

KR-80



CONTENTS

UNPACKING / SAFETY PRECAUTIONS.....	1
SYSTEM CONNECTIONS.....	2-3
CONTROLS, INDICATORS AND CONNECTORS.....	4-5
OPERATING INSTRUCTIONS.....	6-7
IN CASE OF DIFFICULTY / SPECIFICATIONS.....	8

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 KR-80 Serial number _____

UNPACKING

Unpack the unit carefully and make sure that all accessories and cables 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.

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.

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.

SERVICE OR MODIFICATIONS

Do not remove the cabinet or touch internal parts. Refer all service to qualified service personnel. Unauthorized modifications can result in a dangerous shock hazard and can void the warranty.

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.

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

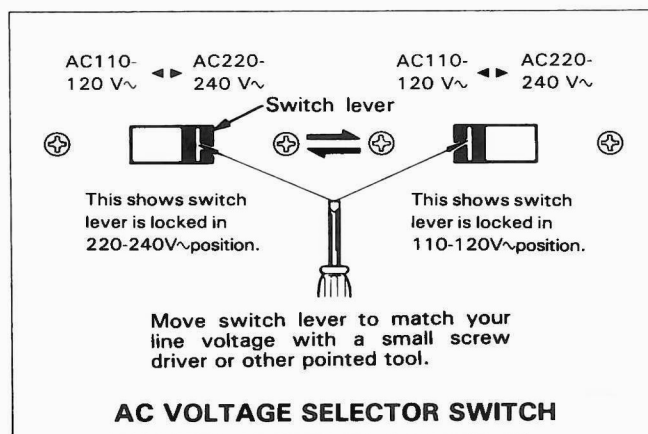
Units shipped to countries other than the U.S.A. and Canada are equipped with an AC Voltage Selector switch on the rear panel.

Refer to the following paragraph for the proper setting of this switch.

AC VOLTAGE SELECTION

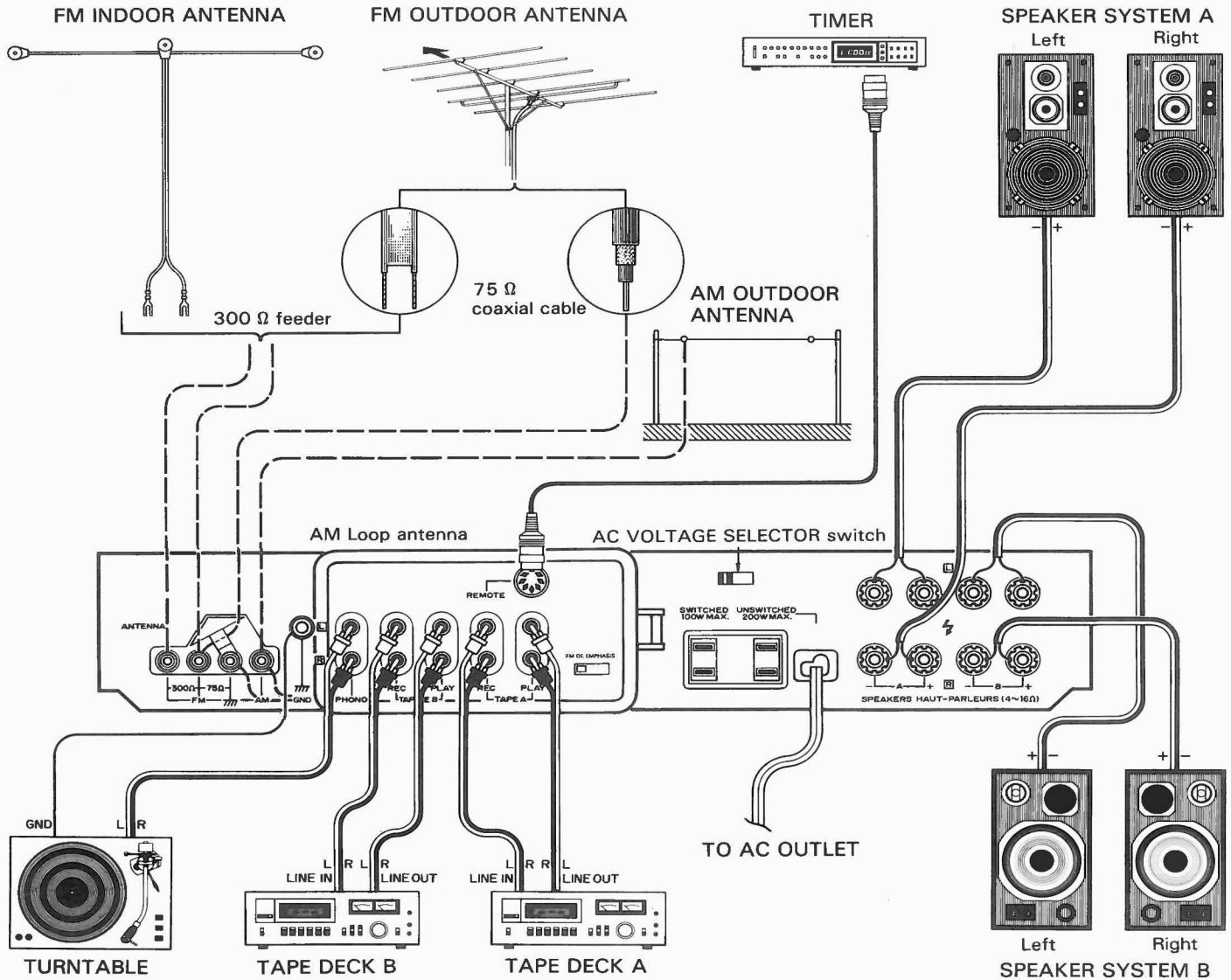
This unit operates on 110-120 volts or 220-240 volts AC. The AC Voltage Selector Switch on the rear panel is set to the voltage that prevails in the area to which the unit is shipped. Before connecting the power cord to your AC outlet, make sure that the setting position of this switch matches your line 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.



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

SYSTEM CONNECTIONS



SPEAKERS

If only one set of speakers is to be connected, make connections to the terminals marked SPEAKERS A. Connect the speakers to the **L** and **R** terminals in accordance with the location selected for each speaker. To ensure correct speaker phasing, observe polarity marks; connect terminals marked (+) on the receiver to similarly-marked speaker terminals. Do the same for receiver and speaker terminals marked with a minus sign. Reversal of speaker leads will result in loss of bass tones and poor stereo separation.

If a second set of speakers is to be used make connections at the set of terminals, marked B.

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:

If a single pair of speakers is to be used, each speaker must be rated at 4 ohms or more.

TAPE DECKS

If only one tape deck is to be connected to the system it is recommended that it be connected to the jacks marked TAPE B.

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 **L** and **R** TAPE B PLAY jacks.

Record

Plug the left and right input cables of the tape deck into the **L** and **R** TAPE B REC jacks.

Second Tape Deck

Plug the input and output cables from the second tape deck into the REC and PLAY jacks marked TAPE A.

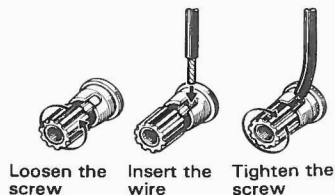
TURNTABLES

Your stereo turntable has two audio cables that are terminated with phono plugs. Plug the left channel plug into the **L** and the right channel plug into the **R** PHONO input jacks.

If the turntable has a ground wire, connect it to this unit's GND terminal to avoid hum.

Remove insulation from lead tip.
3/8"

Twist wire tightly, and solder.



Speaker Lead Connection

GROUND

For maximum safety and minimum interference connect the GND terminal to a good earth ground if practicable. A good earth ground is a cold water pipe or a metal stake driven into moist earth. However, never use a gas pipe for this purpose.

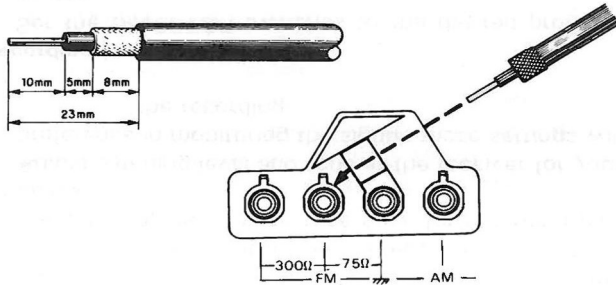
FM ANTENNAS

FM Outdoor Antenna

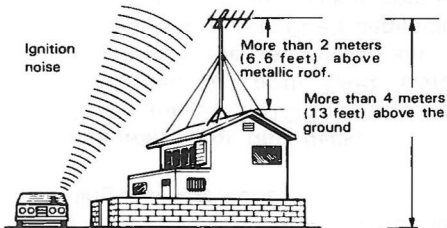
Consult with your dealer or service man about the best method of selecting and erecting an outdoor FM antenna. The choice of lead-in (feeder) wire is also important. The flat ribbon-shaped twin lead performs well electrically, is cheaper and is somewhat easier to handle in routing through windows and around rooms. Coaxial cable is more expensive, does a much better job of minimizing interference, is less prone to the effects of weather and close-by metal objects, and is nearly as good a signal conductor as the ribbon type wire. The latter is particularly true of foam-type coaxial cables. Coaxial cable is somewhat more difficult to install at the point where the cable enters the building. If coaxial cable is selected, make sure the antenna is designed to drive that type of cable. In many cases a matching transformer (balun) must be used to connect the antenna terminals to the coaxial cable.

Note:

Do not make connections to 300 Ω and 75 Ω antenna terminals simultaneously.



75Ω Coaxial Cable Connection



FM Outdoor Antenna Installation

FM Indoor Antenna

Connect the T-shaped indoor antenna (supplied) to the 300 Ω FM ANTENNA terminals. Spread the two arms that form the top of the "T" horizontally and hold them against convenient wall surfaces. Try several locations for best results on your favorite stations. Tape the antenna in place where the best compromise is found between listening results and appearance.

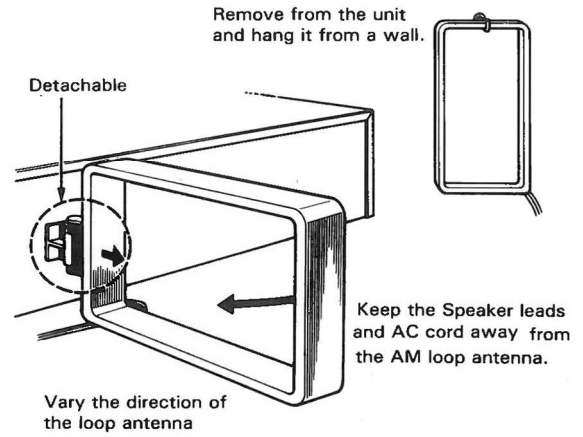
AM ANTENNAS

AM Loop Antenna

Tune to your favorite AM station and position the Loop antenna for best reception. Try other stations and find the position that gives best overall reception.

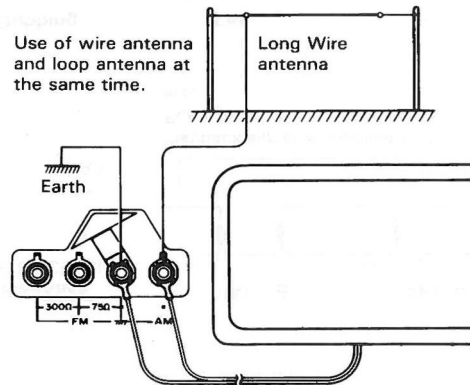
When this unit is mounted in a rack or placed on a shelf with insufficient space behind, remove the loop antenna and hang it from a wall in the direction which gives best

reception as shown below. If the length of the lead wire is too short, add a lead wire of an appropriate length.



AM Outdoor Antenna

In concrete buildings or at a great distance from the transmitter, it may be necessary to install an outdoor wire antenna. The end of this wire should be stripped of insulation and connected to the AM terminal as shown below.



REMOTE CONNECTOR

To perform programmed tuning, use the optional Audio Program Timer AT-500 and connect the connection cord supplied to the AT-500 between the REMOTE connector of the KR-80 and the REMOTE connector of the AT-500.

DE-EMPHASIS SWITCH

Before shipment this switch has been preset to the appropriate position for the expected delivery area.

An incorrect setting will adversely affect high frequency response, so check for a correct setting before putting the unit into operation.

U.S. military and other countries 75μs
Oceania and Europe 50μs

Note:

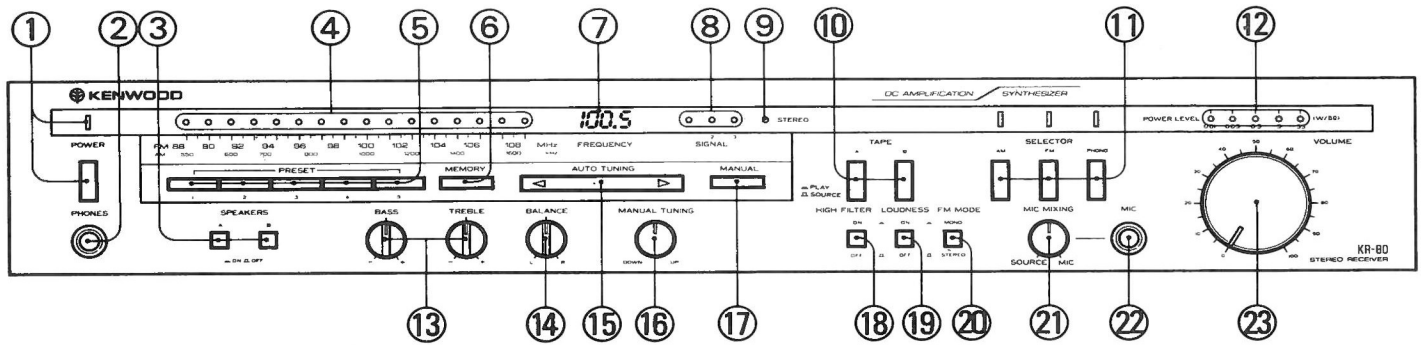
Units shipped to U.S.A. and Canada are not equipped with a De-emphasis switch on the rear panel.

AC OUTLETS

The AC outlets on the rear panel of the unit may be used to supply power to other components such as a turntable, tape deck, etc. Never connect any equipment here whose power consumption exceeds the capacity of each outlet.

1. SWITCHED outlet — This is 100 watts maximum in capacity and is controlled by the POWER switch on the front panel.
2. UNSWITCHED outlet — This is 200 watts maximum in capacity and power is available at all times.

CONTROLS, INDICATORS AND CONNECTORS



① POWER switch/POWER indicator

Push in to turn on power. The POWER indicator will light. Push it again to turn power off.

② PHONES jack

Stereo headphones are plugged into this jack. When SPEAKERS switches A and B are set to OFF, only headphones can be heard.

③ SPEAKERS switches

A ON — Activates speakers connected to the SPEAKERS A terminals on the rear panel.

B ON — Activates speakers connected to the SPEAKERS B terminals on the rear panel.

A, B ON — Activates speakers connected to the SPEAKERS A and B terminals simultaneously.

④ FREQUENCY INDICATOR LEDs

The approximate tuning spot on the FM-AM dial is indicated by one of 16 LEDs.

Optimum reception is indicated when the SIGNAL indicator lights most brightly.

⑤ PRESET buttons

These buttons are used to preset the frequencies of broadcasting stations. Each button gives access to two memory sections, one for the FM band and the other for the AM band. As a result, one FM frequency and one AM frequency can be preset with one preset button. Selection between FM and AM is performed with the SELECTOR switches. With this preset function, push-button tuning is available without operating the AUTO TUNING bar or the MANUAL TUNING knob.

⑥ MEMORY button

The MEMORY button is used to store the frequency in the memory. Press a PRESET button with the MEMORY button depressed, and the frequency is stored in the PRESET button.

⑦ FREQUENCY display

The frequency being received is indicated in red by this digital display.

⑧ SIGNAL indicators

These indicators show the relative signal levels of incoming broadcasts. For best reception, both the FM and AM antennas should be installed so that the maximum number of lamps will light.

⑨ STEREO indicator

Lights to show that the selected FM channel is transmitting in stereo and that the signal is strong enough to overcome muting.

⑩ TAPE switches

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

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

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

A, B PLAY — Depressing A and B simultaneously facilitates dubbing (tape copying) from the tape deck connected to the B jacks into the tape deck connected to the A jacks.

Note:

Be sure to set both TAPE switches to "SOURCE" when not operating a tape deck.

⑪ SELECTOR switches

AM — Press the AM button for AM reception; the FREQUENCY display indicates the AM frequency in kHz.

FM — Press the FM button for FM reception; the FREQUENCY display indicates the FM frequency in MHz.

PHONO — Press the PHONO button to play records.

* When any switch is pressed, the indicator above the switch lights.

⑫ POWER LEVEL indicators

The power level indicators are for both the left and right channels. It indicates the larger of the two output signals. The indicators are calibrated for an 8-ohm load. If 4-ohm speakers are used, multiply the reading by 2; for 16-ohm speakers, divide the reading by 2.

⑬ BASS and TREBLE controls

Turn clockwise to increase bass or treble response, counterclockwise to reduce bass or treble response. Response is flat when set to center.

⑭ BALANCE control

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

⑮ AUTO TUNING bar

When the left side of the bar is pressed, the reception frequency drops and automatically stops at the next frequency at which a broadcast is detected. Press the right side to tune to higher frequencies. When the desired station cannot be tuned in, tune manually (See ⑮).

⑩ MANUAL TUNING knob

To receive weak, distant stations, use this MANUAL TUNING knob. However, manual tuning is only for those signals that are too weak to permit AUTO TUNING to function.

The frequency is decreased when the knob is turned DOWN (counterclockwise) and vice versa. When the manual tuning mode is selected, all FM stations are received in the monaural mode.

⑪ MANUAL button

Press the MANUAL button to select the manual tuning mode. When the manual mode is selected, the MONO mode is automatically selected and the FM muting function is turned OFF. Lower the volume control to avoid loud interstation noise.

⑫ HIGH FILTER switch

Set this switch to ON to reduce high frequency noise, such as tape hiss, record scratch etc.

⑬ LOUDNESS switch

This switch boosts bass response to compensate for the lack of response in human hearing to those frequencies at low volume levels. This switch should be switched off when listening at normal and high levels.

⑭ FM MODE switch

When the FM MODE switch is set to MONO, all FM broadcasts are received in monaural.

Set to STEREO position, stereo broadcasts are received in stereo, and monaural broadcasts are received in monaural. When the receiver is in the AUTO TUNING mode, only those stations whose signal strength is sufficiently strong for noise-free reception are selected. When reception of weaker stations is desired, placing the receiver in the MONO mode will pick up those stations too weak for stereo reception.

⑮ MIC MIXING knob

This knob is used to control the microphone input level in microphone mixing operations. The microphone level increases and the source level decreases as the knob is turned clockwise (towards the MIC).

To reproduce only the microphone input, set the knob to MIC. **Be sure to set the knob to SOURCE when listening to an AM/FM broadcasting, a record or a tape.**

⑯ MIC jack

Plug a 600 Ω to 50 k Ω microphone into this jack.

This input can be mixed with a source input (AM, FM or PHONO) selected by the SELECTOR switches or a tape source connected to the TAPE B jacks.

⑰ VOLUME control

This control adjusts left- and right-channel volume simultaneously. Set it for the desired listening level.

DX-LOCAL selector switch (on the bottom plate)

Set this switch to the DX position under ordinary conditions. For very strong nearby stations it may be necessary to set this switch to LOC for best reception.

Use only when the antenna terminal is terminated by 75 Ω .

DX LOC

OPERATING INSTRUCTIONS

BROADCAST RECEPTION

(Almost all stations can be tuned in by **AUTO TUNING**)

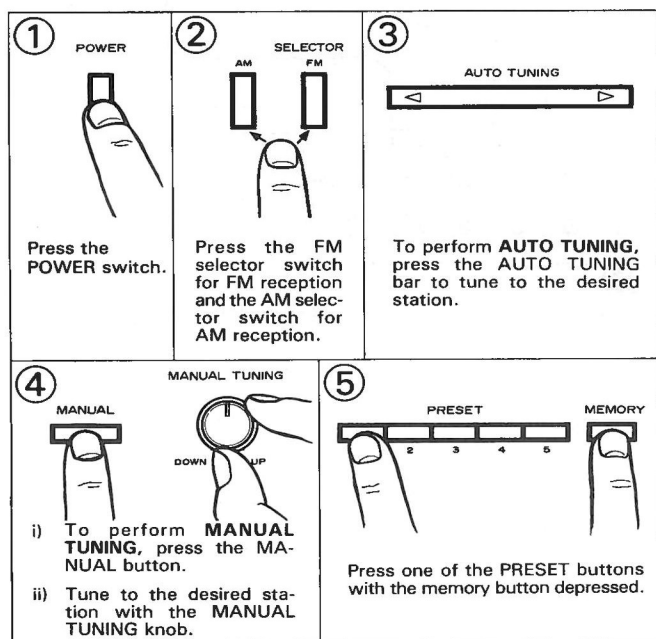
1. Press the AM button for AM reception or the FM button for FM reception.
2. Press the **AUTO TUNING** bar on either side to start the tuning system in the direction of the desired station. Release when the LEDs show that you are approaching your station. The unit will stop automatically when the station is received, and the digital display will show the channel frequency. Note, if the unit stops at an unwanted station before it reaches the desired station, press the bar again.
3. Adjust the **VOLUME** control to the desired listening level.
4. Adjust the balance of the left and right channels.
5. Use the **BASS**, **TREBLE** and **LOUDNESS** controls to adjust the sound to suit your own taste, as well as the acoustic conditions of the room.

MANUAL TUNING (to receive a weak broadcast)

1. Press the AM button for AM reception or the FM button for FM reception.
2. Press the **MANUAL** button. FM stereo broadcasts will now be received in the monaural mode.
3. Turn the **MANUAL TUNING** knob to tune to the desired station.
4. Adjust the **VOLUME** control to the desired listening level.

PRESET Procedures

Up to 5 stations can be preset in both the AM and FM bands. The **PRESET** procedure is as shown below.



Note:

1. When a **PRESET** button is pressed to preset a new frequency, the old frequency is cleared and the new frequency is stored.
2. A high performance battery unit is built in the KR-80. Therefore, the contents of the memory are not cleared when the power switch is turned OFF. This battery is a lithium type and will last about 10 years.

PRESET TUNING RECEPTION

1. Press the AM or FM button.
2. Press the **PRESET** button for the desired station.
3. Adjust the **VOLUME** control to the desired level.
4. Adjust the **BASS**, **TREBLE** controls for your desired tone.

MICROPHONE

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

Microphone mixing (with AM, FM, PHONO, TAPE)

1. Plug the microphone into the **MIC** jack.
2. To mix the microphone with AM broadcast, press the **AM** button and tune in a program source.
3. To mix the microphone with FM broadcast, press the **FM** button and tune in a program source.
4. To mix with a phono record, press the **PHONO** button and play a record.
5. To mix with tape playback, set the **TAPE B** switch to **PLAY** and playback the tape.
The microphone input cannot be mixed with a tape source connected to the **TAPE A** jacks.
6. Speak or sing into the microphone and adjust the **MIC MIXING** knob for the desired relative levels.
7. Use the **VOLUME** control to adjust the overall volume level. It will not change the ratio of the mixed microphone and source levels.
8. 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.

Mixed Recording

1. A mixture of the source selected by the **SELECTOR** switches and microphone sound can be recorded with a tape deck connected to the **TAPE A** jacks.
2. To record a mixture of a tape source and microphone sound, two tape decks are required. Connect the one for playback to the **TAPE B** jacks and the one for recording to the **TAPE A** jacks.

Microphone only

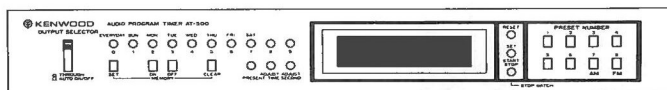
Turn the **MIC MIXING** knob fully to the right ("MIC" position). Only the microphone sound will then be heard. Use the **VOLUME** control to adjust the output level. Use this method for public-address purposes.

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 MIXING** knob quickly to "SOURCE" in such a case.

USE OF AUDIO PROGRAM TIMER (OPTION)

This receiver is equipped with the **REMOTE** connector on the rear panel for connection of the AT-500 Audio Program Timer to permit preset stations to be received. With the **SELECTOR** switches set to FM or AM in accordance with the desired station, the AT-500 can also be used to record preset station broadcasts on tape while you are away from home by the connection of a tape deck. For details, refer to the AT-500 instruction manual.



Audio Program Timer AT-500

TURNTABLES

1. Press the PHONO button.
2. Operate the turntable.
3. Adjust VOLUME and tone to your preference.

TAPE DECKS

Tape Playback

1. Set the TAPE switch to A PLAY or B PLAY, to select output from tape decks connected to the TAPE A or B jacks.
2. Operate the tape deck.
3. Adjust VOLUME and tone to your preference.

Monitoring

If the 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 appropriate TAPE switch between SOURCE and PLAY while the recording is being made.

Recording (one tape deck)

1. Set the SELECTOR switches for the desired program source. Set both TAPE switches to SOURCE. To monitor the recording, set the appropriate TAPE switch A or B to PLAY depending on the set of jacks to which your tape deck is connected.
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 receiver do not affect the signal applied to the tape deck for recording purposes.
3. Adjust listening level and tone at the receiver for your preference in monitoring the signal; these settings will not affect the recording.

Recording (two tape decks)

1. Set the SELECTOR switches to the desired program source.
2. Set both TAPE switches to SOURCE.
3. Recordings can now be made on both tape decks simultaneously.
To monitor these recordings, use the TAPE switch as follows: Set to "A PLAY" to monitor the recording being made in the tape deck connected to the TAPE A jacks.

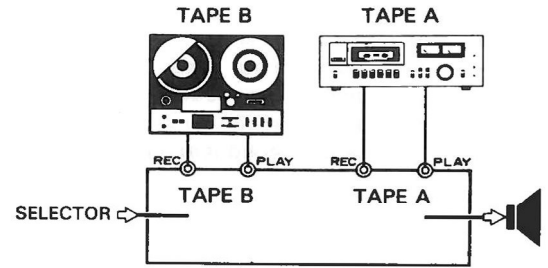
Note:

When recording with two tape decks, a source signal can not be recorded in the tape deck connected to "A PLAY" jacks when the TAPE switch is set to "B PLAY". Therefore, be sure to set the TAPE switch to "SOURCE" or "A PLAY" only.

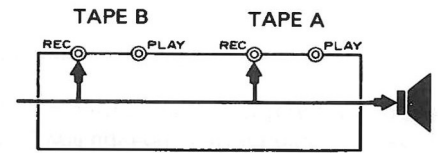
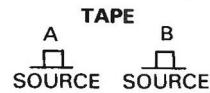
4. Recording levels should be set using the controls on the individual tape decks.

Tape-to-Tape Dubbing

Tape recordings may be duplicated easily using tape deck B to play the prerecorded tape and tape deck A to record the copy.

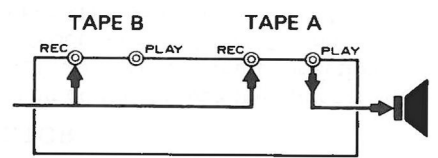
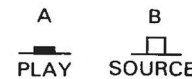


For Recording



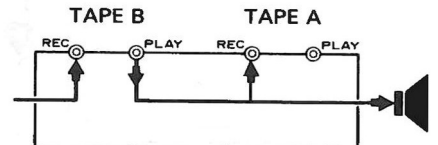
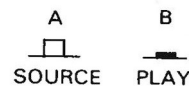
The input signal selected by the SELECTOR switch is always present at a fixed level at the TAPE A and TAPE B REC jacks.

For Playback (TAPE DECK A)



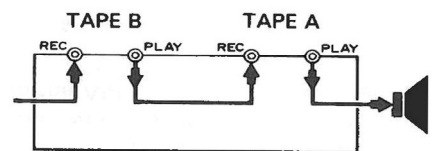
Playback signal is supplied to the TAPE A PLAY jacks, and is heard from the speakers.

For Playback (TAPE DECK B)



Playback signal is supplied to the TAPE B PLAY jacks, and is heard from the speakers.

For Dubbing



Switch as shown to record a copy on tape deck A from a tape played on tape deck B. The recording can be monitored.

IN CASE OF DIFFICULTY

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 Kenwood dealer or service representative.

Occurs during AM Reception only	CAUSE	REMEDY
Continuous low-frequency buzz. Most noticeable on weak stations or at night.	Interference from fluorescent lamps, lamp dimmers, other appliances.	Turn off fluorescent lamps or lamp dimmer (Interference may come from neighbors lamps). Try AM outdoor antenna and good ground at GND connections. This problem may be impossible to remove altogether.
High-frequency whistle especially at night.	Interference from TV set. Beat from adjacent AM station.	Turn off TV set, if problem disappears try relocating TV set. Impossible to eliminate but try HIGH FILTER.
Occurs During FM Reception only	CAUSE	REMEDY
Continuous hiss or buzzing with broadcast.	Weak antenna signal.	Install outdoor antenna.
Occasional sharp rhythmic crackling noise.	Ignition interference from autos.	Locate outdoor antenna as far from road as possible, use coaxial feeder cable.
FM automatic circuit fails to respond to stereo broadcast.	Incoming signal is too weak.	Reposition indoor antenna or erect an outdoor antenna.
PHONO Playback only	CAUSE	REMEDY
No sound from both or one speaker.	Turntable output disconnected.	Check phono cables.
Loud hum drowns out sound.	Poor ground connection at phono cable connections.	Check phono plugs, particularly outer shell connections.
Background buzz.	TV signal picked up by phono cable (especially near transmitter).	Route phono cables to minimize buzz.

SPECIFICATIONS

AUDIO SECTION

Power Output

27 watts* per channel, minimum RMS both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.05% total harmonic distortion.

Total Harmonic Distortion (20 Hz to 20 kHz from TAPE)

rated power into 8 ohms 0.05%
1 W power into 8 ohms 0.03%

Intermodulation Distortion (60 Hz:7 kHz = 4:1 SMPTE)

rated power into 8 ohms 0.02%

Damping Factor 45 at 1 kHz, 8 ohms

Input Sensitivity/Impedance

PHONO 2.5 mV/50 kohms
TAPE 150 mV/50 kohms
MIC 3.0 mV/50 kohms

Signal-to-Noise Ratio (A weighted)

PHONO 78 dB for 2.5 mV input
84 dB for 5.0 mV input
TAPE 105 dB for 150 mV input
MIC 72 dB for 3.0 mV input

Maximum Phono Input Level

at 1,000 Hz 160 mV (RMS), THD 0.05%

Frequency Response

PHONO RIAA Standard Curve 20 Hz to 20 kHz \pm 0.3 dB
TAPE 5 Hz to 130 kHz - 3 dB

Tone Control

Bass \pm 8 dB at 100 Hz
Treble \pm 8 dB at 10 kHz

Loudness Control (VOL. - 30dB) +10 dB at 100 Hz

High Filter 5 kHz, 6 dB/oct

Output Level/Impedance

TAPE REC Out (Pin) 150 mV/300 ohms

FM TUNER SECTION

Usable Sensitivity 10.3 dBf (1.8 μ V)

50 dB Quieting Sensitivity

Mono 16.1 dBf (3.5 μ V)
Stereo 37.2 dBf (40 μ V)

Signal-to-Noise Ratio at 65 dBf

Mono 75 dB
Stereo 70 dB
72 dB (at 85 dBf)

Total Harmonic Distortion at 1 kHz

Mono 0.1%
Stereo 0.15%
Frequency Response 30 Hz to 15 kHz, +0.5 dB,
-2.0 dB

Capture Ratio 1.0 dB
Image Rejection Ratio 50 dB
Spurious Response Ratio 80 dB
IF Response Ratio 105 dB
Alternate Channel Selectivity 50 dB at 400 kHz
AM Suppression Ratio 60 dB
Stereo Separation Ratio 47 dB at 1,000 Hz
35 dB at 50 Hz to 10 kHz
Subcarrier Product Ratio 55 dB
Antenna Impedance 300 ohms balanced &
75 ohms unbalanced
FM Frequency Range 88 MHz to 108 MHz

AM TUNER SECTION

Usable Sensitivity 10 μ V
Signal-to-Noise Ratio 50 dB
Image Rejection 35 dB
Selectivity 40 dB

GENERAL

Power Consumption 135 W (8 ohms at rated power)
22 W (No Signal)
AC Outlets Switched 1, Unswitched 1
Dimensions W 440 mm (17-5/16")
H 78 mm (3-1/16")
D 336 mm (13-7/32")
Weight (Net) 6.1 kg (13.4 lb)
(Gross) 7.0 kg (15.4 lb)

*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 development. For this reason specifications may be changed without notice.

