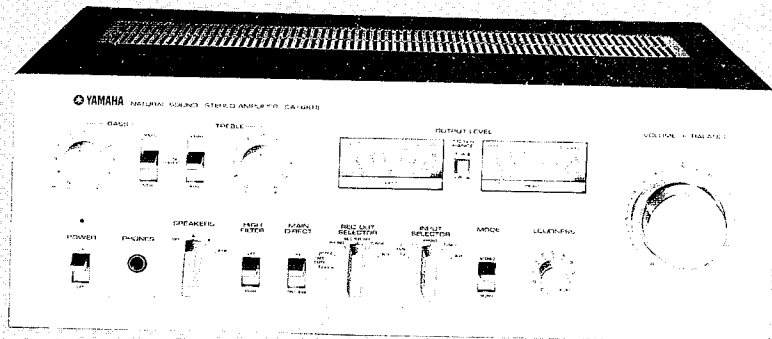


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SERVICE MANUAL

CA-610 II

STEREO AMPLIFIER



SINCE 1887



YAMAHA

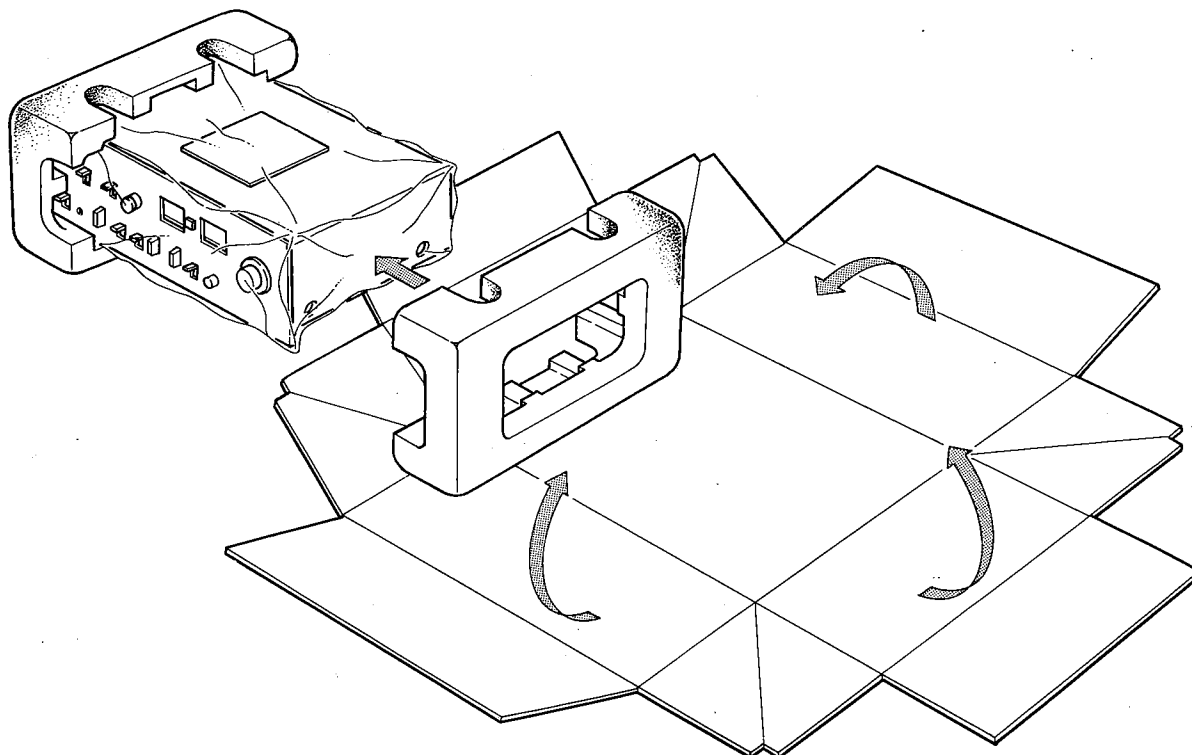
NIPPON GAKKI CO., LTD. HAMAMATSU, JAPAN



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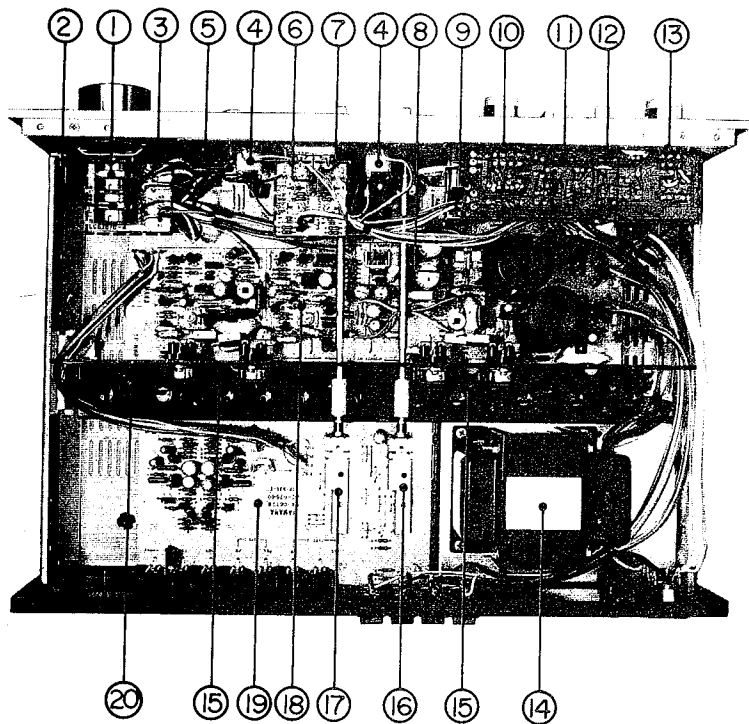
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■PACKAGE INSTRUCTION



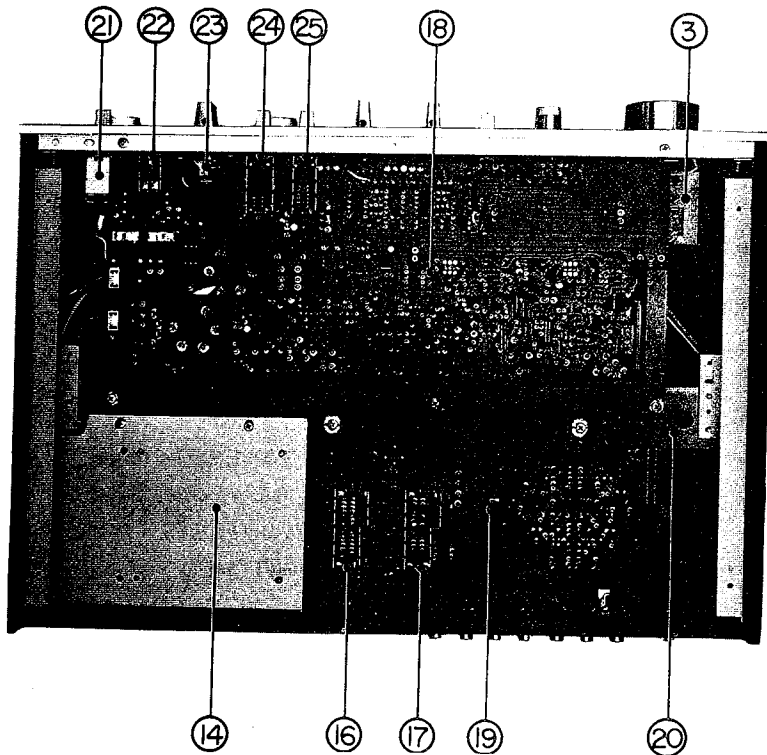
EXTERNAL VIEW

TOP VIEW



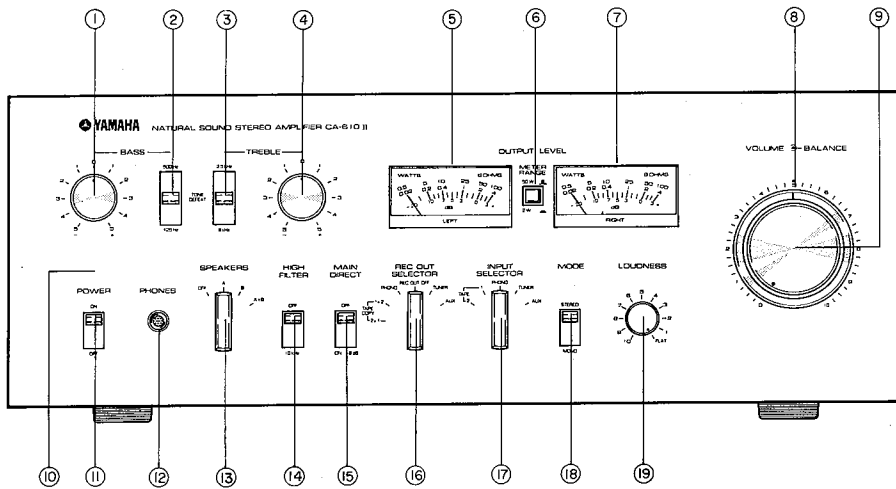
- ① Balance VR
- ② Level Control
- ③ Main C, Board 2 (Volume)
- ④ Level Meter
- ⑤ Loudness Control VR
- ⑥ Meter Range SW
- ⑦ Main C, Board 4 (Meter Drive)
- ⑧ Protector Relay
- ⑨ Main C, Board 3 (Tone Control)
- ⑩ Treble Control
- ⑪ Turnover Selector/Tone Defeat SW (TREBLE)
- ⑫ Turnover Selector/Tone Defeat SW (BASS)
- ⑬ Bass Control
- ⑭ Power Transformer
- ⑮ Power Transistor
- ⑯ Recording Output Selector
- ⑰ Input Selector
- ⑱ Main C, Board 1 (Power Supply, Main Amplifier)
- ⑲ Function C, Board
- ⑳ Heat-sink
- ㉑ Power SW
- ㉒ Head-phone Jack
- ㉓ Speaker Selector
- ㉔ High Filter
- ㉕ Main-Direct SW

BOTTOM VIEW



PANEL OPERATION

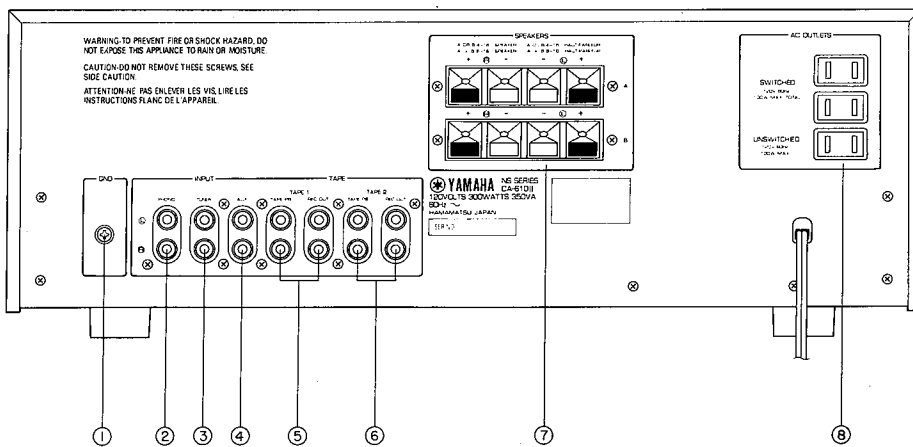
FRONT PANEL



- ① BASS Control
- ② Turnover TONE DEFEAT (BASS)
- ③ Turnover TONE DEFEAT (TREBLE)
- ④ TREBLE Control
- ⑤ OUTPUT LEVEL Meter (LEFT)
- ⑥ METER RANGE Switch
- ⑦ OUTPUT LEVEL Meter (RIGHT)
- ⑧ BALANCE Control
- ⑨ VOLUME Control
- ⑩ POWER Indicator
- ⑪ POWER Switch
- ⑫ Head Phone Jack
- ⑬ SPEAKERS Selector
- ⑭ HIGH FILTER Switch
- ⑮ MAIN DIRECT Switch
- ⑯ REC OUT SELECTOR
- ⑰ INPUT SELECTOR
- ⑱ MODE Switch
- ⑲ LOUDNESS Control

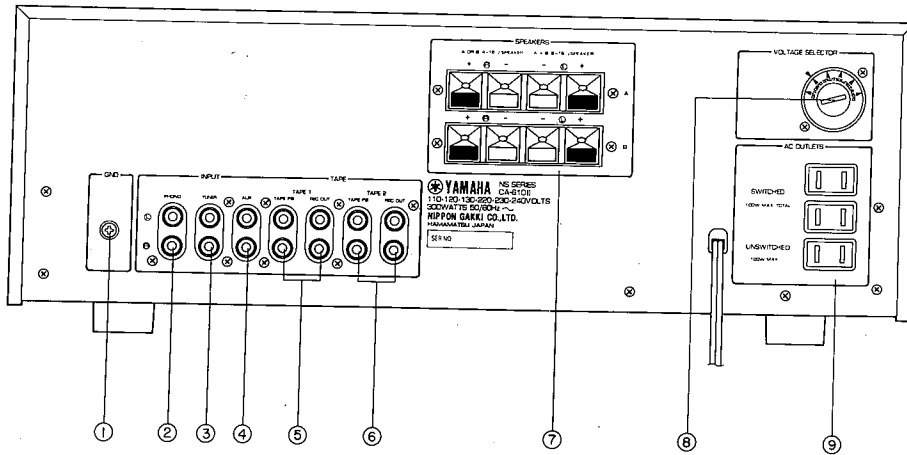
REAR PANEL

U.S.A. & Canadian Model



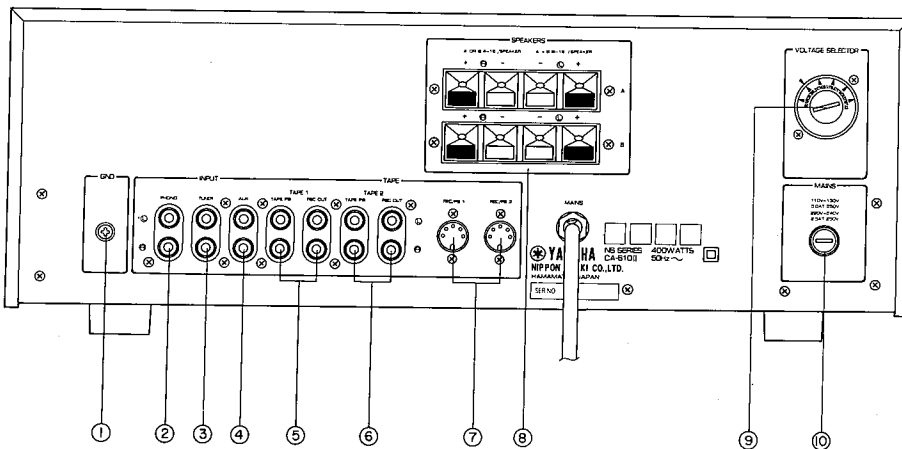
- ① GND Terminal
- ② PHONO Input
- ③ TUNER Input
- ④ AUX Input
- ⑤ TAPE 1 (REC Out, TAPE PB)
- ⑥ TAPE 2 (REC Out, TAPE PB)
- ⑦ SPEAKERS Terminal A, B
- ⑧ AC OUTLETS (SWITCHED, UNSWITCHED)

General Export Model



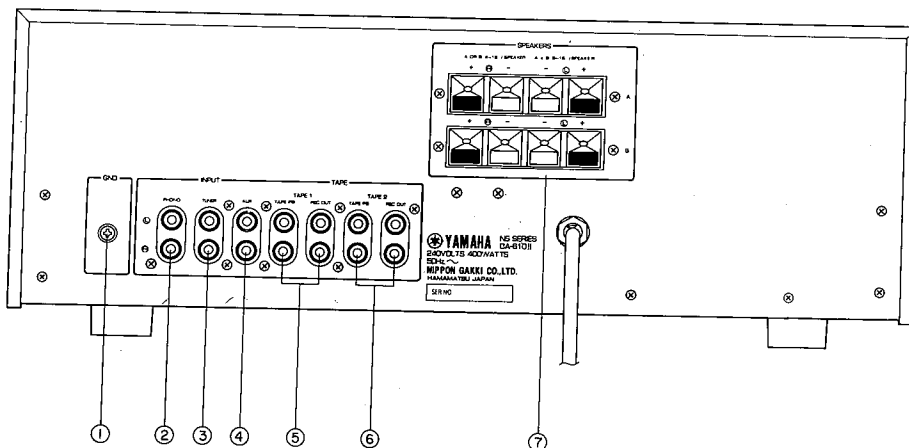
- ① GND Terminal
- ② PHONO Input
- ③ TUNER Input
- ④ AUX Input
- ⑤ TAPE 1 (REC Out, TAPE PB)
- ⑥ TAPE 2 (REC Out, TAPE PB)
- ⑦ SPEAKERS Terminal A, B
- ⑧ VOLTAGE SELECTOR
- ⑨ AC OUTLETS (SWITCHED, UNSWITCHED)

British & European Model



- ① GND Terminal
- ② PHONO Input
- ③ TUNER Input
- ④ AUX Input
- ⑤ TAPE 1 (REC Out, TAPE PB)
- ⑥ TAPE 2 (REC Out, TAPE PB)
- ⑦ REC/PB 1, 2
- ⑧ SPEAKERS Terminal A, B
- ⑨ VOLTAGE SELECTOR
- ⑩ Fuse Holder (MAINS)

Australian Model



- ① GND Terminal
- ② PHONO Input
- ③ TUNER Input
- ④ AUX Input
- ⑤ TAPE 1 (REC Out, TAPE PB)
- ⑥ TAPE 2 (REC Out, TAPE PB)
- ⑦ SPEAKER Terminal A, B

DISASSEMBLY PROCEDURES

1. Cabinet Removal

Remove four screws from both sides of the cabinet and remove the cabinet by pulling it backward. Do not lift the cabinet.

Note: In this condition, fuses, meter lamps, etc. can be replaced.

2. Bottom Cover Removal

Turn the unit upside down and remove five screws on the bottom cover.

Note: In this condition, at each PCB, parts not directly secured to the sub-panel can be checked and replaced.

3. Front Panel Removal

3.1 Remove the control knobs on the front panel.

- a. Pull off the level control VR knob, tone control knobs and LOUDNESS control knob.
- b. Remove the selector knobs and BALANCE VR knob after loosening set screws with a hexagonal wrench. For the BALANCE VR knob, insert the wrench between the front panel and sub-panel in arrow direction, and loosen two screws. (See Photo 1)

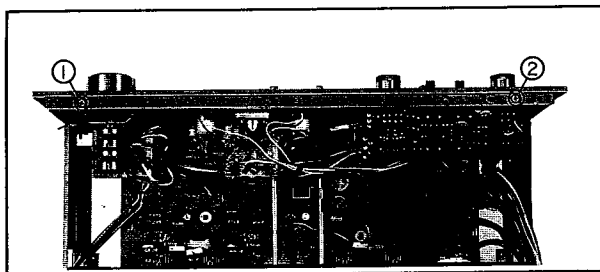


Photo. 1

3.2 Pull out the socket from the POWER IND. LED as shown in Photo 2.

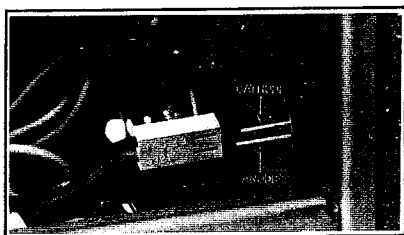


Photo. 2

3.3 Remove the screws ① and ② in Photo 1 as well as two front-panel-securing screws on the bottom side of the unit and remove the panel.

Note: Photo 3 shows the unit without the front panel and level meters.

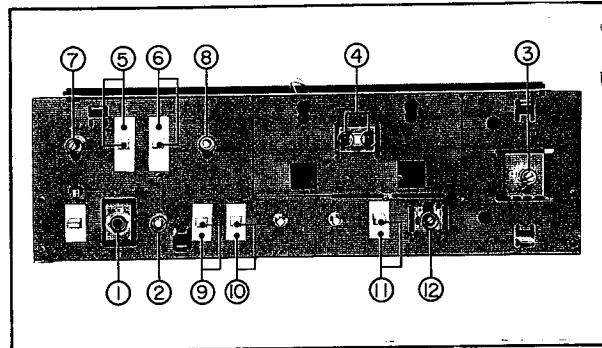


Photo. 3

In this condition, parts secured to the sub-panel can be replaced after removing the hexagon nuts ① to ④ and screws. For the switches whose bases are directly soldered to the PCB, unsolder them for removal with a soldering iron.

- a. Headphone jack Nut ①
- b. Speaker selector switch Nut ②
- c. Main circuit board 4 (level control and balance control section) Nut ③
- d. Main circuit board 2 (meter drive section) Screw ④

The selector switch is directly soldered to the PCB. Note: The level meters can be removed merely by removing lead wires. At this time, be careful not to tear the protection tape.

4. Main Circuit Board 3 (Tone Control Section) Removal

To remove the main circuit board 3, withdraw ⑤ and ⑥ shown in Photo 3, then unscrew hexagon nuts ⑦ and ⑧ in Photo 3 as well as screws ① and ② in Photo 5.

5. Main Circuit Board 1 (Main Amp Section) Removal

- 5.1 Remove screws ① and ② in Photo 4, then withdraw the power transistors from the sockets. (Condition (B))
- 5.2 Withdraw ⑨ to ⑪ and unscrew hexagon nut ⑫ shown in Photo 3, then remove screws ③ to ⑤ in Photo 5.
- 5.3 Remove screws ① to ③ shown in Photo 6. Note: Replace the selector switches by removing the hexagon nuts according to Item 5.2, skipping the step 5.1.

