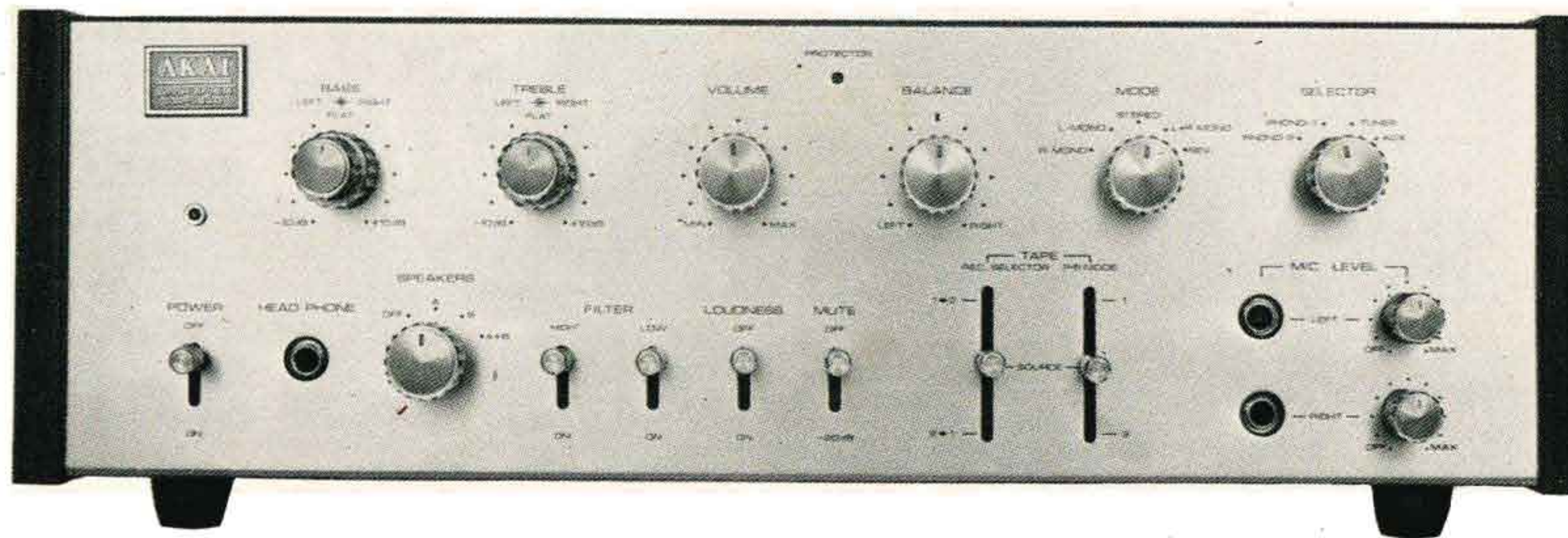

AA-5800

SOLID STATE STEREO PRE-MAIN AMPLIFIER

OPERATOR'S MANUAL



AKAI[®]

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INTRODUCTION

Model AA-5800 is designed for varied operation and is made of the finest materials. With proper care, this amplifier will bring you many years of service. For optimum performance and service life, we urge you to read this manual carefully and thoroughly prior to operation.

CEE, CSA, and UL Standard models are not equipped with a Voltage Selector. Therefore, voltage conversion is not necessary. If your machine corresponds to any of these standards, please disregard all references to voltage adjustment throughout this manual.

CEE Models : 220 V, 50 Hz

CSA Models : 120 V, 60 Hz

UL Models : 120 V, 60 Hz

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SPECIFICATIONS

| | |
|-----------------------|---|
| Output Power | 160 W/4 Ω (80 W/80 W) ; 120 W/8 Ω (60 W/60 W) |
| Continuous Power | 120 W/4 Ω (60 W/60 W) ; 90 W/8 Ω (45 W/45 W) |
| Harmonic Distortion | Less than 0.1% |
| Power Bandwidth | 20 Hz to 25,000 Hz (0.3%) |
| Frequency Response | 10 Hz to 50,000 Hz (-3 dB), AUX |
| Input Sensitivity | Phono : 3 mV Aux : 150 mV Main : 775 mV DIN (Tape Monitor) : 180 mV PIN (Tape Monitor) : 180 mV Mic : 1.2 mV |
| Hum and Noise | |
| Signal-to-noise Ratio | Phono : 65 dB (Vol. max.) Aux : 70 dB (Vol. max.) |
| Residual Noise | 80 dB (Vol. min.) |
| Channel Separation | Phono : 60 dB Aux : 60 dB |
| Equalizer | RIAA \pm 1 dB |

| | |
|-------------------|---|
| Tone Control | Bass : 100 Hz (\pm 10 dB) Treble : 10 kHz (\pm 10 dB) |
| Loudness Control | 100 Hz +7 dB (VR-30 dB), 10 kHz + 4 dB |
| Filter | High : 10 kHz -7 dB (12 dB/oct.) Low : 50 Hz -12 dB (12 dB/oct.) |
| Semi-Conductors | Transistors : 40 IC : 2 Diodes : 11 SCR : 3 |
| Power Source | 100 V to 240 V, A.C. |
| Power Consumption | 300 W |
| Dimensions | 432(W) x 143(H) x 330(D) mm (17.2 x 5.7 x 13.2") |
| Weight | 11.5 kg (25.3 lbs) |

* Specifications subject to change without notice.

CONTROLS

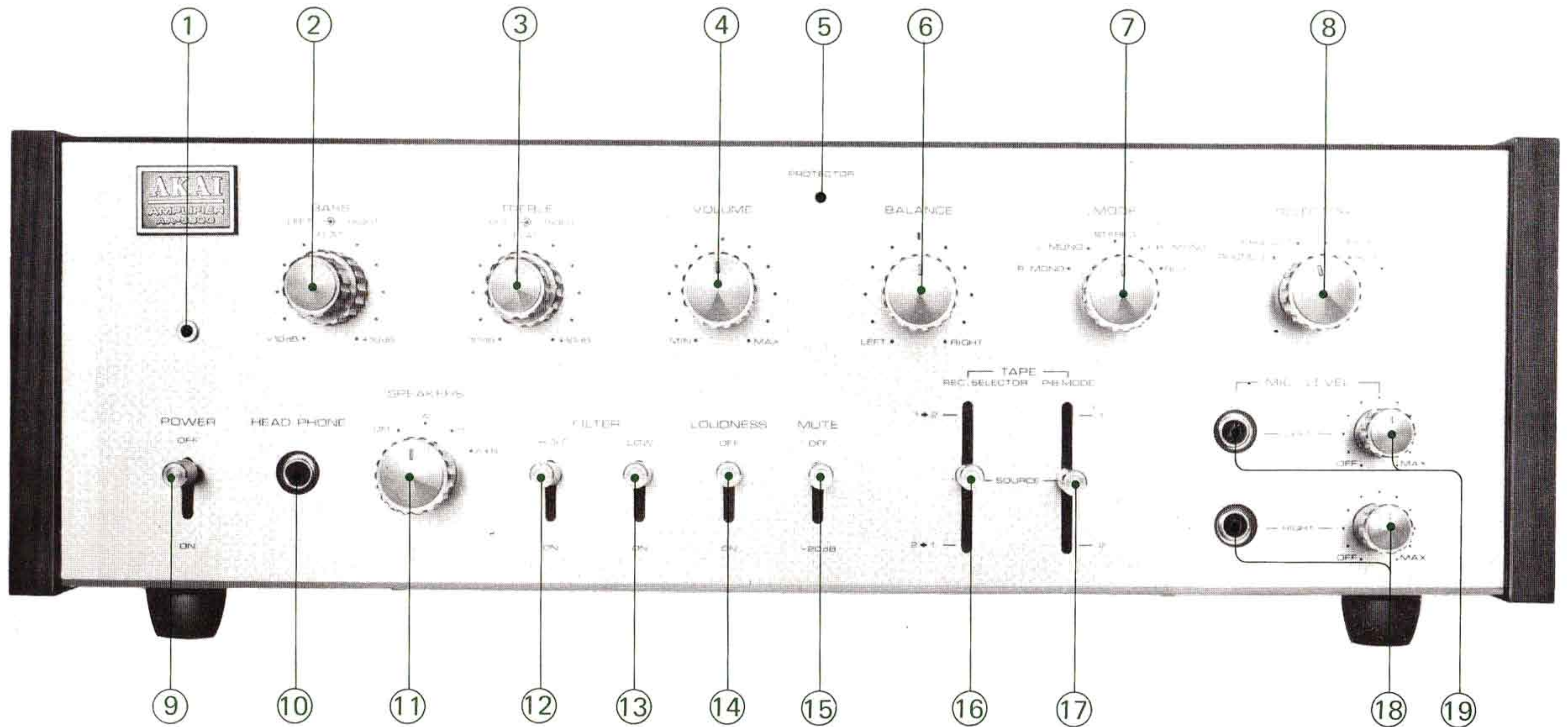


Fig. 1

1. **POWER INDICATOR LAMP**
Lights when power is turned on.
2. **BASS CONTROL KNOB (L/R)**
Use to control low range frequency response. Clockwise increases bass sound.
3. **TREBLE CONTROL KNOB (L/R)**
Use to control high range frequency response. Clockwise increases treble sound.
4. **VOLUME CONTROL KNOB**
For overall adjustment of sound level. Clockwise increases volume.
5. **EPC "PROTECTOR LAMP"**
Lights when speaker terminals are shorted or when there is an excessively high output.
6. **BALANCE CONTROL KNOB**
For balancing volume of left and right speakers. Turning counter-clockwise will increase the volume of the left channel by reducing the output of the right channel, and vice-versa.
7. **MODE SELECTOR**
Set to existing mode. R.MONO : Sound from right channel is emitted from both left and right speakers. L.MONO : Sound from left channel is emitted from both left and right speakers. STEREO : Stereo mode. L + R : Sound from left and right channel is mixed and emitted from left and right speakers. REVERSE : Reverses left and right speaker output.
8. **SOURCE SELECTOR**
Phono 2 : When record player is connected to Phono 2 terminals at rear of amplifier.
Phono 1 : When record player is connected to Phono 1 terminals at rear of amplifier.
Tuner : When tuner is connected to Tuner terminals at rear of amplifier.
Aux : Tape recorder or high output players, etc. connected to Aux terminals at rear of amplifier.
9. **POWER SWITCH**
10. **HEADPHONE JACK**
Accommodates stereo headphones for monitoring or private listening. Use headphones of 8 Ω impedance. Akai models ASE-22 and ASE-20 are highly recommended.
11. **SPEAKER SELECTOR**
Off : No sound from speakers. Use for private headphone listening.
A : "A" speaker system
B : "B" speaker system
A + B : "A + B" speaker system
12. **HIGH FILTER SWITCH**
An aid in the elimination of high frequency surface noise such as noise caused by electrical appliances nearby, noise from old or worn tapes, or phonograph record scratch, etc. Use only when such noise exists.
13. **LOW FILTER SWITCH**
An aid in the elimination of low frequency disturbances such as turntable rumble, etc. Use only when necessary.
14. **LOUDNESS SWITCH**
Boosts bass and treble response at low volume level.
15. **AUDIO MUTE SWITCH**
Reduces audio level to -20 dB. When returned to "Off" position, audio level is restored to former setting.
16. **TAPE MONITOR REC SELECTOR SWITCH**
Controls recording input.
1 \rightarrow 2 : When dubbing from Tape 1 to Tape 2 system
Source : When dubbing from source connections (Tape 1 & Tape 2)
2 \rightarrow 1 : When dubbing from Tape 2 to Tape 1 system
17. **TAPE MONITOR P.B. SELECTOR SWITCH**
1 : For Tape 1 system playback
Source : For monitoring source connection
2 : For Tape 2 system playback
18. **MICROPHONE JACK & MIC INPUT LEVEL CONTROL (R)**
19. **MICROPHONE JACK & MIC INPUT LEVEL CONTROL (L)**

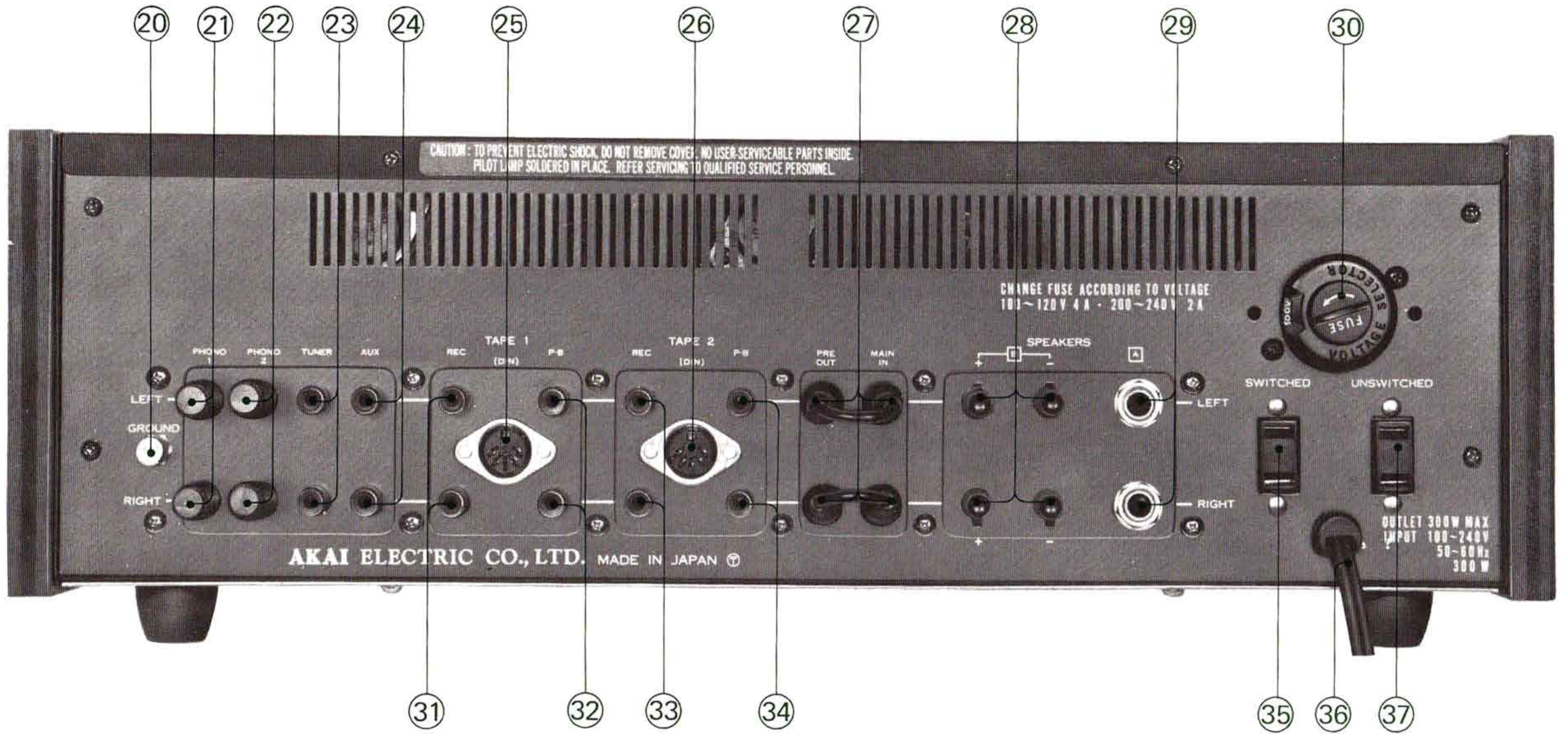


Fig. 2

20. GROUND TERMINAL

This terminal is for use in grounding the amplifier with a tape recorder or with a record player. If this connection causes excessive noise, connect a thick cable from this terminal to a buried underground metal bar. Do not connect to a gas pipe or gas line.

21. PHONO 1 JACKS

Connects to record player outputs.

22. PHONO 2 JACKS

Connects to record player outputs. This system permits connection of two record players simultaneously. Select system with Source Selector on front panel. All phono jacks must be shorted when not in use to avoid hum pick up.

23. TUNER JACKS

Connects to tuner outputs.

24. AUX JACKS

For relatively high voltage input such as output from the amplifier of a tape recorder or a record player with a ceramic or crystal cartridge.

25. TAPE 1 SYSTEM DIN JACK

This one-connection system can be used instead of Tape Rec and P.B. Jacks if your recorder has a corresponding connection. This connection can also be used for connecting two recorders or decks simultaneously to Tape 1 system connections.

26. TAPE 2 SYSTEM DIN JACK

27. PRE-AMPLIFIER OUTPUT & MAIN AMPLIFIER INPUT JACKS

These connector plugs are not to be disconnected during normal operation. For synthesized 4-channel operation or multi-channel operation, refer to page 12 of this manual.

28. SPEAKER TERMINALS

Supplies output to "B" speaker system.

29. SPEAKER JACKS

Supplies output to "A" speaker system.

30. UNIVERSAL VOLTAGE SELECTOR

Permits selection of voltage from 100 V to 240 V A.C. Fuse must be changed to correspond with voltage. Refer to page 6.

31. TAPE 1 SYSTEM REC JACKS

Connects to the inputs of tape recorder or tape deck.

32. TAPE 1 SYSTEM P.B. JACKS

Connects to line outputs of tape recorder or tape deck.

33. TAPE 2 SYSTEM REC JACKS

Connects to line inputs of tape recorder or tape deck.

34. TAPE 2 SYSTEM P.B. JACKS

Connects to line outputs of tape recorder or tape deck. Note : Tape 1 and Tape 2 systems utilize common speaker connections. Connected speaker systems serve Tape 1 and Tape 2 systems according to position of Tape Monitor P.B. Mode Switch on front panel.

35. A.C. OUTLET

Interlocked with front panel Power Switch. When Power Switch is turned off, power supply is cut.

36. A.C. CORD

37. A.C. OUTLET

Not interlocked with front panel Power Switch. Power is applied even with the machine turned off.

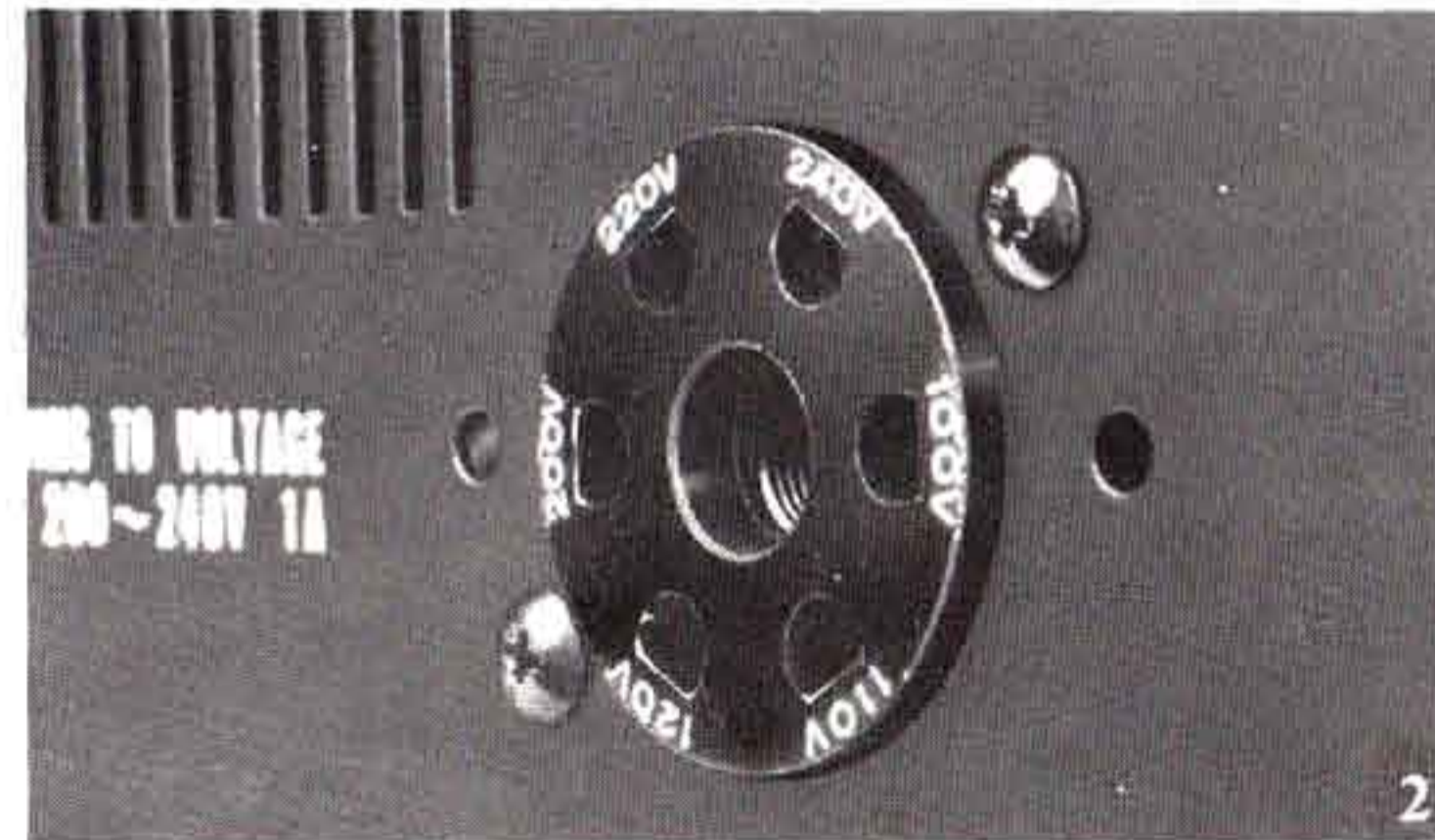
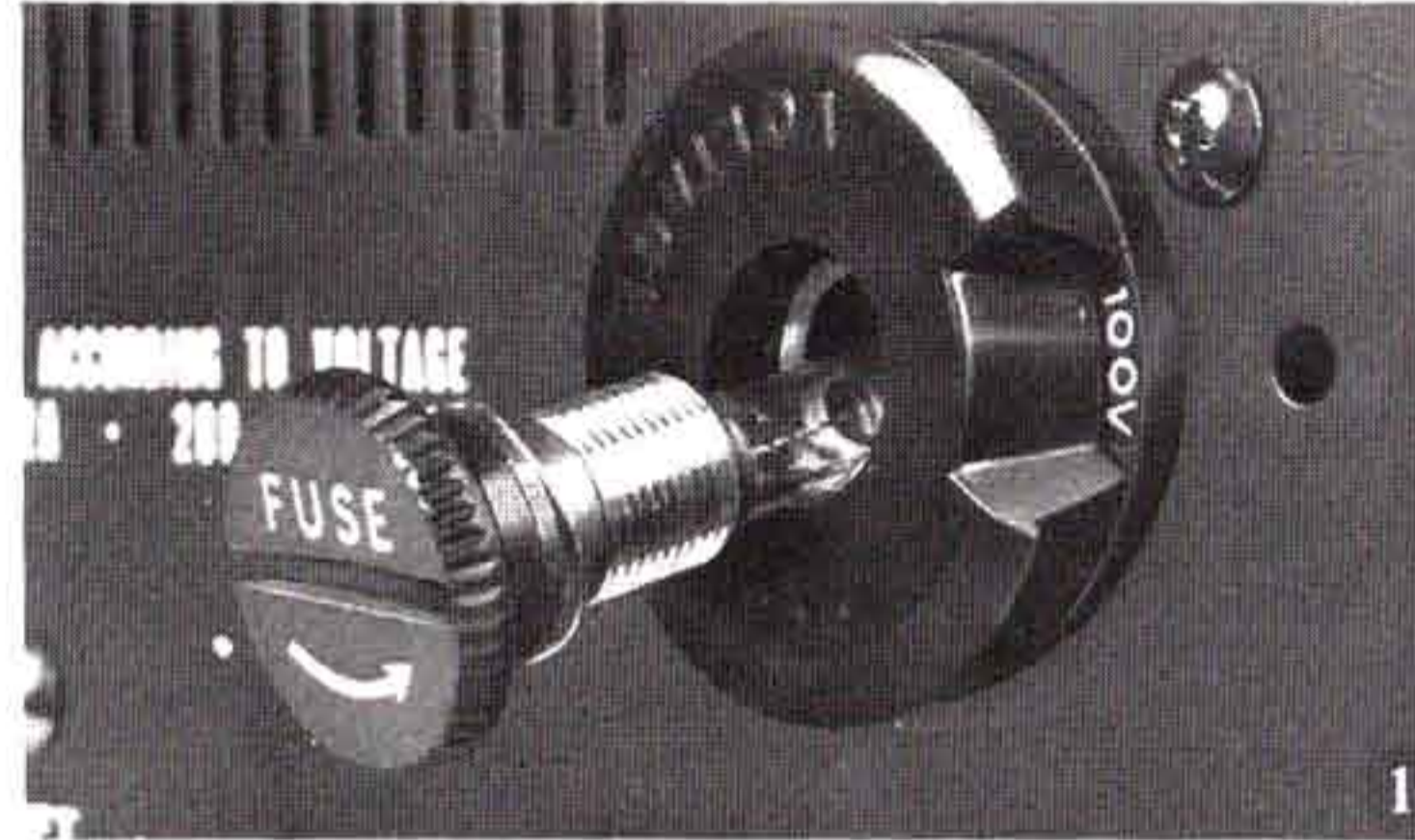
OPERATING PRECAUTIONS

- * Avoid using your amplifier in extremely hot or humid places.
- * Place unit for proper ventilation. Do not obstruct ventilator.
- * Check to confirm that your machine is set to proper area voltage. When changing voltage, it is also necessary to change the fuse accordingly.

The use of larger capacity fuses or wires will damage your amplifier.

POWER VOLTAGE ADJUSTMENT

Power voltage ranges from A.C. 100 V to 240 V. Each unit is pre-set at the factory to a specified voltage according to its destination. If necessary, readjust the voltage as follows :



Do not plug in A.C. cord until voltage conversion has been made.

1. Remove the Fuse Post and the Voltage Selector Plug.
2. The Voltage Selector is a rotatable plug-in type offering six selections: 100/110/120/200/220/240 V.
3. Reinsert Voltage Selector Plug to required area voltage, and change the fuse according to voltage: 100 V to 120 V: 3 A/125 V fuse ; 200 V to 240 V 1.5 A/250 V fuse.

To maintain optimum performance and to prolong the life of your machine, the voltage should be kept within a 10% deviation of standard area voltage.

Fig. 3

PROTECTION CIRCUITS

Model AA-5800 is equipped with an Electronic Protection Circuit for protection of the power transistors. In the event the circuit becomes shorted from the amplifier speaker output terminal to the speaker, this circuit is automatically activated and a “protector” warning lamp on the front panel will light. In such a case, turn off the power immediately in order to trouble-shoot the defective circuit. Note that this protection circuit works either when the output is excessively high or when speaker impedance is excessively low. However, if a speaker of less than $4\ \Omega$ is used, the fuse will be blown.

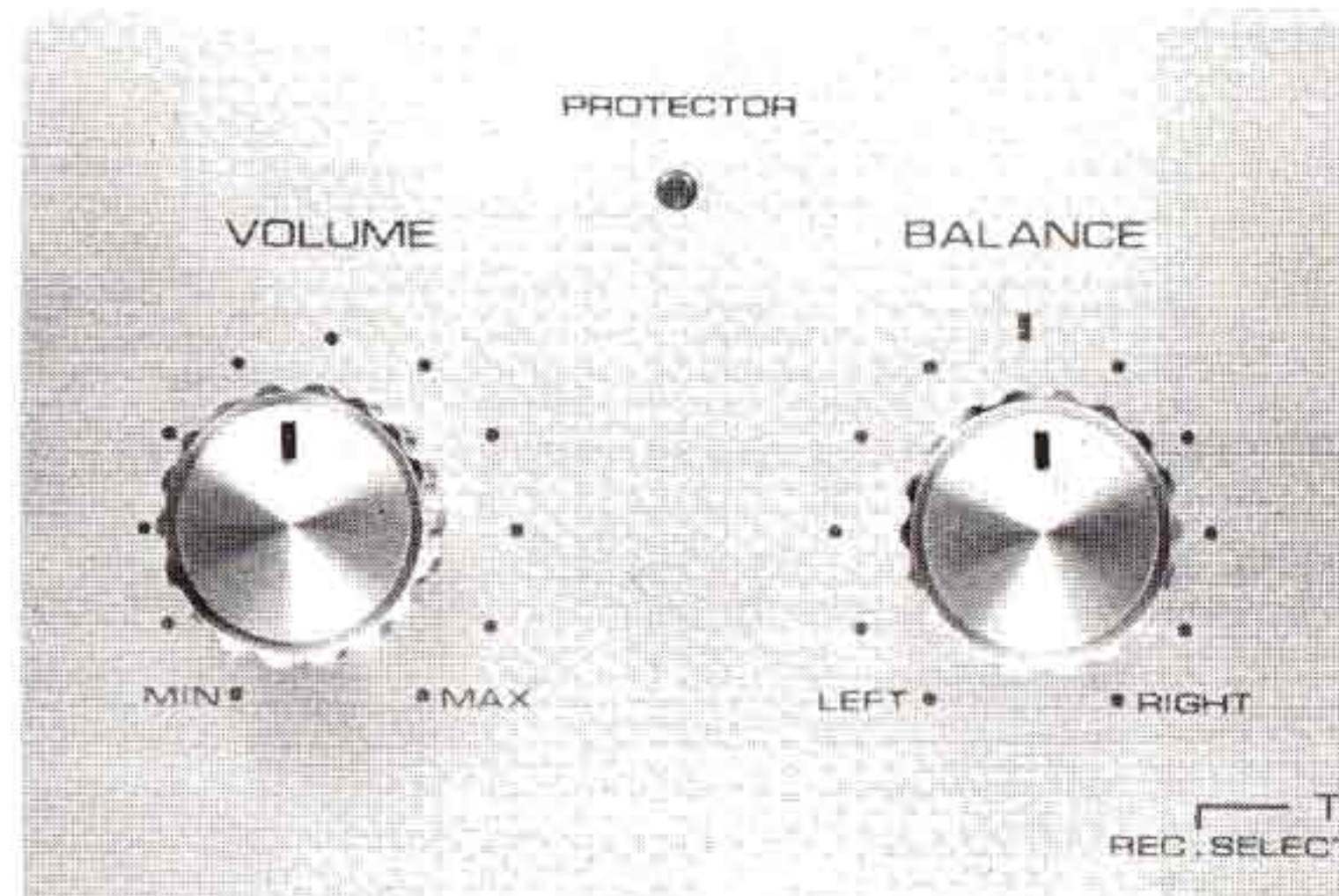


Fig. 4

In addition the transistor protection circuit, Model AA-5800 is also equipped with a speaker protection circuit. This circuit is activated to protect the speaker when DC voltage is applied at the speaker terminals. The “protector” lamp will light in this case also.

MUTING SWITCH

The Audio Muting Switch reduces audio level to the soft audibility of -20 dB . When returned to “OFF” position, audio level is restored to former setting.



Fig. 5

A.C. OUTLETS

These two 300 W outlets provide extra power supply for record players, tuners, or tape decks and recorders.

Switched outlet : Interlocked with front panel Power Switch. When Power Switch is turned off, power supply is cut.

Unswitched outlet : Not interlocked with front panel Power Switch. Power is supplied even with Model AA-5800 turned off.

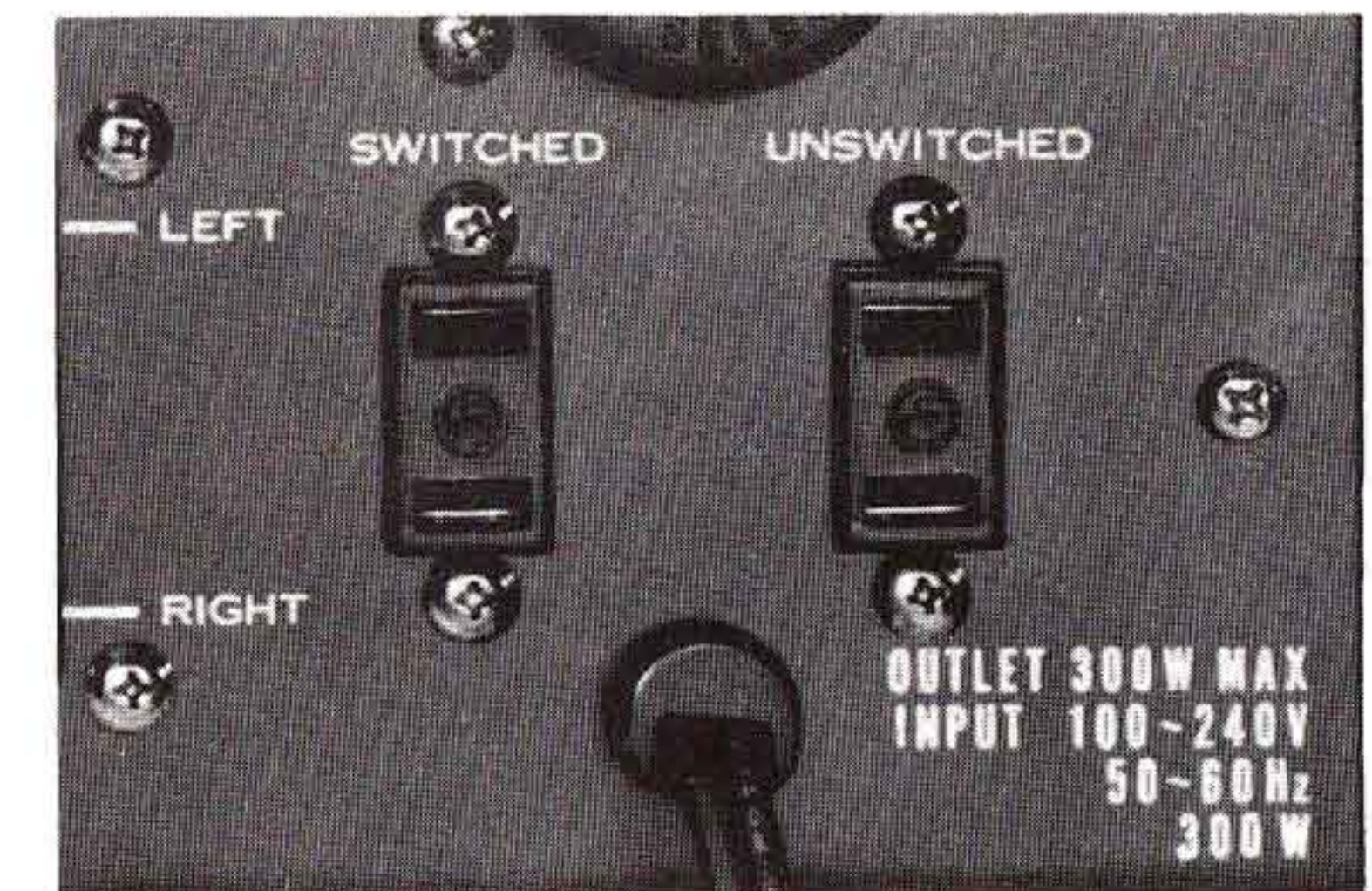


Fig. 6

CONNECTIONS

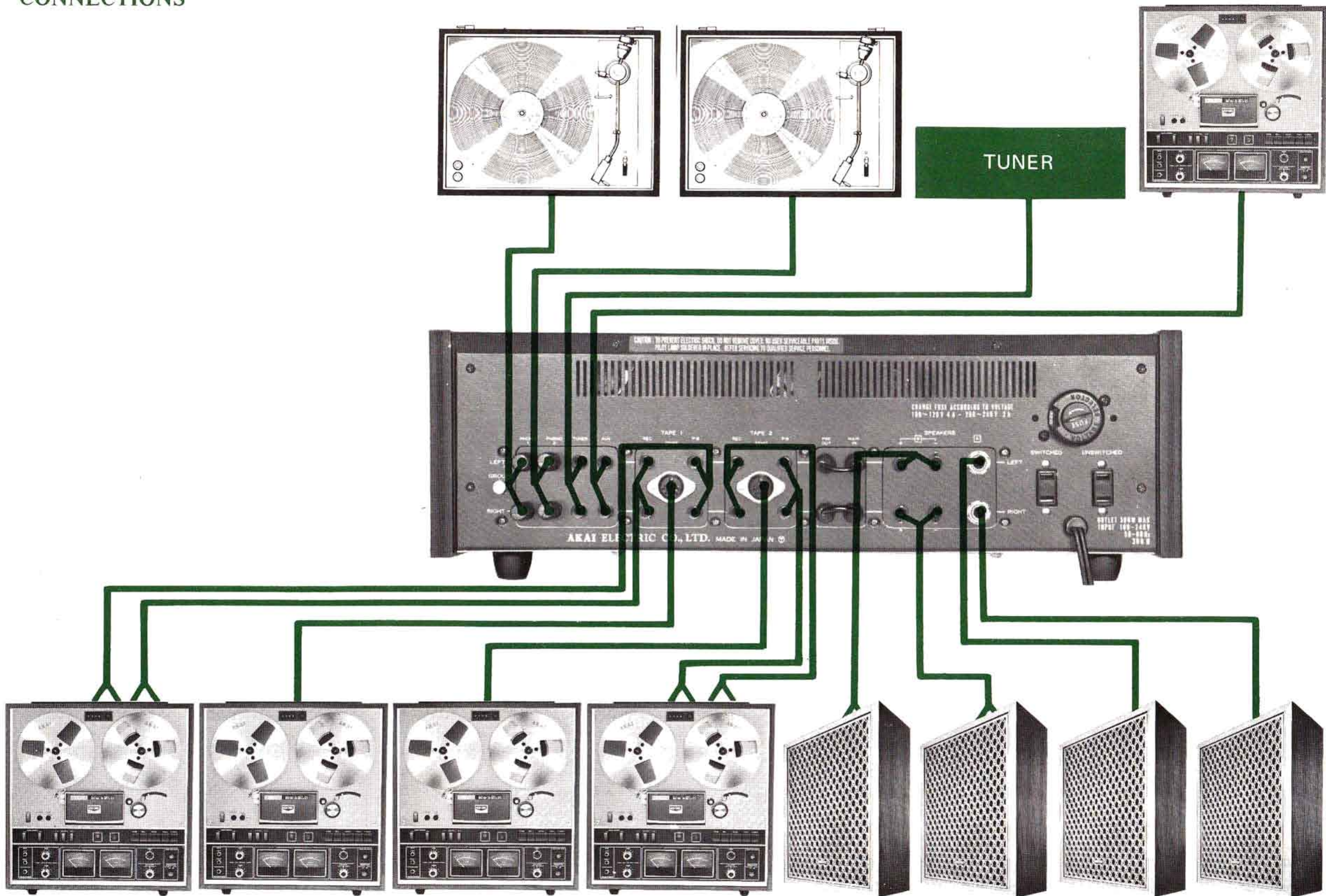


Fig. 7

SPEAKER CONNECTIONS

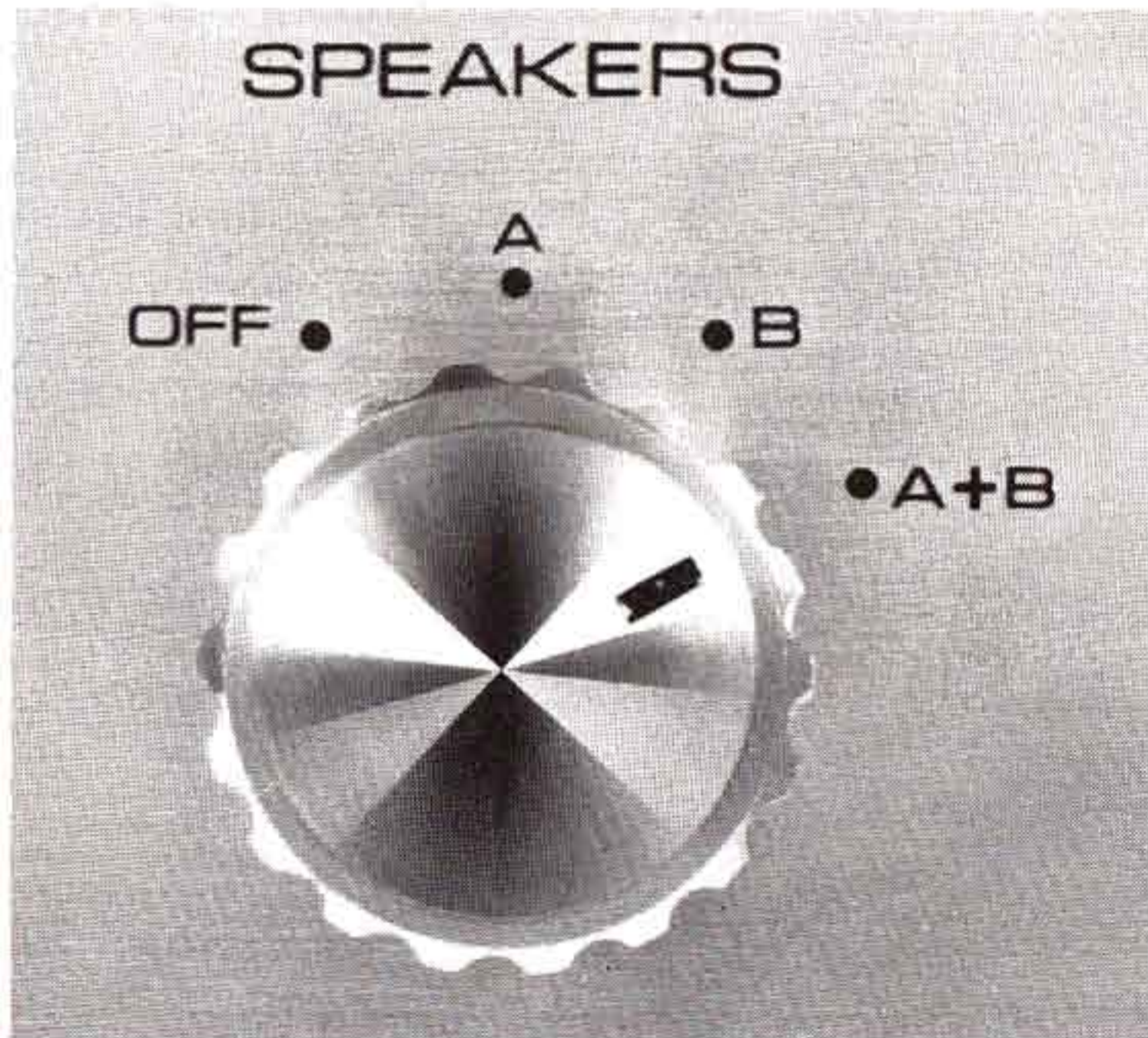


Fig. 8

Model AA-5800 offers "A" system, "B" system, and "A + B" system speaker connections. To select desired system, operate Speaker Selector in front panel. Speakers should be of more than 8Ω impedance when using "A + B" system.

SOURCE CONNECTIONS



Fig. 9

Record Player Connection

Model AA-5800 is equipped with two separate sets of phono jacks so that two record players can be connected at a time. Phono input is controlled with the Source Selector on front panel.

- Connect outputs from player to Phono 1 or Phono 2 inputs.
- Set Source Selector to Phono 1 or Phono 2 position according to connection.
- When ground line of the cartridge is available, connect it to the ground terminal.

Employ Aux Jacks when a high-output ceramic or crystal cartridge is used. In this case, connect source outputs to Aux terminals and set Source Selector to "Aux" position. Phono Jacks must be shorted when not in use to avoid hum pick up.

Tuner Connection

- Connect the outputs of your tuner to the Tuner Inputs of Model AA-5800.
- Set Source Selector to "Tuner" position.

Aux Connections

The Aux Jacks are used for relatively high output connections such as the amplifier from a tape recorder, or a record player with a ceramic or crystal cartridge.

- Connect source outputs to Aux Terminals.
- Set Source Selector to "Aux" position.

TAPE 1 & TAPE 2 SYSTEM TAPE DECK OR TAPE RECORDER CONNECTIONS

Model AA-5800 is equipped with individual Tape 1 and Tape 2 system connections. These connections enable independent operation of tape decks or tape recorders and are controlled with the Tape Monitor Switches on the front panel. Connect inputs of tape deck or tape recorder to Tape 1 or Tape 2 system Rec. Jacks, and outputs to P.B. Jacks respectively. In addition to Rec. and P.B. Jacks, each system also has a DIN Jack which can be used instead of P.B. Jacks if your recorder has a corresponding connection.

Playback

- a. Set Tape Monitor P.B. Mode Switch to "Tape 1" or "Tape 2" position according to connection.

On either Tape 1 or Tape 2 system, the DIN Jack and Rec. & P.B. Jacks can be used simultaneously. However, in this case, the signals from the left channel of both recorders will be mixed and emitted from the left speaker, and the signals from the right channel of both recorders will be mixed and emitted from the right speaker.

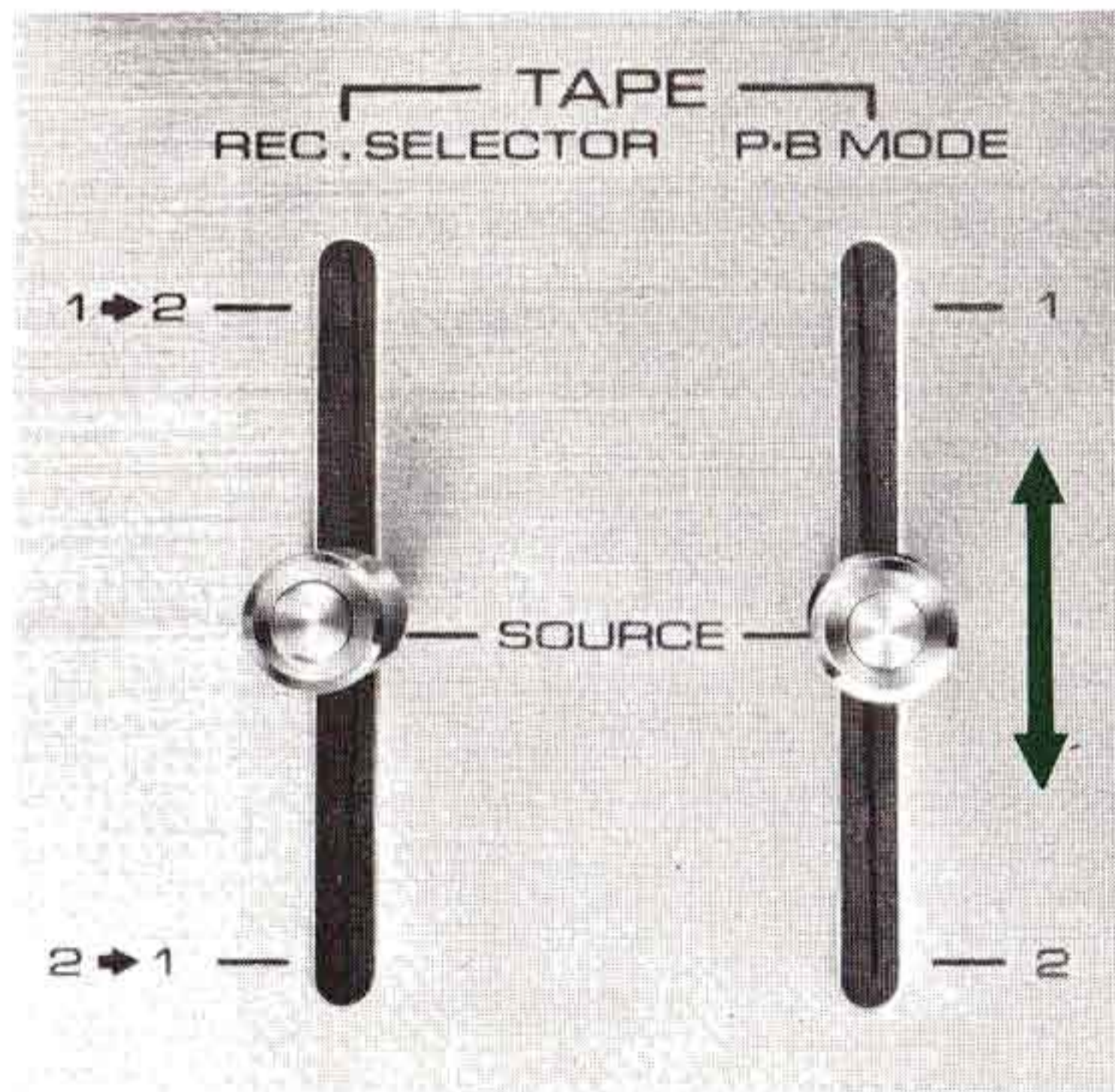


Fig. 10

DUBBING & RECORDING

1. From Source Connections

- a. Connect source and set Source Selector accordingly.
- b. Set Tape Monitor Rec. Selector Switch to "Source" position. Monitoring of signals being recorded can be accomplished by setting the Tape Monitor P.B. Switch to "Source" position.

On either Tape 1 or Tape 2 system, the DIN Jack and Rec. Jack can be used for connecting 2 separate recording units and recording two tapes simultaneously. Thus, if both Tape 1 and Tape 2 systems are used, 4 separate tape decks or tape recorders can be used for simultaneous recording from the same source.

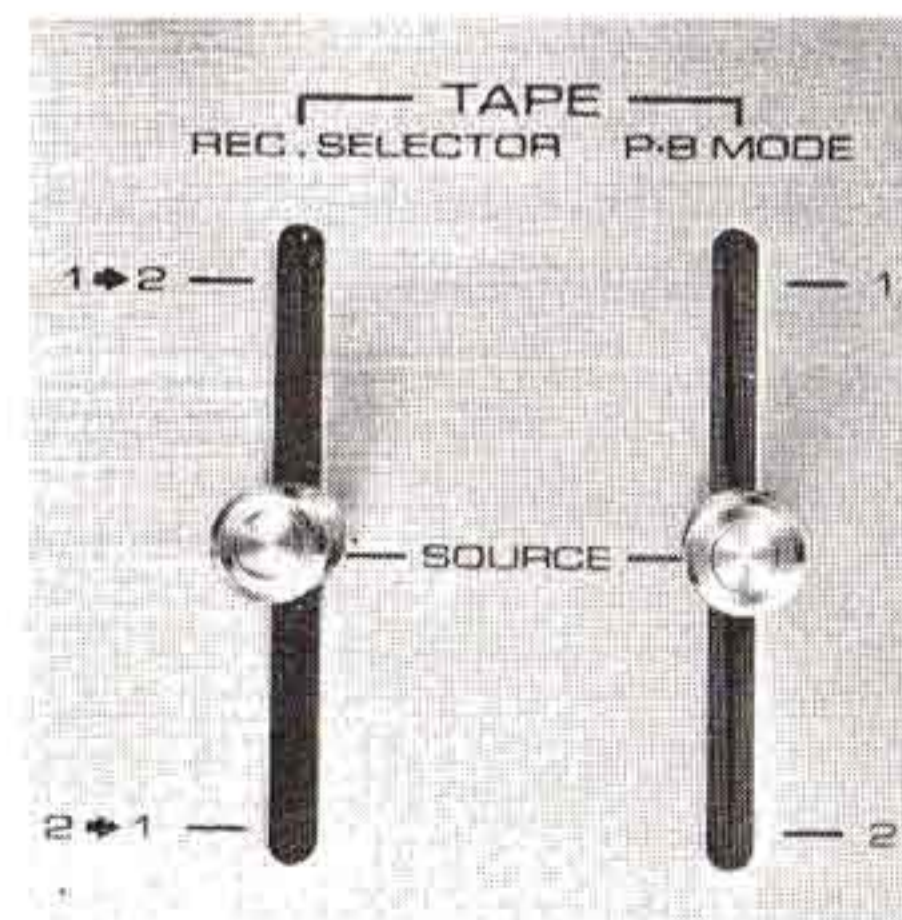


Fig. 11

2. From Tape 1 to Tape 2 System

- a. Set Tape 1 system recorder to playback mode and Tape 2 system recorder to recording mode.
- b. Set Tape Monitor Rec. Selector to "1 → 2" position. For monitoring Tape 1 system set Tape Monitor P.B. Mode Switch to "Tape 1" position.

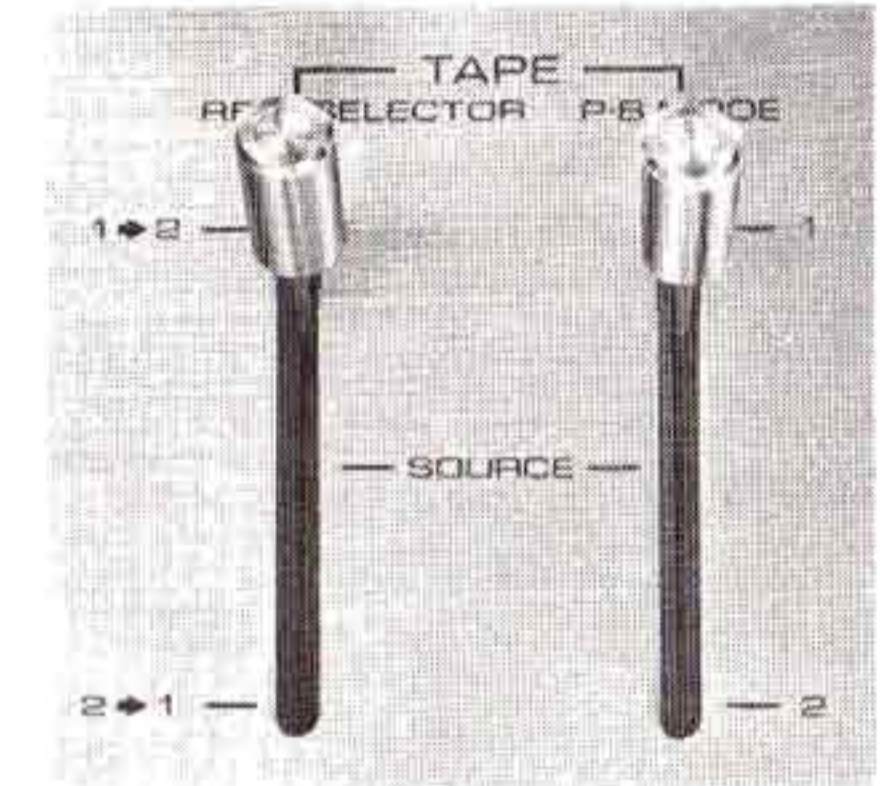


Fig. 12

3. From Tape 2 to Tape 1 System

- a. Set Tape 2 system recorder to playback mode and set Tape 1 system recorder to recording mode.
- b. Set Tape Monitor Rec. Selector Switch to "2 → 1" position. For monitoring Tape 2 system, set Tape Monitor P.B. Mode Switch to "Tape 2" position.

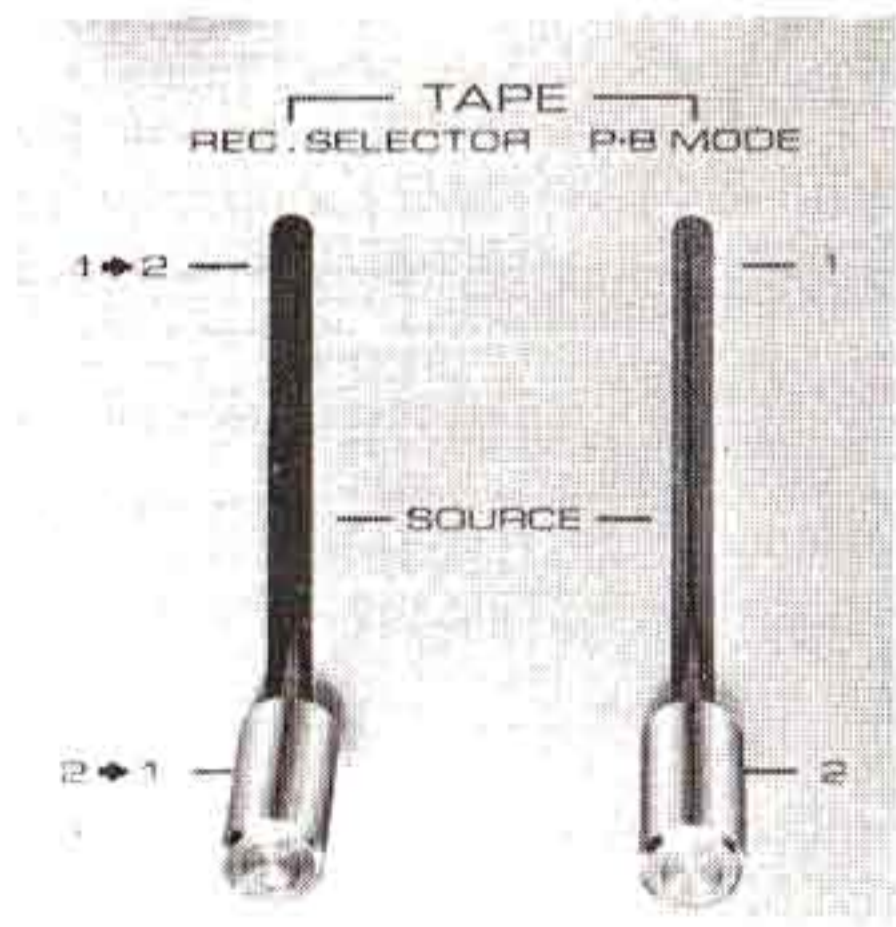


Fig. 13

MICROPHONE JACKS

One of the exclusive features of Model AA-5800 is the inclusion of left and right channel Microphone Jacks and Microphone Input Level Controls. This feature enables line and microphone mixing during recording mode as well as microphone output through Model AA-5800's speaker systems.

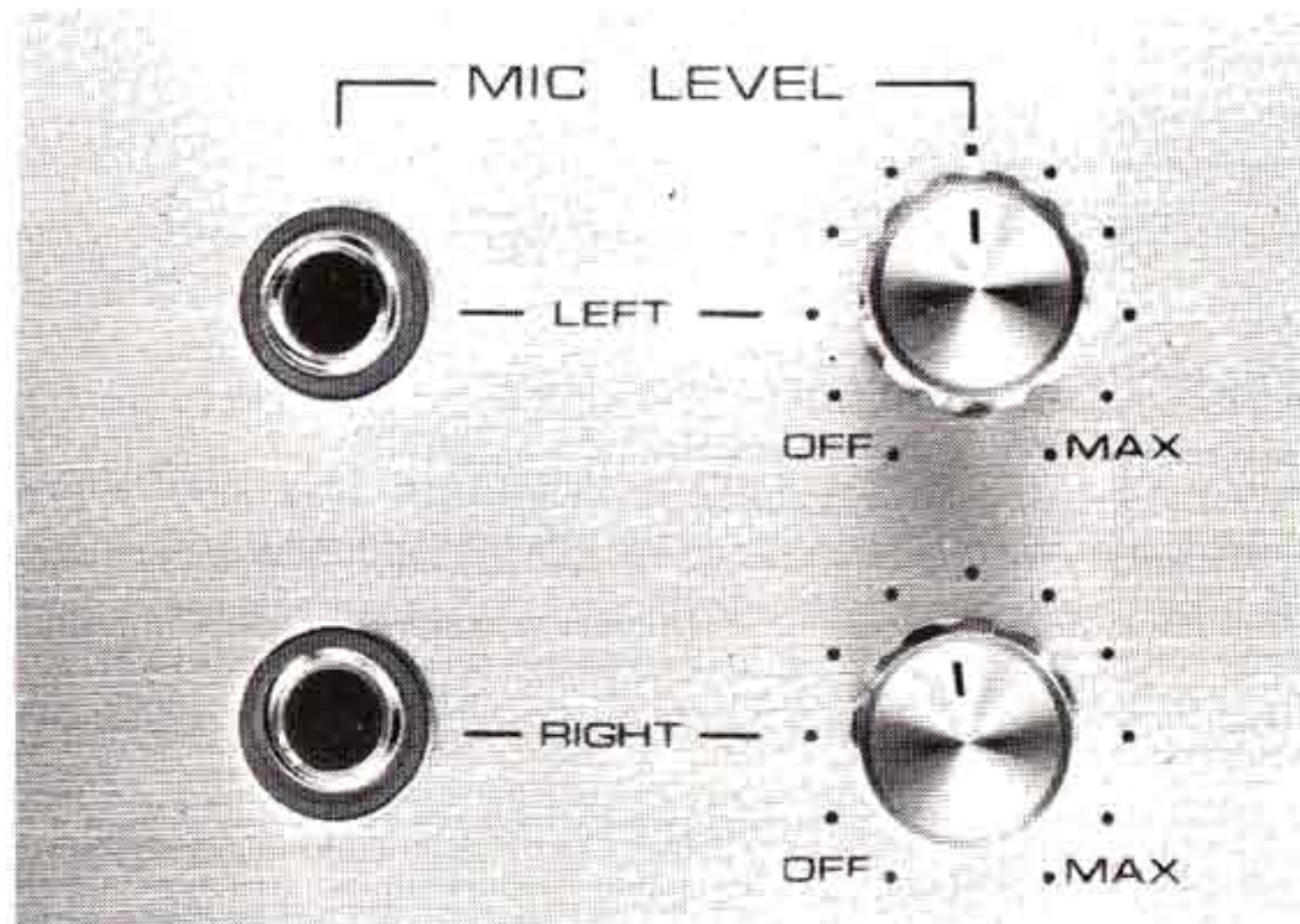


Fig. 14

MODE SWITCH

Set according to existing mode.

R. Mono : Right Channel Monaural

L. Mono : Left Channel Monaural

Stereo : Stereo Mode

L + R : Sound from a single monaural track is emitted from both left and right speakers

Rev : Reverse left and right speaker output



Fig. 15

MONITORING

For monitoring or private headphone listening, connect headphones to Headphone Jack. Use stereo headphones of 8 Ω impedance. AKAI Models ASE-22 and ASE-20 Stereo Headphones are highly recommended. Set Speaker Selector to "Off" position for private headphone listening. Volume control should always be at minimum when connecting headphones or changing other connections.

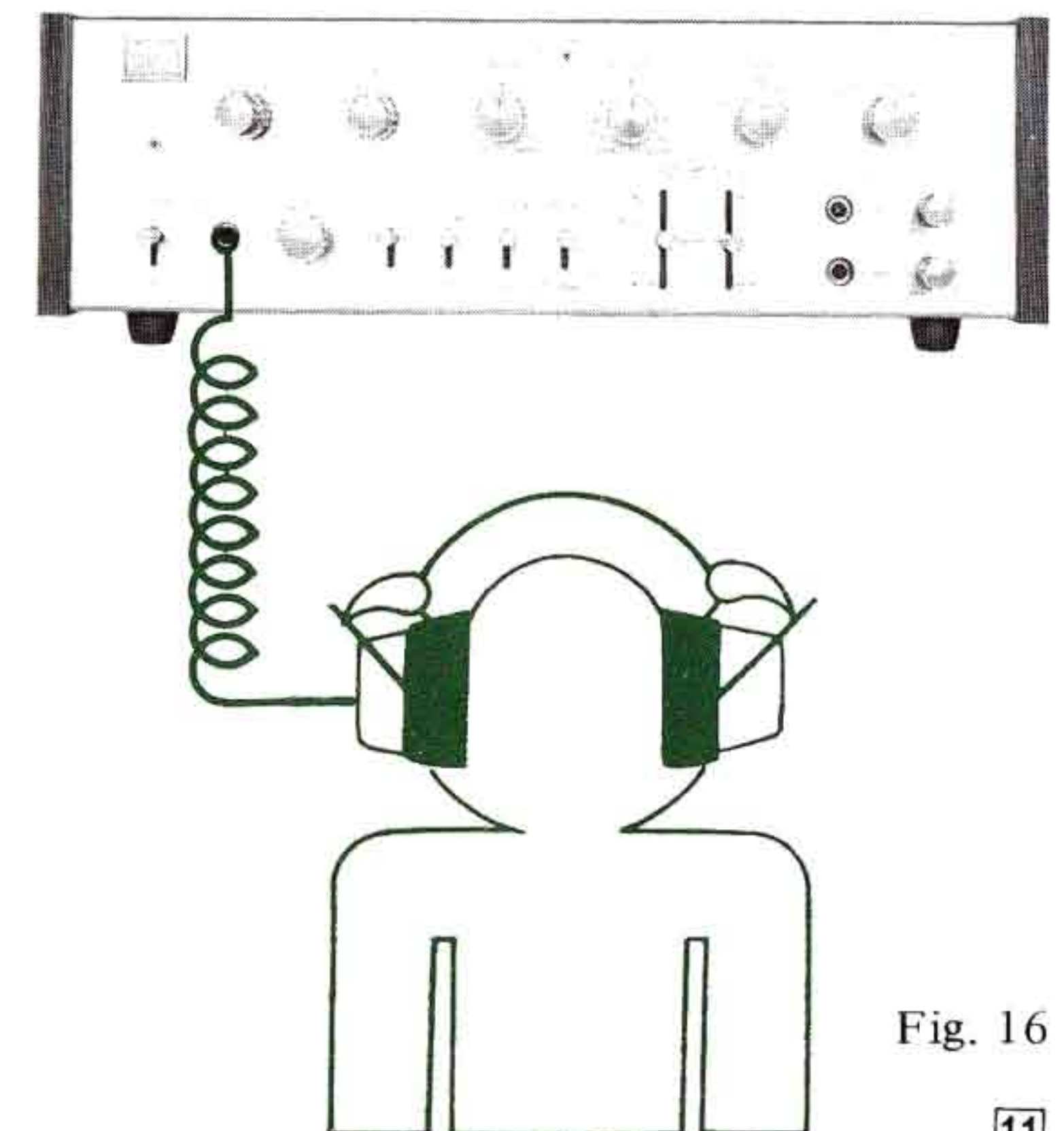


Fig. 16

SEPARATION OF PRE-MAIN AMPLIFIERS

With the pre-main amplifier connection plugs connected as shown in figure, the pre-main amplifiers function normally. Removing these plugs separates the main amplifier from the pre-amplifier. This separation permits synthesized 4-channel stereo through the use of a synthesizer as shown in figure. Also multi-channel connections can be made through the use of a channel divider.

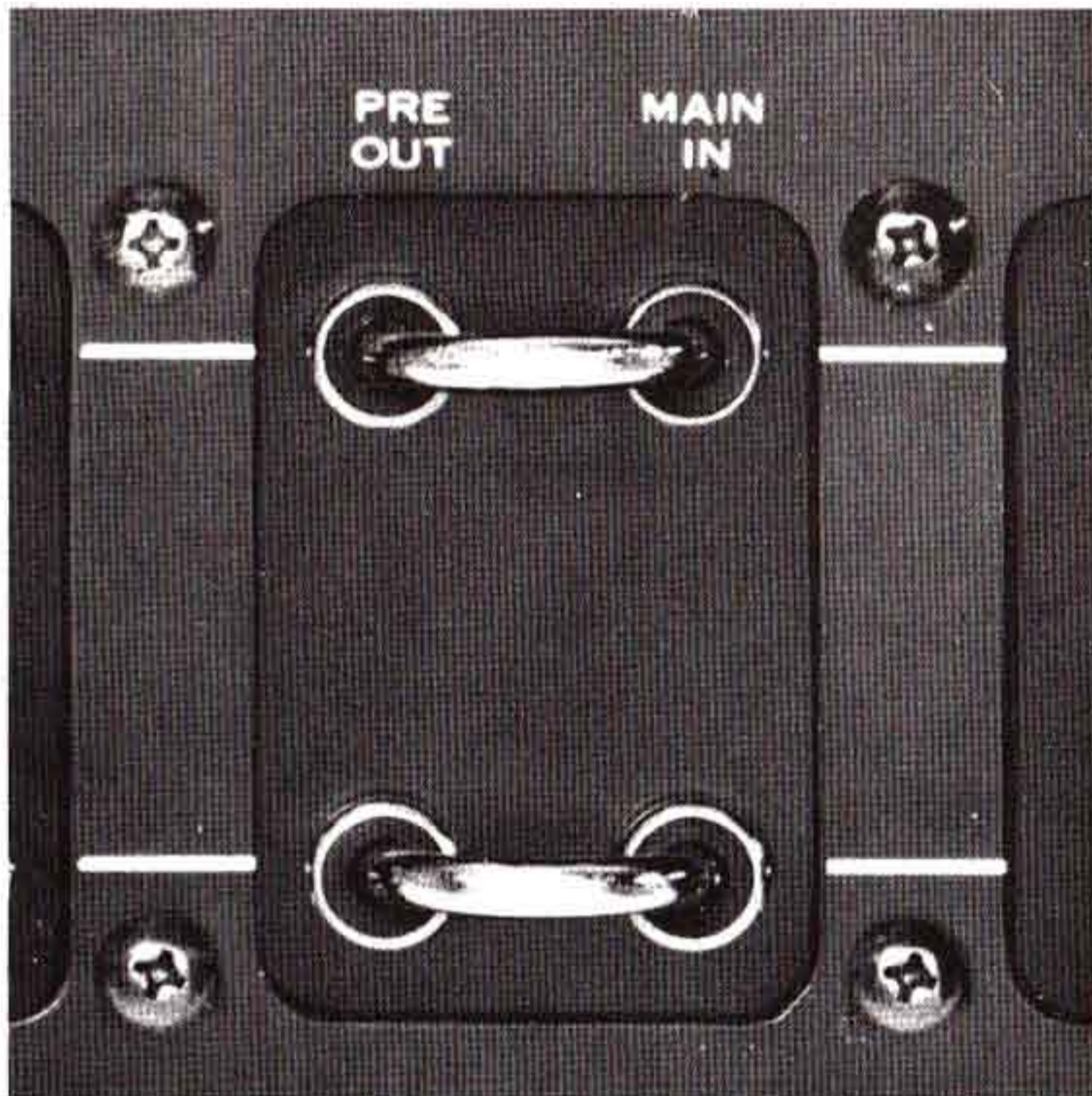


Fig. 17

Fig. 17

Synthesized 4-Channel Stereo Connection

These terminals can also be used for front speaker connection.

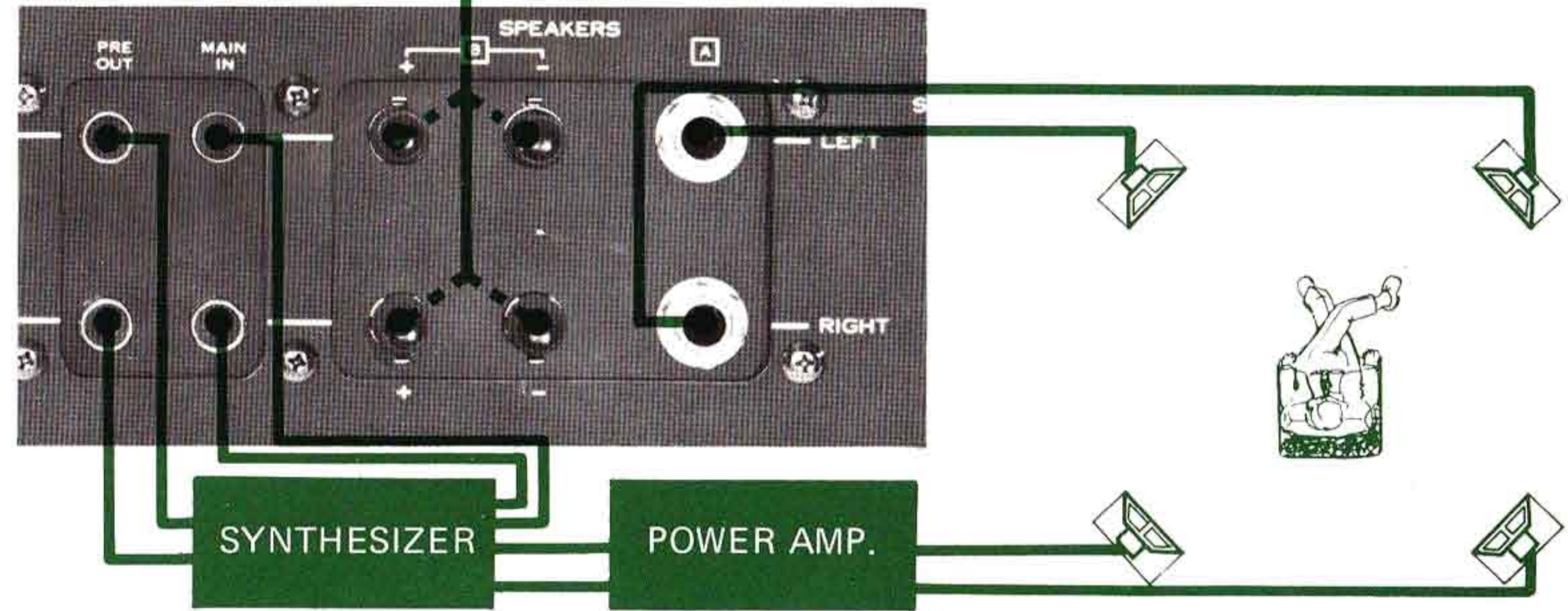


Fig. 18

Multi-channel Connection

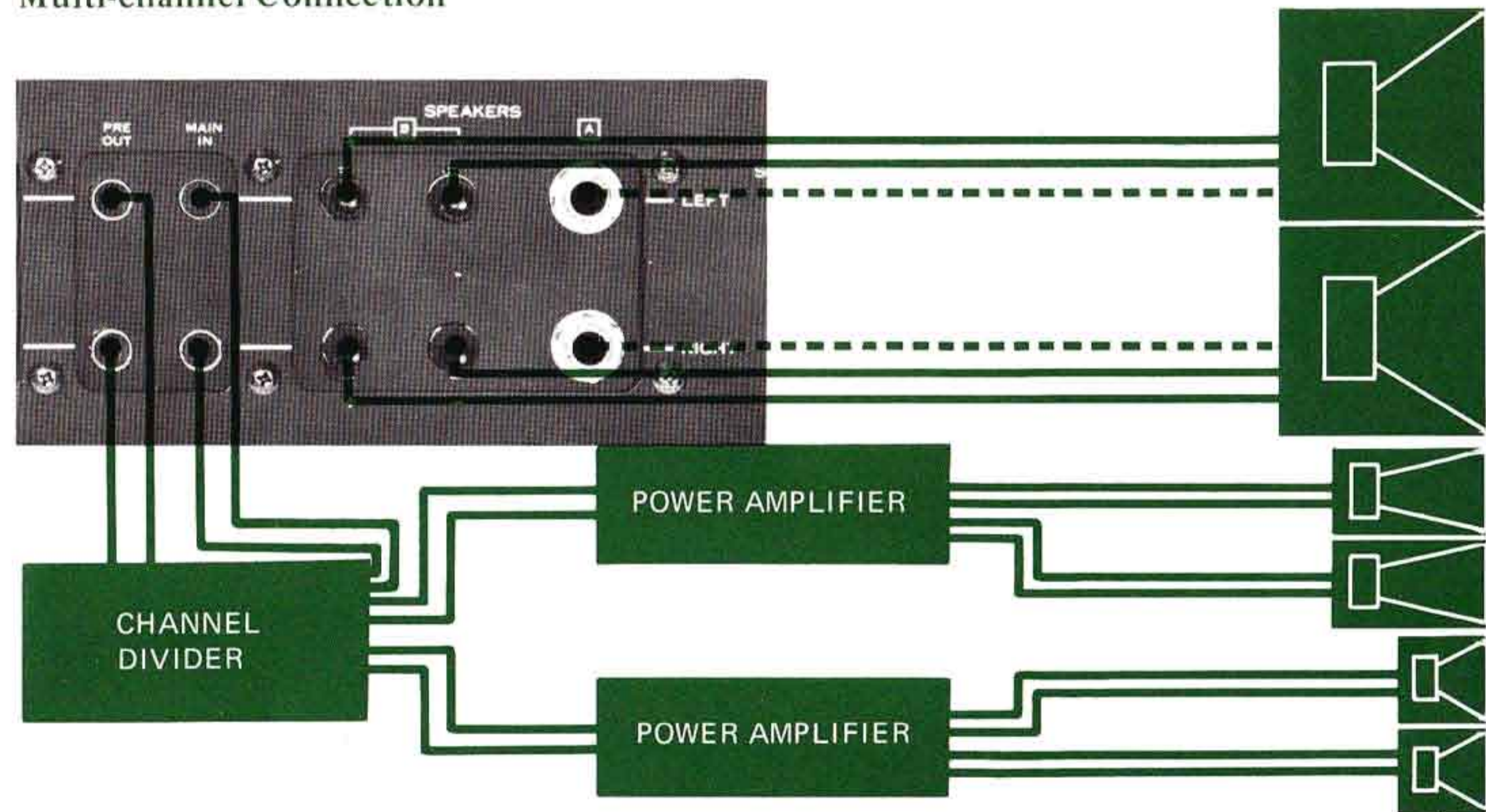


Fig. 19

STANDARD ACCESSORIES

| | |
|-----------------------------------|---|
| RCA/RCA Connection Cord | 1 |
| Spare Fuse | 2 |
| Operator's Manual | 1 |

OPTIONAL ACCESSORIES

Connection Cord




D-100 DIN/DIN




DR-110 DIN/RCA

Stereo Headphones



ASE-22



ASE-20

Stereo Tuner Amplifier




AA-8500




AA-6600

Loudspeaker System




SW-175




SW-155


Stereo Tape Deck



GX-365D



GX-280D



GX-220D

Speaker Cable



SC-180



MANUFACTURED & DISTRIBUTED BY
AKAI ELECTRIC CO., LTD.
AKAI TRADING CO., LTD.
12-14, 2-chome, Higashi-Kojiya,
Ohta-ku, Tokyo, Japan

Price US \$1.50



PRINTED IN JAPAN