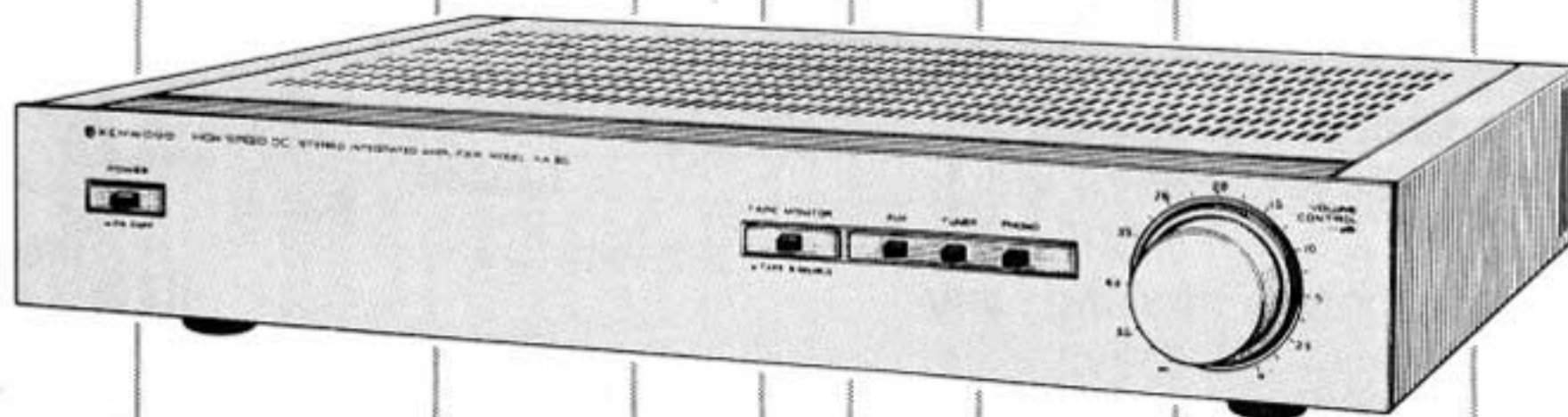


HIGH SPEED DC STEREO INTEGRATED AMPLIFIER

KA-80

INSTRUCTION MANUAL



 **KENWOOD**

DEAR AUDIO FAN

The purpose of this manual is to acquaint you with the operating features of your new amplifier. You will notice that in every detail of planning, engineering, styling, operating convenience, and adaptability, we have sought to anticipate your needs and desires.

We suggest that you read this manual carefully. Knowing how to set up your amplifier to the best advantage will enhance your listening pleasure right from the start. You will also become aware of the ease with which you can adjust your amplifier to meet your special requirements.

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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 Kenwood dealer for information or service on this product.

Model KA-80 Serial number_____

AFTER UNPACKING

After unpacking, we recommend that you inspect the unit for any possible 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 to prevent any damage should you transport or ship your unit in the future.

INSTALLATION PRECAUTIONS

- Avoid locations subject to direct sunlight.
- Avoid high or low temperature extremes.
- Keep the unit away from heat radiating sources.
- Choose a location that is relatively free of vibration or excessive dust.
- Make sure power is off before making any system connections.

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

IMPORTANT!

U.S.A. AND CANADA

Units shipped to the U.S.A. and Canada are designed for operation on 120 volts AC only. These units are not equipped with an AC Voltage Selector switch and the discussion of such a switch that follows should be disregarded.

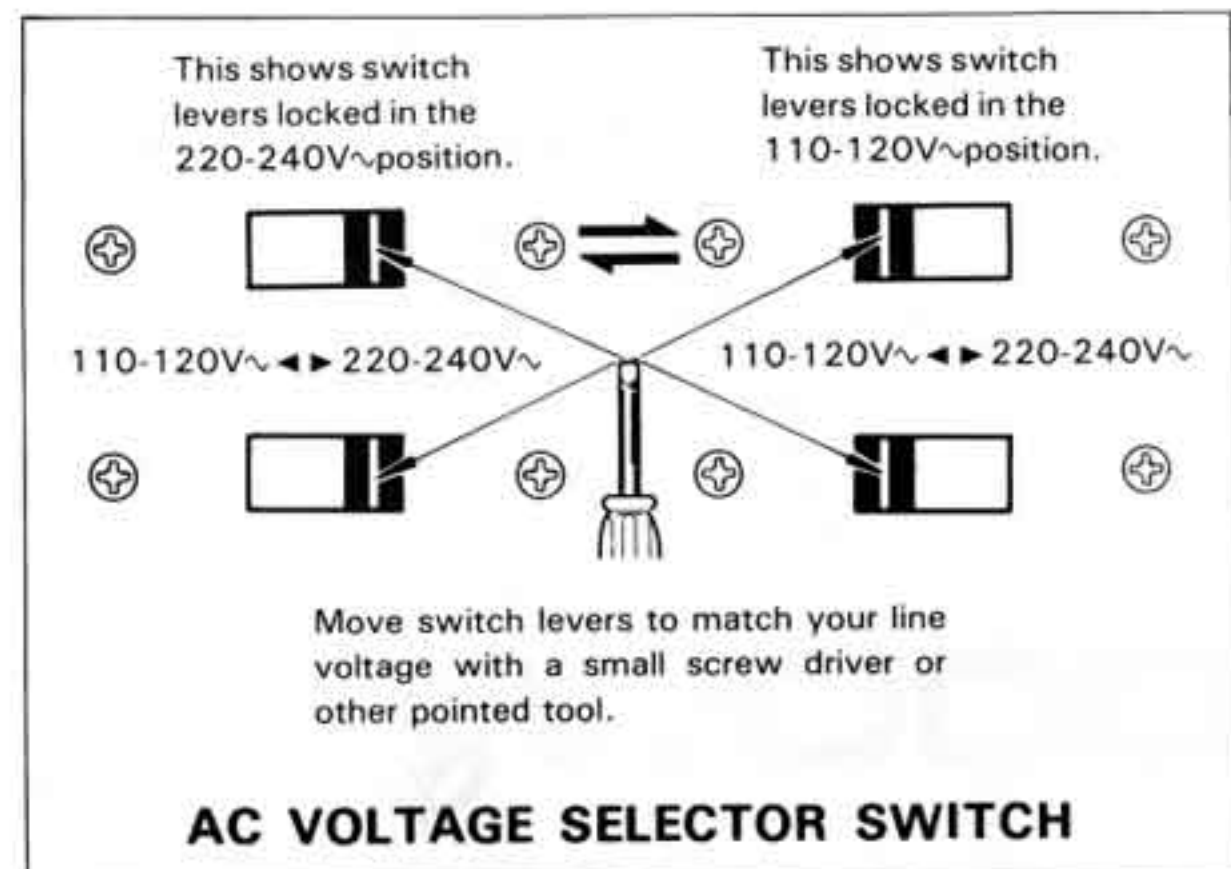
ALL OTHER COUNTRIES

Units shipped to countries other than the U.S.A. and Canada are equipped with an AC Voltage Selector switch on the bottom plate. Refer to the following paragraph for the proper setting of this switch.

AC VOLTAGE SELECTION

This unit operates on 110 – 120 volts or 220 – 240 volts AC. The AC Voltage Selector Switch on the bottom plate 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 directions.

Note: _____
Our warranty does not cover damage caused by excessive line voltage due to improper setting of the AC Voltage Selector Switch.



SAFETY PRECAUTIONS

CLEANING

Do not use volatile solvents such as alcohol, paint thinner, gasoline, benzene, etc. to clean the cabinet. Use a silicone cloth or a clean dry cloth.

VENTILATION HOLES

The case top is slotted to allow ventilation. Never block these holes with ornamental cloths, books or other objects. Make sure that metal objects such as coins, hairpins, or needles do not enter the unit through the ventilation holes. The result could be a serious malfunction or a possible shock hazard. Make sure that children do not insert foreign objects into the ventilation holes.

MODIFICATIONS AND SERVICE

Each unit is shipped after it has been carefully adjusted and tested to provide optimum performance. The unit must not be modified internally. Unauthorized modifications will void the terms of the warranty. High voltages are used in some of the internal circuits. Therefore, do not remove the cabinet or touch internal parts. Refer all service to qualified service personnel.

ACOUSTIC FEEDBACK

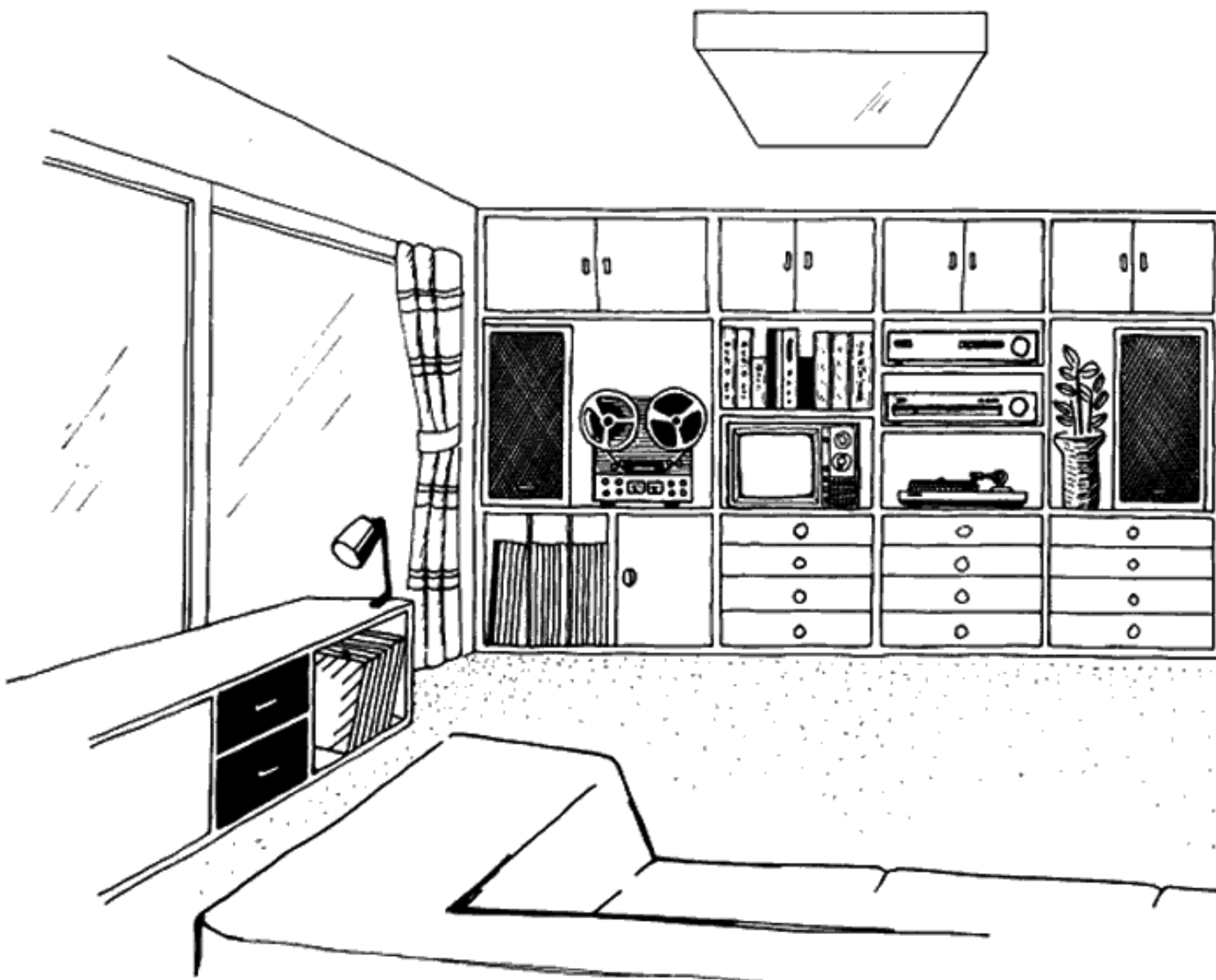
Occasionally a disturbing howling sound caused by acoustic feedback, may be heard. This is generally caused by the relative positions of the turntable and speaker enclosures. The sound pressure radiated from the speakers surrounds and vibrates the turntable.

This vibration is picked up by the cartridge, sent to the unit as an electrical signal, and returned to the speaker. This again causes the speakers to radiate vibration which induces sympathetic vibrations in the turntable and cartridge. Sympathetic vibrations are reinforced with each repeating cycle and result in an undesirable sound called oscillation or "howling". To prevent it, keep your turntable away from your speakers. Also, mounting your turntable on shock-absorbing pads may help.

POWER CORD

Always insert or remove the power plug from the AC outlet by grasping the plug body. Never pull or stretch the cord. Take care that the cord is not subject to traffic or bent sharply around furniture. Keep heavy objects off the cord; never route it under rugs, and avoid the use of extra extension cords. Attention to these precautions will prevent fire or shock hazards.

SYSTEM PLANNING CONSIDERATIONS



KA-80

- Thick curtains shut out direct sunlight.
- Do not permit curtains, tablecloths, books or other materials to block the ventilation holes.

Speaker System

- Speakers placed in front of a hard surface such as a wall, will generate more bass response.
- For best stereo reproduction, both speakers should work into the same acoustic conditions.

Turntables

- Protect from vibration and close dust cover whenever possible.
- Store records vertically and protect from dust and dirt.

Tape Decks

- Be sure to install reel clamps when using vertically.
- Always keep heads clean.
- Avoid magnetic fields.

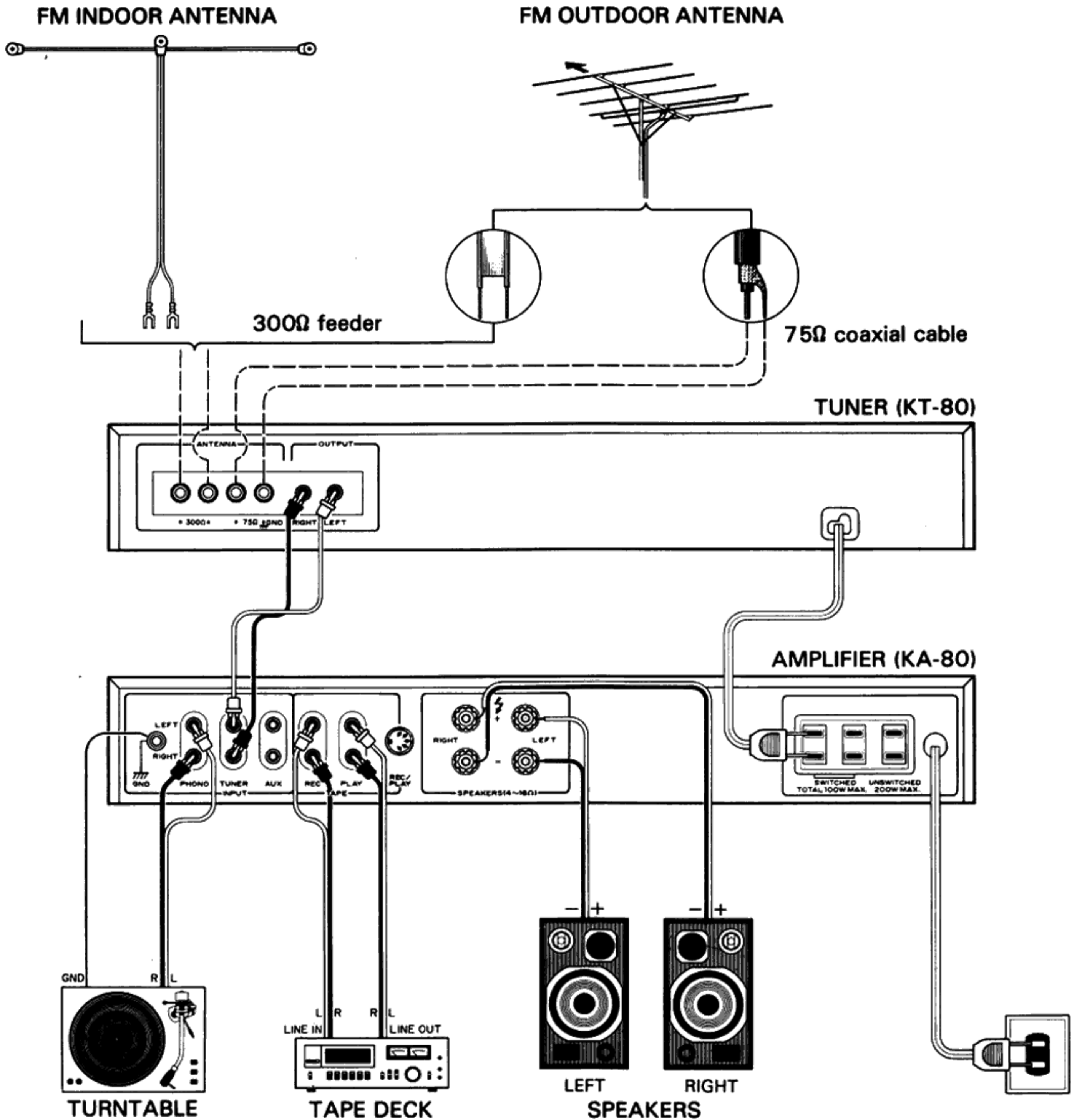
Carpets

Absorb sound

(Placing in front of speakers is also effective.)

- Furniture materials can improve tone.
- For better sound, install curtains or drapes on the wall opposite the speakers.
- The best listening position is on a line perpendicular to the center of a line drawn between the two speakers.

SYSTEM CONNECTION DIAGRAM



AC OUTLETS

The AC outlets on the rear panel of the unit may be used to supply power to other components in the system, such as turntable, tape deck, etc. Never connect equipment whose power consumption exceeds the maximum value shown at each outlet.

1. **SWITCHED** outlets: These outlets supply power only when the KA-80 is turned on. Maximum total capacity (both outlets) is 100 watts.

2. **UNSWITCHED** outlet: This outlet provides power when the unit is plugged into an active AC wall outlet, regardless of the setting of the POWER switch. Its maximum capacity is 200 watts.

SYSTEM CONNECTIONS

SPEAKERS

One set of speakers may be connected, make connections to the terminals marked SPEAKERS, as shown on page 4. Connect the speakers to the RIGHT and LEFT terminals in accordance with the location selected for each speaker. To ensure correct speaker phasing, observe polarity marks; connect terminals marked + on the amplifier to similarly-marked speaker terminals. Do the same for amplifier and speaker terminals marked with a minus sign. Reversal of speaker leads will result in loss of bass tones and poor stereo separation.

When connecting the speaker leads to the speaker terminals, make sure that the bare wire strands at the ends of the speaker leads do not touch the adjacent terminal.

It is recommended that the tips of the speaker leads be soldered, or the strands of individual leads be twisted together to eliminate any possibility of short-circuits forming in the speaker connecting network.

Note:
A pair of speakers is to be used, each speaker must be rated at 4 ohms or more.

TURNTABLE

Your stereo turntable has two audio cables that are terminated with phono plugs. Plug the left channel plug into the "LEFT" and the right channel plug into the "RIGHT" PHONO INPUT jacks as shown on page 4.

TUNER

Use the TUNER terminals for connection to an FM stereo or AM-FM stereo tuner.

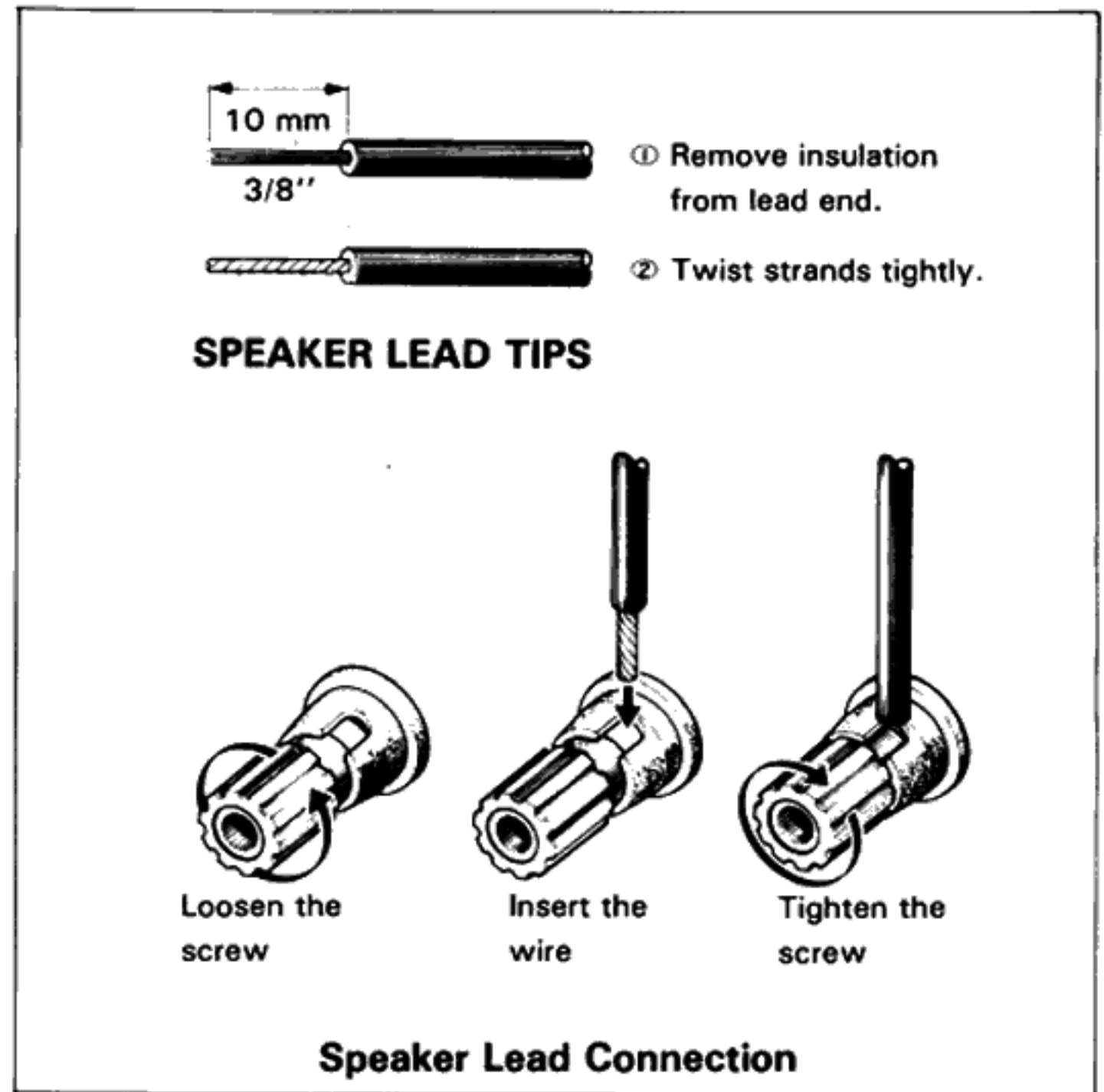
Connect the left channel of the tuner to the "LEFT" TUNER INPUT jack and the right channel of the tuner to the "RIGHT" TUNER INPUT jack.

AUX JACKS

INPUT AUX jacks are used to connect other high-level signal sources, such as tuners, extra tape decks (equipped with preamps), TV or VTR sound outputs, mic preamps, etc.

TAPE DECK

Tape deck input and output cables are normally terminated with phono plugs.



Playback

Plug the left and right output cables of the tape deck into the "LEFT" and "RIGHT" TAPE PLAY jacks.

Record

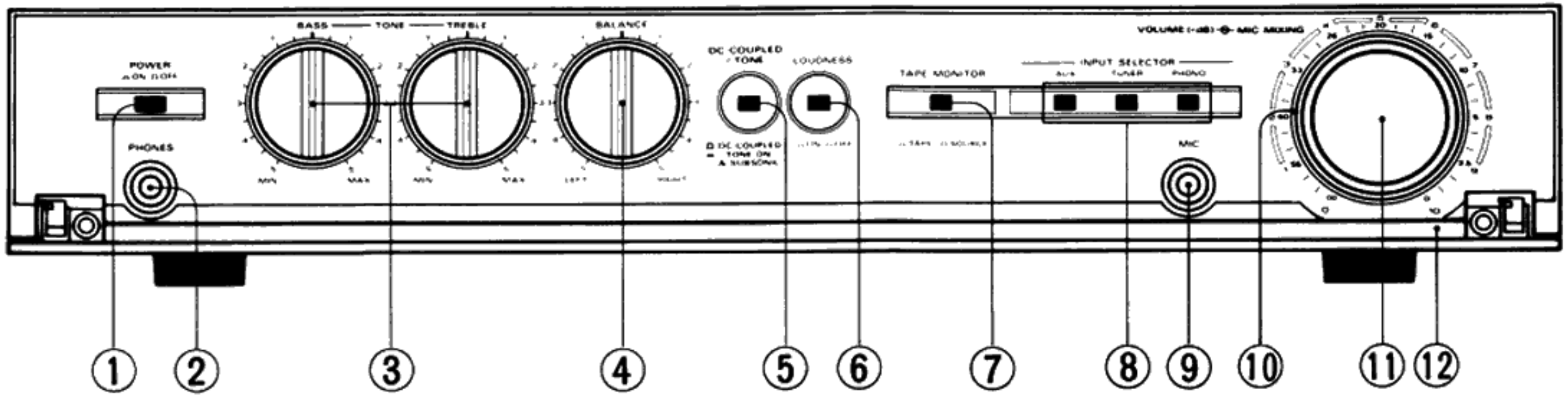
Plug the left and right input cables of the tape deck into the "LEFT" and "RIGHT" TAPE REC jacks.

DIN Connector

If your tape deck is equipped with a DIN connector, connect it to the TAPE REC/PLAY connector with the DIN connecting cord. The DIN connection makes both input and output connections with a single cord, and the signal must be controlled with the TAPE MONITOR switch on the front panel.

Note:
If connections are made with a DIN connecting cord, the TAPE PLAY and REC jacks should not be used.

CONTROLS, INDICATORS AND CONNECTORS



① POWER Switch

Push in to turn on power. The built-in lamp will light. Push it again to turn power off.

② PHONES jack

Stereo headphones are plugged into this jack.

③ TONE controls

BASS — Turn clockwise to increase bass response, counterclockwise to lower bass response.

TREBLE — Turn clockwise to increase treble response, counterclockwise to reduce treble response.

Flat response is obtained when the two tone controls are set to their mid-range positions.

Bass and Treble controls do not function when the DC COUPLED/TONE switch is set to DC COUPLED.

④ BALANCE control

This control permits balancing of left and right channels when an imbalance exists from the sound source, or to correct acoustic imbalance due to room conditions. Turn it to the left from the mid-range position to boost the left channel; turn it to the right of mid-range position to raise the level of the right channel.

⑤ DC COUPLED/TONE switch

The position of this switch determines whether signals will pass through the tone control circuit or not.

DC COUPLED — At this position the signal bypasses the tone control circuit and directly enters the power amplifier to produce a perfectly flat response.

TONE ON & SUBSONIC — At this position the signal passes through the tone control circuit. Bass or

treble tonal adjustments can then be controlled as desired.

When DC COUPLED/TONE is set to TONE ON & SUBSONIC, frequencies below 18 Hz are attenuated at the rate of 6 dB per octave. This provides filtering of subsonic signals and is useful in reducing turntable rumble or the effects of warped records.

⑥ LOUDNESS switch

ON — Bass notes are boosted at low listening levels. This precisely offsets a characteristic of human hearing whereby we are less sensitive to bass notes at very low listening levels.

OFF — The low-level bass boost is removed and the VOLUME control provides flat response at all settings.

⑦ TAPE MONITOR switch

SOURCE — The signal applied to the record terminals of a tape deck is heard.

TAPE — To monitor a recording in progress or to playback a tape from a tape deck connected to the TAPE jacks.

Note:

Be sure to set TAPE MONITOR switch to "SOURCE" when not operating a tape deck.

⑧ INPUT SELECTOR switches

Switch positions and functions are as follows:

When the switch is pushed, the built-in lamp lights.

AUX — Selects source connected to the AUX jacks.

TUNER — Selects the tuner connected to the TUNER input jacks on the rear panel.

PHONO — Selects the turntable connected to the PHONO input jacks on the rear panel.

CONTROLS, INDICATORS AND CONNECTORS

⑨ MIC input

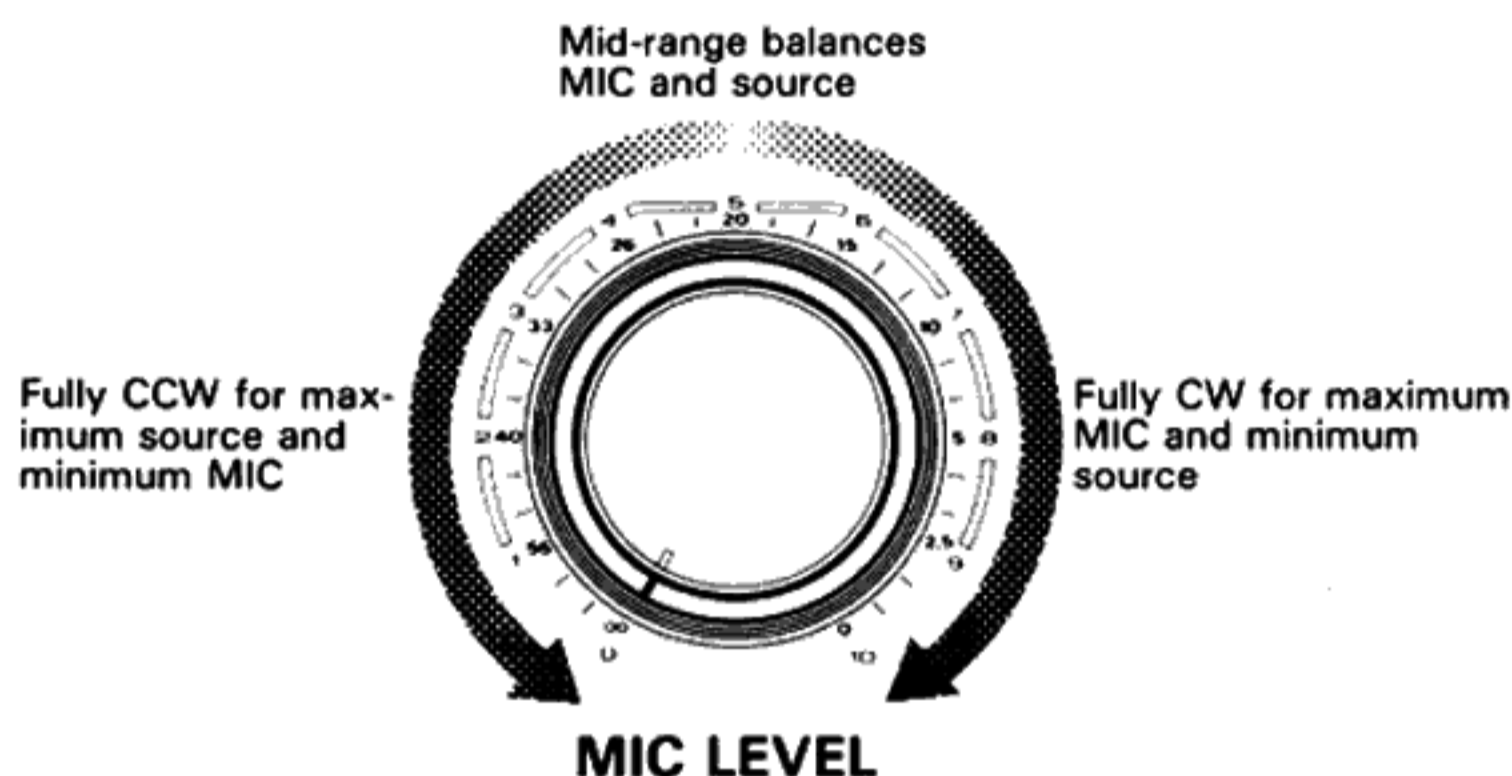
Plug a 600 ohm to 50 kohm impedance microphone into this jack.

MIC signals can be mixed with a radio broadcast, a phono record or playback of a recorded tape.

⑩ MIC LEVEL

Turn this knob (outer) to the right to increase the microphone level in relation to that of the source signal which will decrease simultaneously.

Keep this knob always at the "0" setting when a microphone is not use. Otherwise, the source sound will be attenuated or may become totally inaudible.

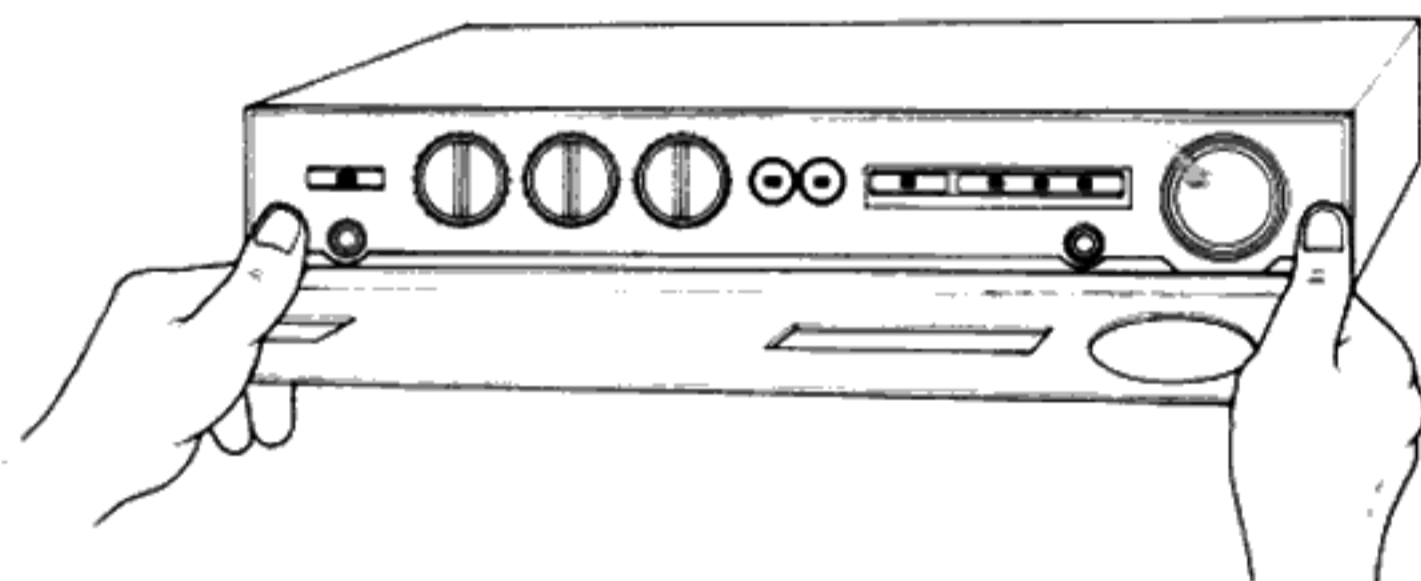


⑪ VOLUME control

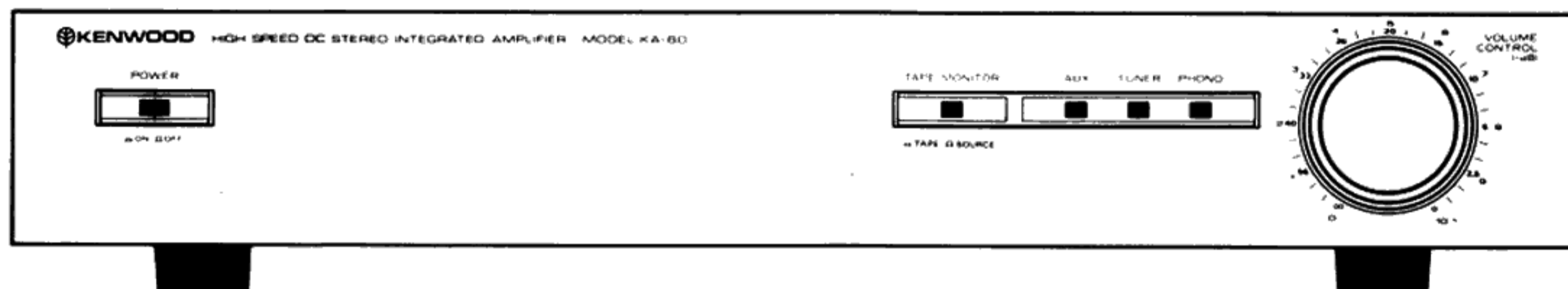
This control (inner) adjusts left- and right-channel volume simultaneously. Set it for the desired listening level. The scale is provided with dB graduations to indicate attenuation when maximum output level corresponds to 0 dB.

⑫ FRONT panel

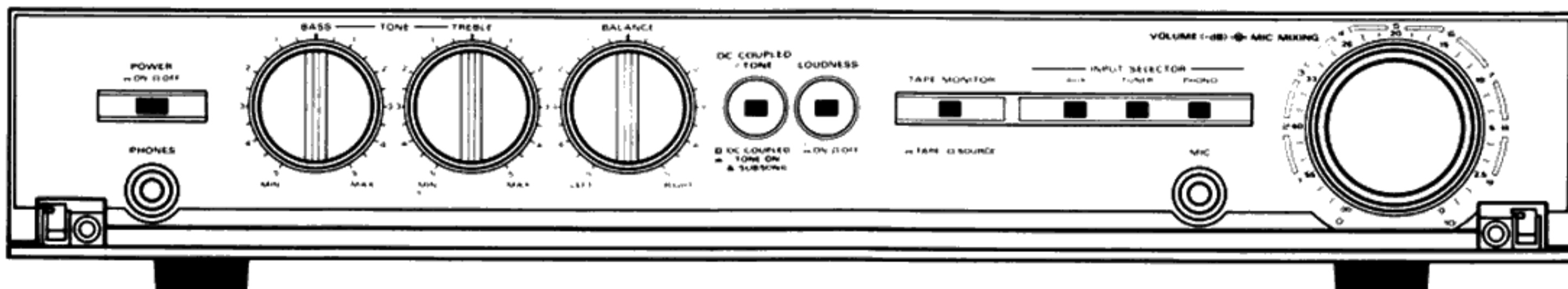
The front panel can be easily opened by pulling gently at both sides. Keep the front panel closed after controls are once set by your choice. If you frequently use tone controls, keep the front panel open or remove it. Do not apply unreasonable force to the front panel. To remove the front panel, swing it down and pull straight towards you.



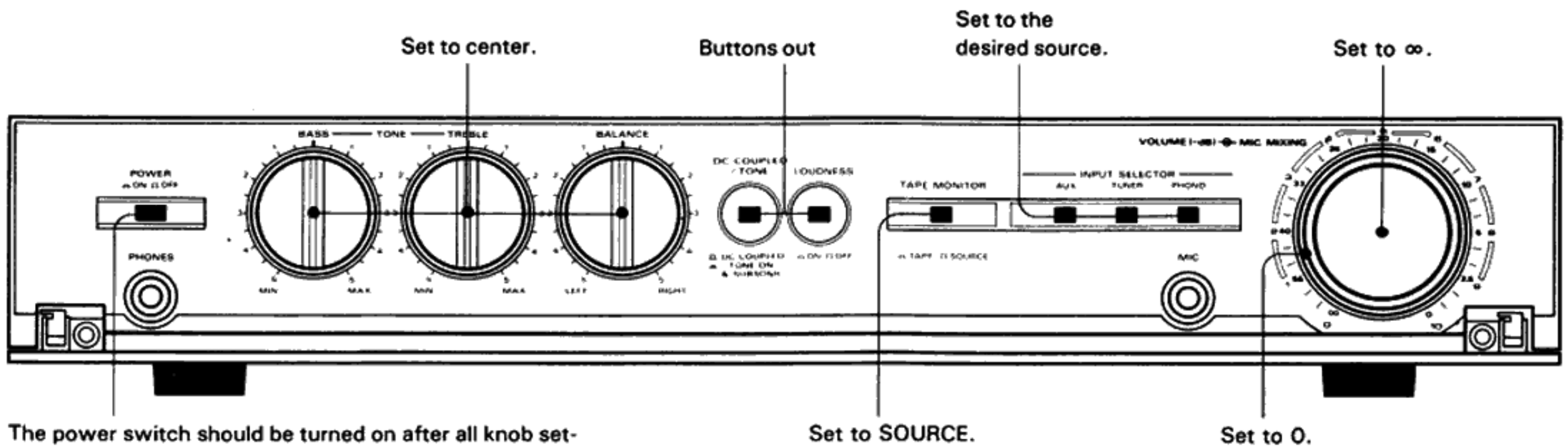
NORMAL USE



FREQUENTLY USE TONE CONTROLS



OPERATING INSTRUCTIONS



BEFORE APPLYING POWER

Set all operating controls as shown above before applying power for the first time.

TUNER OPERATION

1. Depress the TUNER button.
2. Operate the tuner as usual.

VOLUME, TONE, BALANCE AND LOUDNESS

1. Turn up VOLUME to the desired listening level.
2. Set the DC COUPLED/TONE switch to TONE ON & SUBSONIC.
3. Adjust BASS and TREBLE to suit your taste.
4. If an imbalance occurs (the left or right channel appears louder than the other) due to source imbalance or room acoustics, adjust BALANCE to equalize the sound from both speakers.
5. If you customarily listen at low listening levels, set the LOUDNESS switch to ON. If not, set to OFF.

TURNTABLE

1. Depress the PHONO button.
2. Set the turntable in operation.
3. Adjust volume and tone controls for your preference.

AUX

1. Depress the AUX button.
2. Operate the component or accessory connected to the AUX jacks.
3. Adjust volume and tone for your preference.

TAPE DECKS

Tape Playback

1. Depress the TAPE MONITOR button to TAPE. (The setting of the INPUT SELECTOR switch affects speaker output only when the TAPE MONITOR switch is set to SOURCE).
2. Operate the tape deck.
3. Adjust volume and tone for your preference.

Monitoring

If tape deck is equipped with three heads, you can compare the sound quality of the recording in progress with that of the source material by switching the TAPE MONITOR switch between SOURCE and TAPE while the recording is being made.

Recording

1. Depress the appropriate INPUT SELECTOR. Set the TAPE MONITOR switch to SOURCE. To monitor the recording, set the TAPE MONITOR switch to TAPE.
2. Set up your tape deck for recording and set recording levels with the controls on your tape deck. The volume control and tone controls on the amplifier do not affect the signal applied to the tape deck for recording purposes.
3. Adjust listening level and tone at the amplifier for your preference in monitoring the signal; these settings will not affect the recording.

Tape-To-Tape Dubbing (Duplicating)

Tape-to-tape dubbing can be easily done with two tape decks. The recorded tape should be loaded on tape deck B, and a blank tape for recording, on tape deck A.

1. Connect two tape decks as shown on page 9.
2. Depress the AUX button.
3. Start both decks (play and record) simultaneously.
4. To check recording conditions, set the TAPE MONITOR switch to TAPE.

Note:

Adjust record levels on the deck that is making the copy using that deck's operating controls.

MICROPHONE

The input to the microphone can be mixed with music from AM-FM broadcasts, phono records and playback of recorded tapes.

OPERATING INSTRUCTIONS

MICROPHONE MIXING

1. Plug the microphone into the MIC jack.
2. To mix the microphone with AM or FM broadcasts, depress the TUNER button and tune in a program source.
3. To mix with a phono record, depress the PHONO button and play a record.
4. To mix with tape playback, set the TAPE MONITOR switch to TAPE and playback the tape.
5. Speak or sing into the microphone and adjust the MIC LEVEL control to the desired relative levels.
6. Use the VOLUME control to adjust the overall volume level. It will not change the ratio of the mixed microphone and source levels.
7. Microphone sound will be available from both the left and right speakers in the monaural mode. Mic mixing facilitates voice or instrumental accompaniment with your favorite performers.

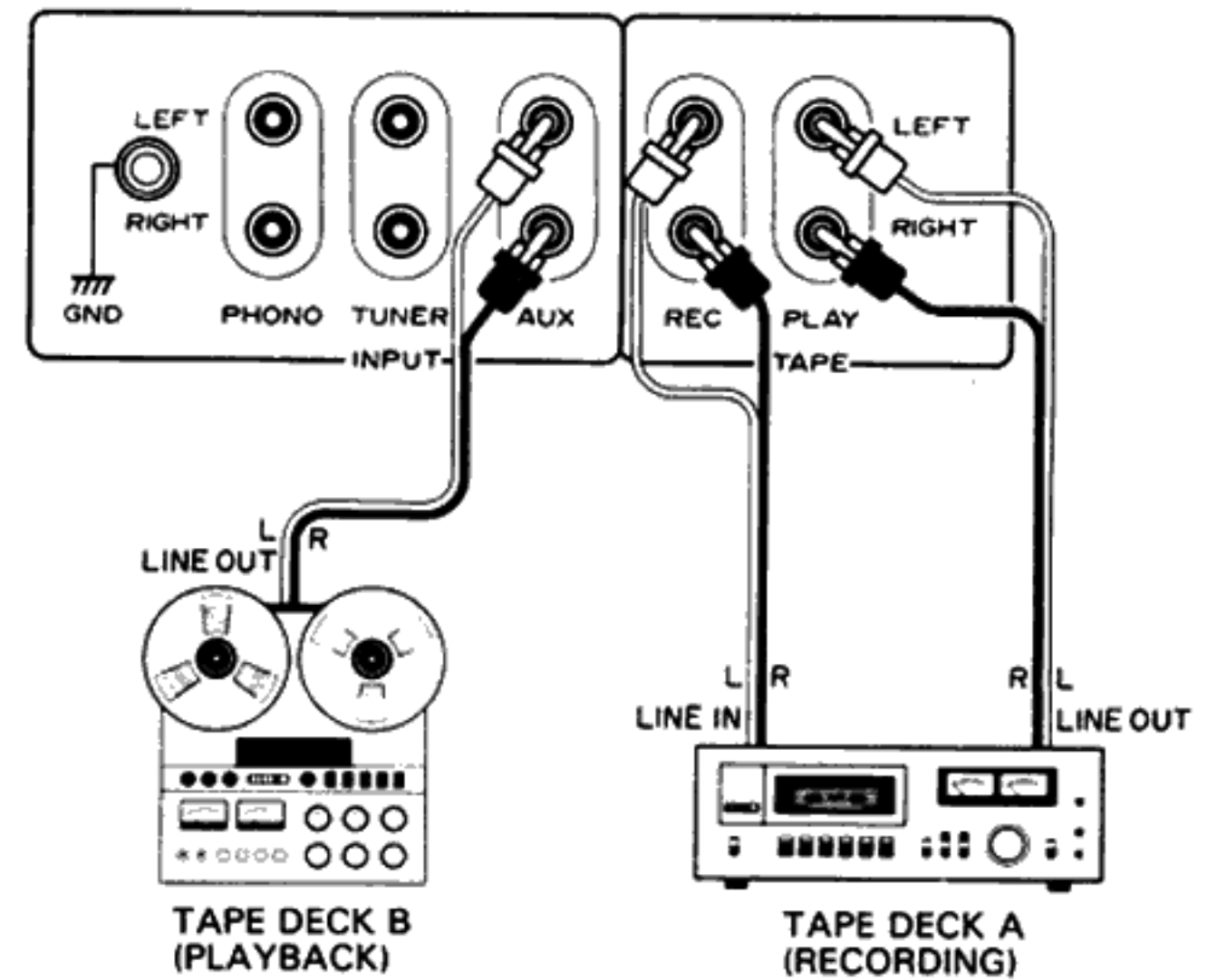
RECORDING OF MICROPHONE-MIXED SOUNDS

1. Tape recordings of microphone sound that is mixed with the source selected by the INPUT SELECTOR can be made with a tape deck connected for recording.
2. Tape recordings of the microphone mixed with tape playback sounds can be made by connecting two tape decks as shown and setting the INPUT SELECTOR switch to AUX.
3. Adjustment of the MIC LEVEL knob provides easy control of the relative levels of the mixed sources. For instance, the recording level of only the microphone can be raised, or the microphone and radio or phono source levels can be adjusted or equalized at will.

MICROPHONE ONLY

Turn the MIC LEVEL control fully to the right ("10" position). Only the microphone sound will then be heard. Use the VOLUME control to adjust the output level. Use this method for public-address purposes.

Note: A howling sound may be caused if the microphone is brought too close to the speakers when volume is at a very high level. Turn the MIC LEVEL control quickly to "0" in such a case.



Tape Dubbing and Recording of Microphone Mixed Sounds

IN CASE OF DIFFICULTY

If your amplifier does not operate as expected, the cause may be some error in system connections or control settings. Consult the table below to see if the problem can be corrected. If trouble persists consult your Kenwood dealer or service representative.

AM, FM, PHONO or Tape Playback	CAUSE	REMEDY
No sound although AC is switched ON. Power lamp not illuminated.	Poor AC plug connection.	Check plug connection. Make sure AC outlet is active.
No sound from LEFT and RIGHT.	a) Speaker cords disconnected. b) Volume Control (fully CCW). c) TAPE MONITOR switch set to TAPE.	a) Check connections from amp. output to speakers. b) Set to appropriate volume level. c) Always set to SOURCE except when using tape decks.
Sound from one side only.	a) Poor speaker cord connections. b) BALANCE control set to one extreme.	a) Check amp. output and speaker connections. b) Adjust BALANCE control.
Difference in volume level between tuner and phono.	Difference in received signal and phono output levels.	May be normal. Adjust tuner output, if possible.
During Phono Playback Only	CAUSE	REMEDY
No sound from LEFT and RIGHT, or sound only from one side.	Turntable output cord disconnected.	See that turntable output cord is firmly plugged into amp. input.
Loud hum drowns out sound.	Poor turntable output cord plug-shell connections.	See that plugs are inserted fully so that outer shells make contact.
Sound audible but background hum occurs.	a) Turntable output cord picking up hum from AC cord. b) Turntable not grounded.	a) Keep turntable output cord away from AC cords. Choose cord paths which keep hum at a minimum. Reverse turntable AC plug connections. b) Connect ground wire to GND terminal.
Sound audible but continuous background buzz interferes.	TV signal picked up by turntable output cord. Frequently occurs near TV transmitting antenna.	Route turntable cord so that hum is minimized.
Howling noise occurs when volume is raised or bass response is increased.	Speaker vibrations induce feedback in Pickup.	Increase distance between turntable and speakers. Choose speaker locations carefully.

SPECIFICATIONS

Power output

48 watts* per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.02% total harmonic distortion.

Both Channels Driven	50 + 50 watts 8 ohms at 1,000 Hz 55 + 55 watts 4 ohms at 1,000 Hz
Total Harmonic Distortion (20 Hz to 20,000 Hz)	
AUX input to SPEAKER output	0.02% at rated power into 8 ohms 0.015% at 1/2 rated power into 8 ohms
PHONO input to SPEAKER output	0.02% at rated power with VOLUME - 20 dB
Intermodulation Distortion	0.0065% at rated power into 8 ohms (60 Hz : 7 kHz = 4 : 1)
Damping Factor	120, DC ~ 20,000 Hz into 8 ohms
Transient Response	
Rise Time	0.8 μ s
Slew Rate	\pm 150 V/ μ s
Power Bandwidth	5 Hz to 40,000 Hz at 0.05% T.H.D.
Frequency Response	
(DC COUPLED at ON)	DC to 450 kHz, - 3 dB
(DC COUPLED at OFF)	18 Hz to 100 kHz, - 3 dB
Speaker Impedance	Accept 4 ohms to 16 ohms
Input Sensitivity/Impedance	
Phono	2.5 mV/50 kohms
Tuner, AUX, Tape	150 mV/50 kohms
Signal to Noise Ratio (IHF. A)	
Phono	86 dB for 2.5 mV input 92 dB for 5.0 mV input 98 dB for 10 mV input
Tuner, AUX, Tape	100 dB for 150 mV input
Maximum Input Level for Phono	230 mV (RMS), T.H.D. 0.02% at 1,000 Hz
Output Level/Impedance	
Tape REC (Pin)	150 mV/220 ohms
(DIN)	30 mV/75 kohms
Frequency Response for Phono	RIAA standard curve \pm 0.3 dB (20 Hz to 20,000 Hz)
Tone Control	
Bass	\pm 10 dB at 100 Hz
Treble	\pm 10 dB at 10,000 Hz
Subsonic Filter (DC COUPLED at ON)	18 Hz, 6 dB/oct.
Loudness Control	+ 9 dB at 100 Hz (at - 30 dB VOLUME Level)

GENERAL

Power Consumption	3 A (UL and CSA) 350 W (IEC) 250 W (8 ohms at rated power) 40 W (Non signal)
A.C. Outlet	Switched 2, Unswitched 1
Dimensions	W 440 mm (17-10/32") H 78 mm (3-2/32") D 330 mm (13")
Weight (Net)	7.9 kg (17.4 lbs)

* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

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



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