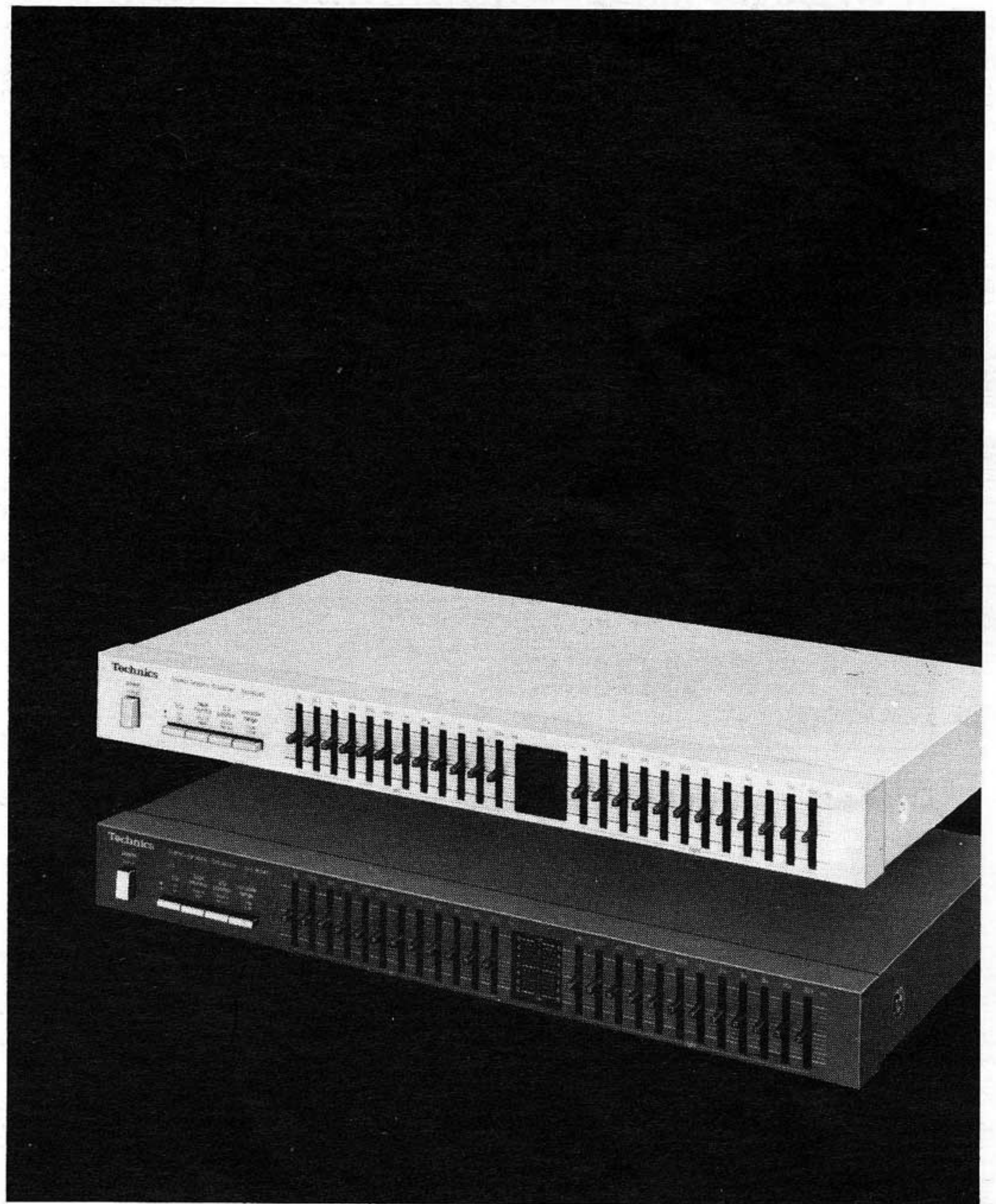


# Technics

Stereo Graphic Equalizer

## SH-8045

### OPERATING INSTRUCTIONS



Also available in silver.

Before operating this unit, please read these instructions completely.



## Dear Stereo Fan

We want to thank you for selecting this product and to welcome you to the growing family of satisfied Technics product owners around the world. We feel certain you will get maximum enjoyment

from this new addition to your home. Please read these operating instructions carefully, and be sure to keep them handy for convenient reference.

## CONTENTS

●ACCESSORIES .....	1
●MAINTENANCE OF EXTERNAL SURFACES .....	1
●BEFORE USING THIS UNIT .....	1
●FOR UNITED KINGDOM .....	1
●FOR SAFE USE OF THIS UNIT .....	2
●STEREO SYSTEM COMPONENTS AND THEIR CONNECTIONS .....	3
●FRONT PANEL CONTROLS AND THEIR FUNCTIONS .....	4
●OPERATION .....	5
●EXAMPLES OF APPLICATIONS UTILIZING THE SH-8045 FUNCTIONS .....	6
●TROUBLESHOOTING GUIDE .....	7
●TECHNICAL SPECIFICATIONS .....	7
●TOTAL FREQUENCY RESPONDS .....	7

## ACCESSORIES

Connection cords (shielded cable) .....	2
---	---

## MAINTENANCE OF EXTERNAL SURFACES

To clean, use a soft dry cloth.

If the surfaces are extremely dirty, use a soft cloth, dipped into a soap and water or a weak detergent solution.

Wring the cloth well before wiping the unit.

Wipe once again with a soft dry cloth.

Never use alcohol, paint thinner, or benzine, nor a chemically treated cloth to clean this unit.

Such chemicals may mar the finish of your unit.

## BEFORE USING THIS UNIT

Use a minus (–) screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the unit will be used.

Note that this unit will be seriously damaged if this setting is not made correctly. (There is no voltage selector for some countries; the correct voltage is already set.)

(Not for Australia)

## FOR UNITED KINGDOM

### Important

THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

BLUE: NEUTRAL

BROWN: LIVE

As the colours of the wires in the mains lead of this unit 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.



## FOR SAFE USE OF THIS UNIT

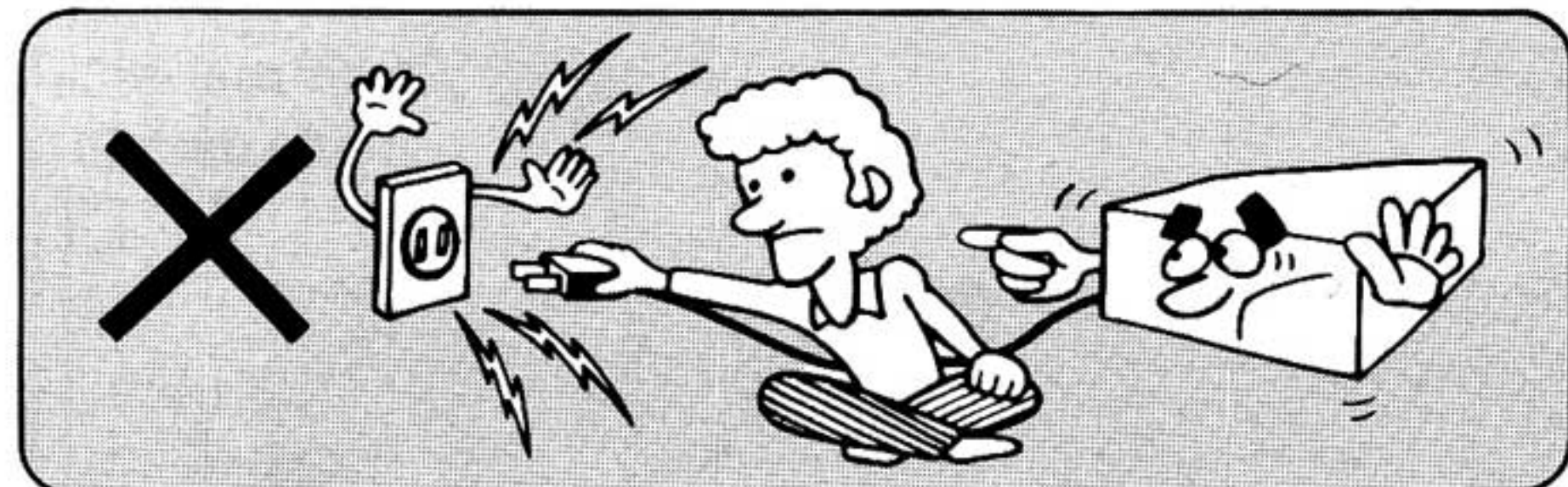
### ■ Use a standard electrical AC wall outlet

#### 1. Use from an AC power source of high voltage, such as for air conditioners, is very dangerous.

Be extremely careful not to make a connection to the electrical outlet for a large air conditioner or central-heating unit which uses high voltage, because there is the possibility of fire.

#### 2. A DC power source cannot be used.

Be sure to check the power source carefully, especially on a ship or other place where DC is used.



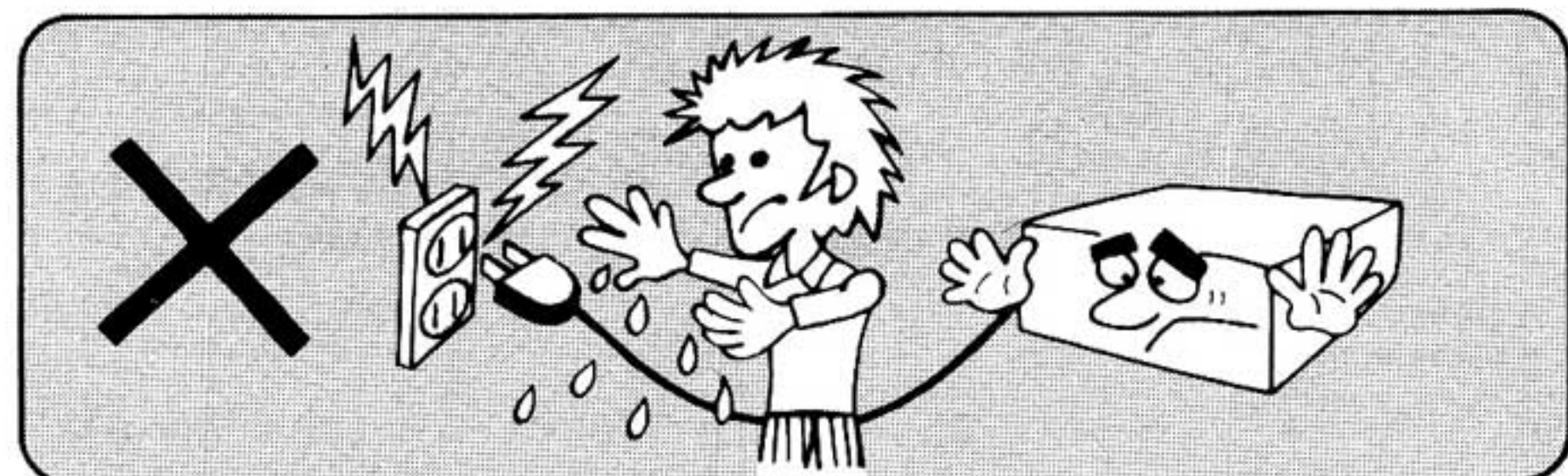
### ■ Connection and removal of the power cord plug

#### 1. Wet hands are dangerous.

A dangerous electric shock may result if the plug is touched by wet hands.

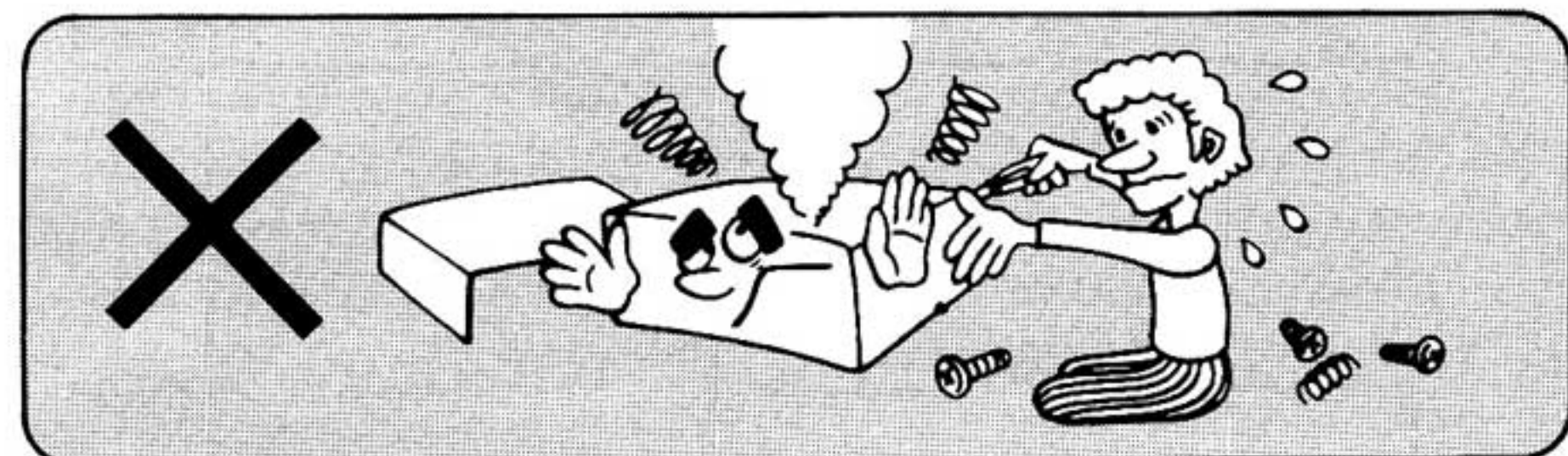
#### 2. Don't pull the power cord.

Always grasp the plug; never pull the cord itself.



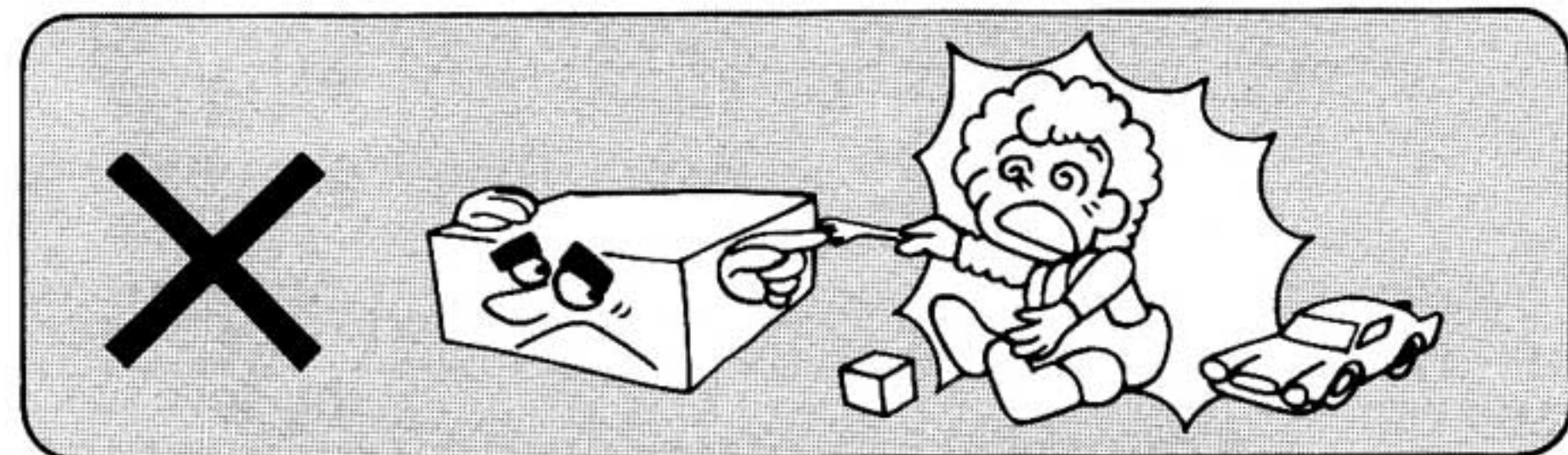
### ■ Never attempt to repair or reconstruct this unit

A serious electric shock might occur if this unit is repaired, disassembled or reconstructed by unauthorized persons, or if the internal parts are accidentally touched.



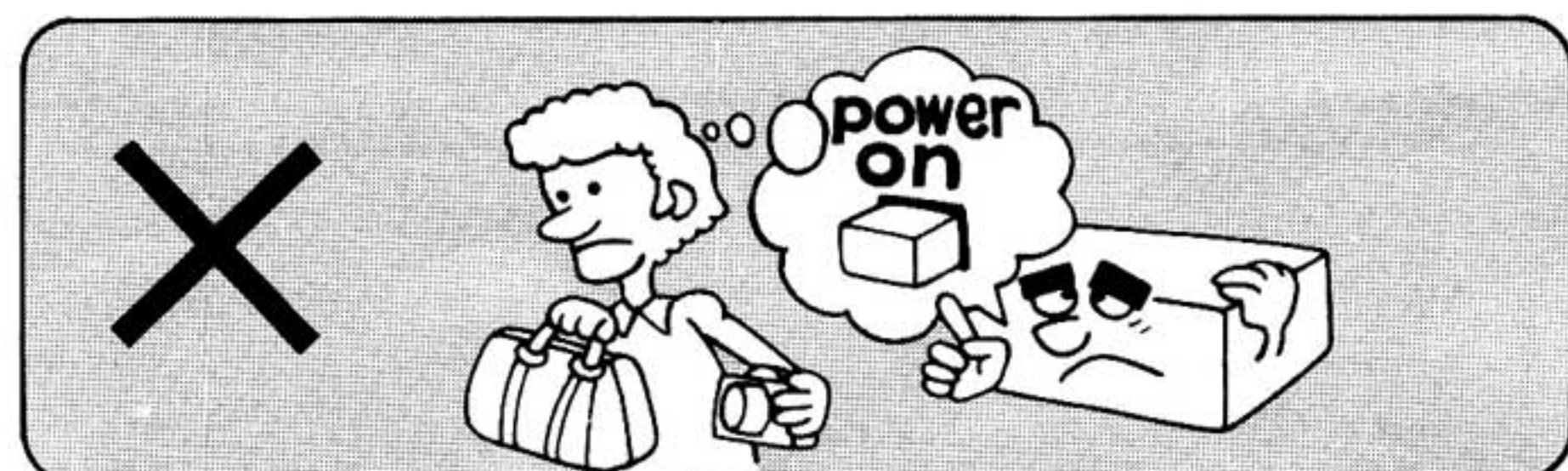
### ■ For families with children

Never permit children to put anything, especially metal, inside this unit. A serious electric shock or malfunction could occur if articles such as coins, needles, screwdrivers, etc. are inserted through the ventilation holes, etc. of this unit.



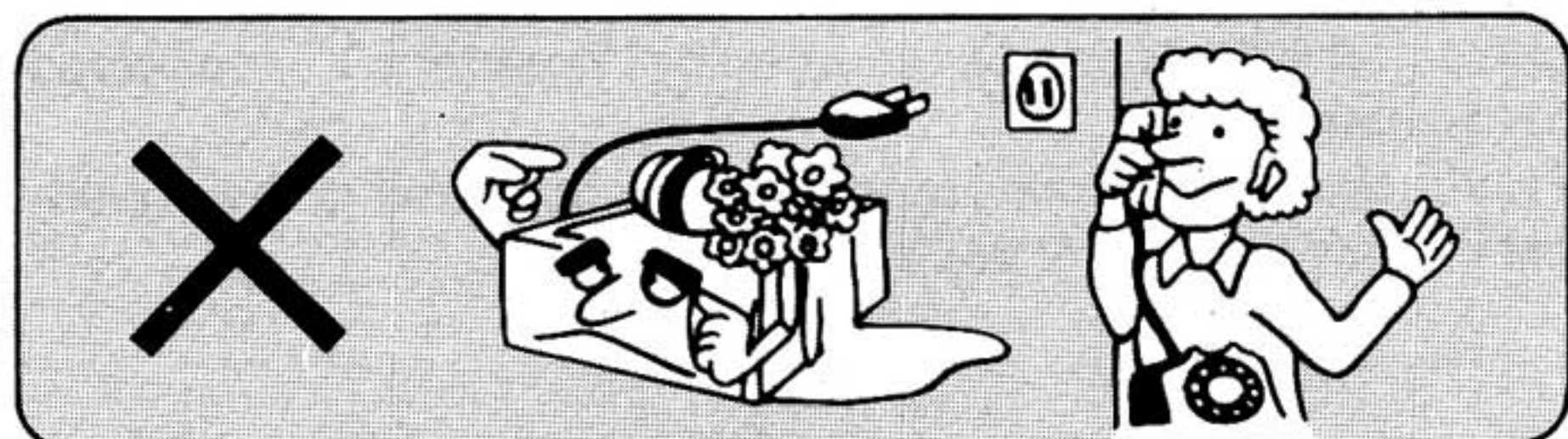
### ■ Turn off after use

If the unit is left for a long time with the power on, this will not only shorten its useful operation life, but may also cause other unexpected trouble.



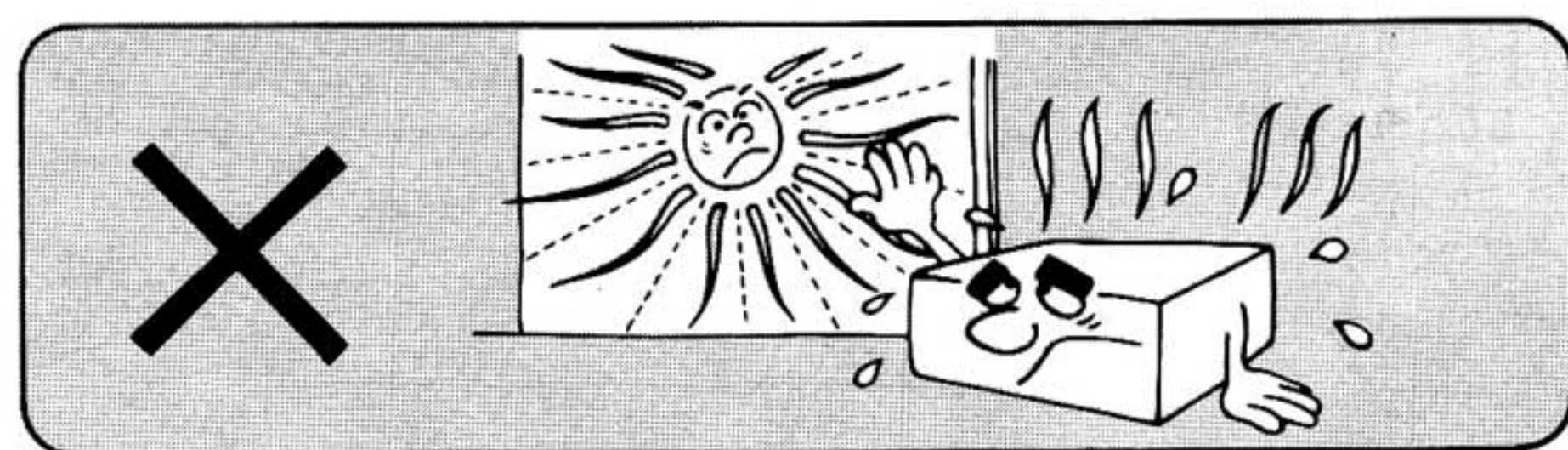
### ■ If water is spilled on the unit

Be extremely careful if water is spilled on the unit, because a fire or serious electric shock might occur. Immediately disconnect the power cord plug, and consult with your dealer.



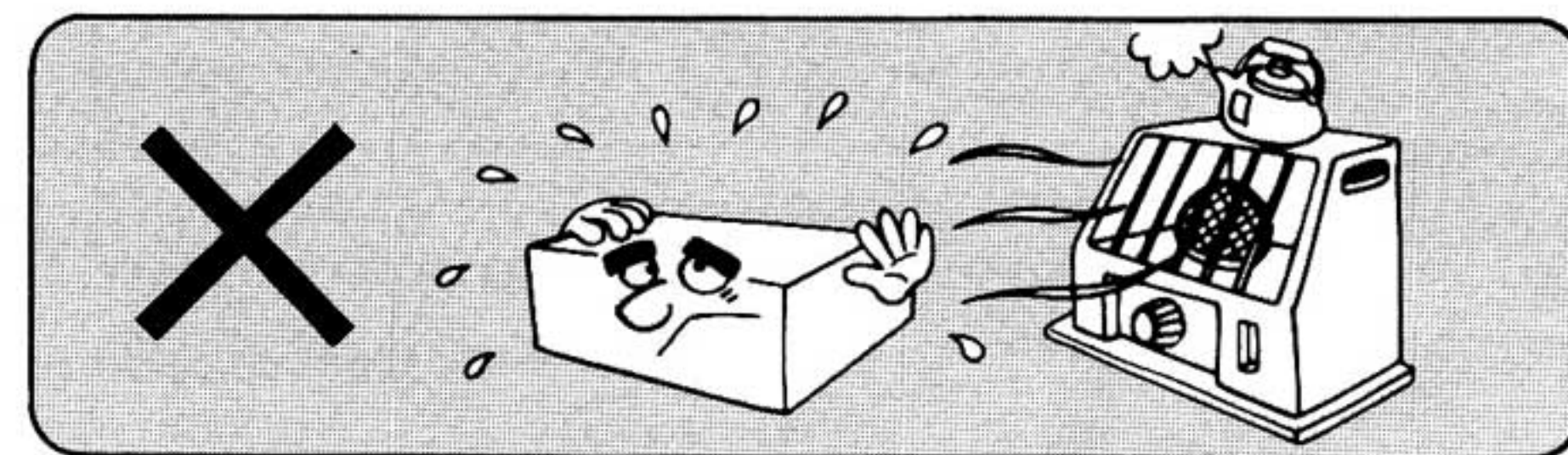
### ■ Place the unit where it will be well ventilated, and away from direct sunlight

Place this unit at least 10 cm (4") away from wall surfaces, etc., and away from direct sunlight.



### ■ Keep the unit away from stoves, etc.

Heat can damage the external surfaces as well as internal circuits and components.



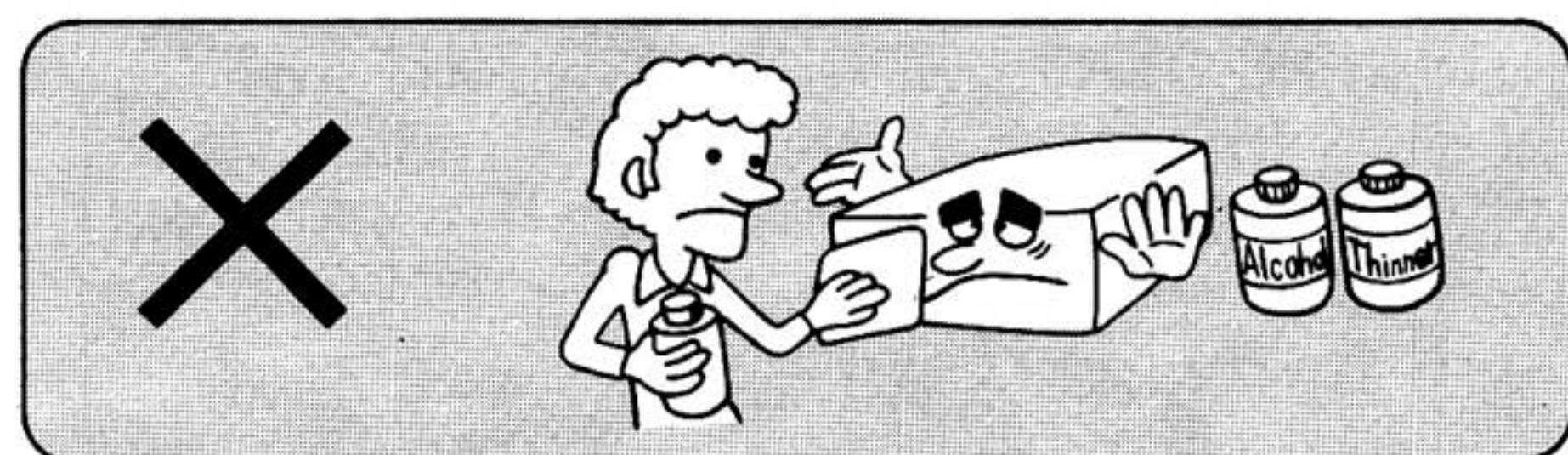
### ■ Avoid spray-type insecticides

Insecticides might cause cracks or "cloudiness" in the cabinet and plastic parts of this unit. The gas used in such sprays might, moreover, be ignited suddenly.



### ■ Never use alcohol or paint thinner

These and similar chemicals should never be used, because they may damage the finish.



### ■ If trouble occurs

If, during operation, the sound is interrupted or indicators no longer illuminate, or if abnormal odor or smoke is detected, immediately disconnect the power cord plug, and contact your dealer or an Authorized Service Center.

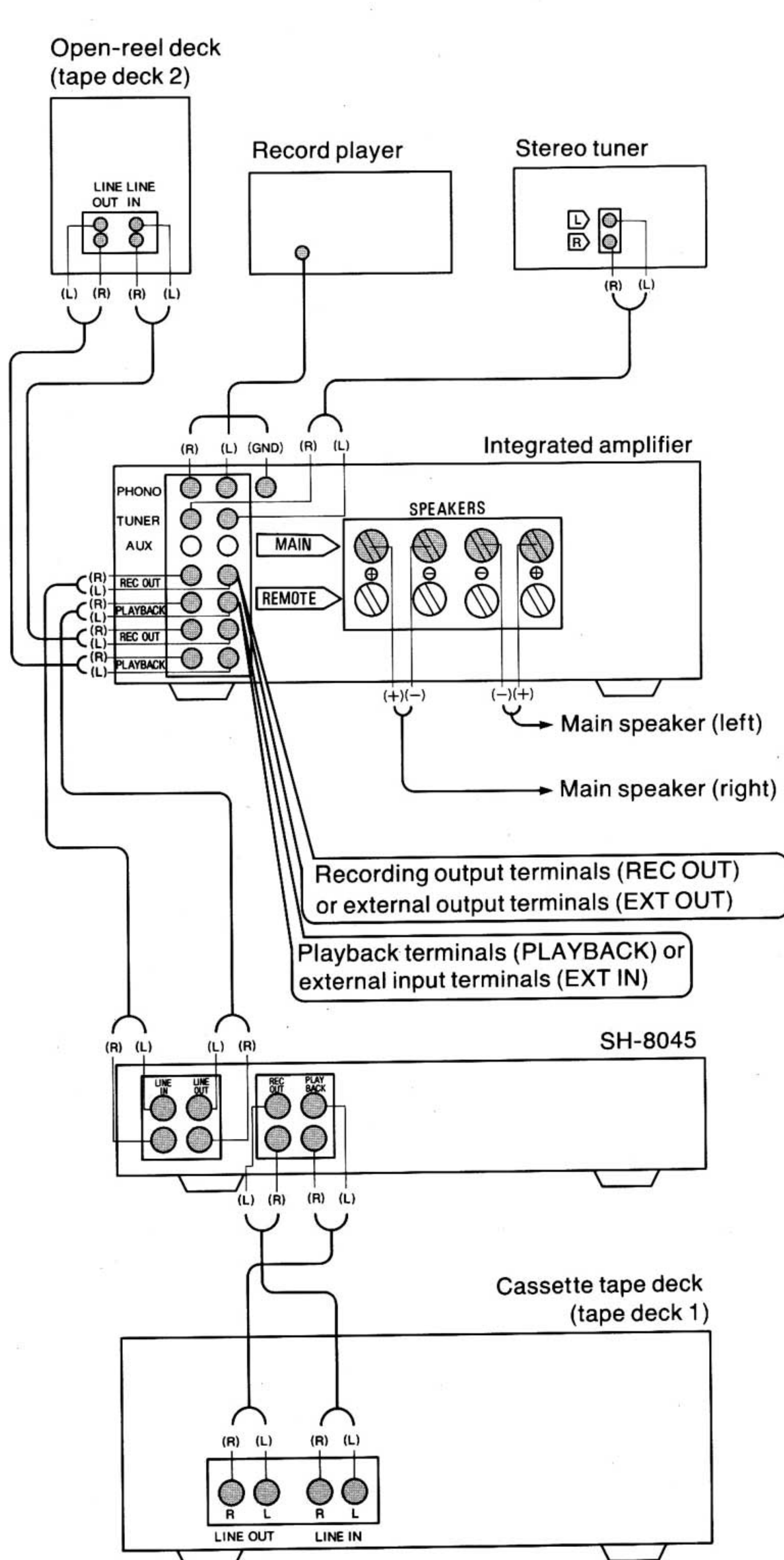


# STEREO SYSTEM COMPONENTS AND THEIR CONNECTIONS

## ■ Connection to the TAPE terminals of an integrated amplifier

Corrected signals from a turntable, tuner, or "tapedeck 2" connected to an integrated amplifier can be played back, and corrected signals can be recorded by "tapedeck 1" connected to the equalizer.

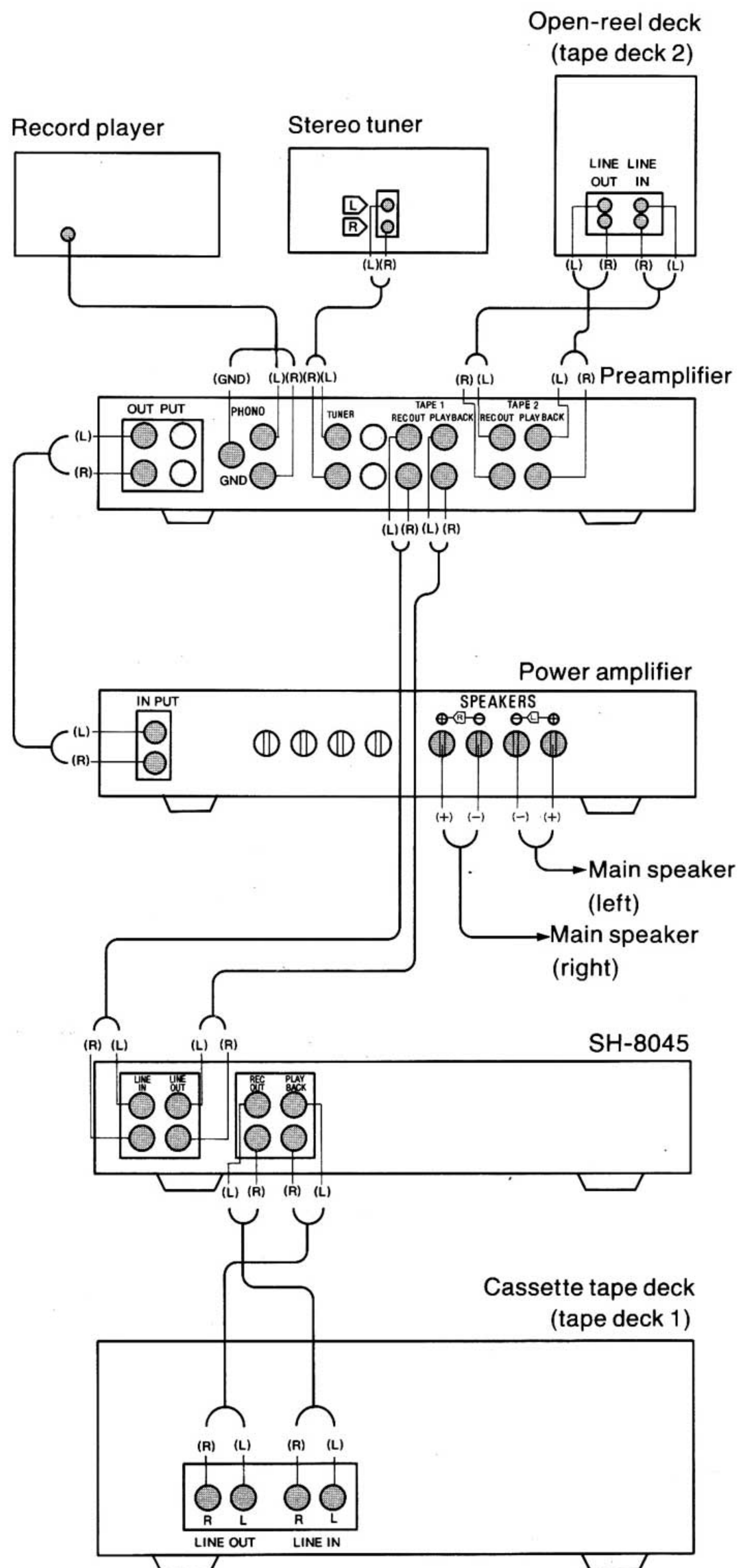
Playback signals from "tapedeck 1" connected to the equalizer can also be corrected for listening.



## ■ Connection to the TAPE terminals of a preamplifier

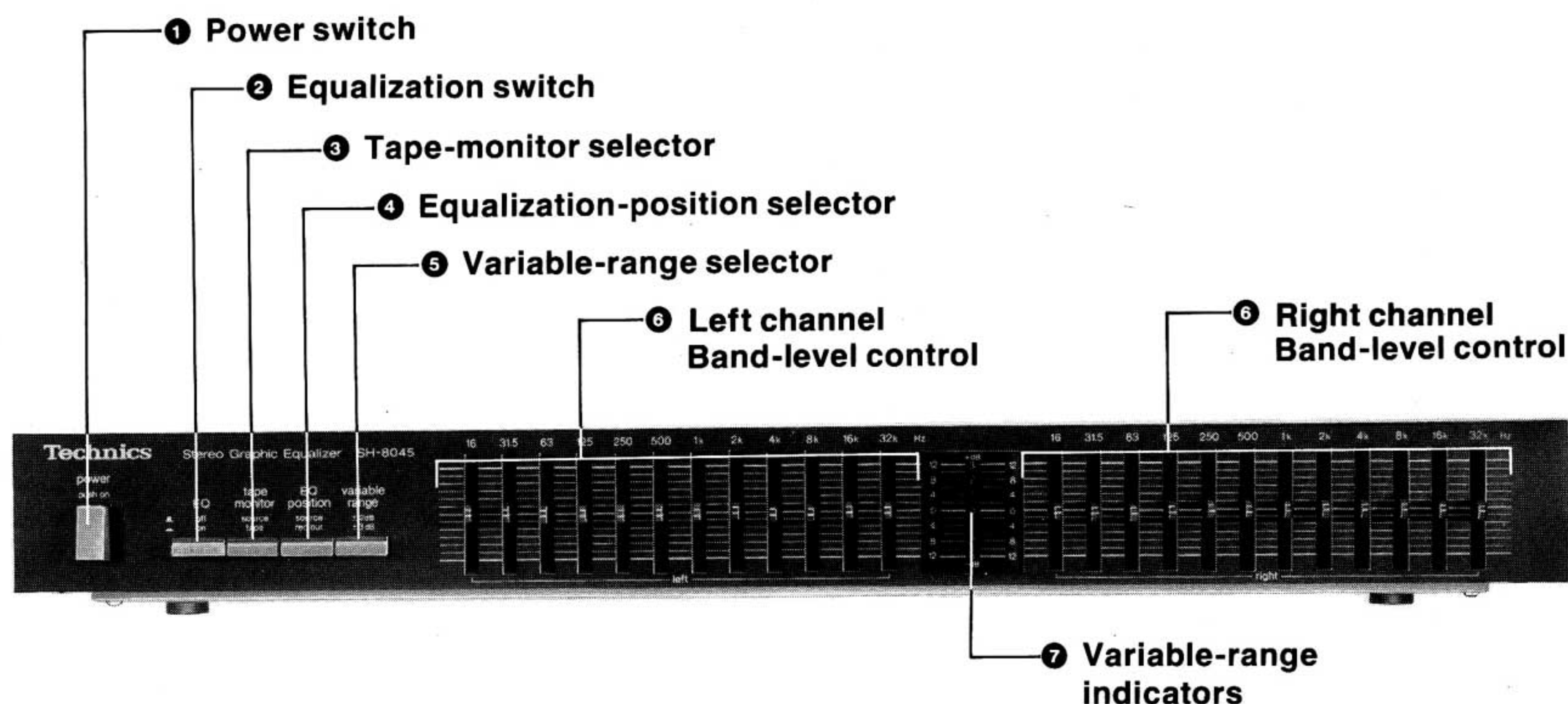
The signals from a turntable, tuner, or "tapedeck 2" connected to a preamplifier can be corrected, and corrected signals can be recorded by "tapedeck 1" connected to the equalizer.

Playback signals from "tapedeck 1" connected to the equalizer can also be corrected for listening.





# FRONT PANEL CONTROLS AND THEIR FUNCTIONS



## ① Power switch (power)

This switch can be used to turn the power on and off.

## ② Equalization switch (EQ)

This switch can be used to turn the equalization circuitry on and off.

**■ on:**

Set to this position for equalizer correction.

**■ off:**

Set to this position to turn off equalizer correction. By turning this switch on and off, the equalizer effect can also be checked. When this switch is in the "off" (■→■) position, signals will still pass through the unit and be emitted, regardless of whether the power switch ① is in the "on" or "off" position.

●Refer to page 5.

## ③ Tape-monitor selector (tape monitor)

**■ source:**

Set to this position to listen to the radio or a disc.

**■ tape:**

Set to this position to listen to a tape deck.

**Note:**

If the equalization-position selector ④ is set to the "source" (■→■) position and the equalization switch ② is set to the "on" (■→■) position, the frequency response of the radio, disc and tape deck can be controlled.

## ④ Equalization-position selector (EQ position)

**■ source:**

Set to this position to record without equalizer correction.

**■ rec out:**

Set to this position in order to make a tape recording of a radio broadcast or a disc while controlling the frequency response. Also, compensated playback sound can be heard at this position.

**Note:**

The equalization switch ② must be set to the "on" (■→■) position, otherwise the frequency response cannot be controlled.

## ⑤ Variable-range selector (variable range)

**■ ±12 dB:**

Set to this position to correct comparatively large disturbances in characteristics, such as those which occur in a listening room or in speaker systems.

**■ ±3 dB:**

Set to this position to correct comparatively small disturbances in characteristics, such as those related to cartridges, etc.

## ⑥ Band-level controls

These levers are used to adjust the 12 frequency levels that result from dividing the 16 Hz~32 kHz frequency range into 12. Using 1 kHz as a reference point, they are arranged in raising and lowering intervals of 1 octave each.

When these levers are moved in the "+ dB" direction, peak frequency characteristics are obtained. When they are moved in the "- dB" direction, dip frequency characteristics are obtained. These characteristics can be emphasized or attenuated a maximum of 12 dB.

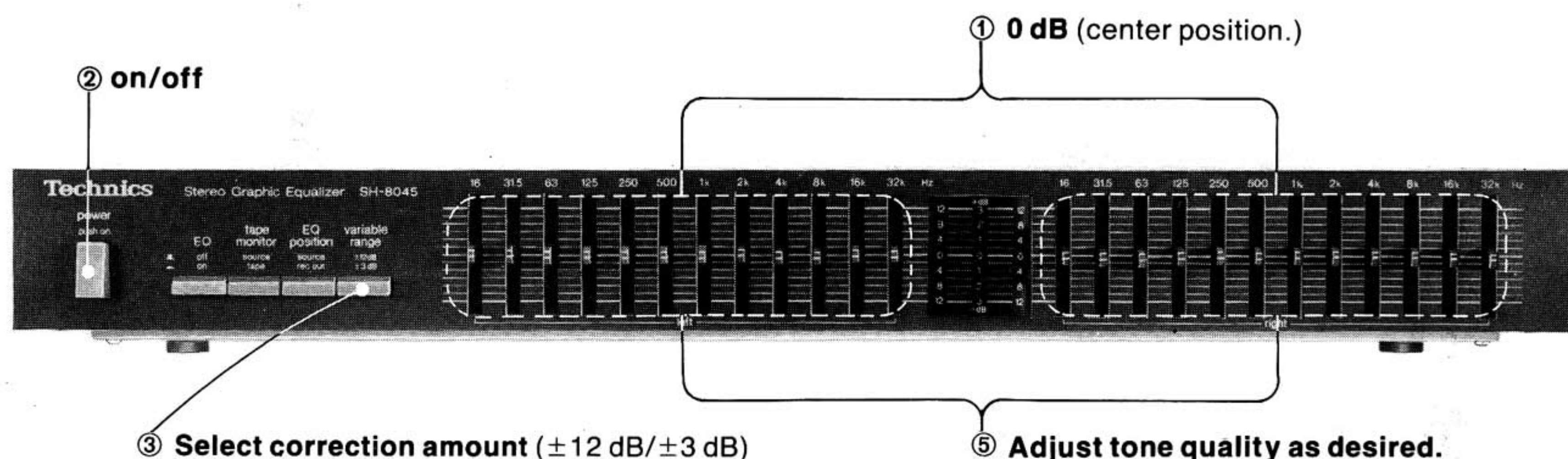
## ⑦ Variable-range indicators

When the variable range selector ⑤ is set to the "±12 dB" (■→■) position, this indicator illuminates in yellow. When the selector is set to the "±3 dB" (■→■) position, this indicator illuminates in orange.



# OPERATION

## Preparations



### ④ Prepare the amplifier

- Set the loudness switch to the "off" position.
- Set the bass and the treble controls to the center ("defeat") position.
- Adjust the volume level by using the volume control.

## To listen to corrected sound of phono discs or radio

① source (■→■) or rec out (■→■)

② source (■→■)

③ on (■→■)

To listen to uncorrected sound, set the equalization switch to the "off" (■→■) position.



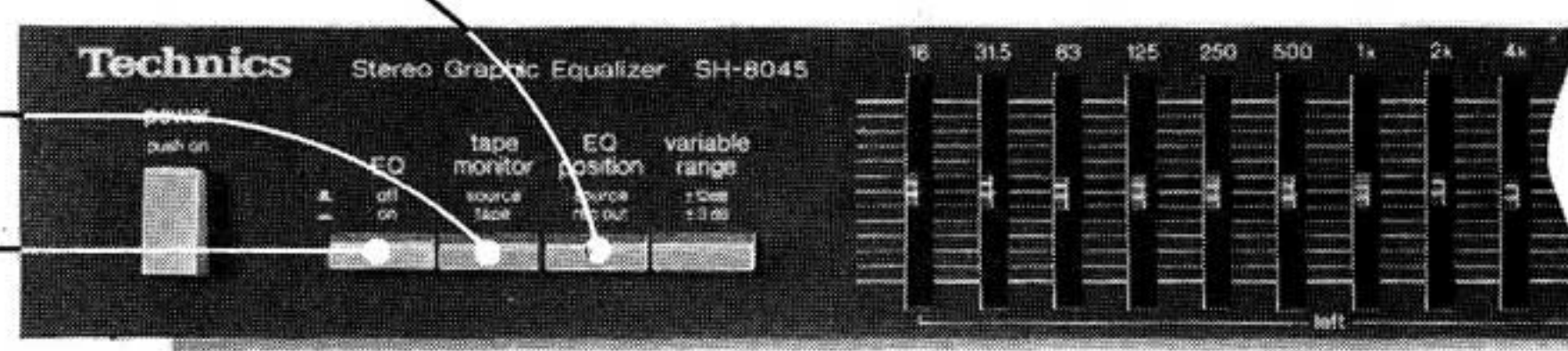
## To record corrected sound of phono discs or from radio

① rec out (■→■)

② source (■→■) or tape (■→■)

③ on (■→■)

To record uncorrected sound, set the equalization switch to the "off" (■→■) position.



## To listen to corrected sound from a tape deck

① source (■→■)

② tape (■→■)

③ on (■→■)

To listen to uncorrected sound, set the equalization switch to the "off" (■→■) position.



## How to check the equalizer effect

The equalizer effect can be checked by turning the equalizer switch on and off and comparing the corrected and uncorrected sound.

### Notes:

- The power switch of the equalizer may be set to the "off" position when listening without equalizer correction. If this is done, set the equalizer on/off switch to the "off" (■→■) position also.
- If you use any switches other than the tape-monitor selector while recording, the sound may be interrupted.



# EXAMPLES OF APPLICATIONS UTILIZING THE SH-8045 FUNCTIONS

The sound level of the 12 frequency divisions in the 16 Hz~32 kHz frequency range can be easily and selectively corrected by means of the band level control of this unit.

1. Complete audio room correction—including the correction of both stereo equipment and room acoustics.
2. Personalized sound quality control.
3. Creating an original tape collection of tapes tailored to your car stereo, or tapes of live recordings, etc.
4. Reduction of noise, prevention of howling. These are merely a few of the possibilities that sound quality and room acoustic correction open up for the serious listener.

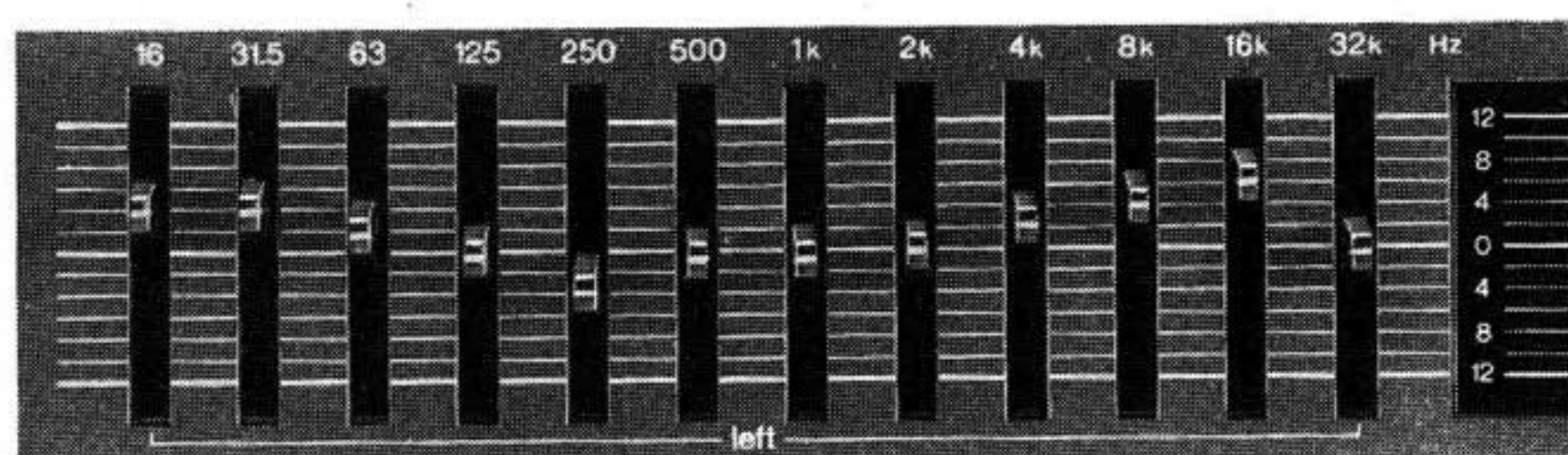
## ■ Correcting room acoustics

Each room has its own particular effects on frequency characteristics. These effects are determined by a number of conditions, such as room size, furnishings, etc.

The 12 separate divisions of the band level control on the SH-8045 make it possible to selectively correct only the frequency ranges necessary to suit the conditions of each listening room.

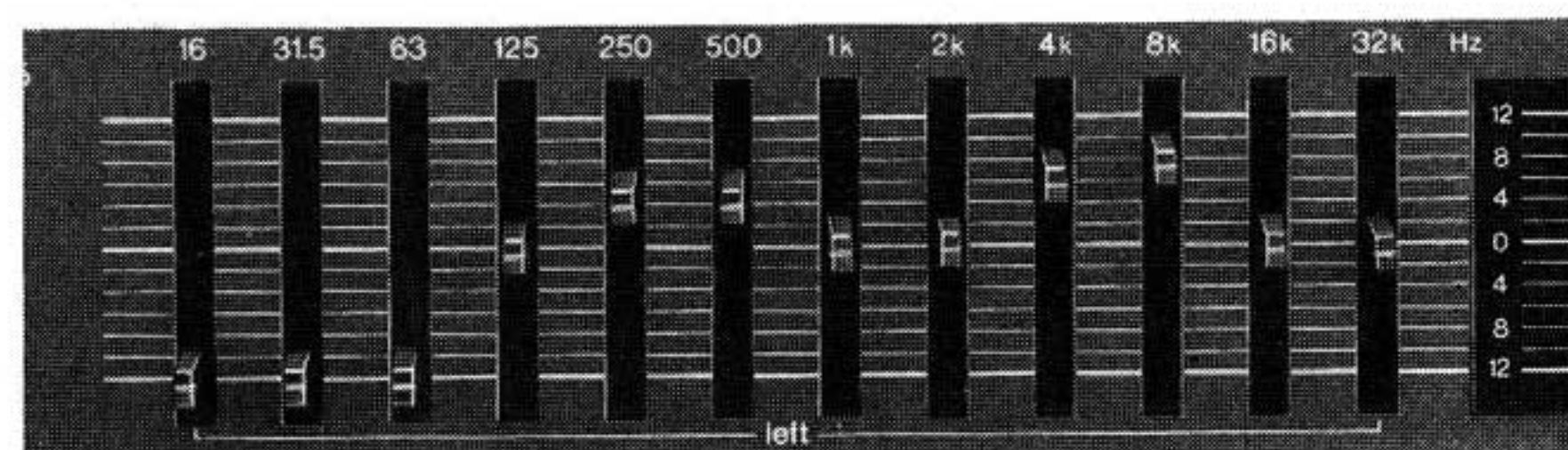
### An example of room acoustics correction

In order to correct the peaks and dips in bass sounds caused by reflection, reduce the 250 Hz level 4~6 dB and then, rise the level of sounds below 63 Hz and above 4 kHz vicinity slightly.



## ■ Cutting the noise from live recording tapes

Live tapes recorded outdoors generally contain popping noises caused by wind and various other noises from the surrounding area. In order to effectively eliminate wind noise, cut bass sounds below 63 Hz and raise the level of sounds in the 250 Hz~500 Hz range. Then control sounds made by birds, etc., with a 4 kHz and or 8 kHz adjustment.

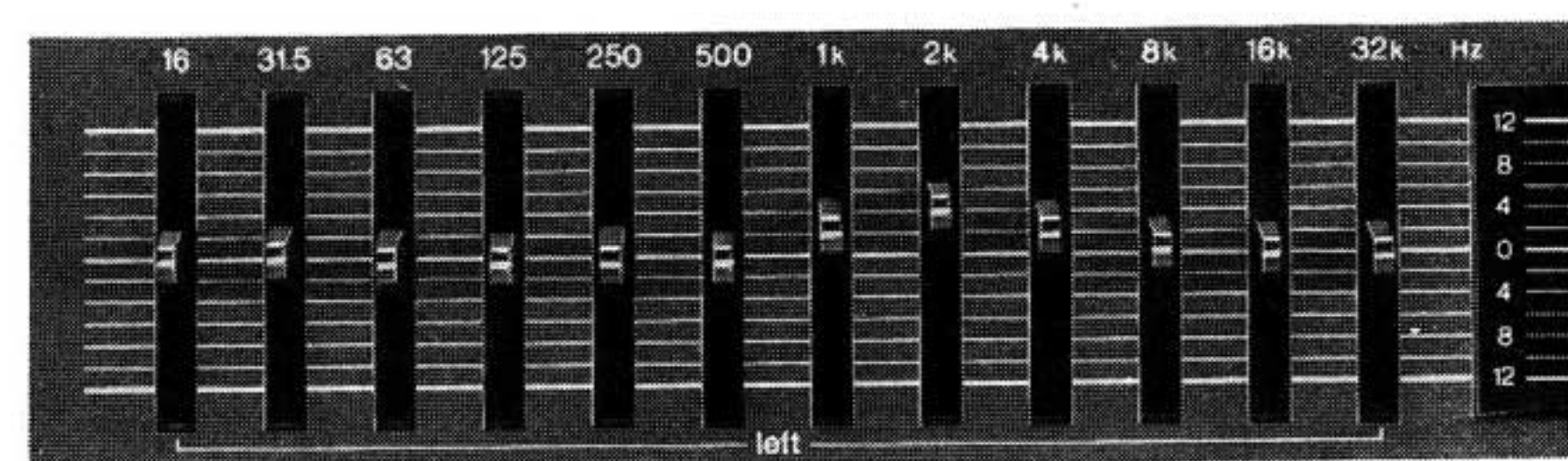


## ■ Producing clear vocals

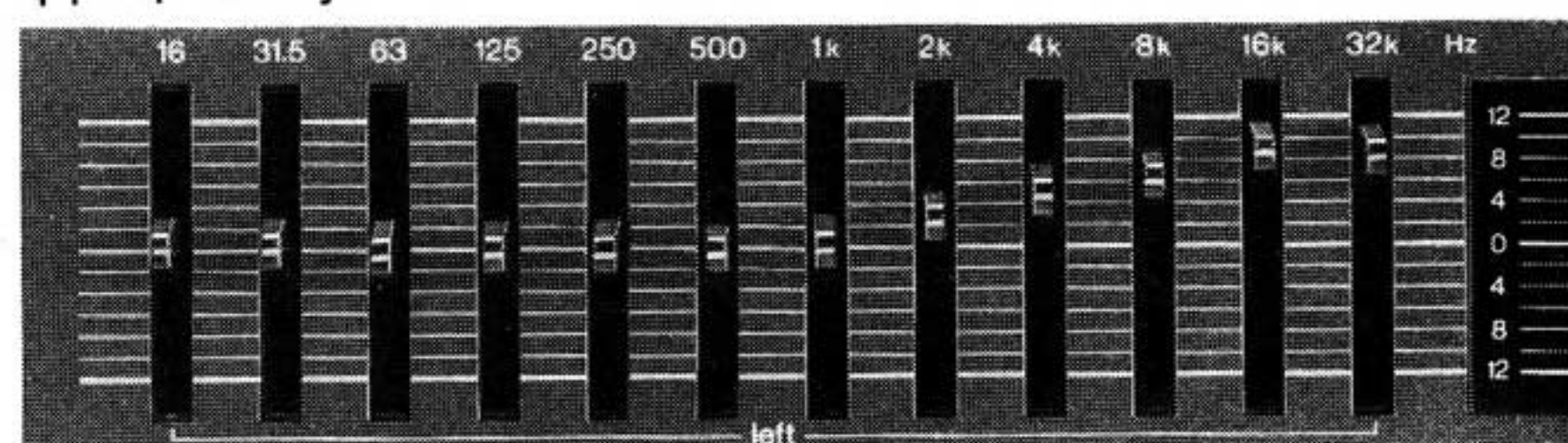
For female vocals, raise the level of the 1 kHz~2 kHz range by 2~4 dB. To rectify omission, raise the level of the 4 kHz vicinity slightly.

Male vocals can be improved by raising the level of the 500 Hz~2 kHz range.

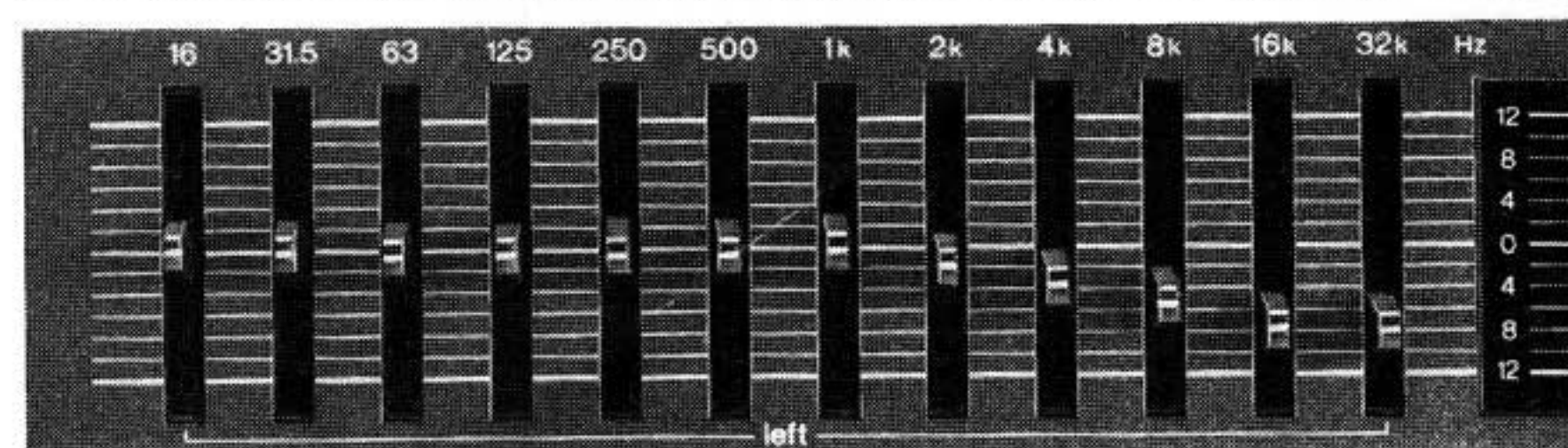
Below is an example of a female vocal correction.



recording

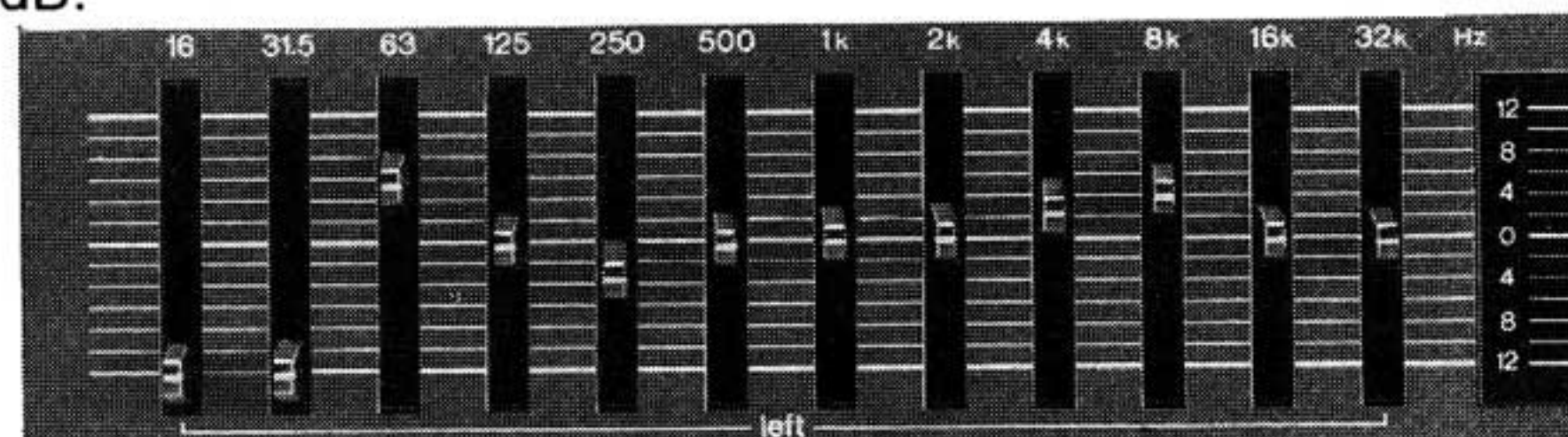


playback



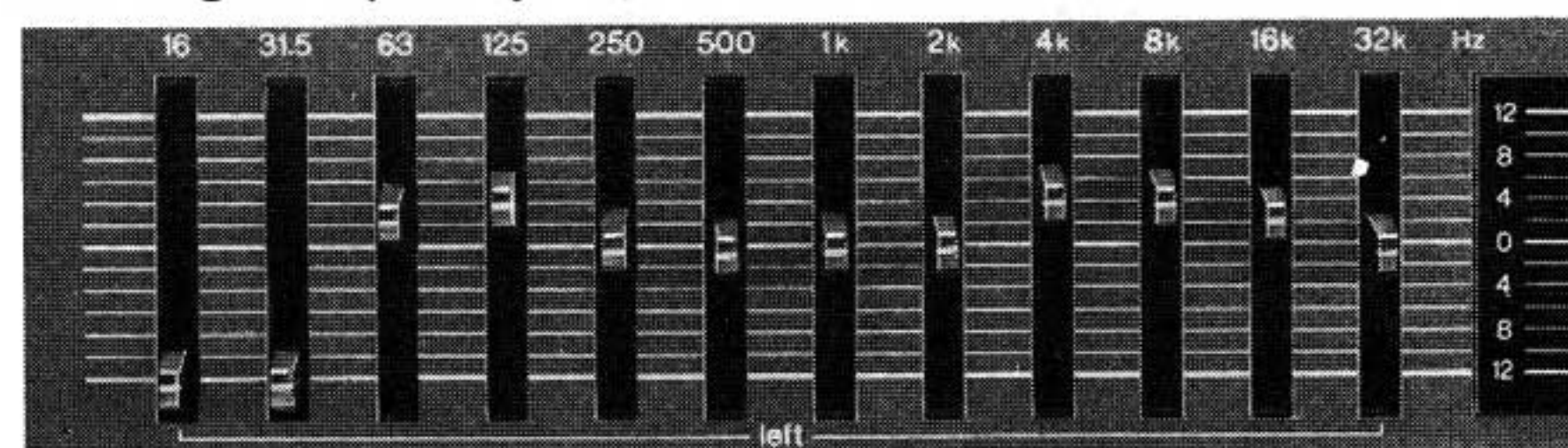
## ■ Making tapes for car stereos

Tapes can be made exclusively for the listening conditions inside a vehicle. Merely raise the 63 Hz level 3~4 dB and completely cut the levels below 31.5 Hz that are so troublesome for car stereo reproduction. For medium and low frequencies, centering on the 250 Hz vicinity, lower the modulating effect by raising the 4 kHz~8 kHz vicinity by 2~4 dB.



## ■ Adding some power to disco music

First of all, completely cut the level of sounds below 31.5 Hz. These generally have no effect unless they are coming through very large speakers. Then, increase the power of bass guitars and bass drums by raising the level of the 63 Hz~125 Hz range, and raise the level of sounds from 4 kHz to 16 kHz. The result will be greatly emphasized low frequency sounds and strong, clear high frequency sounds.

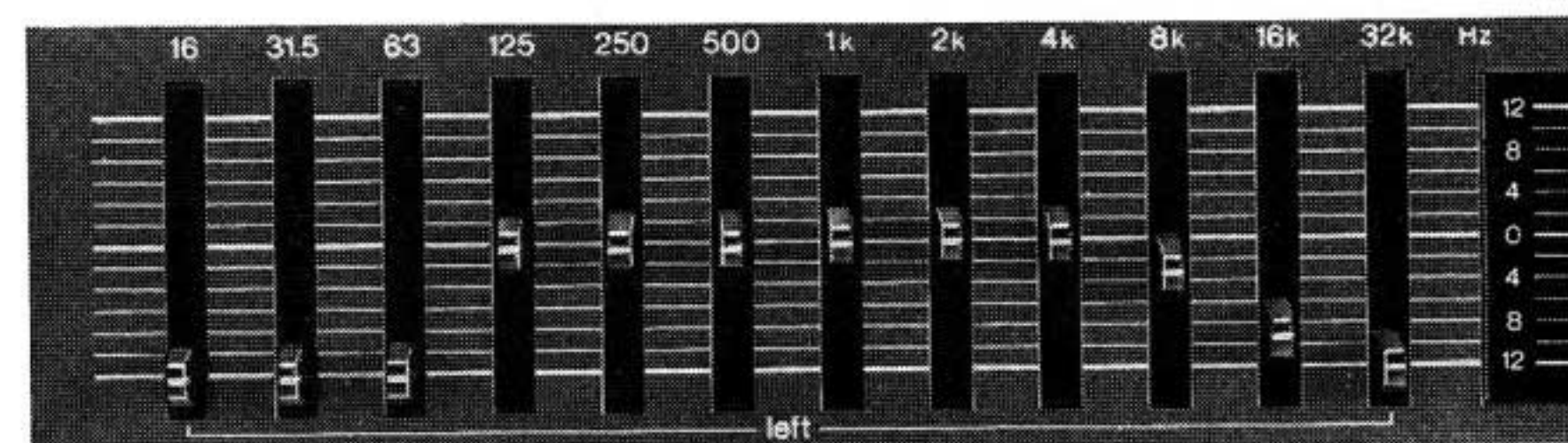


## ■ Cutting noise from discs

Noises from warped discs are low frequency noise components. Lowering the sound level of the 63 Hz vicinity can eliminate these.

As for cutting the noise from old discs, all band level control levers should first be set to their exact mid-position (flattening the equalizer effect) and then lowered one by one to the “-12 dB” position, listening to the effect of each adjustment.

The noise components can thus be found and cut without deteriorating the sound quality.

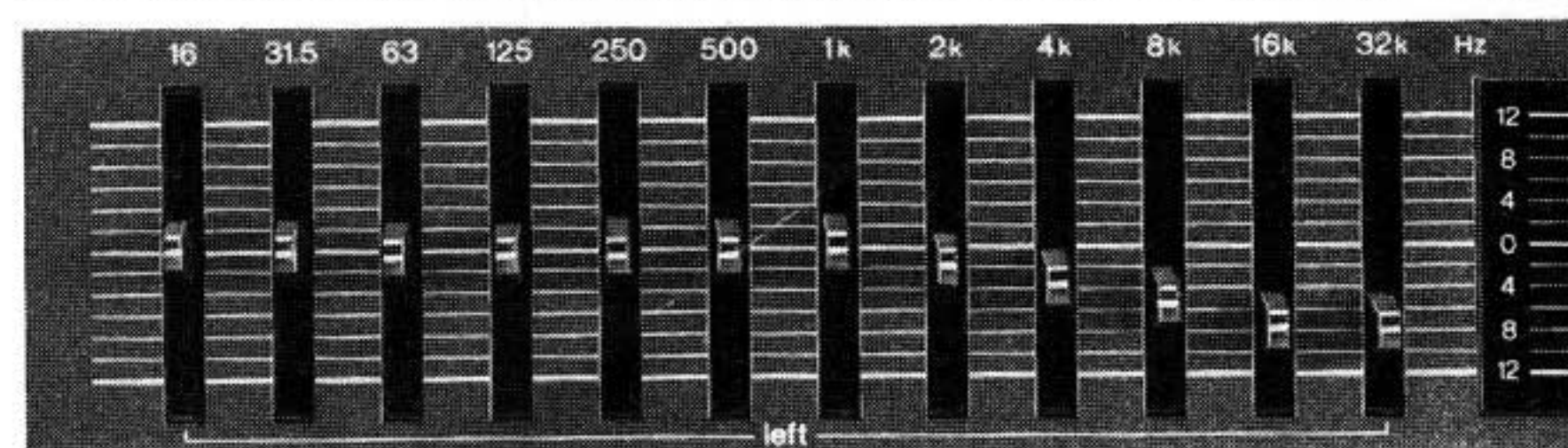
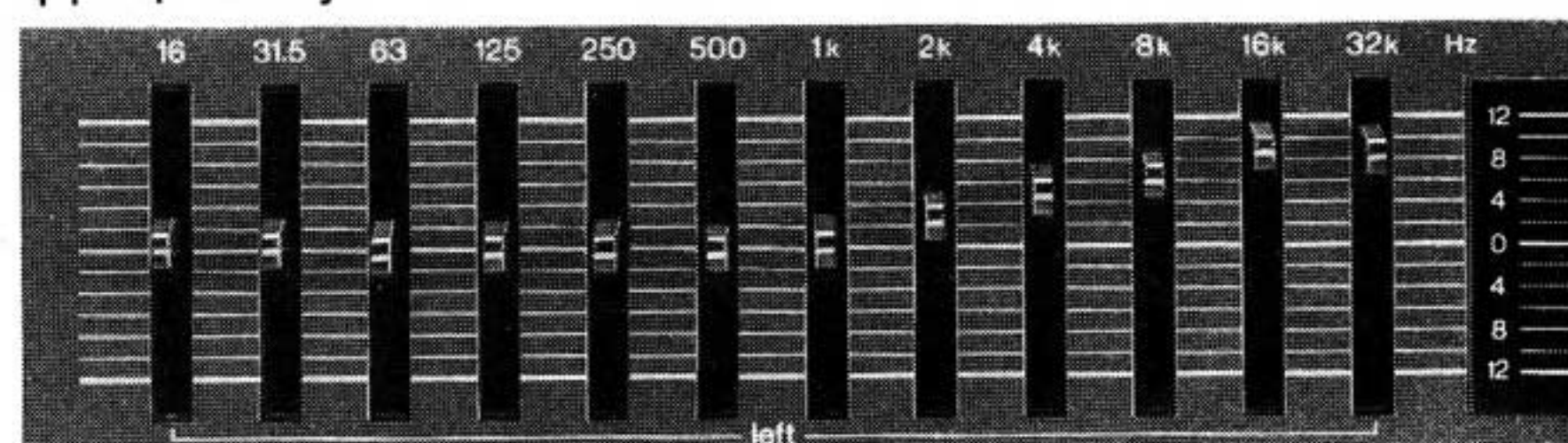


## ■ Reducing tape hiss

Tape hiss can be effectively reduced by slightly raising the level of high frequency (above 2 kHz) sounds during tape deck recording, and then lowering them during playback.

### Note:

If sounds above 8 kHz are raised too much, distortion may result in the tape deck. Prevent this by watching the level meters of the tape deck and setting the recording levels appropriately.





# TROUBLESHOOTING GUIDE

Before requesting service for this unit, check this table to determine if the problem can be solved as described below. If the problem still persists after making these checks, or if there are symptoms of malfunction not described in this table, it is rec-

ommended that you consult the store where this unit was purchased or your local Service Center (see list included) for further information and assistance.

Problem	Probable cause(s)	Suggested remedy
No sound	●Incorrect connection.	●Refer to page 3.
	●The power switch is in the "off" (⬇→⬆) position and the on/off switch of the equalizer is set to the "on" (⬆→⬇) position.	●Turn the power switch off (⬇→⬆) and, to use the stereo system, set the on/off switch of the equalizer also to the "off" (⬆→⬇) position.
Correction is not possible at recording	●The equalizer switch is set to the "off" (⬆→⬇) position.	●Set the equalizer switch to the "on" (⬆→⬇) position.
	●The equalizer-position selector is set to the "source" (⬆→⬇) position.	●Set the equalizer-position selector to the "rec out" (⬆→⬇) position.
Correction is not possible at playback	●The equalizer-position selector is set to the "rec out" (⬆→⬇) position.	●Set the equalizer position switch to the "source" (⬆→⬇) position at all times other than when making corrections during recording.

# TECHNICAL SPECIFICATIONS

<b>(DIN 45 500)</b>	
Frequency response (center position)	: 5 Hz~100 kHz, -1 dB
Maximum output voltage	: 8 V (1 kHz, THD 0.01%)
Rated output voltage	: 1 V
Rated total harmonic distortion	: 0.005% (20 Hz~20 kHz) 0.003% (1 kHz)
Input sensitivity	: 1 V
Signal-to-noise ratio	: 100 dB (110 dB, IHF' A)
Maximum input voltage	: 8 V (1 kHz)
Input impedance	: 47 kΩ
Gain	: 0±1 dB
Channel balance	
250 Hz~6300 Hz	: ±0.5 dB
Channel separation	
1kHz	: 70 dB
Band level controls	: +12 dB~-12 dB, +3 dB~-3 dB (12 elements continuously variable per channel)
Center frequency	: 16 Hz, 31.5 Hz, 63 Hz, 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz, 16 kHz, 32 kHz
<b>GENERAL</b>	
Power supply	: AC 110 V/120 V/220 V/240 V, 50 Hz/60 Hz. AC 240 V 50 Hz only (For Australia)
Power consumption	: 19 W
Dimensions (H×W×D)	: 53×430×235 mm (2-3/32"×16-29/32"×9-1/4")
Weight	: 2.6 kg (5,7lb)

# TOTAL FREQUENCY RESPONSE

