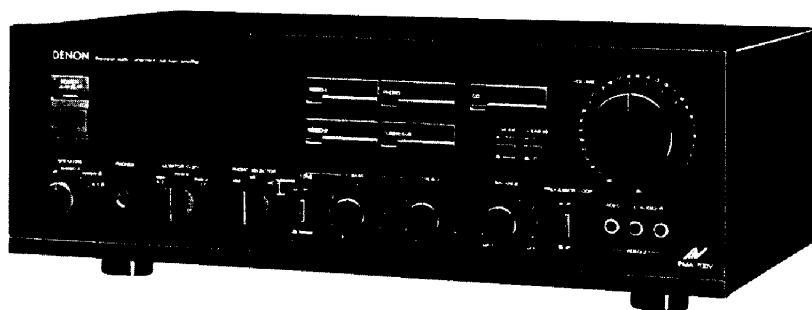


# DENON

Hi-Fi Integrated Amplifier

## SERVICE MANUAL MODEL PMA-700V

SOLID STATE  
INTEGRATED AMPLIFIER



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**NIPPON COLUMBIA CO., LTD.**

**SPECIFICATIONS**

**POWER AMPLIFIER SECTION**

**Rated Output Power:** Both channel drives (TUNER → SP OUT)  
 100 Watts minimum rms per channel (8 ohm Load) with less than 0.02% total harmonic distortion from 20 Hz to 20 kHz.  
 1 kHz (4 ohm Load) 150 W + 150 W (DIN, T.H.D 1%)  
 1 kHz (6 ohm Load) 120 W + 120 W (IEC, Subject to change by temperature test)

**Total Harmonic Distortion:** 0.004% (20 Hz – 20 kHz at –3 dB rated output 8 ohm Load)  
 0.0025% (1 kHz at rated output 8 ohm Load)

**Input Sensitivity:** 150 mV

**Input Impedance:** 30 k ohm

**EQUALIZER AMPLIFIER SECTION**

**Equalizer Amplifier Output:** (REC OUT Terminal) Rated Output: 150 mV

**Input Sensitivity/Input Impedance:**

PHONO MM	2.5 mV	47 k ohm
MC	200 μV	100 ohm

CD, VIDEO-1, VIDEO-2, TUNER/AUX, TAPE

	150 mV	30 k ohm
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**RIAA Deviation:**

PHONO MM	within ±0.2 dB (20 Hz – 20 kHz)
MC	within ±0.3 dB (20 Hz – 100 kHz)

**Maximum Input Voltage:**

PHONO MM	160 mV/1 kHz
MC	12 mV/1 kHz

**OVERALL CHARACTERISTICS**

**SN Ratio (IHFA Network):** PHONO MM 94 dB (input terminals short-circuited for 5 mV input)  
 MC 75 dB (input terminals short-circuited for 500 μV input)

TUNER/AUX, CD, TAPE, VIDEO-1, VIDEO-2  
 107 dB (input terminals short-circuited)

**Tone Control Adjustable Range:** BASS 100 Hz ±10 dB  
 TREBLE 10 kHz ±10 dB

**Filtering Characteristics:** SUBSONIC 16 Hz, 12 dB/oct

**Loudness Characteristics:** Low frequency 100 Hz + 7 dB  
 High frequency 10 kHz + 6 dB

**AC OUTLET:** (For U.S.A., Canada and Asia)  
 SWITCHED x 2, 100 W (Total)  
 UNSWITCHED x 1,250 W

**POWER SOURCE:** Germany and France AC 220 V, 50 Hz; U.K. and Australia AC 240 V, 50 Hz; U.S.A. and Canada AC 120 V, 60 Hz; Asia 110/120/220/240 V, 50/60 Hz (Multiple)

**POWER CONSUMPTION:** 3.8 A (U.S.A. & Canada); 220 W (IEC), 190W (Multiple)

**DIMENSIONS:** 434 mm (17-5/64")W x 157 mm (6-3/16")H x 397 mm (15-5/8")D (including rubber feet, control knobs, and terminals.)

**WEIGHT:** 10.5 kg (23 lbs 2 oz)

Design and specifications are subject to change without prior notice.

**NOTE:** The following codes correspond to the appropriate models.  
 E3 for U.S.A., EA for Australia, EC for Canada  
 This Service Manual is prepared based on E2 for Black Version.

For United Kingdom model only.

**WARNING:**

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.  
 The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

**IMPORTANT**

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral  
 Brown: Live

For Australia model only.

**FOR YOUR SAFETY**

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

For U.S.A. and Canada models.

**CAUTION**

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

## NAMES AND FUNCTIONS OF PARTS

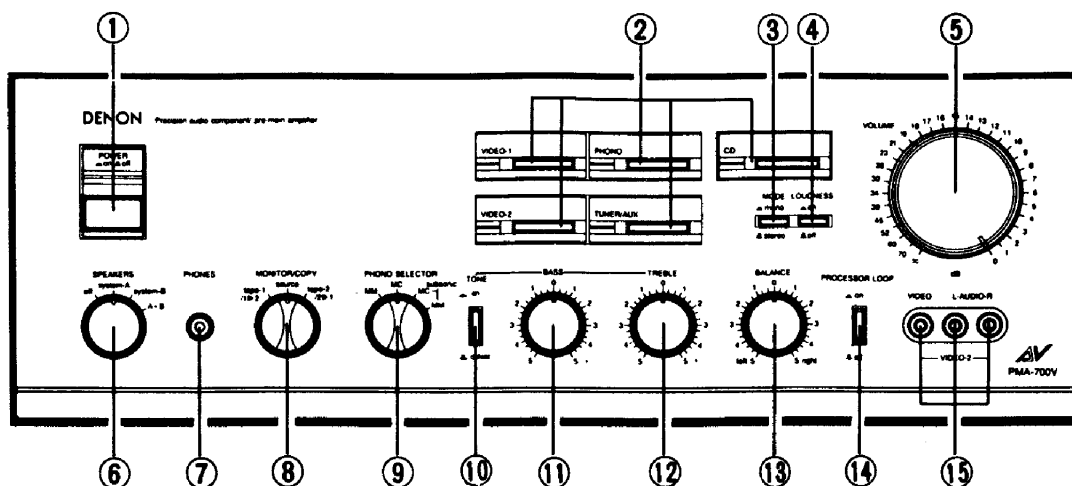


Fig. 1

- |   |  |   |  |
|---|--|---|--|
| ① | POWER and LED indicator<br>(Power supply button and LED indicator)                                   | ⑦ | PHONES (Headphone Jack)  |
| ② | INPUT SELECTOR (Input signal selection button)<br>● CD, ● PHONO, ● TUNER/AUX., ● VIDEO-1,<br>VIDEO-2 | ⑧ | MONITOR COPY (Tape monitor/Copy switch)                        |
| ③ | MODE (Mode button)<br>● Stereo, ● Mono   | ⑨ | PHONO SELECTOR (Cartridge selection/Subsonic<br>filter switch) |
| ④ | LOUDNESS (Loudness button)   | ⑩ | TONE (Tone switch)   |
| ⑤ | VOLUME (Adjustment of the volume)  | ⑪ | BASS (Regulation of low notes)                                 |
| ⑥ | SPEAKERS (Speaker selection switch)<br>● system-A, ● system-B, ● A+B, ● off                          | ⑫ | TREBLE (Regulation of high notes)                              |
|   |  | ⑬ | BALANCE (Balance adjustment)                                   |
|   |  | ⑭ | PROCESSOR LOOP (Processor loop switch)                         |
|   |  | ⑮ | FRONT VIDEO-2 (Extra front panel input terminal)               |

**Video Input Function**

The PMA-700V provides a video input function. The image selection circuitry gives preference to VIDEO-1 for all settings of the INPUT SELECTOR button, unless VIDEO-2 has been specified. This function might be used, for example, to watch a TV monitor while playing a compact disc. In this case it would connect the image input circuitry of the VIDEO-1 terminal to the image output of a video recorder, tape recorder, or video disc recorder. The resultant monitor out signal would be sent to the TV monitor, for "background video" audio-visual entertainment combining sound and images.

**Note:**

Please note the following differences in the markings on the front and back panels on the European models:

VIDEO-1 → AUX/VIDEO 1  
 VIDEO-2 → AUX/VIDEO 2  
 TUNER/AUX → TUNER

In addition, there is no AV mark on the front panel.

**REMOVAL OF EACH SECTION**  
 (When assembling, do reversely as to disassembling.)

**1. Removal of Top Cover**

- Remove 8 screws and detach the top cover as per arrow in Fig. 2.

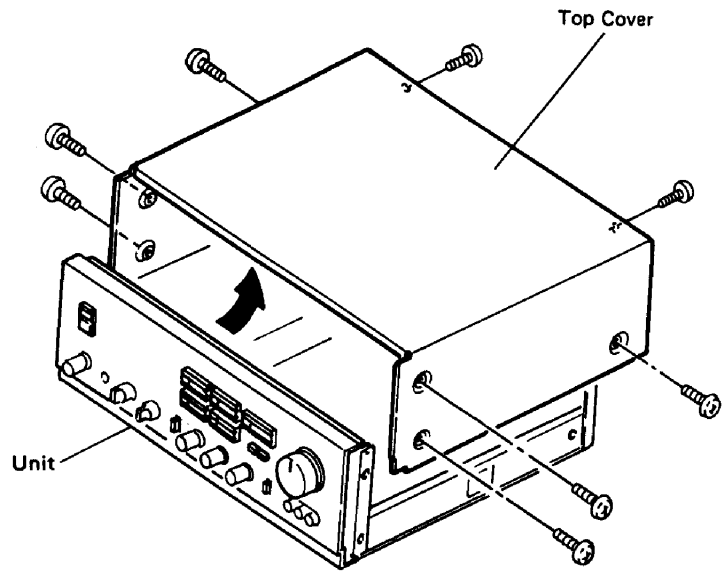


Fig. 2

**2. Removal of Back Panel**

- Remove 3 screws (A) and 7 screws (B) as per Fig. 3. Also remove screw (C) and detach back panel from the unit.

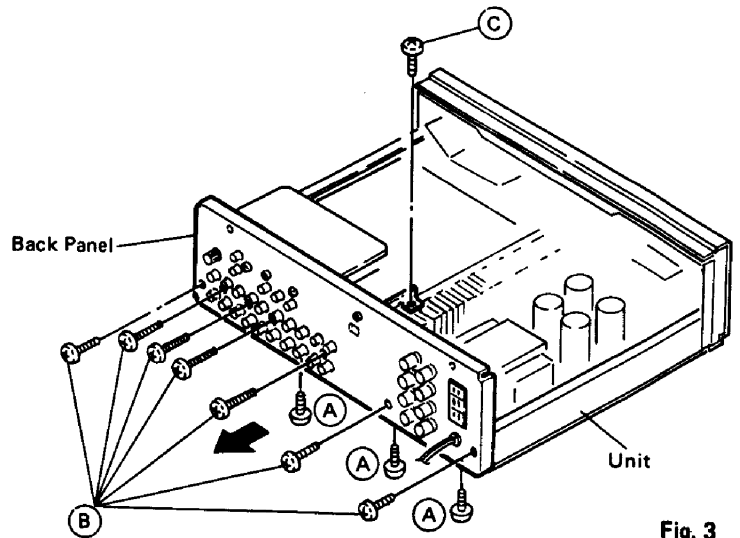


Fig. 3

**3. Removal of Front Panel Ass'y**

- Remove 4 screws (D) and remove 2 screws (E). And draw out front panel ass'y.

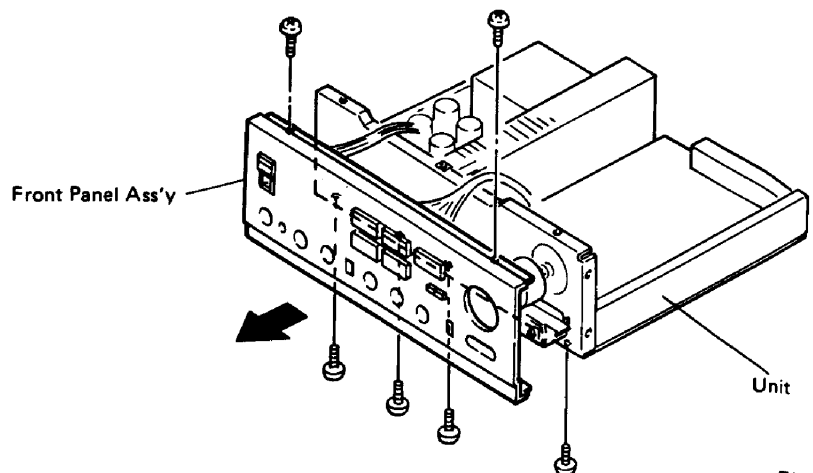


Fig. 4

CONNECTIONS

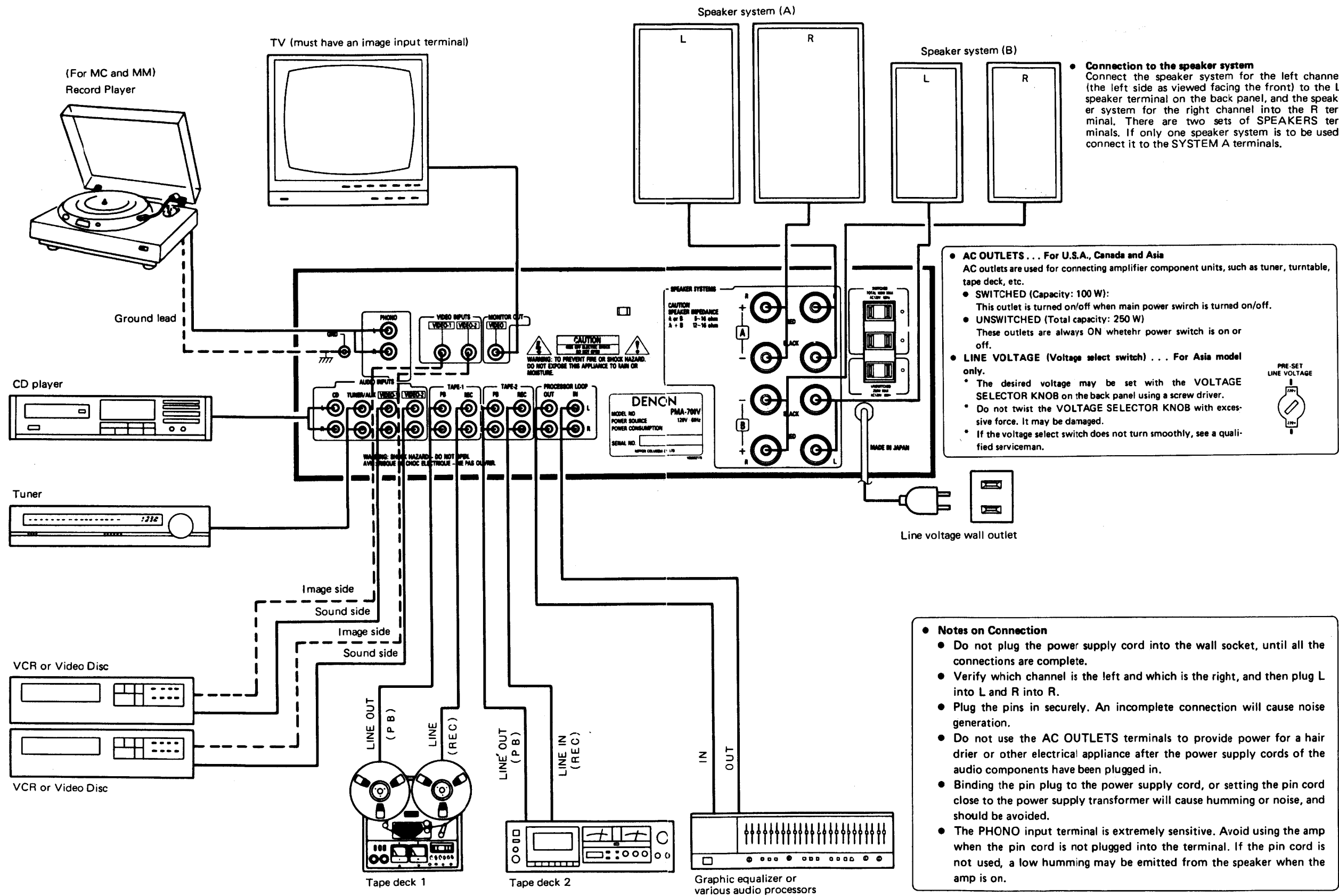


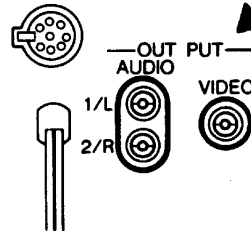
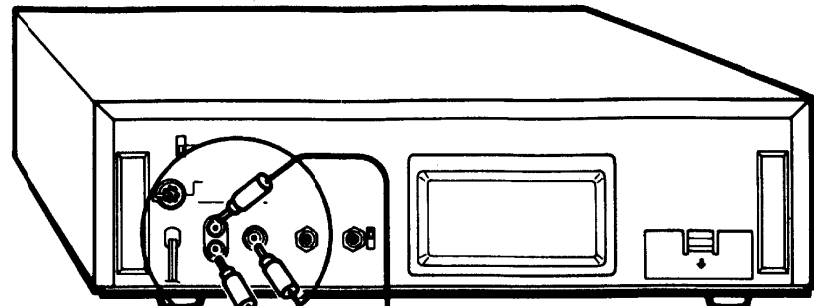
Fig. 5

● Connecting a video device

Connect the output terminals of the video device (OUTPUT) to the VIDEO terminals of the amp, using a pin plug cord.

● CONNECTING A VIDEO DEVICE

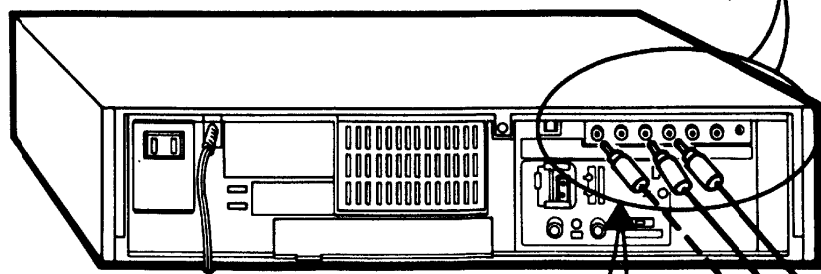
< Video Disc Player >



CONNECTING A VIDEO DISC PLAYER

(Ex.) Connect the video disc player to the VIDEO-1 terminal.  
Video disc player terminals → PMA-700V terminals  
VIDEO OUT (image) → VIDEO-1, VIDEO INPUT  
AUDIO OUT (sound) → VIDEO-1, AUDIO INPUT

< VCR >

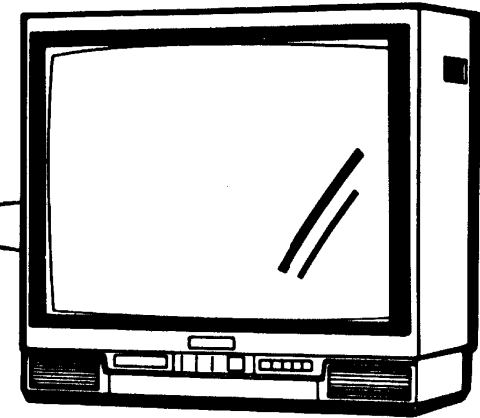


CONNECTING VCR

VCR terminals → PMA-700V terminals  
VIDEO OUT (image) → VIDEO-2, VIDEO INPUT  
AUDIO OUT (sound) → VIDEO-2, AUDIO INPUT  
(Ex.) Connect the VCR to the VIDEO-2 terminal

< TV (must have image input terminal) >

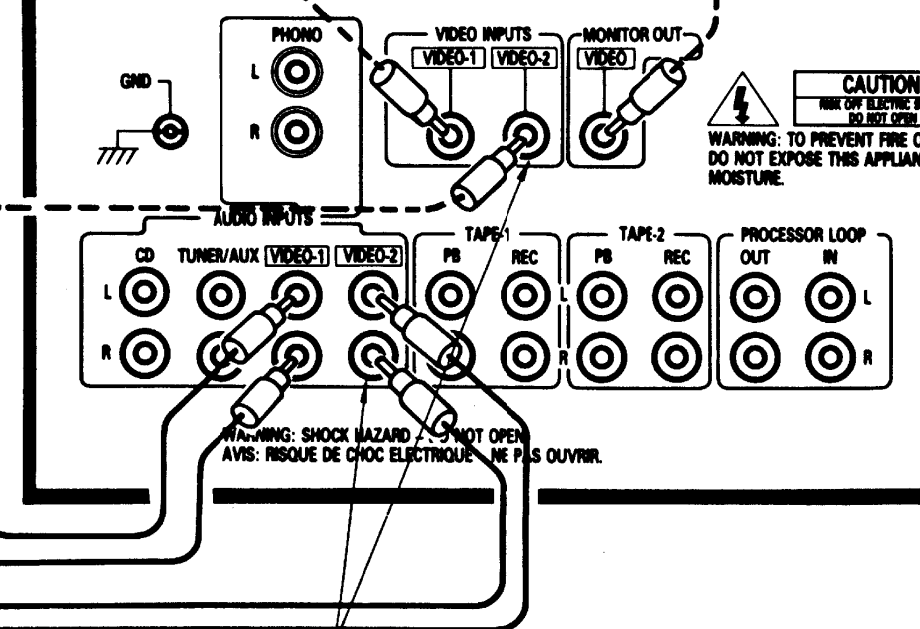
TV TERMINALS → PMA-700V TERMINALS  
Video image output terminal ← MONITOR OUT



VIDEO INPUT

The PMA-700V has a VIDEO selection function. VIDEO-1 is automatically used for all playback functions, unless the input selection switch is set to VIDEO-2.

Connect the image output of a video device such as a VCR to VIDEO-1 for simultaneous playback with another medium, such as a compact disc.



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN  
WARNING: TO PREVENT FIRE OR SHOCK HAZARD,  
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR  
MOISTURE.

**CAUTION**  
SPEAKER IMPEDANCE  
A or B 6Ω  
A + B 12Ω

**DENON**  
MODEL NO. PMA-700V  
POWER SOURCE 120V-60Hz  
POWER CONSUMPTION  
SERIAL NO. \_\_\_\_\_  
HIPPHON COLUMBIA CO. LTD.

**Note:**  
The VIDEO-2 terminal is connected in parallel with a terminal on the front side of the panel. Either this terminal or the one on the front panel can be used to make the connection. Improper operation will result if both are connected and used at the same time.

Fig. 6

BLOCK DIAGRAM

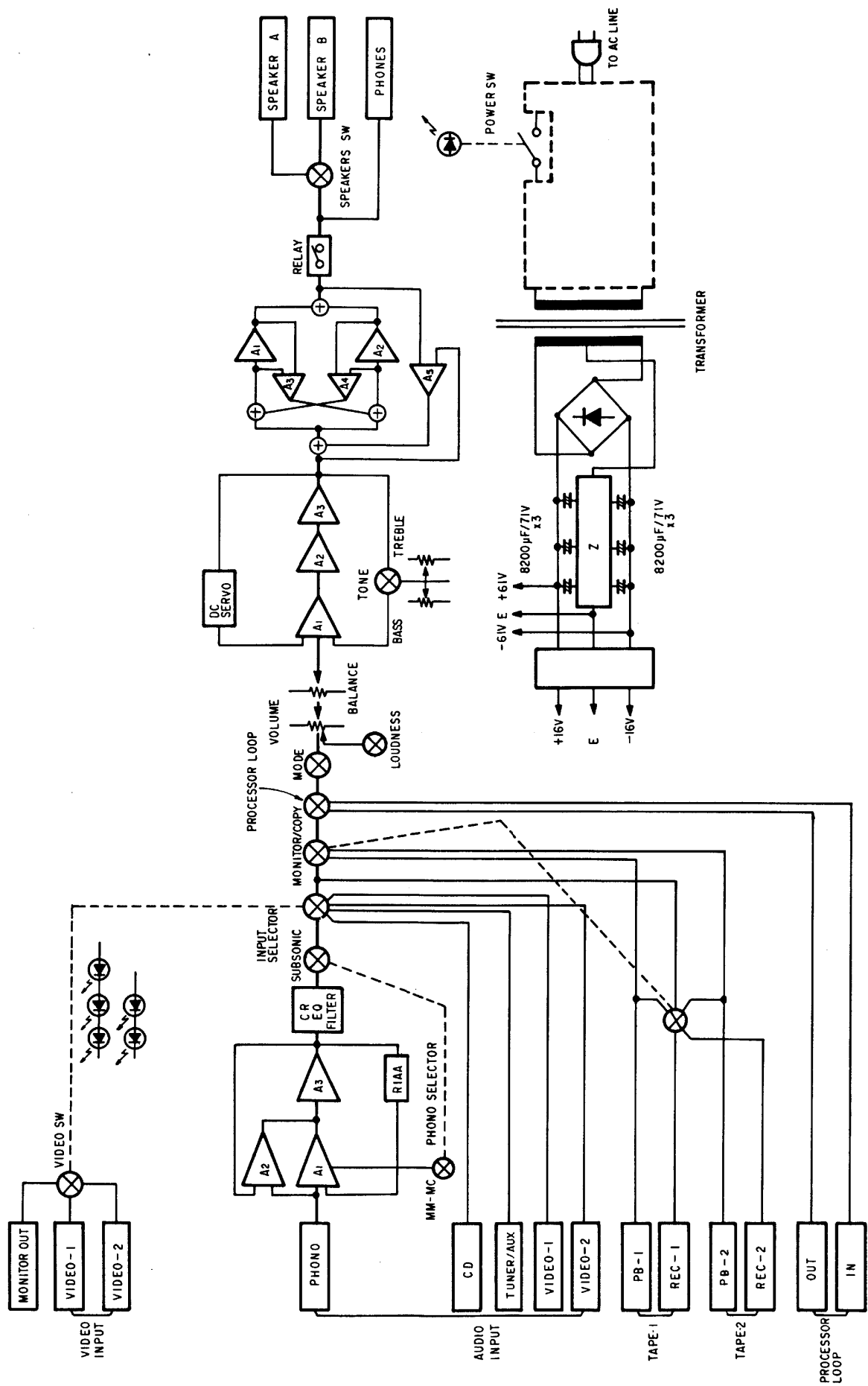


Fig. 7

METHOD OF ADJUSTMENTS

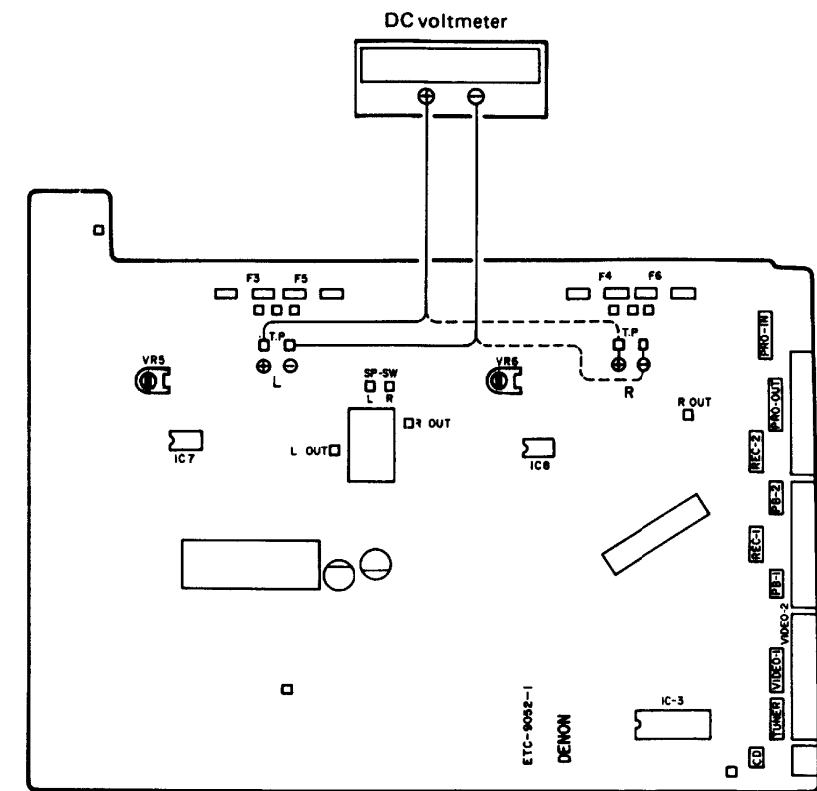


Fig. 8

IDLING CURRENT

• Setup

1. Lay the unit at an ordinary position away from a direct current from a cooler or fan. Do the adjustment at a temperature between 15°C and 30°C.
2. Set controls as follows.
  - POWER SWITCH → off (  )
  - VOLUME CONTROL → fully counterclockwise (  min)
  - SPEAKER Terminals → open: do not connect the speakers, dummy load etc.

• Adjustment

1. Remove Top cover. And then connect DC Voltmeter to Test points of ETC-9052-1 (INPUT & POWER Unit).
2. Connect Power cord to AC outlet, and turn Power Switch "on" (  ). Within 10 seconds turn VR5 (Lch) and VR6 (Rch) clockwise so that the DC voltmeter reads.
  - 0.4 ± 0.1 mVDC
3. Then after 5 minutes warmup adjust VR5 and VR6 so that the DC Voltmeter reads.
  - 5 ± 0.5 mV
4. And after 15 minutes warmup adjust VR5 and VR6 so that the DC Voltmeter reads.
  - 8 ± 3 mV