

KENWOOD

GRAPHIC EQUALIZER

GE-4030

INSTRUCTION MANUAL

KENWOOD CORPORATION

Introduction

Your choice of this product indicates that you are a devotee to excellence in sound reproduction. We appreciate your patronage and take pride in the long tradition of quality components that our company represents. So that you can get the most out of your unit, we suggest that you take the time to read through this manual before you hook up and operate your system. This will acquaint you with operating features and system-connection considerations so that your listening pleasure will be enhanced right from the start. You will notice that in all aspects of planning, engineering, styling, operating convenience and adaptability we have sought to anticipate your needs and desires.

Keep this manual handy for future reference.

For your records

Record the serial number, found on the back of the unit, in the spaces designated on the warranty card, and in the space provided below. Refer to the model and serial numbers whenever you call upon your dealer for information or service on this product.

Model _____ Serial Number _____

Unpacking

Unpack the unit carefully and make sure that all accessories are put aside so they will not be lost. Examine the unit for any possibility of shipping damage. If your unit is damaged or fails to operate, notify your dealer immediately. If your unit was shipped to you directly, notify the shipping company without delay. Only the consignee (the person or company receiving the unit) can file a claim against the carrier for shipping damage. We recommend that you retain the original carton and packing materials for use should you transport or ship the unit in the future.

Accessories

- Audio cords 2
- System control cord 1



Contents

Caution: Read the pages marked  carefully to ensure safe operation.

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Before applying power

For the U.S.A. and Canada

Important!

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only.

CAUTION: TO PREVENT ELECTRIC SHOCK, DO NOT USE THE AC PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

For the United Kingdom

Important!

Units shipped to the U.K. are designed for operation on 240 volts AC only.

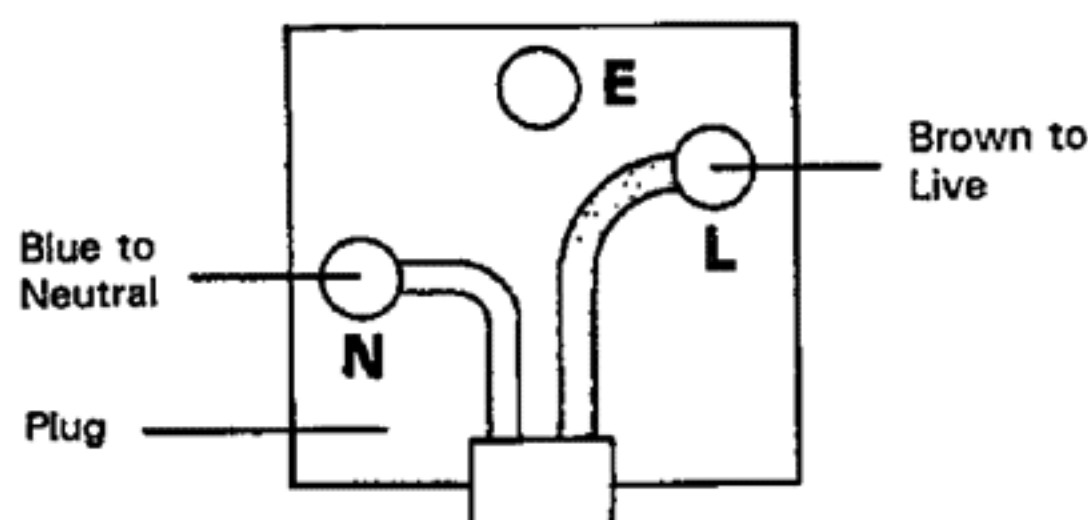
The mains plug must be removed from the wall socket prior to any internal examination.

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

Blue	Neutral
Brown	Live

The wires in this mains lead must be connected to the terminals in the plug as follows:

Wire colour	Plug terminal marking
Blue	N or Black
Brown	L or Red



- Notes:**
1. If a 13-amp plug is used, this must be fitted with a 5-amp fuse.
 2. If a 3-pin plug with earthing contact is used, no wire must be connected to the E terminal.

For Australia and Europe

Important!

Units shipped to Australia are designed for operation on 240 V AC only.

Units shipped to Europe are designed for operation on 230 V AC only.

For other countries

Important!

Units shipped to countries other than the above countries are equipped with an AC voltage selector switch on the rear panel. Refer to the following paragraph for the proper setting of this switch.

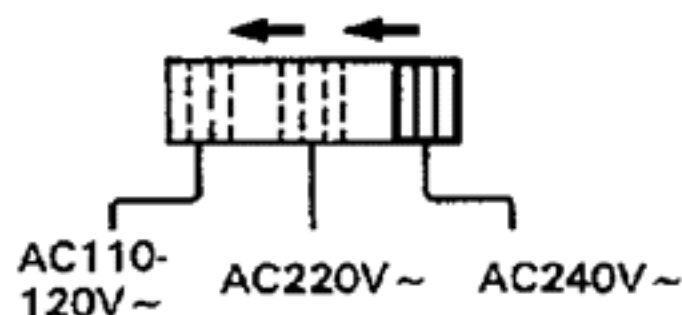
AC voltage selection

This unit operates on 110-120 or 220-240 volts AC. The AC voltage selector switch Type A or Type B on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line voltage. If not, it must be set to your voltage in accordance with the following direction.

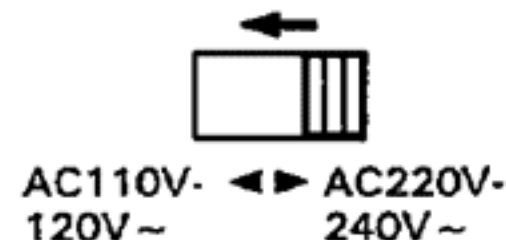
Note: Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC voltage selector switch.

AC voltage selector switch

Type A



Type B



Move switch lever to match your line voltage with a small screwdriver or other pointed tool.

Safety precautions

WARNING: TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE, REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

IMPORTANT SAFEGUARDS

⚠ Caution : Read this page carefully to ensure safe operation.

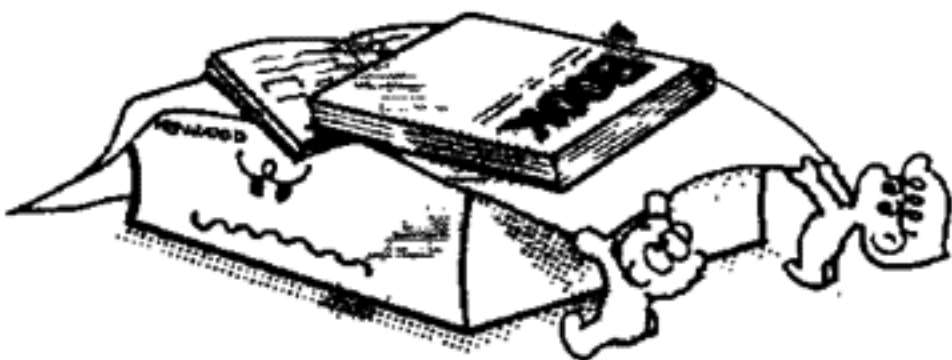
Please read all of the safety and operating instructions before operating this unit. For best results, follow all warnings placed on the unit and adhere to the operating and use instructions. These safety and operating instructions should be retained for future reference.

- 1. Power sources** — The unit should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
- 2. Power-cord protection** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.

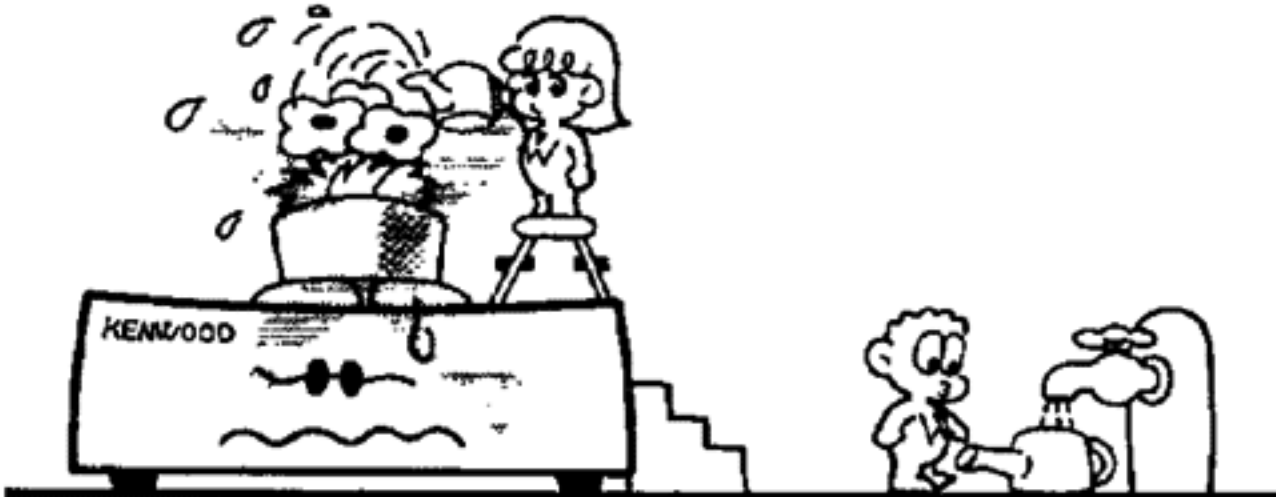
Never pull or stretch the cord.



- 3. Grounding or polarization** — The precautions should be taken so that the grounding or polarization means of this unit is not defeated.
- 4. Ventilation** — The unit should be situated so that its location or position does not interfere with its proper ventilation. To maintain good ventilation, do not put records or a table-cloth on the unit. Place the unit at least 10 cm away from the walls. Do not use the unit on a bed, sofa, rug or similar surface that may block the ventilation openings.

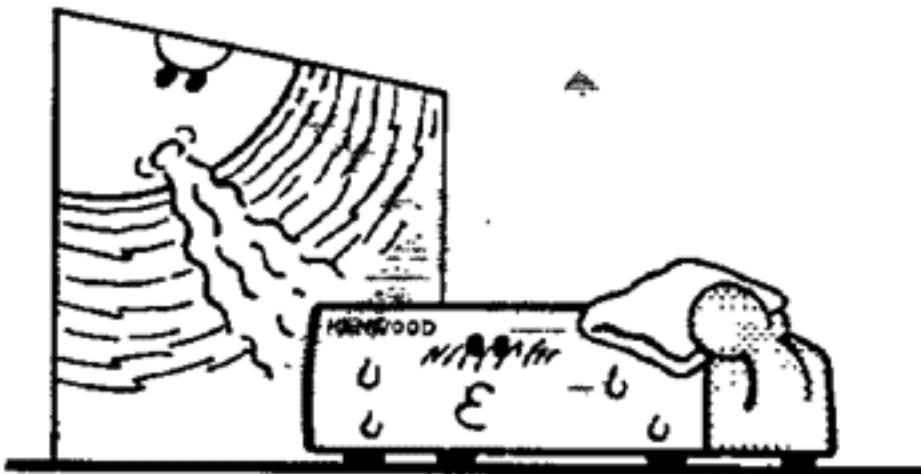


- 5. Water and moisture** — The unit should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

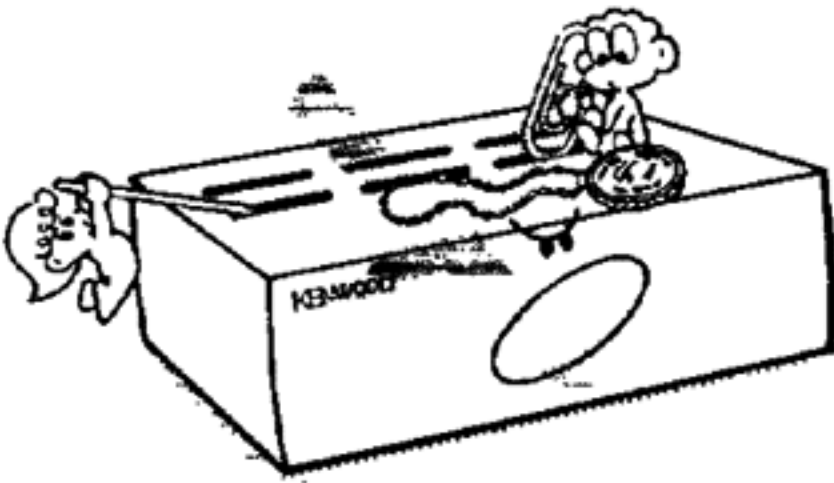


- 6. Temperature** — The unit may not function properly if used at extremely low, or freezing temperatures. The ideal ambient temperature is above +5°C (41°F).

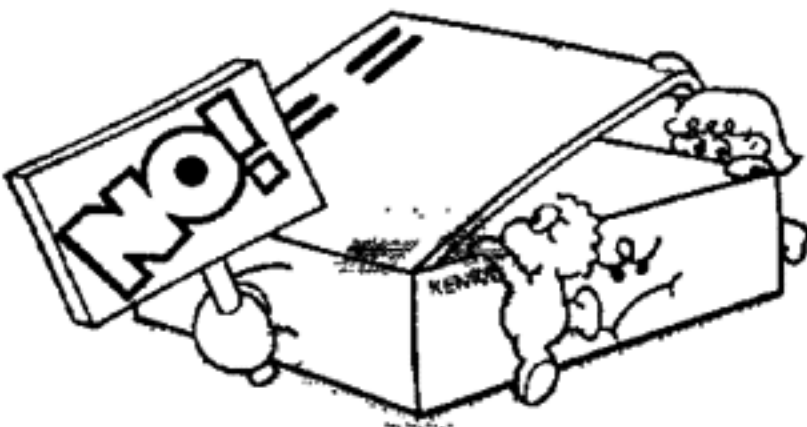
- 7. Heat** — The unit should be situated away from heat sources such as radiators, heat registers, stoves, or other units (including amplifiers) that produce heat.



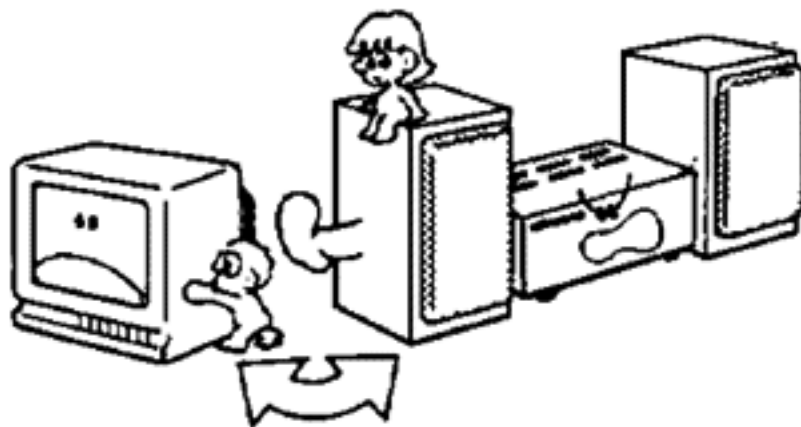
- 8. Electric shock** — Care should be taken so that objects do not fall and liquid is not spilled into the enclosure through openings. If a metal object, such as a hair pin or a needle, comes into contact with the inside of this unit, a dangerous electric shock may result. For families with children, never permit children to put anything, especially metal, inside this unit.



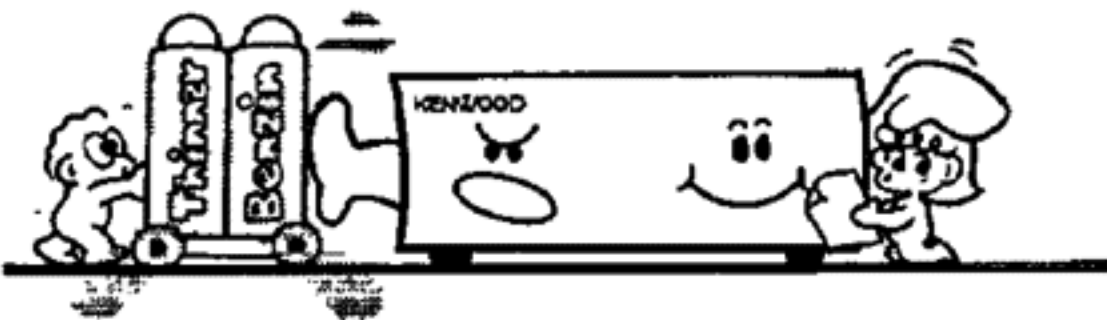
- 9. Enclosure removal** — Never remove the enclosure. If the internal parts are touched accidentally, a serious electric shock might occur.



- 10. Magnetic fields** — Keep the unit away from sources of magnetic fields such as TV sets, speaker systems, radios, motorized toys or magnetized objects.



- 11. Cleaning** — Do not use volatile solvents such as alcohol, paint thinner, gasoline, or benzine, etc. to clean the cabinet. Use a clean dry cloth.



- 12. Carts and stands** — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



- 13. Nonuse periods** — The power cord of the unit should be unplugged from the outlet when left unused for a long period of time.

- 14. Abnormal smell** — If an abnormal smell or smoke is detected, immediately turn the power OFF and pull out the power cord. Contact your dealer or nearest service center.

POWER OFF!



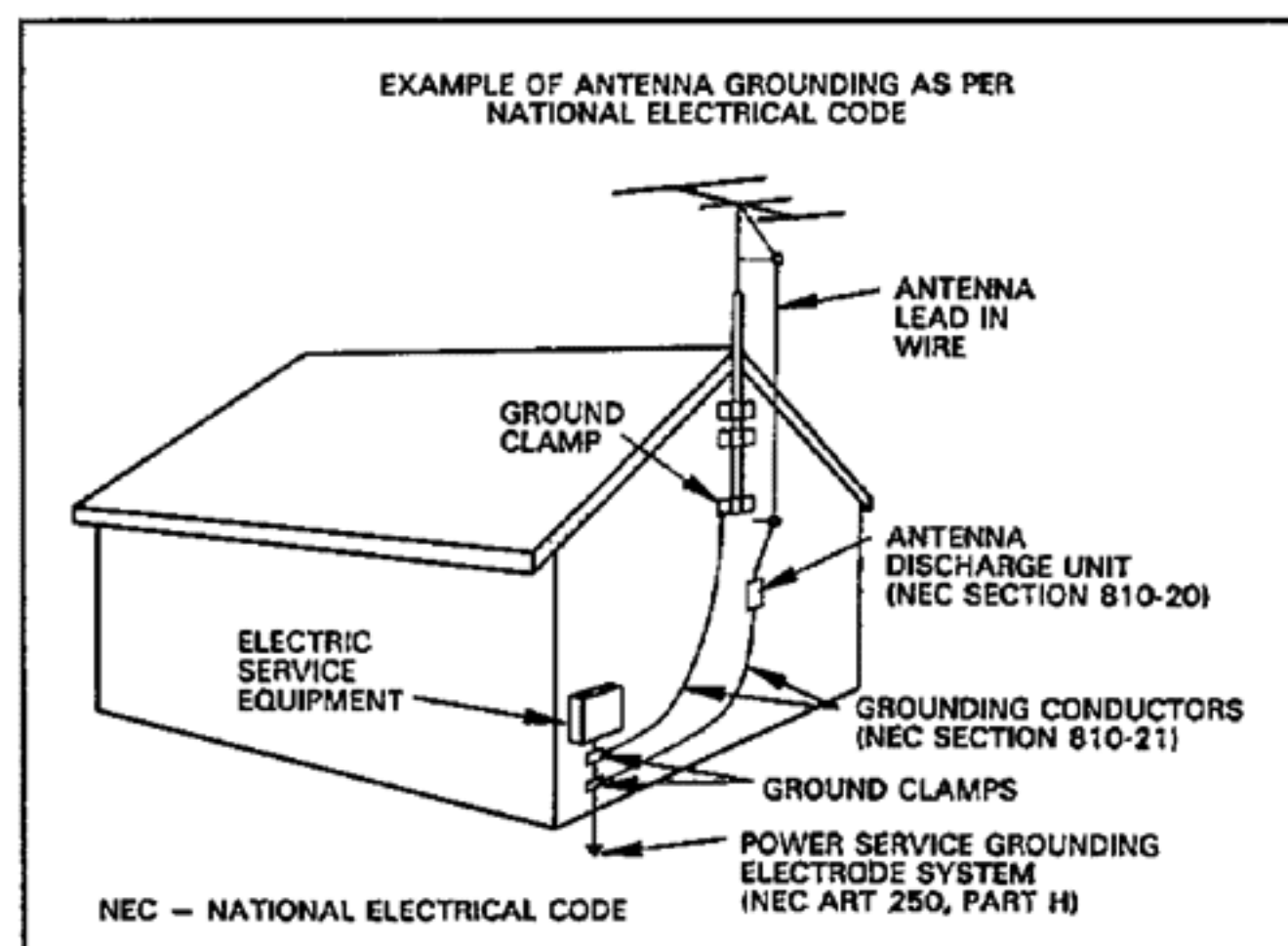
- 15. Damage requiring service** — The unit should be serviced by qualified service personnel when:

- A.** The power-supply cord or the plug has been damaged; or
- B.** Objects have fallen, or liquid has been spilled into the unit; or
- C.** The unit has been exposed to rain; or
- D.** The unit does not appear to operate normally or exhibits a marked change in performance; or
- E.** The unit has been dropped, or the enclosure damaged.

- 16. Servicing** — The user should not attempt to service the unit beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

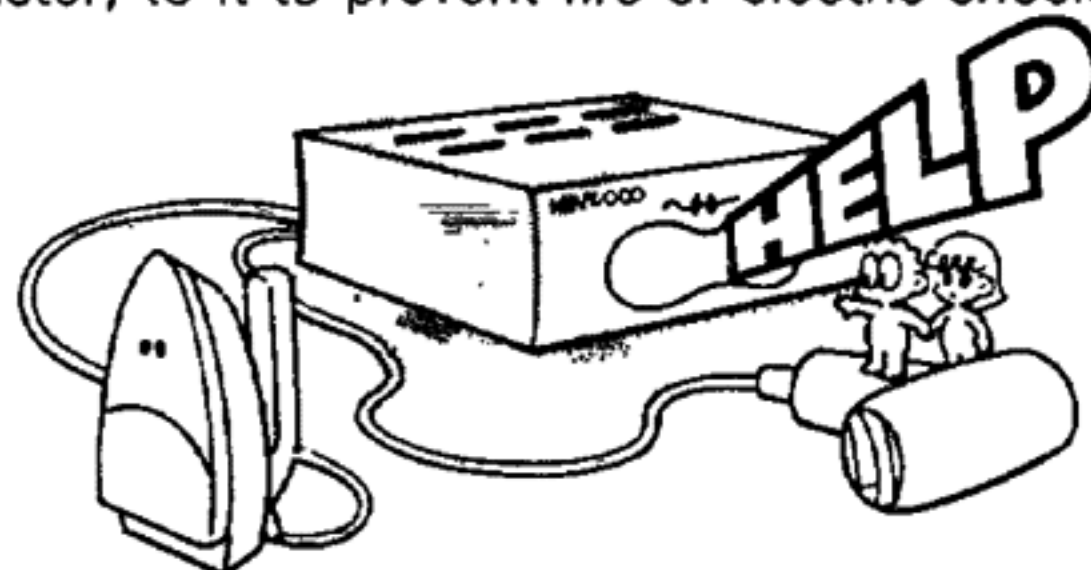
- 17. Outdoor antenna grounding** — If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/ NFPA No. 70—1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding con-

ductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure.



- 18. Power lines** — An outdoor antenna should be located away from power lines.

- 19. AC outlets** — Do not connect other audio equipment with a power consumption larger than that specified to the AC outlet on the rear panel. Never connect other electrical units, such as an iron or toaster, to it to prevent fire or electric shock.



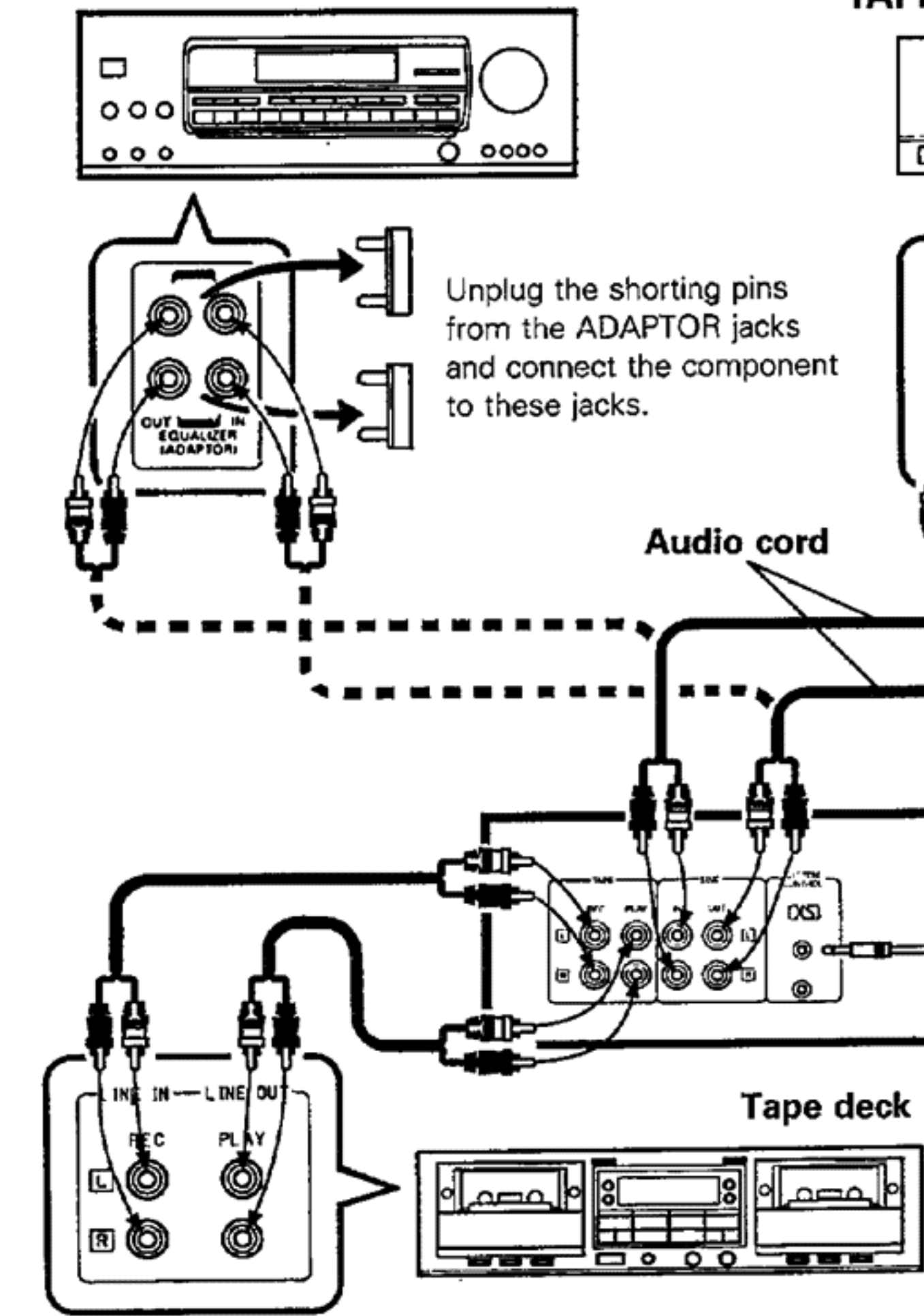
Notes:

- 1. Item 3 is not required except for grounded or polarized equipment.
- 2. Item 17 and 18 are not required except for units provided with antenna terminals.
- 3. Item 17 complies with UL in the U.S.A.

System connections

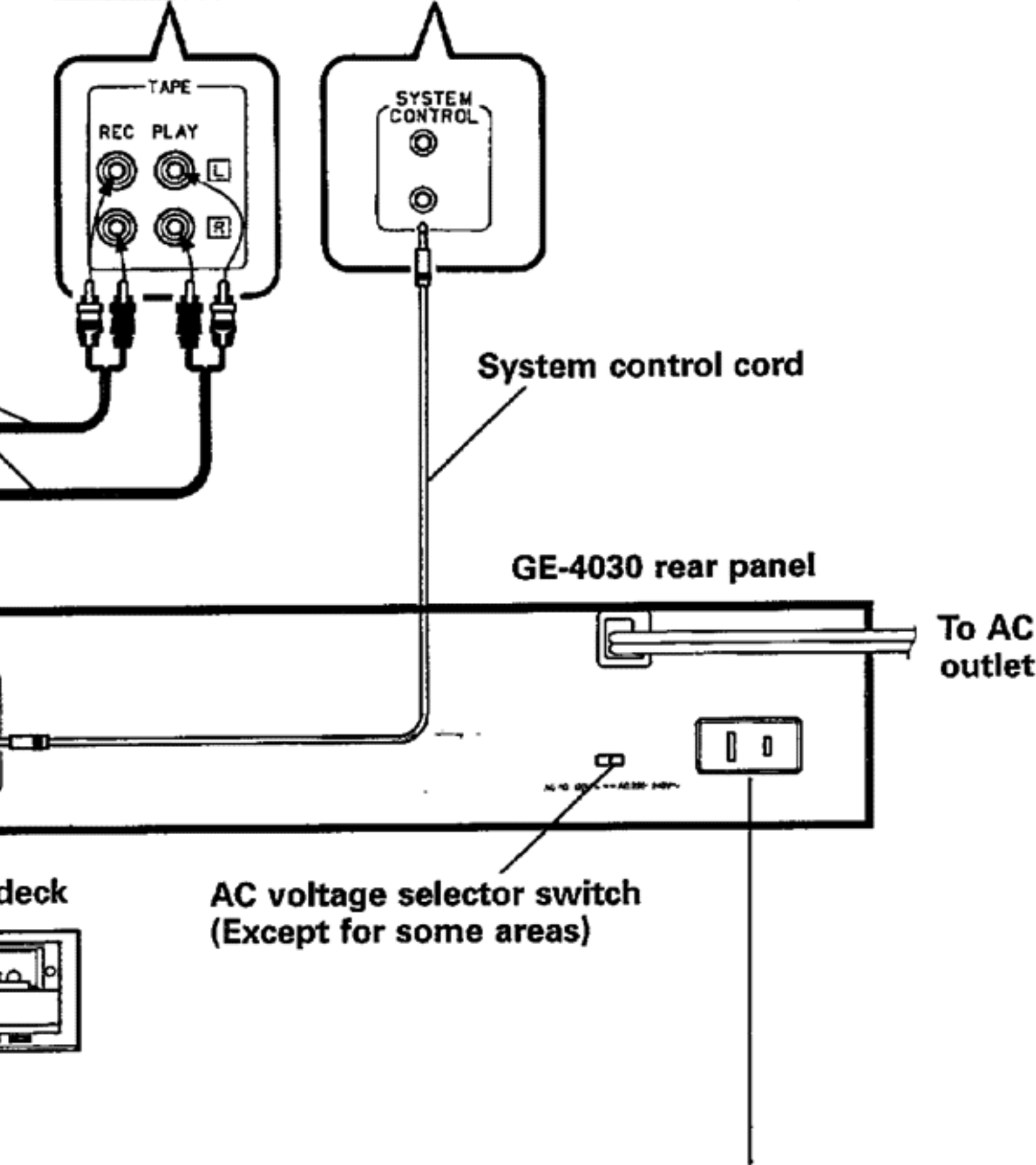
Make connections as shown below. When connecting the related system components, refer also to the instruction manuals of the related components.
Do not plug in the power lead until all connections are completed.

Amplifier with the ADAPTOR jacks



Amplifier or receiver with the TAPE MONITOR switch

Connect to the TAPE jacks (TAPE MONITOR). (Set the TAPE MONITOR switch to the monitoring position.)

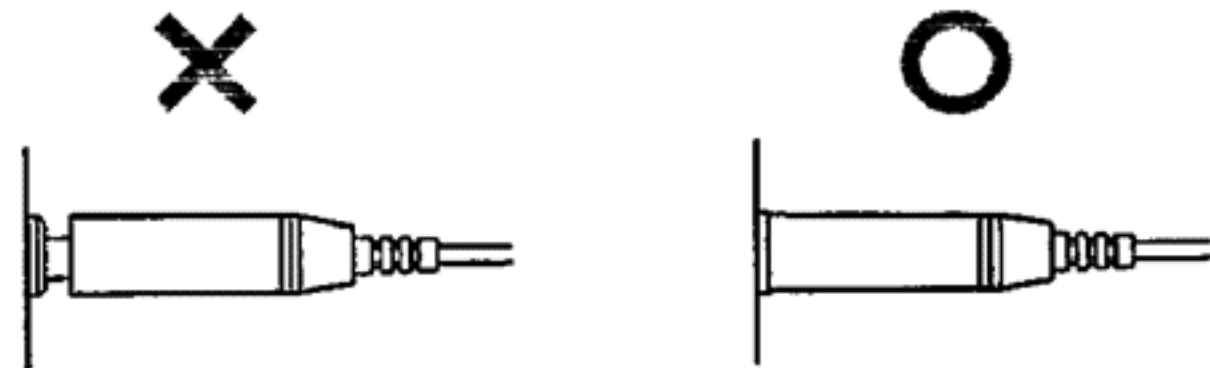


System control connection

When connected to an amplifier or receiver having KENWOOD SYSTEM CONTROL terminals, system operation such as remote control is made possible. For details, refer to the instruction manual of the amplifier or receiver.

If your amplifier or receiver is not equipped with the SYSTEM CONTROL terminals, do not connect anything to any SYSTEM CONTROL terminal.

Do not connect the unit in any system configuration other than specified.



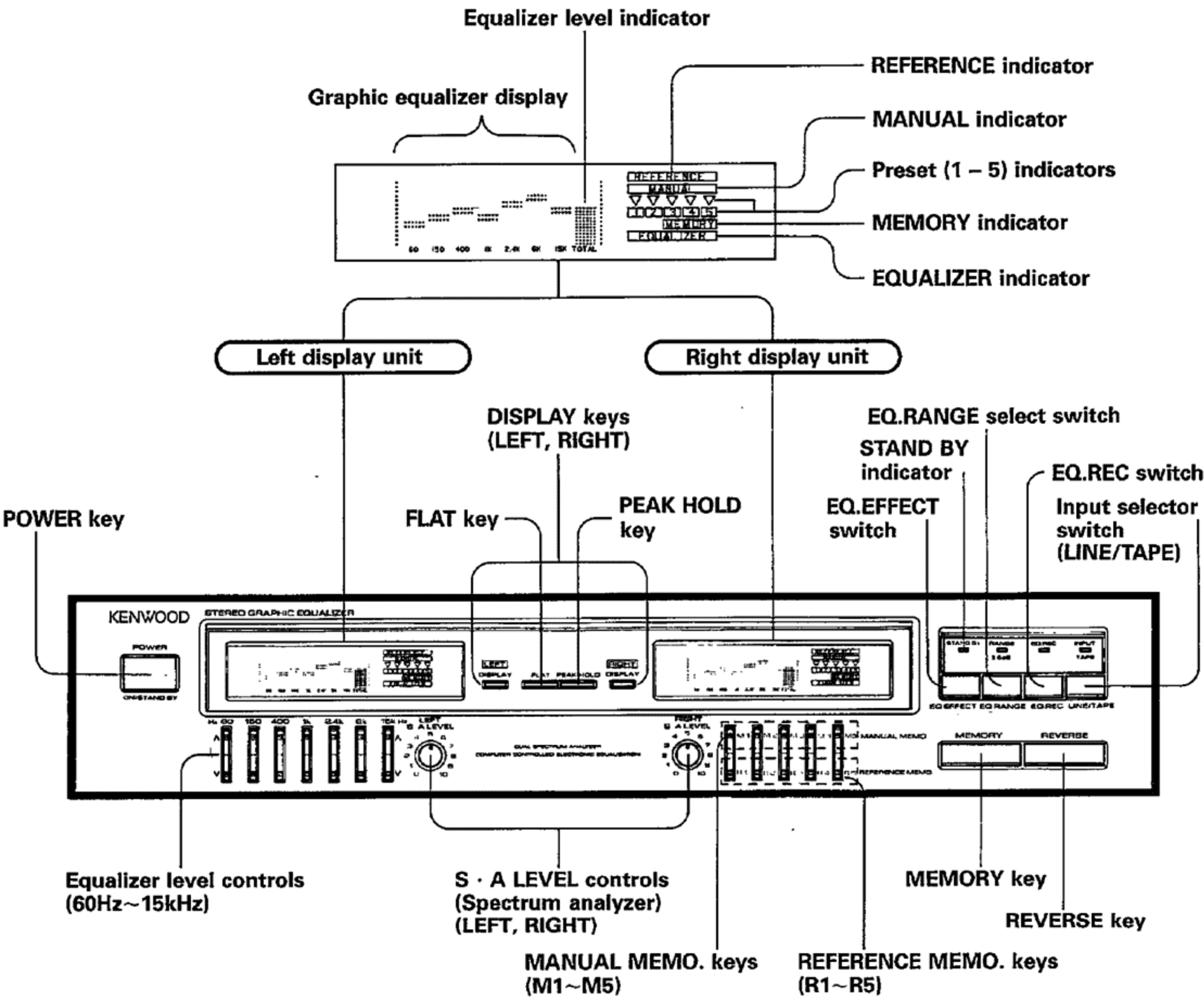
- Be sure to insert the system control cord plugs fully into the SYSTEM CONTROL terminals.
- If the system control cord and audio cords are not connected properly, the automatic system governing remote control and system functions will not operate.

Unit destination	Shape of the AC outlet	AC voltage selector switch
U.S.A. and Canada		Not equipped
U.S. Military		110 – 120 V/ 220 – 240 V
U.K.		Not equipped
Europe		Not equipped
Other countries		110 – 120 V/ 220 – 240 V
Australia	Not equipped	Not equipped

Notes:

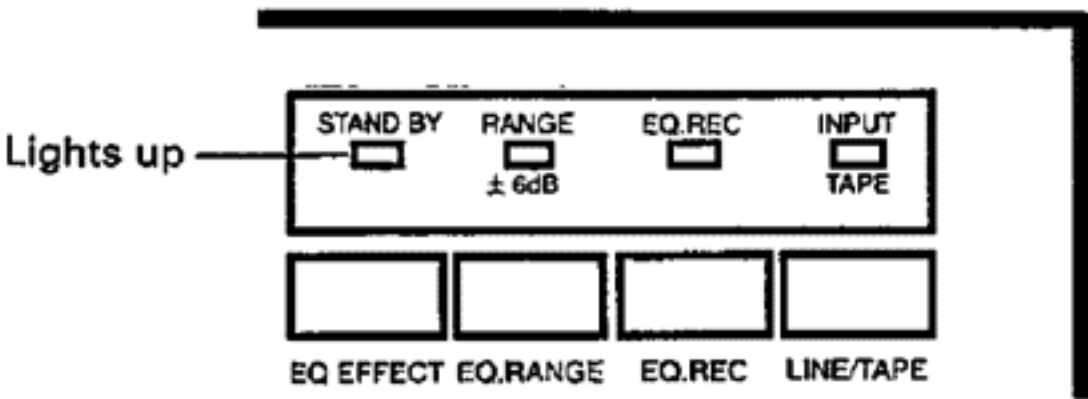
1. Connect all cords firmly. If connections are loose there could be loss of sound or noise produced.
2. When plugging and unplugging connection cords, be sure to first remove the power cord from the AC outlet. Plugging/unplugging connection cords without removal of the power cord can cause malfunctions or damage to the unit.
3. Do not connect up a power source which is larger than that indicated on the socket at the rear of the unit.

Controls and indicators



STAND BY mode of POWER switch

When the power cord of this system is plugged into an AC outlet, the STAND BY indicator lights up regardless of the ON/OFF setting of the POWER switch. This indicates that a small amount of current is being supplied to the unit to back up the memory contents. This mode is referred to as the Stand By mode.



Note:

The unit's power supply is secondarily connected. Note following. The unit is not completely disconnected from the mains as long as the power cord is connected to a wall outlet.

Observera:

Apparatens strömförsörjning kopplas från sekundärt. V.g. ge akt på följande. Apparaten fränkopplas inte helt och hållet från strömnätet medan apparatens nätsladd är ansluten till växelströmsuttaget.

Huom:

Virta yksikköön on kytketty pois sekundaaripuolelta. Huomioi seuraava. Tämä yksikkö ei ole kokonaan kypketty pois pää virranjakajasta kun pää katkaisin on liitettyä virtatiiriin.

Bemærk:

Strømmen til apparatet afbrydes på den sekundære side. Vær opmærksom på følgende. Denne enhed er ikke fullstendig koblet fra lysnettet så lenge stikket er tilsluttet stikkontakten.

Anmerkning:

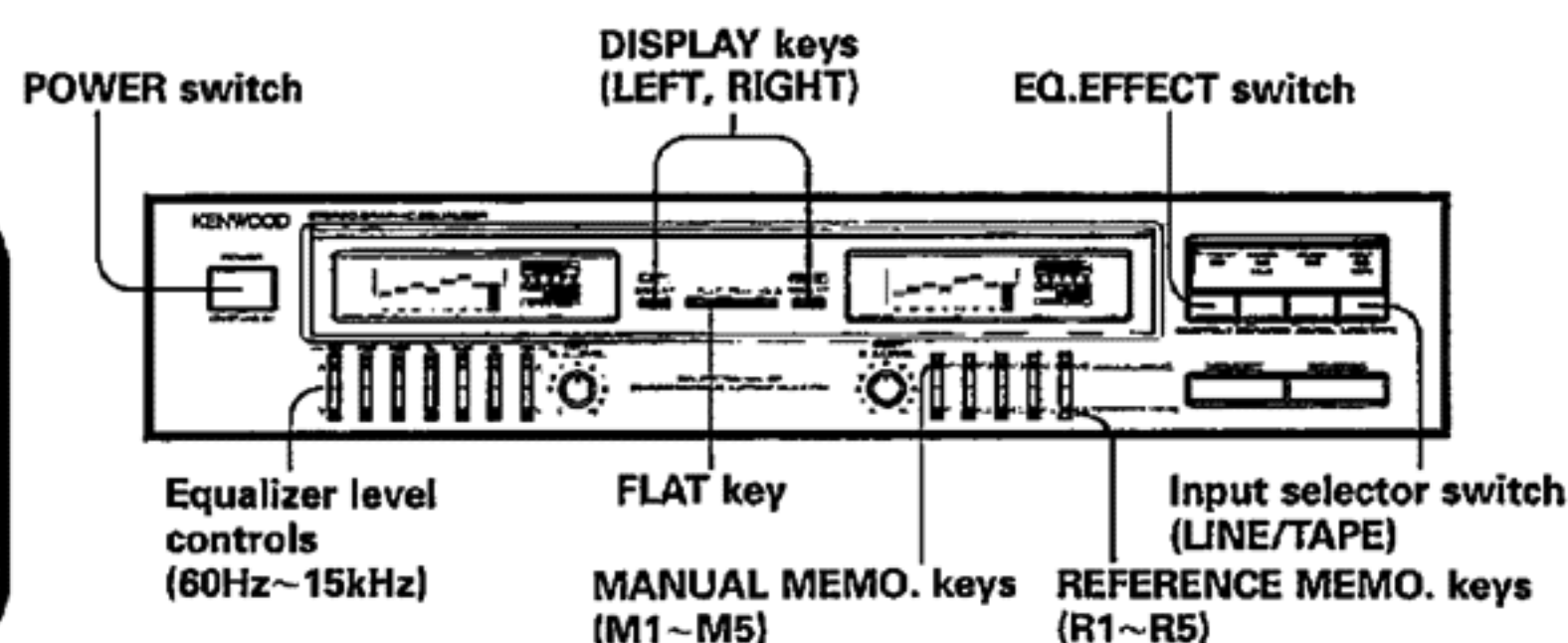
Strømmen til apparatet er slått av på sekundærsiden. Vær oppmerksom på det følgende. Dette apparatet koples ikke fullstendig fra nettet så lenge støpselet står i en stikkontakt, selv om strømbryteren settes i av-stilling.

Operation Instructions

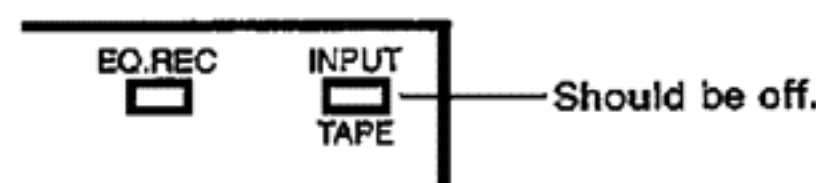
■ How to apply equalizer effect

Preparations:

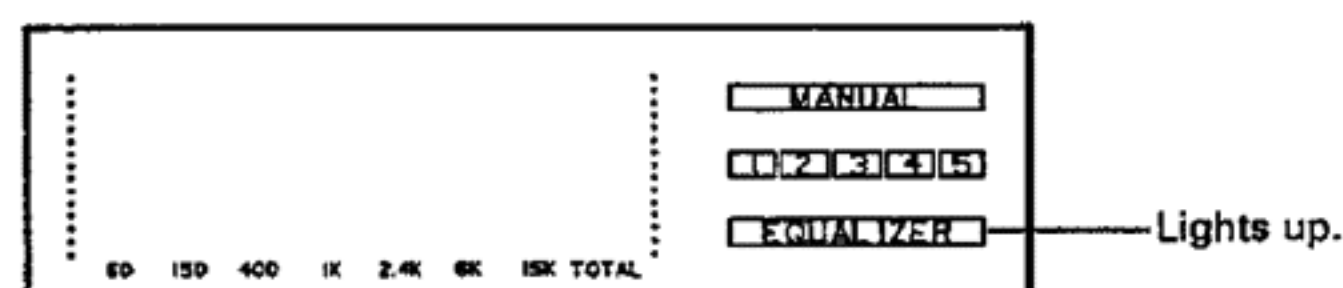
- ① Set the TAPE MONITOR switch of the amplifier or receiver connected to this unit.
- ② Press the POWER switch of this unit to ON.



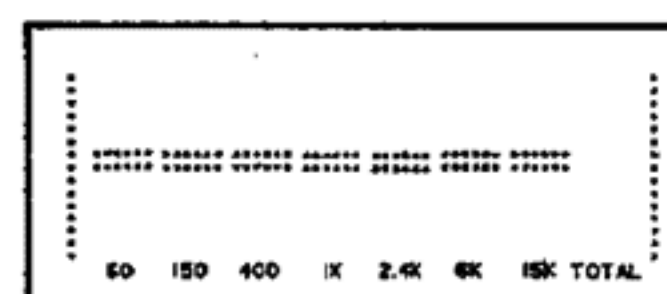
1 Set the input mode to the LINE mode.



2 Press the EQ.EFFECT switch.



3 Set the display to the graphic mode.



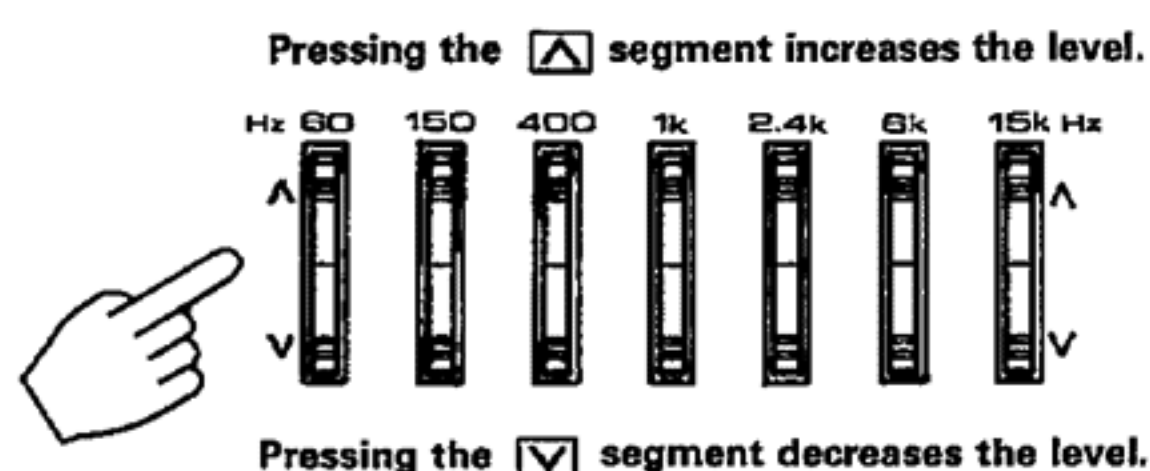
4 Create an equalizer pattern.

Recalling a previously-preset pattern



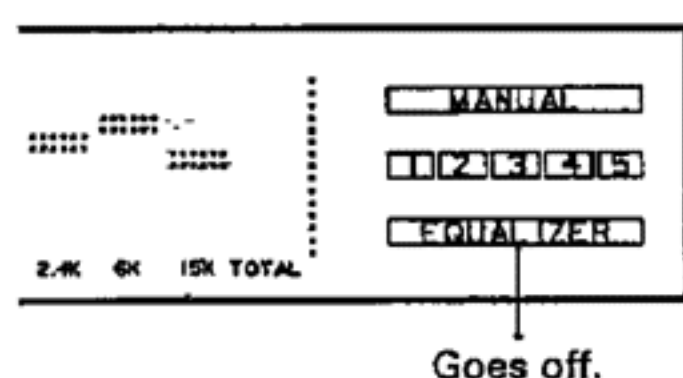
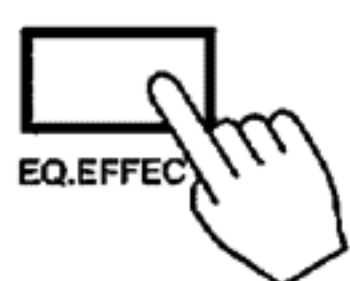
- Select a pattern from M1 to M5 (MANUAL MEMO.) or R1 to R5 (REFERENCE MEMO.). (Refer to "List of preset equalizer patterns" on page 9.)

Creating a desired pattern



- Press the key corresponding to the frequency to be adjusted.

To cancel the equalizer effect

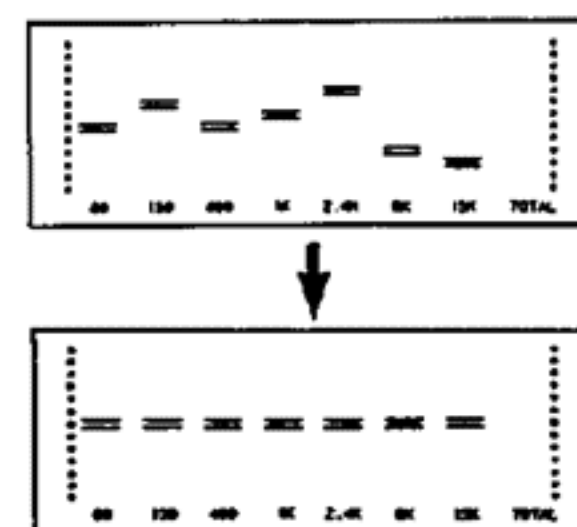


- The pattern being displayed remains the same.

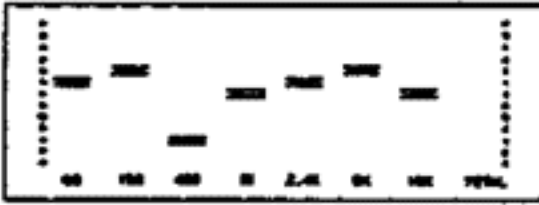
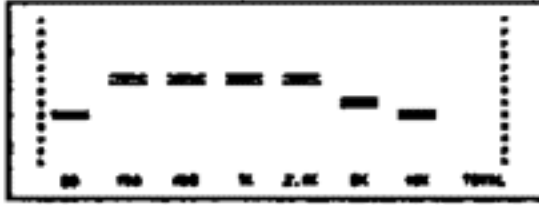
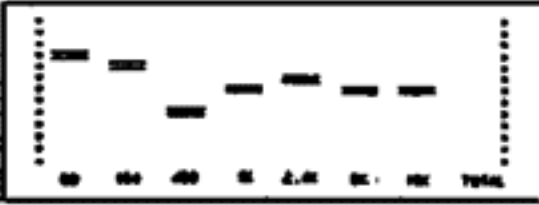
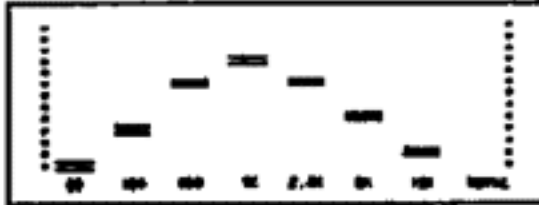
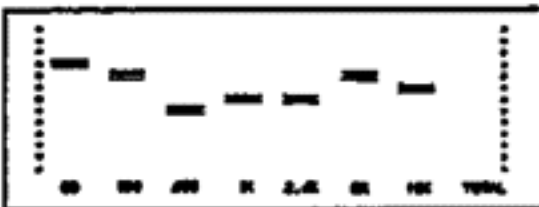
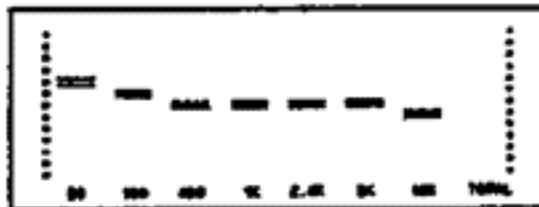
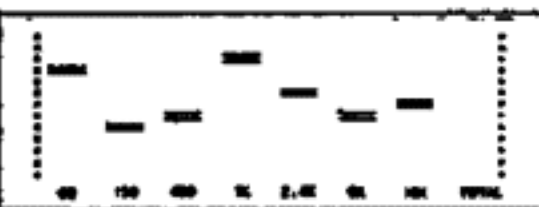
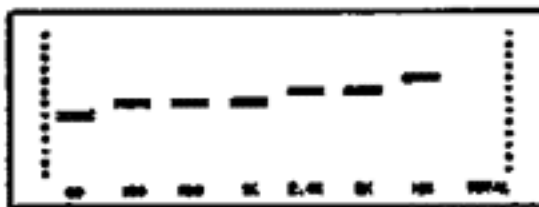
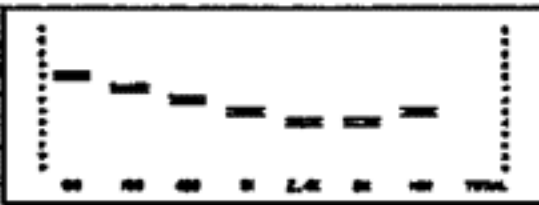
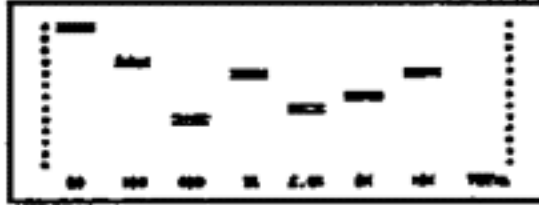
How to use the FLAT key



- Pressing the FLAT key makes the display curve flat.



■ List of preset equalizer patterns

Preset equalizer patterns (REFERENCE MEMO.) (R1 – R5)	Preset equalizer patterns (MANUAL MEMO.) (M1 – M5) It is possible to store in preset memory in this mode.
R1: For recording sound by adjusting its sound suitable for playback with a headphone stereo. 	M1: For reducing ultra-low frequency noise or scratch noise when playing an analog disc. 
R2: For recording sound by adjusting its sound suitable for playback with a car stereo. 	M2: For playing the jazz of the fifties, etc., with an ambience of those days. 
R3: For playing rock or fusion music with more powerful sound. 	M3: For playing music for a long period of time, like background music. 
R4: For playing various kind of music with enhanced vocal. 	M4: For playing very detailed music. 
R5: For playing music with soft sound by cutting irritating middle and high frequencies. 	M5: To create an exciting sound by enhancing ultra-low and high frequencies. 

Sound equalization

● Super bass range (60 Hz)

When this control is moved up, the bass instrument (double bass, bass drums, or pipe organ, etc.) sound is increased.

When the super bass sound is boomy, move this control down.

● Bass range (150 Hz)

Usually, the listening room resonance frequency is in this range.

To eliminate bass resonance, move this control down.

● Mid-bass range (400 Hz)

This range is the basis of music. Whether the sound is rich or not, depends on this range. When the playback sound is not so good, move this control up.

● Mid range (1 kHz)

When this control is moved up or down, the baritone or soprano voice is emphasized/de-emphasized. This range is related to the "presence" of music.

● Mid-high range (2.4 kHz)

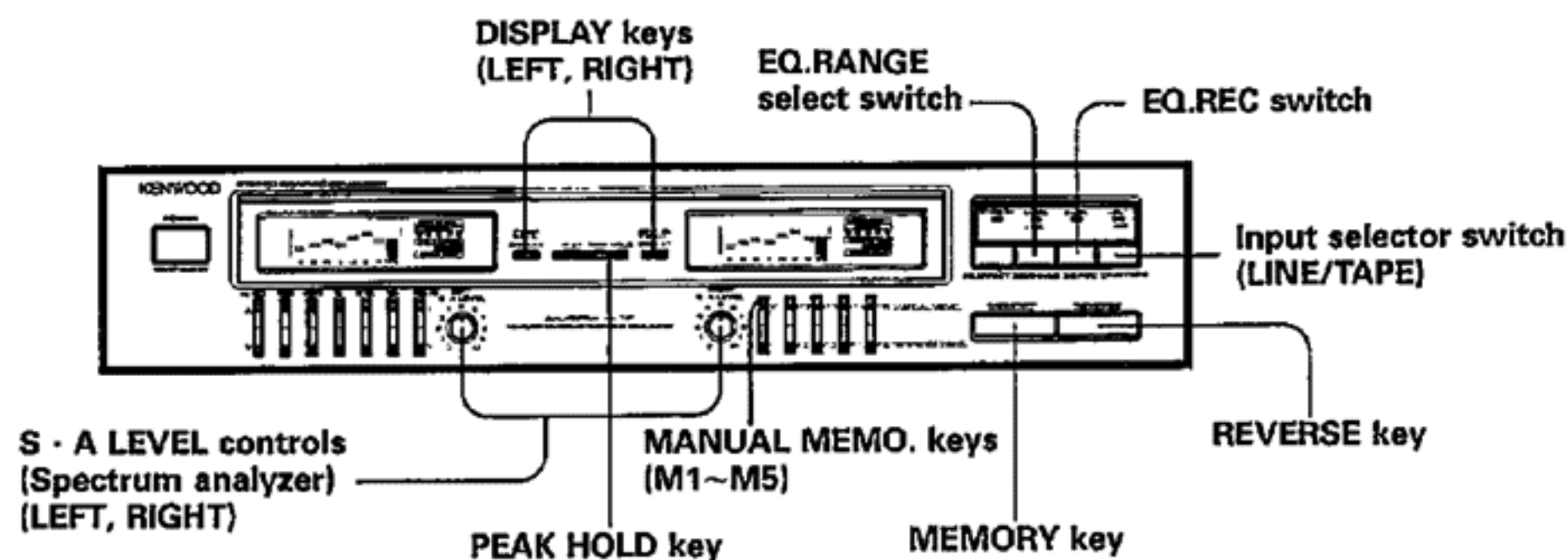
This range is related to stimulus and metallic sound. When this range is well compensated, vivid sound can be obtained.

● High range (6 kHz)

This frequency range is related to the hardness of the sound. When this control is moved up, strings or brass instruments, such as flutes or piccolos, are emphasized. When the control is moved down, the sound will be more soothing.

● Super high range (15 kHz)

This frequency range is related to the details of the music. When this control is moved up, super high frequency instruments, such as triangles or cymbals, are emphasized, resulting in wide sound and echoes.



■ User-preset of user-created pattern

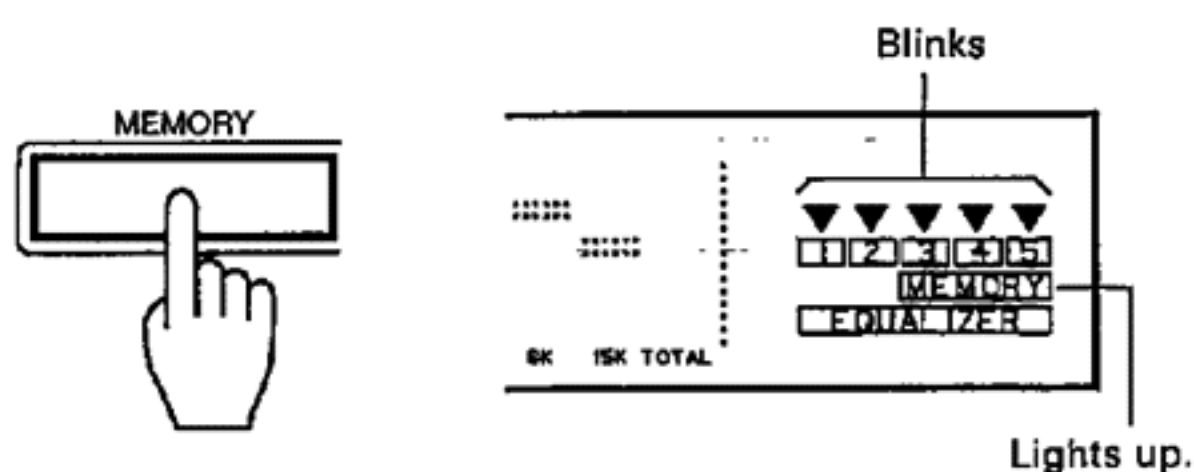
1 Create a desired equalizer pattern.

Follow steps 2 to 4 of "How to apply equalizer effect" on page 8.

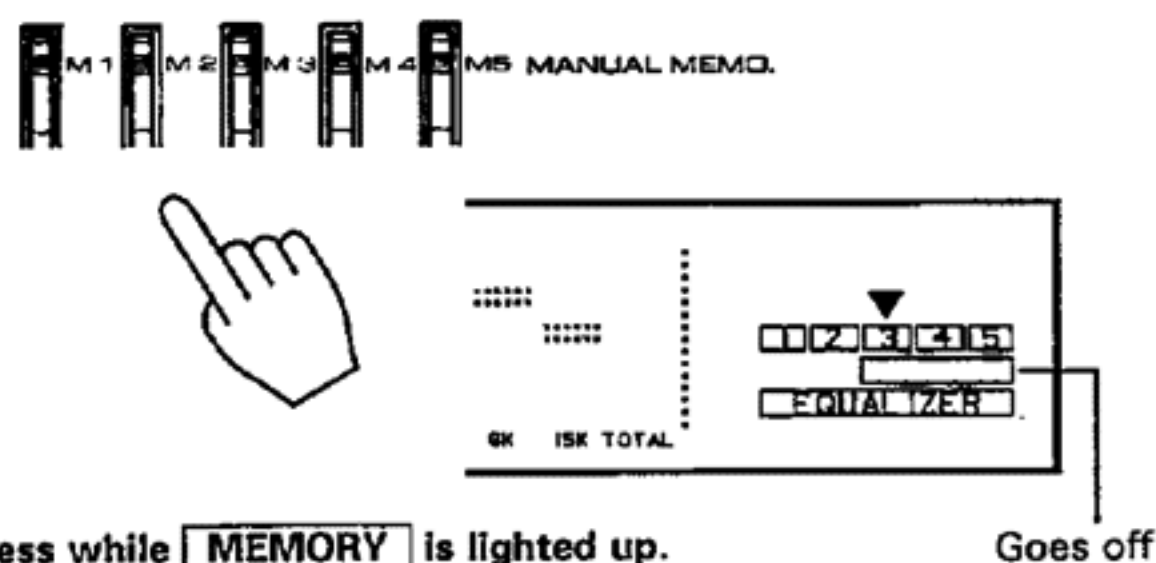
- Any equalizer pattern can be preset if it is being displayed.

2 Preset the equalizer pattern in the manual memory.

① Press the MEMORY key.



② Press one of the MANUAL MEMO. keys.



- Pattern is preset under the number of the MANUAL MEMO. key pressed.
- Up to five patterns can be preset in the same manner.
- When a pattern has previously been preset under the MANUAL MEMO. key pressed, the newly preset pattern replaces the previous pattern.

To return to the initial pattern (factory-preset patterns M1 to M5 on page 9) by clearing the user-preset pattern:

Press the MANUAL MEMO. key where the pattern to be cleared is preset for more than 5 seconds.

■ How to play tape with equalizer effect

Preparation:

Before proceeding to the following, connect a tape deck as shown on page 6.

1 Set the input mode to the TAPE mode.



2 Create a desired equalizer pattern.

Follow steps 2 to 4 of "How to apply equalizer effect" on page 8.

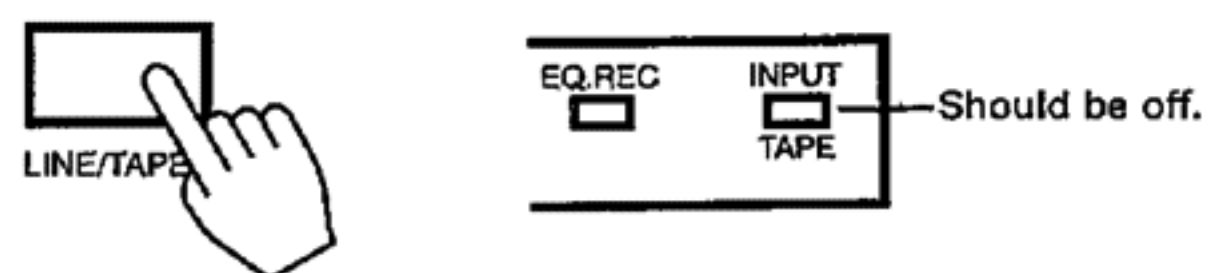
3 Start playing the tape deck.

■ How to record sound with equalizer effect

Preparation:

Before proceeding to the following, connect a tape deck as shown on page 6.

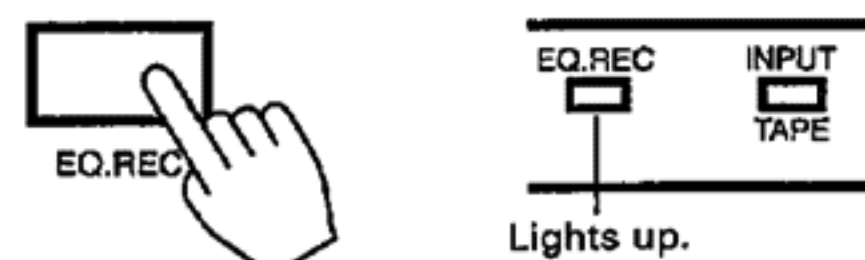
1 Set the input mode to the LINE mode.



2 Create a desired equalizer pattern.

Follow steps 3 and 4 of "How to apply equalizer effect" on page 8.

3 Press the EQ.REC switch.



4 Start recording on the tape deck.

Contents of display

Spectrum analyzer display

Displays the frequency distribution of the source being played to allow understanding at a glance.

- The overall level of the spectrum analyzer can be adjusted using the S · A LEVEL control.



- When the PEAK HOLD key is pressed with the spectrum analyzer displayed, the peak level of each frequency will be held for 0.5 seconds. Press the key again to cancel the peak hold display.

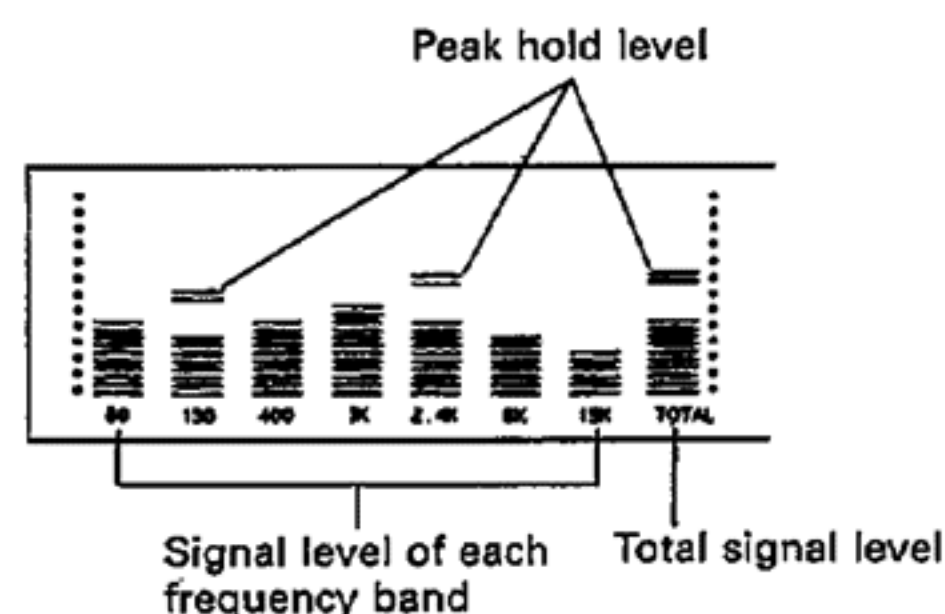


Graphic equalizer display

Shows how each frequency range is compensated. The graphic equalizer display also appears for about 5 seconds, even while the unit is in the spectrum analyzer display mode, when one of the following operations is performed.

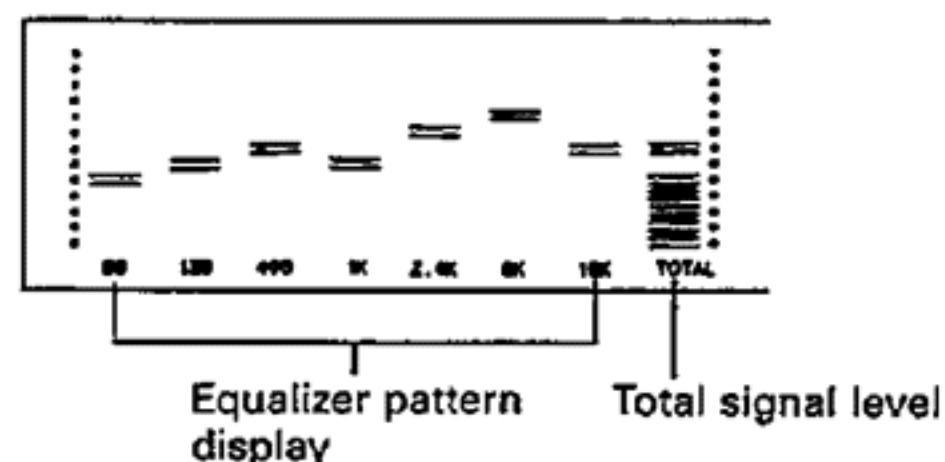
1. Switching power ON.
2. An operation key associated with an equalizer operation is pressed.

Spectrum analyzer display



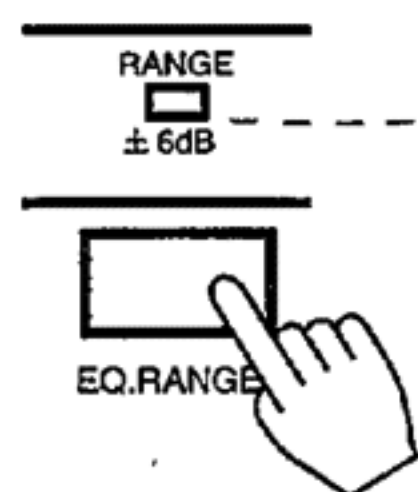
The display mode changes every time the DISPLAY key is pressed.

Graphic equalizer display



How to use the EQ.RANGE select switch

The EQ.RANGE select switch is used to switch the equalizer range between ± 12 dB and ± 6 dB.



± 12 dB when the indicator is OFF (□).

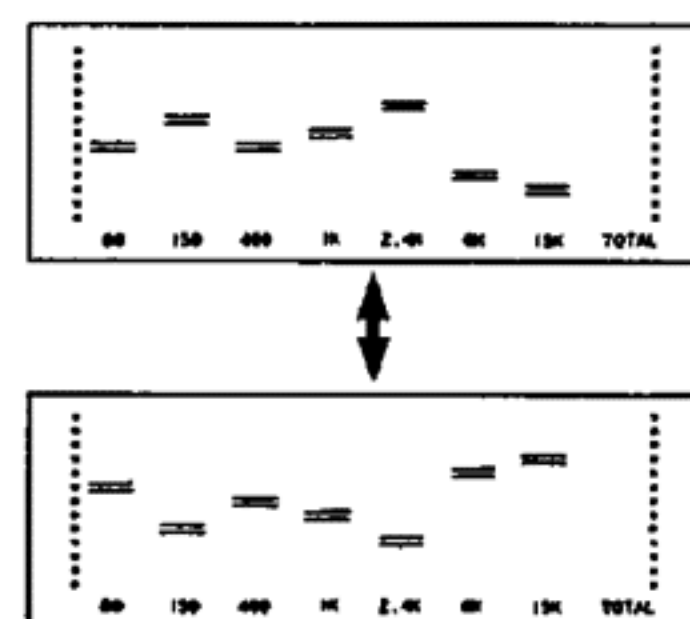
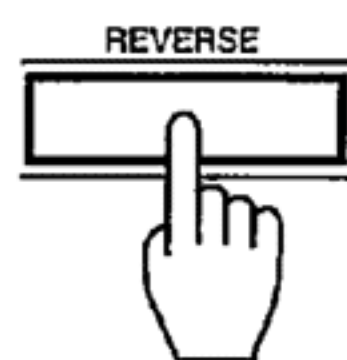
Use this range in case relatively wide range of equalization is required.

± 6 dB when the indicator is ON (■).

Use this range in case relatively small range of equalization is required.

How to use the REVERSE key

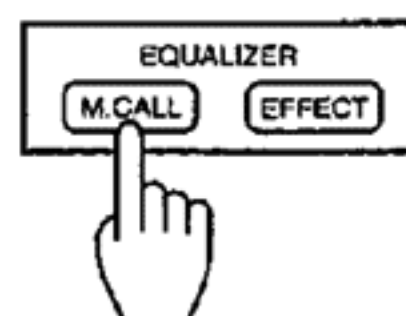
When the REVERSE key is pressed, the graphic equalizer pattern on the display will be reversed (upside down).



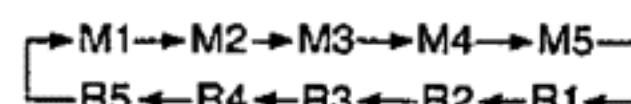
- Use this function as the encoding/decoding system to apply the specific compensation for recording.

Operation from the remote control unit

If the remote control unit of your amplifier connected to this unit by a system control cord has the keys as shown in the illustration, these keys can be used to turn the equalizer effect ON/OFF and to recall a preset pattern from memory.



Every time the M.CALL key is pressed, patterns are switched as follows:



What appears to be a malfunction may not always be serious. If your unit should not perform as expected, consult the table below to see if the problem can be corrected before seeking help from your dealer or service representative.

Symptom	Cause	Remedy
Power ON, but no sound.	<ul style="list-style-type: none">● Poor connection of the power cord plug.● The power cord plug is connected to the SWITCHED outlet of the amplifier.	<ul style="list-style-type: none">● Connect the power cord plug securely.● Turn ON the power switch of the amplifier.
The sound applied to LINE IN jacks cannot be heard.	<ul style="list-style-type: none">● The input selector switch is pressed at TAPE.● The input and output connections are reversed.	<ul style="list-style-type: none">● Press the input selector switch to LINE.● Connect the input and output correctly.
No equalizer effect.	<ul style="list-style-type: none">● The TAPE MONITOR switch of the amplifier or receiver is not set to MONITOR.	<ul style="list-style-type: none">● Set TAPE MONITOR switch correctly.
The equalizer effect is not enough.	<ul style="list-style-type: none">● The EQ.RANGE selector is set to ± 6 dB.	<ul style="list-style-type: none">● Set the selector to ± 12 dB.

- Notes:
1. This system is microprocessor-controlled, so malfunction may occur due to external noise or interference noise. In such a case, unplug the power cord, plug it and turn power on again.
 2. Do not use contact cleaners because it could cause a malfunction. Be specially careful against contact cleaners containing oil, for they may deform the plastic components.

Specifications

Equalizer characteristics

Variable range ± 12 dB/ ± 6 dB
(L & R independently adjustable)
Center frequencies 60 Hz, 150 Hz, 400 Hz,
1 kHz, 2.4 kHz, 6 kHz, 15 kHz
Frequency response 10 Hz – 50 kHz, +0 dB, –1.5 dB
Total harmonic distortion Less than 0.006%
(1kHz, all controls flat output 1V)
Gain 0 ± 2.7 dB
Maximum output voltage 5.4 V (1 kHz, T.H.D. 0.03%)
S/N ratio 100 dB (IHF-A network, 1V)
Input impedance 50 k Ω
Output impedance 2 k Ω

General

Power consumption 20 W
AC outlets
For the U.S.A. and Canada
UNSWITCHED 1 (200 W, 1.6 A max.)
For other countries
UNSWITCHED 1 (200 W max.)
Dimensions W: 440 mm (17-5/16")
H: 97 mm (3-13/16")
D: 277 mm (10-7/8")
Weight (net) 3.5 kg (7.7 lb)

Note:
KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

For the U.S.A.
FCC WARNING:

This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The use could lose the authority to operate this equipment if an unauthorized change or modification is made.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment may cause harmful interference to radio communications, if it is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For CANADA
DOC REGULATION

"This digital apparatus does not exceed the CLASS B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communications."