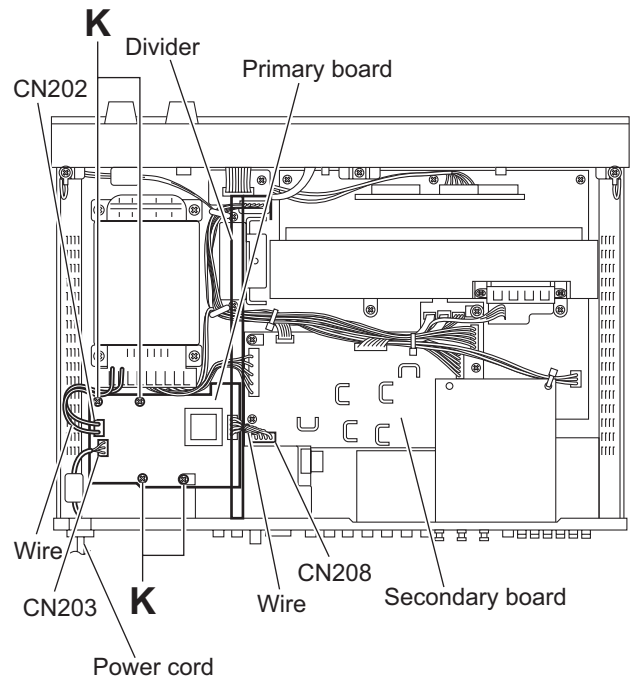


Fig.11

3.9 Removing the power transformer (See Fig.12)

- Remove the top cover.
 - From the top side of the main body, remove the tie bands and wire clamp bundling the wires.

Reference:

After reassembling, bundle the wires with the new tie bands and wire clamp as before.

- Disconnect the wire from the connector [CN201](#) on the secondary board.
- Disconnect the wire from the connector [CN202](#) on the primary board.
- Disconnect the wire from the connector [CN702](#) on the main amplifier board.
- Remove the four screws **L** attaching the power transformer.
- Take out the power transformer from the main body.

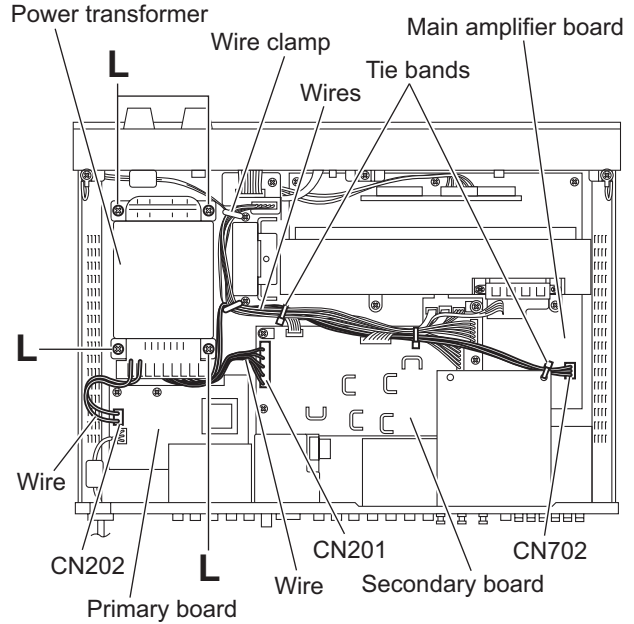


Fig.12

3.10 Removing the secondary board (See Fig.13)

- Remove the top cover.
 - From the top side of the main body, remove the divider.

Reference:

When reassembly, attach the divider as before.

- Remove the tie bands bundling the wires.

Reference:

After reassembling, bundle the wires with the new tie bands as before.

- Disconnect the wires from the connectors ([CN201](#), [CN207](#), [CN208](#), [CN211](#), [CN216](#), [CN261](#), [CN412](#), [CN510](#), [CN520](#), [CN721](#)) on the secondary board.

Reference:

Disconnect the wire from the connector [CN702](#) on the main amplifier board as required.

- Remove the four screws **M** attaching the secondary board.
- Take out the secondary board from the main body.

Reference:

When attaching the secondary board, insert the section **e** of the secondary board in the hole of the heat sink and attach the secondary board.

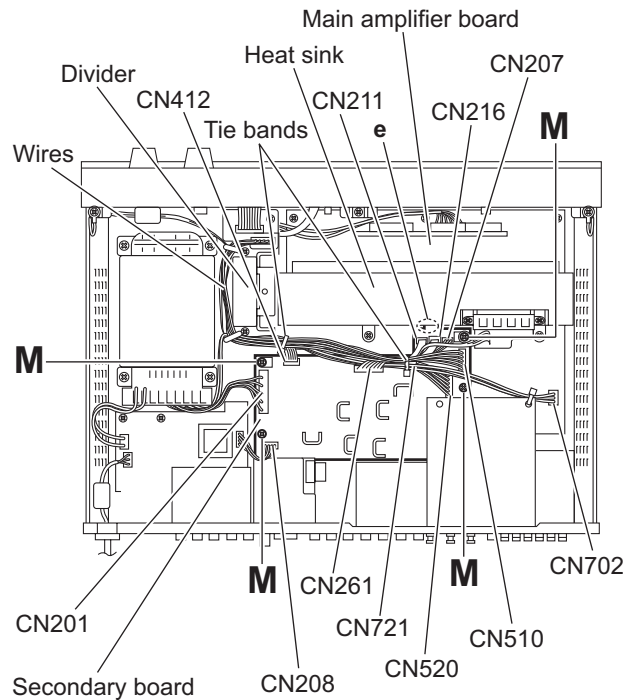


Fig.13

3.11 Removing the speaker terminal board (See Figs.14 and 15)

- Remove the top cover and DSP board.
 - From the top side of the main body, disconnect the wires from the connectors (CN301, CN701, CN725, CN801) on the speaker terminal board. (See Fig.14.)
 - From the back side of the main body, remove the two screws **N** attaching the speaker terminal board. (See Fig.15.)
 - Take out the speaker terminal board from the main body.

3.12 Removing the scart board (See Figs.14 and 15)

- Remove the top cover and DSP board.
 - From the top side of the main body, disconnect the card wires from the connectors CN532 on the scart board. (See Fig.14.)
 - From the back side of the main body, remove the two screws **P** attaching the scart board. (See Fig.15.)
 - Take out the scart board from the main body.

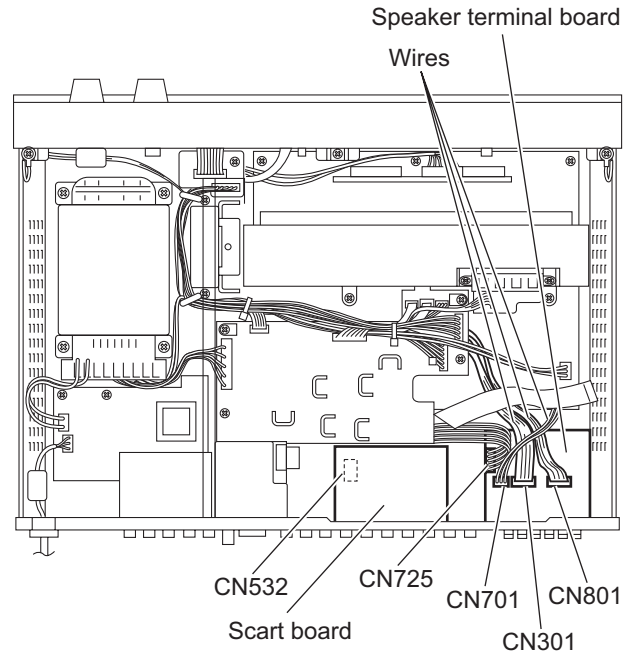


Fig.14

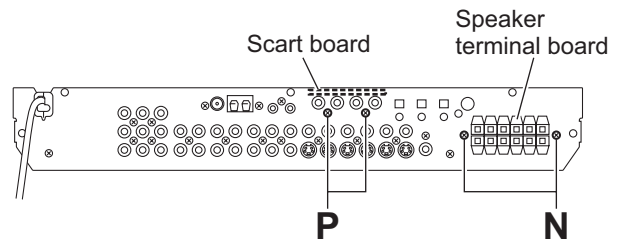


Fig.15

3.13 Removing the input board (See Figs.16 and 17)

- Remove the top cover, tuner, video/audio board, DSP board, secondary board, speaker terminal board and scart board.
 - (1) From the back side of the main body, remove the strain relief attaching the power cord in the direction of the arrow. (See Fig.16.)
 - (2) Remove the ten screws **Q** attaching the rear panel. (See Fig.16.)
 - (3) Release the engagement sections **f** and remove the rear panel from the main body. (See Fig.16.)
 - (4) From the top side of the main body, remove the tie bands bundling the wires. (See Fig.17.)
 - (5) Disconnect the wires from the connectors [\(CN451, CN506\)](#) on the input board. (See Fig.17.)
 - (6) Remove the screw **R** and screw **R'** attaching the input board.

Reference:

When attaching the screw **R'**, attach the wire clamp with it.

- (7) Take out the input board from the main body in the direction of the arrow. (See Fig.17.)

Reference:

Remove the connection 1 board on the input board as required. (See Fig.17.)

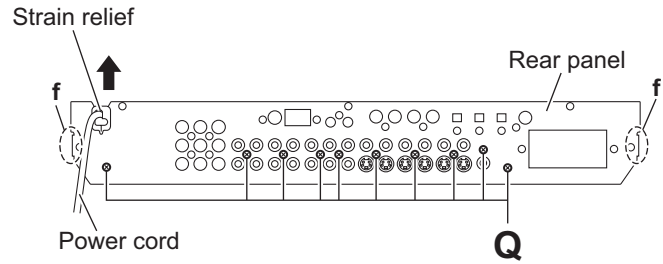


Fig.16

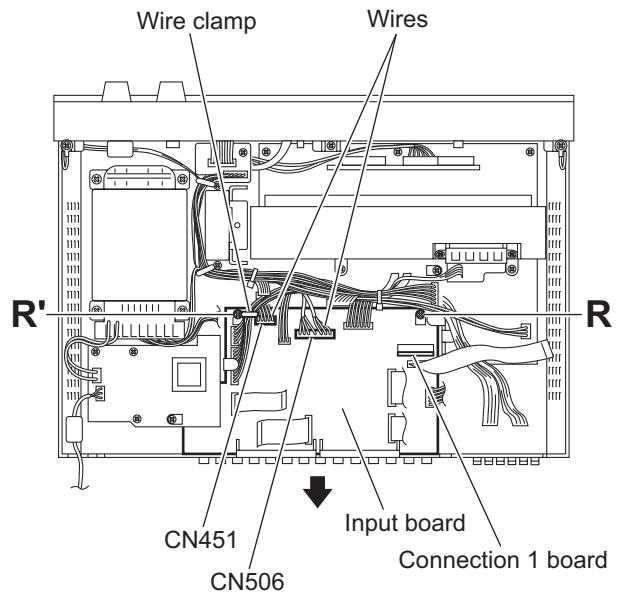


Fig.17

3.14 Removing the PWM modulator board (See Fig.18.)

- Remove the top cover, DSP board and secondary board.
 - From the top side of the main body, remove the tie band and wire clamps bundling the wires.

Reference:

After reassembling, bundle the wires with the new tie band and wire clamps as before. (See Fig.9.)

- Disconnect the wire from the connector [CN506](#) on the input board.
- Release the locks **g** of the connectors ([CN705](#), [CN706](#)) on the main amplifier board in the direction of the arrow and disconnect the PWM modulator board from the main amplifier board with the wire in an upward direction.

Note:

When releasing the locks **g** of the connectors ([CN705](#), [CN706](#)) on the main amplifier board, take care not to break the locks.

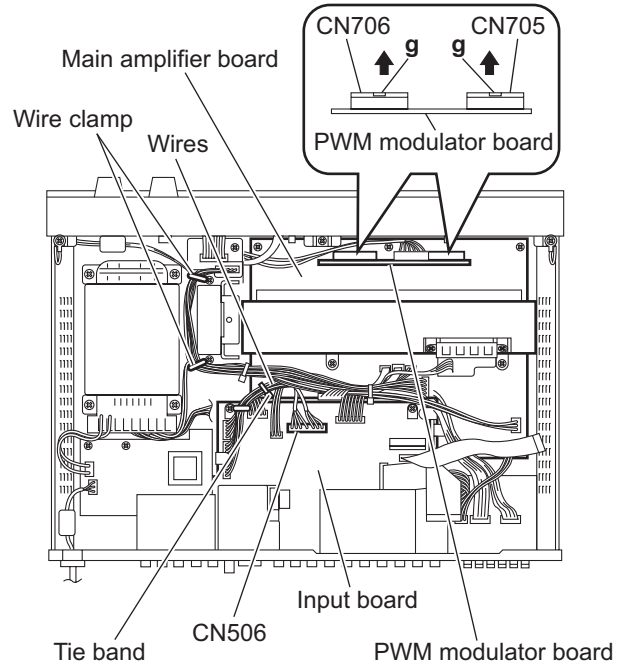


Fig.18

3.15 Removing the main amplifier board (See Fig.19)

- Remove the top cover, DSP board, secondary board and PWM modulator board.
 - From the top side of the main body, remove the tie band bundling the wires.

Reference:

After reassembling, bundle the wires with the new tie band as before.

- Disconnect the wires from the connectors ([CN519](#), [CN702](#)) on the main amplifier board.
- Disconnect the wires from the connectors ([CN301](#), [CN701](#), [CN801](#)) on the speaker terminal board.
- Remove the three screws **S** and two screws **T** attaching the main amplifier board on the chassis base.
- Take out the main amplifier board from the main body.

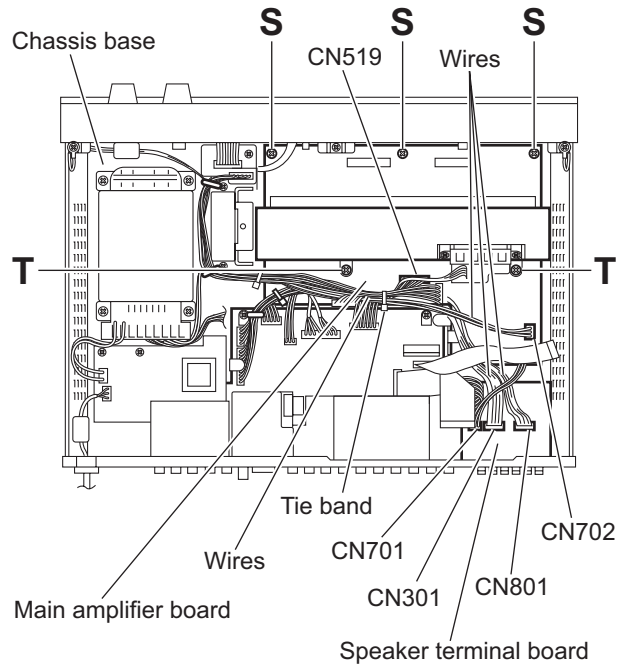


Fig.19

3.16 Removing the heat sink (See Figs.20 and 21)

- Remove the top cover, DSP board, secondary board, PWM modulator board and main amplifier board.

(1) From the forward side of the main amplifier board, remove the six screws **U** attaching the heat sink to the shield bracket. (See Fig.20.)

Reference:

When attaching the heat sink to the shield bracket, align the projections **i** to the holes of the shield bracket before attaching the screws **U**.

(2) From the reverse side of the main amplifier board, remove the two screws **V** attaching the heat sink to the main amplifier board. (See Fig.21.)

(3) Release the joints **h** in the direction of the arrow and remove the heat sink from the main amplifier board. (See Fig.21.)

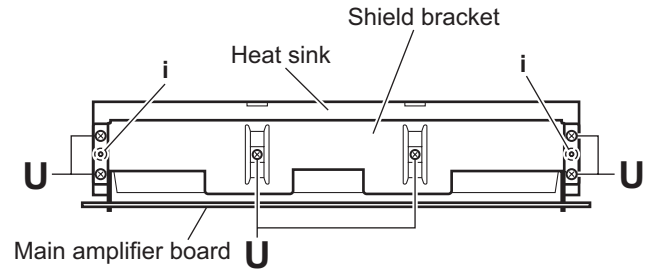


Fig.20

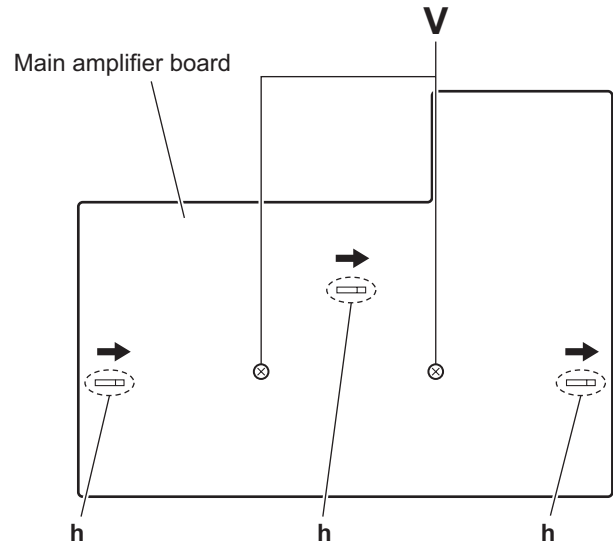


Fig.21

3.17 Removing the fan motor (See Figs.22 and 23)

- Remove the top cover.
 - (1) From the top side of the main board, remove the tie bands bundling the wires. (See Fig.22.)

Reference:

After reassembling, bundle the wires with the new tie bands as before. (See Fig.22.)

- (2) Disconnect the wire from the connector [CN207](#) on the secondary board. (See Fig.22.)
- (3) Remove the two screws **W** attaching the fan bracket. (See Fig.22.)
- (4) Take out the fan motor with the fan bracket.
- (5) Remove the tie band bundling the wire. (See Fig.23.)

Reference:

After reassembling, bundles the wire with the new tie band as before. (See Fig.23.)

- (6) Remove the screw **X** and screw **X'** attaching the fan motor to the fan bracket. (See Fig.23.)

Reference:

When attaching the screw **X'**, attach the fan cover with it. (See Fig.23.)

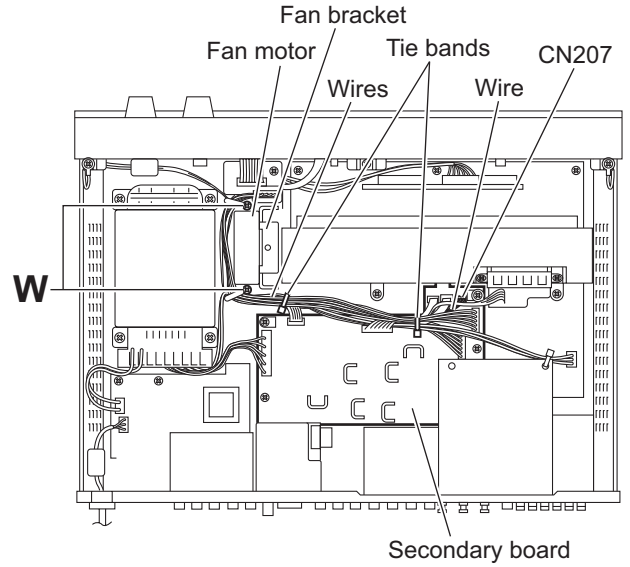


Fig.22

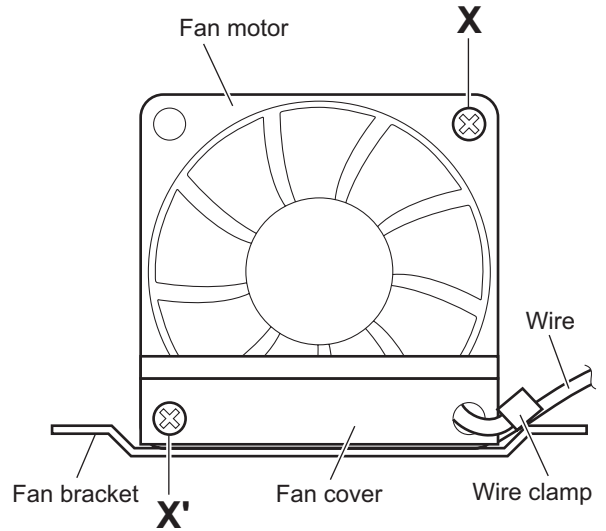


Fig.23

3.18 Removing the transistor board (See Fig.24)

- Remove the top cover.
 - From the top side of the main body, remove the tie band bundling the wires.

Reference:

After reassembling, bundle the wires with the new tie band as before.

- Disconnect the wire from the connector [CN261](#) on the secondary board.
- Remove the two screws **Y** attaching the transistor holder and remove the sections **j** of the transistor holder from the heat sink in the direction of the arrow.
- Remove the transistor board from the heat sink.

Reference:

When attaching the transistor board, align the projections **k** to the hole of the transistors (Q211, Q226).

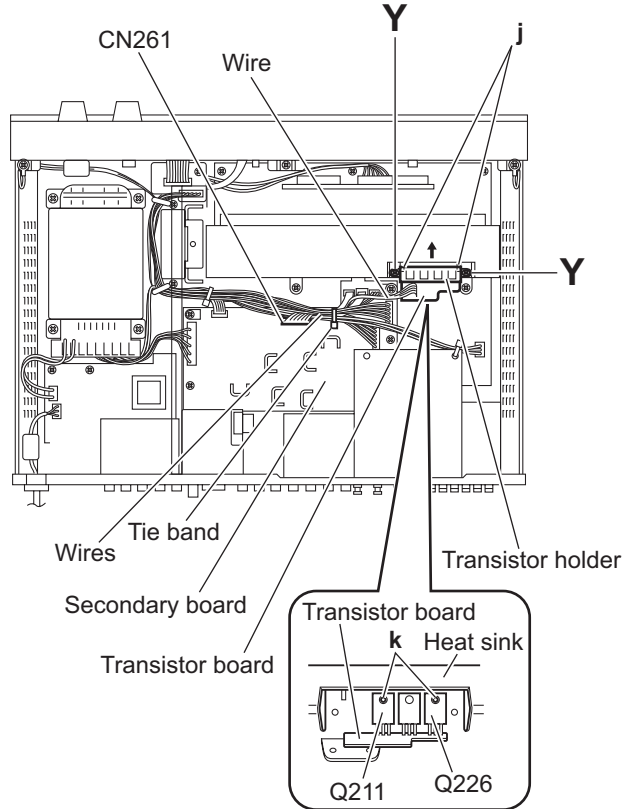


Fig.24

3.19 Removing the connection 2 board (See Fig.25)

- Remove the top cover.
 - From the top side of the main body, release the wire clamps bundling the wires. When reassembling, bundle the wires with the wire clamps as before.
 - Disconnect the wire from the connector [CN451](#) on the input board.
 - Disconnect the wire from the connector [CN421](#) on the connection 2 board.
 - Remove the screw **Z** attaching the connection 2 board to the chassis base.

Reference:

When attaching the connection 2 board, insert the projection **m** of the connection 2 board in the hole of the chassis base.

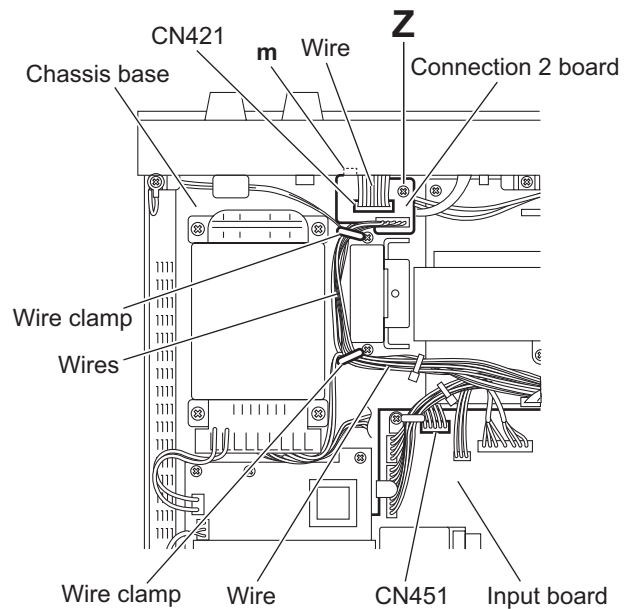
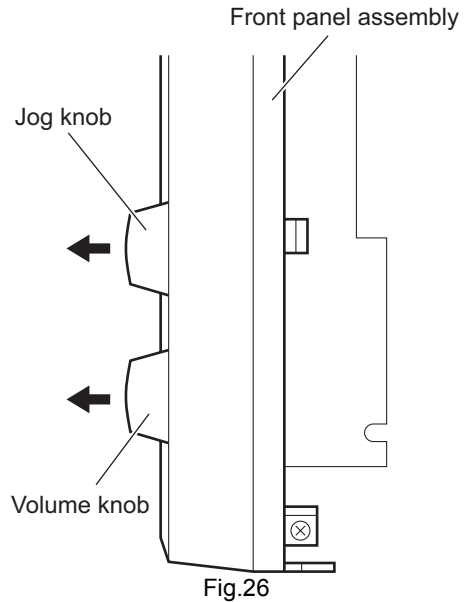


Fig.25

3.20 Removing the jog board (See Figs.26 and 27)

- Remove the top cover and front panel assembly.
 - From the front side of the front panel assembly, pull out the volume knob and jog knob in the direction of the arrow. (See Fig.26.)
 - From the inside of the front panel assembly, remove the four screws **AA** attaching the jog board. (See Fig.27.)
 - Take out the jog board from the front panel assembly.
 - From the forward side of the jog board, disconnect the wire from the connector [CN413](#). (See Fig.27.)



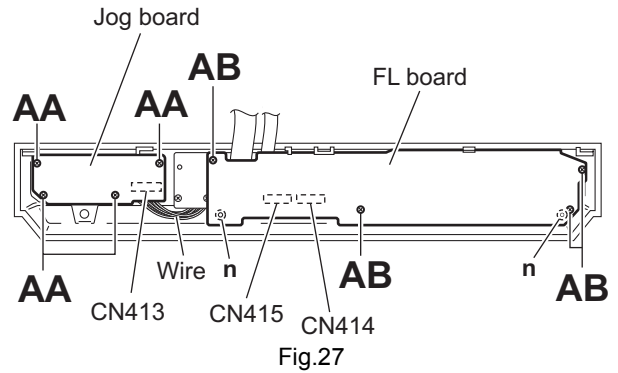
3.21 Removing the FL board (See Fig.27)

- Remove the top cover, front panel assembly and jog board.
 - From the inside of the front panel assembly, remove the four screws **AB** attaching the FL board.
 - Take out the FL board from the front panel assembly.

Reference:

When attaching the FL board, align the projections **n** of the front panel assembly to the holes of the FL board.

- From the forward side of the FL board, disconnect the wires from the connectors ([CN414](#), [CN415](#)).



3.22 Removing the key & LED board (See Fig.28)

- Remove the top cover, front panel assembly and FL board.

Reference:

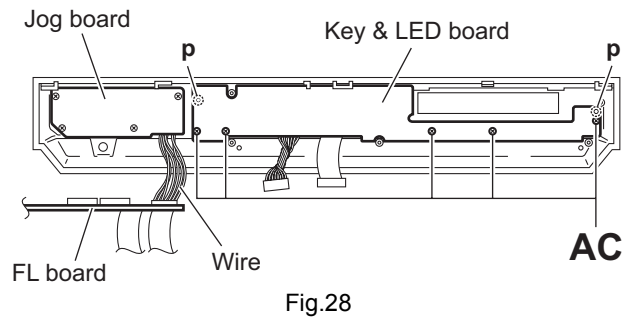
Remove the jog board and wire as required.

- From the inside of the front panel assembly, remove the five screws **AC** attaching the key & LED board.

Reference:

When attaching the key & LED board, align the projections **p** of the front panel assembly to the holes of the key & LED board.

- Take out the key & LED board from the front panel assembly.



SECTION 4 ADJUSTMENT

This service manual does not describe ADJUSTMENT.

SECTION 5 TROUBLESHOOTING

This service manual does not describe TROUBLESHOOTING.



JVC

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