

 **KENWOOD®**

KR-100

SOLID STATE AM-FM STEREO RECEIVER

INSTRUCTION MANUAL



WELCOME TO KENWOOD'S ALL-NEW SOLID STATE CIRCUITRY

Getting acquainted with your new KENWOOD KR-100 is an exciting experience. Transistors with **FET (Field Effect Transistor)** and **IC (Integrated Circuit)** are ready to give you **SOLID STATE AM-FM AUTOMATIC STEREO RECEPTION** of highest quality. You'll find the excitement multiplies as you discover the many other features hidden inside and displayed outside the handsome new chassis.

Your KR-100 is equipped with a newly developed protection circuit which guards against widespread transistor damage from short circuits at the output terminals or speaker circuits. The KR-100 gives extra long-life to output transistors.

A total of 170 watts (at 4 ohms), 135 watts (at 8 ohms) output power and FM AUTOMATIC circuit are ready to select FM STEREO stations instantly with the help of a built-in, high standard silent switching system.

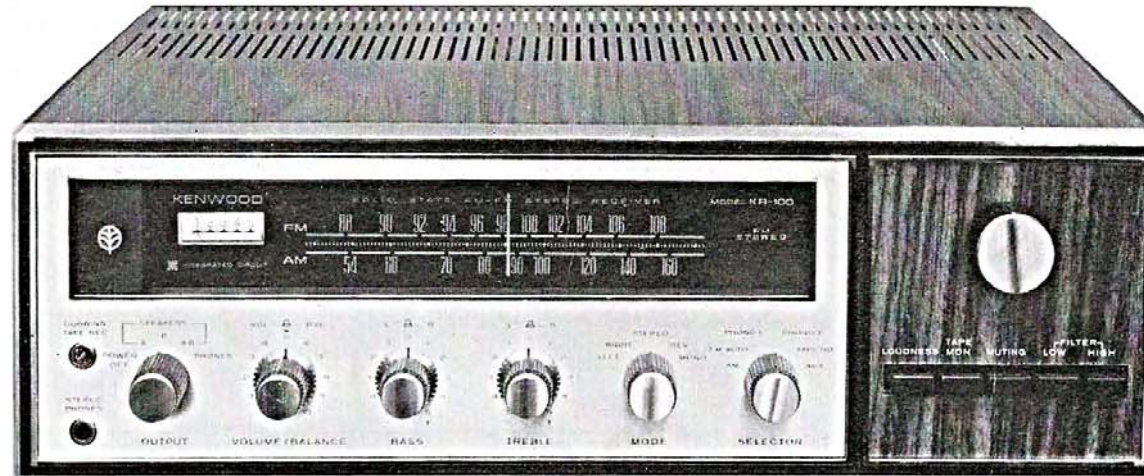
Go ahead—enjoy it! Your new KENWOOD KR-100 expects rugged use. It was designed and engineered to take it.



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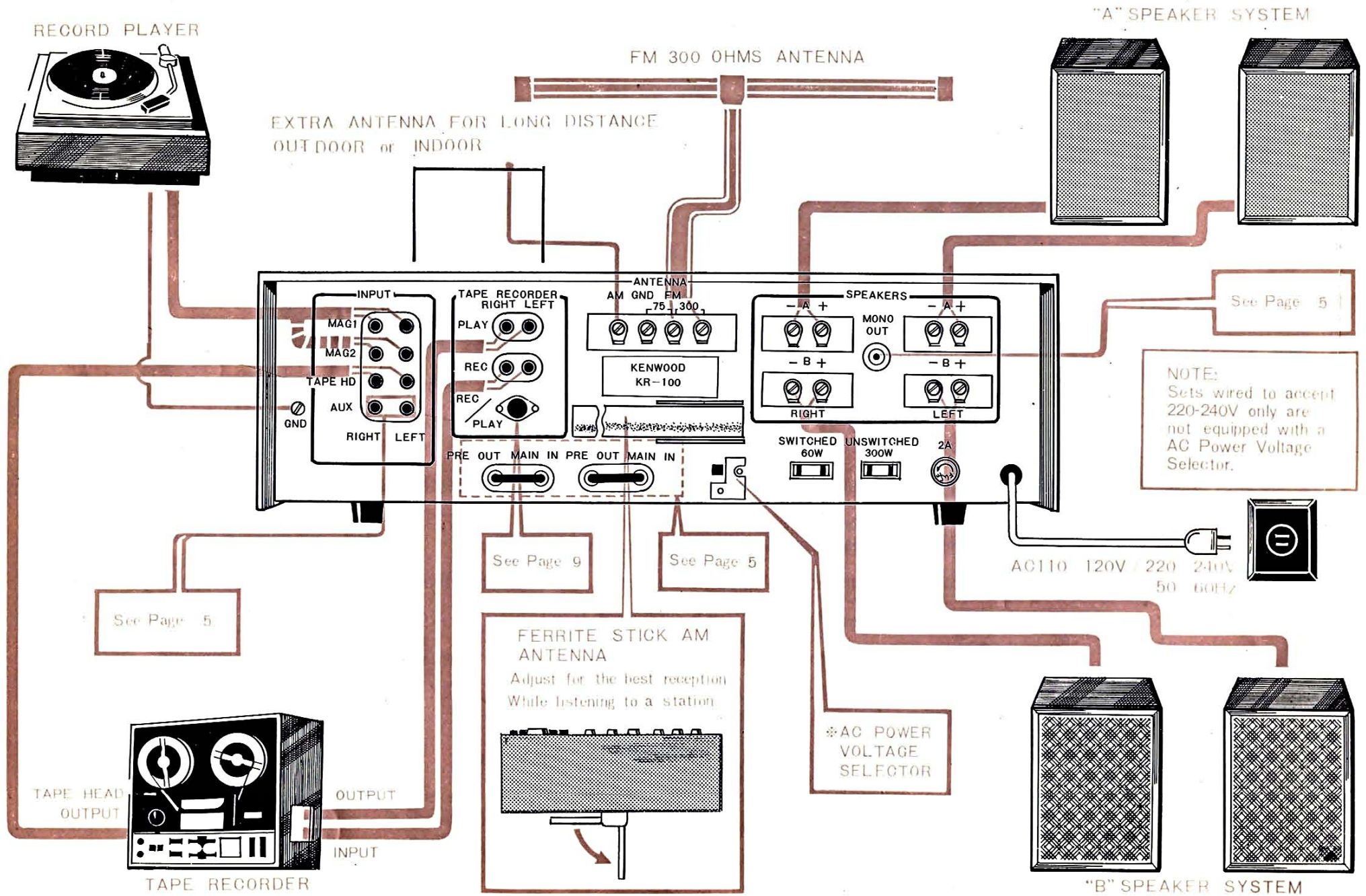
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SPECIAL FEATURES



- 1) High Power Output — enough to drive any low efficiency Hi-Fi speakers.
- 2) FET FM 4 Gang Tuning Condenser Front-end provides superior sensitivity & spurious response ratio.
- 3) 4 IC's 1 Mechanical Filter IF Stages provide very high selectivity and 2.5 dB capture ratio.
- 4) Interstation muting circuit suppresses inter-station noise.
- 5) 2 Pairs of Magnetic Cartridge inputs for 2 sets of Record Players.
- 6) Front Panel Tape Dubbing (Tape recopying Jack.)
- 7) Automatic FM Stereo/Mono Mode silent switching circuit with stereo light indicator.
- 8) New Luminous Dial.
- 9) Heavy Fly-Wheel tuning dial and new large tuning meter.
- 10) Speaker terminals for 2 sets of stereo speakers and front panel OUTPUT selector switch (A speakers, B speakers, A & B speakers and phones.)
- 11) Power transistors are protected from blow-outs by KENWOOD'S exclusive automatic protection circuit.

INTERCONNECTING DIAGRAM



CONNECTIONS TO COMPONENT PARTS

SPEAKER CONNECTIONS

A special circuitry has been incorporated in this unit so that more than one set of speakers (in different rooms, for instance) can be hooked up.

4, 8, or 16 ohm speakers are suitable. In connecting only one set of speakers, connect the right speaker to right speaker terminals and left speaker to left speaker terminals of "A" terminals. Should plus or minus of either right or left channel be reversely connected, sounds from the center section will be affected by a lack of separation. To connect a second set of speakers, connect right speaker to right speaker terminals and left speaker to left speaker terminals of "B" terminals.

● "A • B SPEAKERS" position of the OUTPUT selector switch will not work unless both A speakers system and B speakers system are connected.

3 STEREO SPEAKER SYSTEM

● See Figure 1 for making proper connections from the B SPEAKER OUTPUT when it is desired to use three sets of speaker systems.

PHASING OF THE SPEAKERS

● Proper phasing of the two speakers is important for deriving the best performance. This is to assure that low frequency or bass tones are not eliminated by speakers that are working in opposition to each other.

● After your speakers are connected, listen to the intensity of the bass tone. Then reverse the lead connections of the speakers and listen to the sound again. The position of the lead connections where the bass intensity was the greatest is the proper one and the speakers will then be permanently in phase

STEREO HEADSET JACK

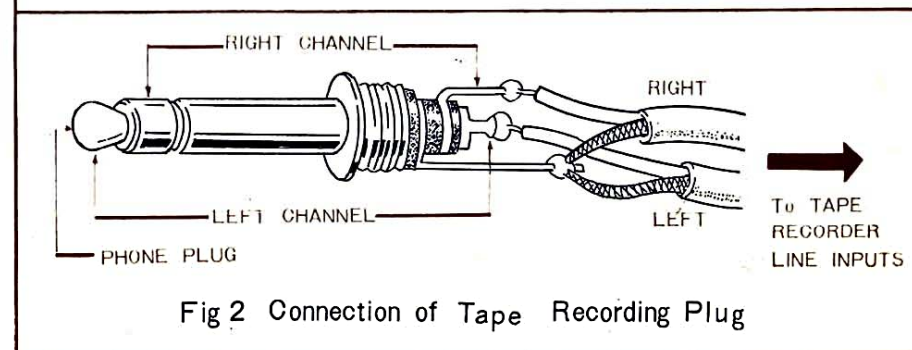
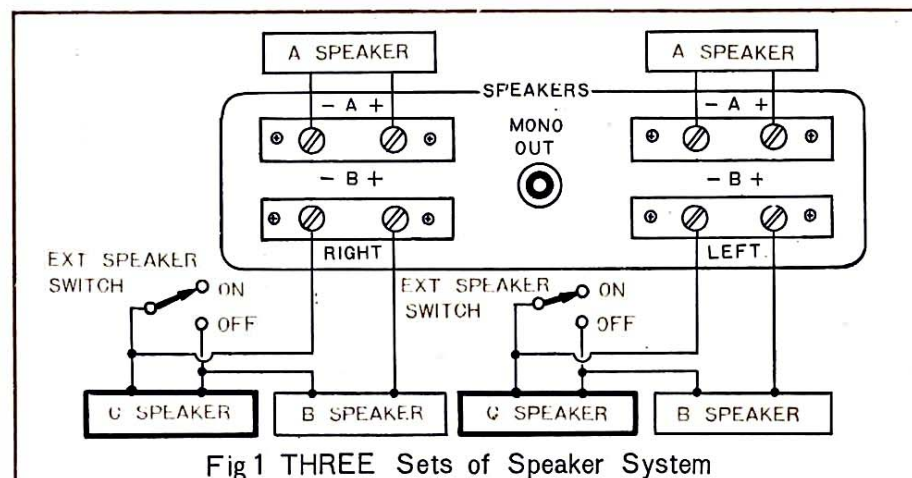
Enjoy the wonderful sounds of stereo without disturbing others or monitor the playback of tapes as you record them with your stereo headset. Plug the headset into the STEREO PHONES JACK and turn the OUTPUT selector switch to PHONES position.

TAPE RECORDERS

You may tape FM MONAURAL, FM STEREO, AM and RECORDS by connecting the output jack of TAPE REC to the input jack of the tape recorder. Play back your recordings by simply connecting the line output of your tape recorder to the TAPE PLAY jack of your KR-100 (Diagram, page 3.)

Note: KR-100 has a DUBBING TAPE REC Jack in its front panel as well as on the rear panel so that the connection can be made easily between a Tape Recorder and KR-100. (See page 10)

How to wire the connection plug is as shown in Figure 2.



CONNECTIONS TO COMPONENT PARTS

STEREO RECORD PLAYERS

The two lines of shielded cord from your stereo record player should be terminated with RCA type phono plugs. Cords should not exceed ten feet in length. (An excess will create a loss in high frequency range).

Two pairs of stereo phono inputs have been incorporated in this unit so that two sets of stereo record players can be hooked up. When operating MAG 1 (or MAG 2), switch the output selector switch to Phono 1 (or Phono 2).

AUX

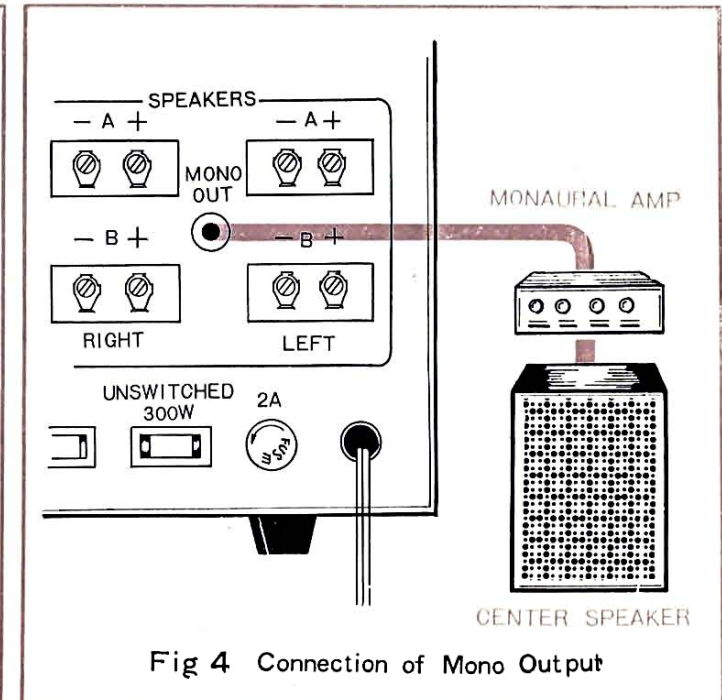
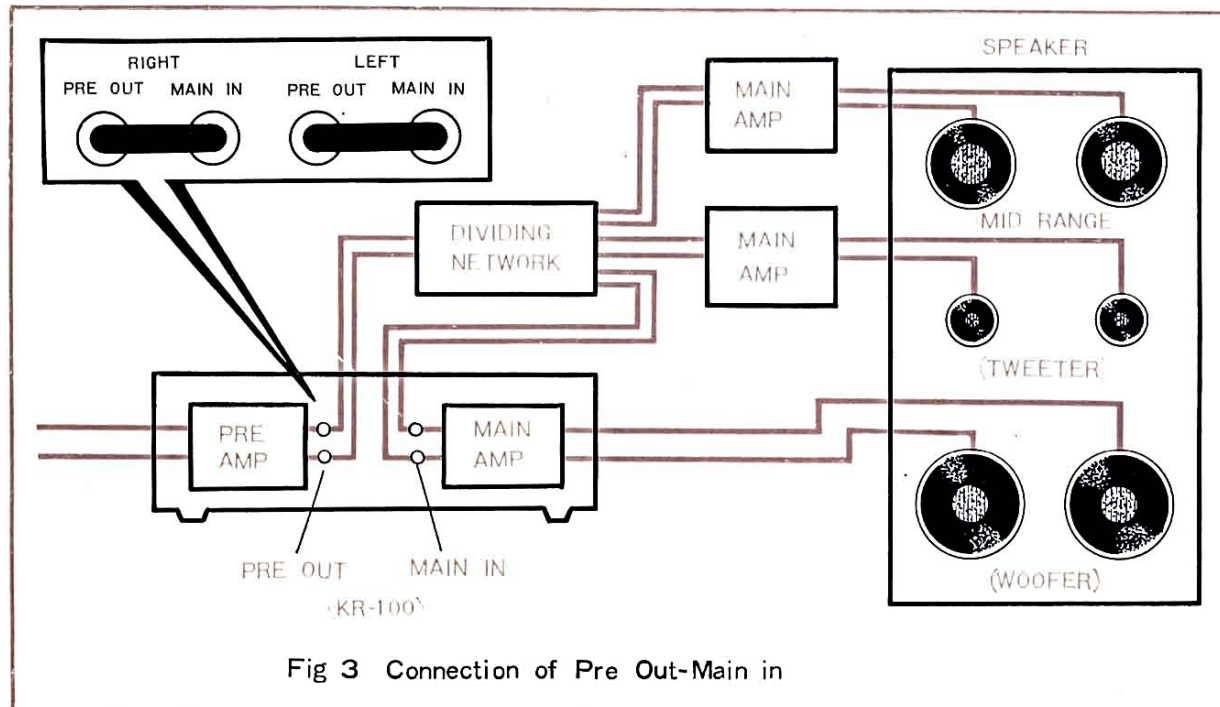
Auxiliary inputs can be used for a second tuner, tape copying, etc. (See Figure 8, page 9).

PRE-AMPLIFIER OUTPUTS AND MAIN AMPLIFIER INPUTS

Stereo pre-amplifier outputs and stereo main amplifier inputs are incorporated in this unit. When using this amplifier as a pre-amplifier or a main amplifier only, remove the attached jumper connector and connect another main or pre-amplifier. When making a multi-channel system with this receiver, remove the attached jumper connectors and insert a dividing filter between main amplifier inputs and pre-amplifier outputs. The input impedance of main amplifier is 100 K ohms and its input sensitivity is 100 mV. (FIG. 3.) When using this KR-100 as a pre-main amplifier, do not remove the jumper connector from the unit.

MONO OUTPUT

The output voltage of this jack is about 1 V (at 56 ohms output impedance), which is the mixed monaural signal of left and right channels. Connect this to the AUX input jack of the monaural amplifier to drive the extra speaker.



ELECTRICAL CONNECTIONS

POWER

Plug the AC line cord into an outlet furnishing 110 to 120 volts or 220 to 240 volts AC, 50 — 60 Hz.

The AC outlets on the rear of the receiver may be used to supply power to other components, such as a record player, tape recorder, etc.

1. Switch outlet (60 watts)

This is switched with the power switch on the receiver. **IMPORTANT!** Do not connect any electrical equipment with a power consumption of more than 60 watts.

2. Unswitched outlet (300 watts)

This is not connected to the power switch on the receiver. **IMPORTANT!** Do not connect any electrical equipment with a power consumption of more than 300 watts.

NOTE: AC VOLTAGE SELECTION

This unit is pre-set to be used at 220 — 240 volts AC. In countries with 110 — 120 volts AC, set the AC switch from 220 — 240 volts to 110 — 120 volts as follows:

1. Turn the power switch to "OFF".
2. Remove the black plate which is affixed to the AC switch on the rear panel.
3. Set the slide switch to the left.
4. The black plate has 220 — 240 V stamped on one side and 110 — 120 V stamped on the other side. Affix this black plate so that the 110 — 120 V mark is visible.

Figure 5 illustrates the AC switch set for 110/120 volts AC.

AM ANTENNA

The ferrite stick built into the Model KR-100 assures adequate reception of all local AM stations. However, in fringe areas, high noise areas, or where surrounding metal objects interfere with normal reception, a regular antenna lead should be connected to the terminal designated AM.

NOTE: The ferrite stick is mounted on a swivel bracket. For maximum pickup, the stick should be swung away from the chassis.

FM ANTENNA

Three terminals are provided for connection to a 300 ohms and 75 ohms FM antenna as shown in Figure 6.

For good FM stereo reception, always use the best antenna possible. In areas close to the transmitter, a simple indoor dipole antenna may suffice. (It should be remembered, however, that the pickup of reflections (similar to "ghosts" on TV) will result in poor stereo reception. These reflections must therefore be reduced to a minimum, either by careful orientation of the indoor antenna or, if this will not eliminate them, by using a more directional outdoor type antenna.

In areas a greater distance from the transmitter, the use of an outdoor antenna is highly recommended. These are available in various types. For reception of stations scattered in many directions, a non-directional type may be required. If the desired stations lie mostly in one direction, a high-directional type of antenna will offer better results. When using a directional antenna, always orient it for the best reception of the desired station. The correct position will be indicated by maximum deflection of the tuning meter on your receiver.

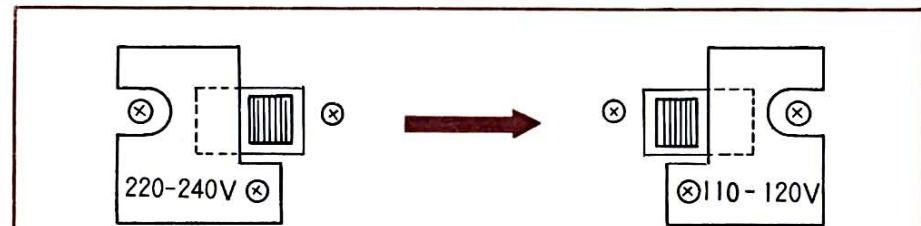


Fig5 AC Voltage Switch

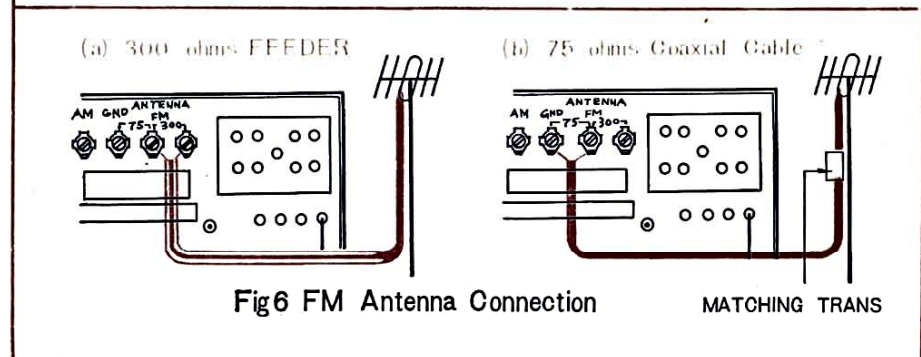


Fig6 FM Antenna Connection

MATCHING TRANS

CONTROLS AND THEIR FUNCTIONS



① FM STEREO

This is the stereo indication. When the SELECTOR switch is set at FM AUTO and an FM stereo broadcast is tuned in, the tuner will automatically switch electronically for stereo mode reception. The words "FM STEREO" will illuminate this.

See page 9 10

See page 4

⑫ TUNING

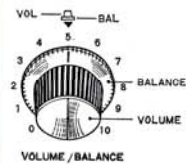
Use the tuning knob to select the AM and FM station desired. Adjust further by tuning for maximum deflection of the TUNING meter while listening to the speaker output.

② OUTPUT

- **POWER OFF**—Shuts off the power of the unit.
- **A SPEAKERS**—The power is on and sound can be heard from the first set of speakers only.
- **B SPEAKERS**—For listening through the second set of speakers only.
- **A & B SPEAKERS**—For listening through both sets of speakers.
- **PHONES**—Silence both speaker systems for complete privacy when listening with headphones.

③ VOLUME

The single control designated VOLUME adjusts the level of both channels simultaneously. To adjust one channel only, use the BALANCE control.



④ BALANCE

This control provides a simple means of adjusting the levels of both channels for proper balance during stereophonic reproduction.

⑤ BASS

Turning clockwise increases bass tone and counter-clockwise decreases it while center setting is at Flat.

⑥ TREBLE

Turning clockwise increases treble tone and counter-clockwise decreases it while center setting is at Flat.

⑦ MODE

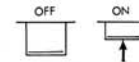
- **LEFT**—Left input program reproduction is provided through both speakers.
- **RIGHT**—Right input program reproduction is provided through both speakers.
- **STEREO**—This provides stereophonic reproduction of any stereo program source. This position will also provide monophonic reproduction through both channels when the SELECTOR switch is in the FM MONO or AM position.
- **REV**—This reverses positions of the two speakers. The left signal is now heard from the right speaker, and right signal from the left speaker.
- **MONO**—Mixes left and right channel.

⑧ SELECTOR

- **AM**—Selects the output of the AM tuner section for reproduction through the amplifier.
- **FM AUTO**—Selects FM Broadcasting stations automatically with the help of a built-in high-standard switching system. When an FM Stereo broadcast is tuned in the STEREO indication lights up.
- **PHONO 1**—Select sources connected to MAG 1 input jacks.
- **PHONO 2**—Select sources connected to MAG 2 input jacks.
- **TAPE HD**—Selects sources connected to the TAPE HD jacks.
- **AUX**—Selects sources connected to the AUX input jacks.

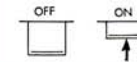
⑨ LOUDNESS

This switch provides the frequency response change (bass and treble boost) if required by individual at low listening levels and permits the VOLUME control to function as a compensated loudness control.



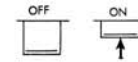
⑩ TAPE MON

For playback of tapes or for monitoring of the recording. (See page 10)



⑪ MUTING

This switch silences the strong interstation noise encountered on the FM band, but this switch may also eliminate the signal of a weak and distant station along with the interstation noise. Therefore, in weak and distant station reception, it is better to leave this switch in OFF position.

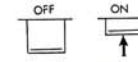


⑫ LOW FILTER

This switch inserts a low frequency filter into the circuit and reduces rumble from a noisy turntable or changer with minimum effect on program material. (200Hz cut-off).

⑬ HIGH FILTER

This switch inserts a filter into the circuit and reduces the high frequency noise. (3000Hz cut-off)



TAPE RECORDER CONNECTIONS & OPERATIONS

• R. P. CONNECTOR (DIN CONNECTOR)

Normally for most recording and playback, separate cables must be connected to their respective input jacks on the receiver; however, if your tape recorder is equipped with R & P (Record and Playback) 5-Pins connector type patch cord, a special jack (connector) is provided on the KR-100 enabling both recording and playback with this single cable.

• TAPE HD

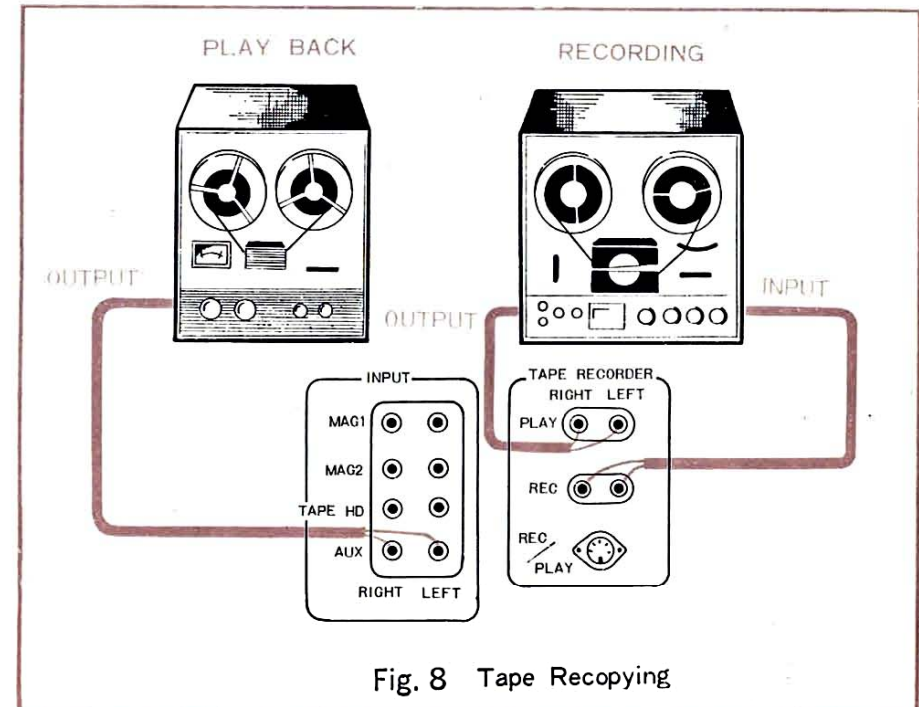
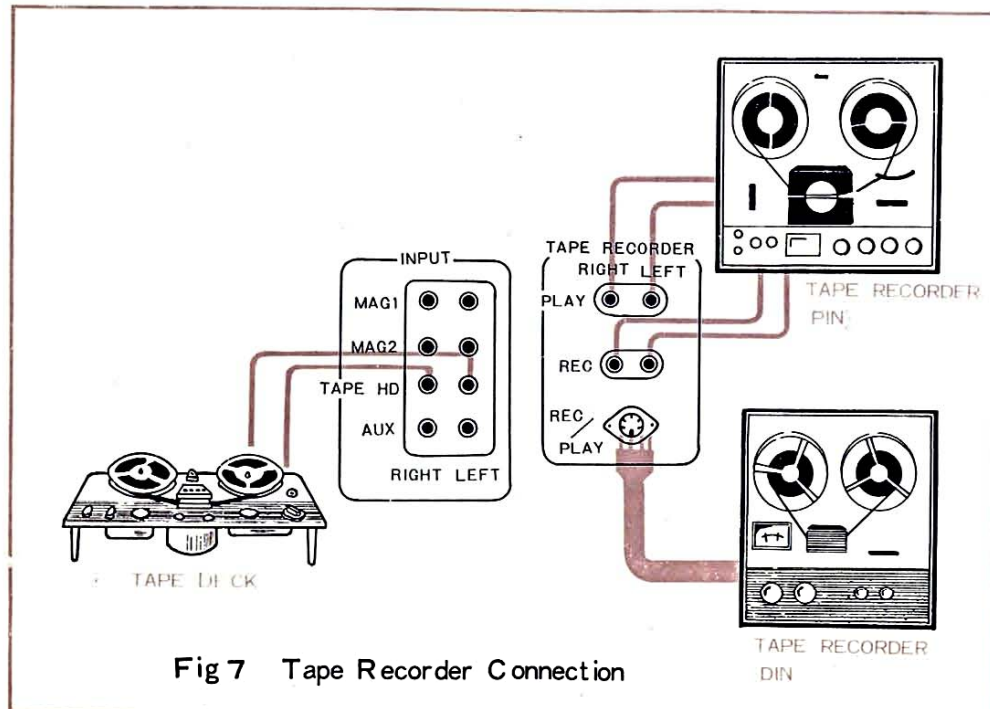
Tape recorder with direct tape head output should be connected to the TAPE HD inputs. As the output voltage of a tape head is very low the cable may pick up hum; therefore the cable should be carefully positioned to eliminate any hum.

• TAPE RECOPYING

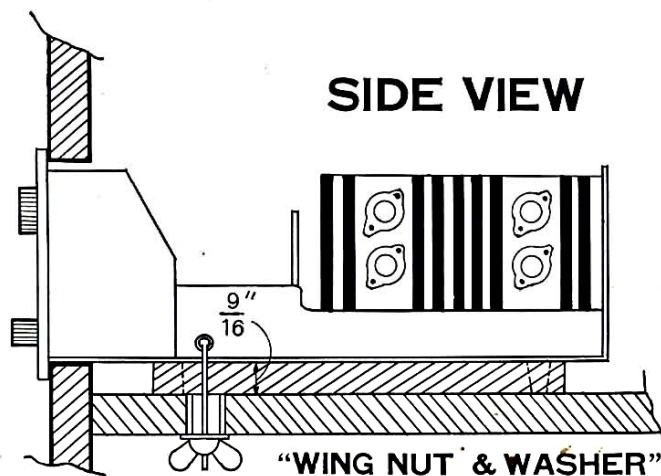
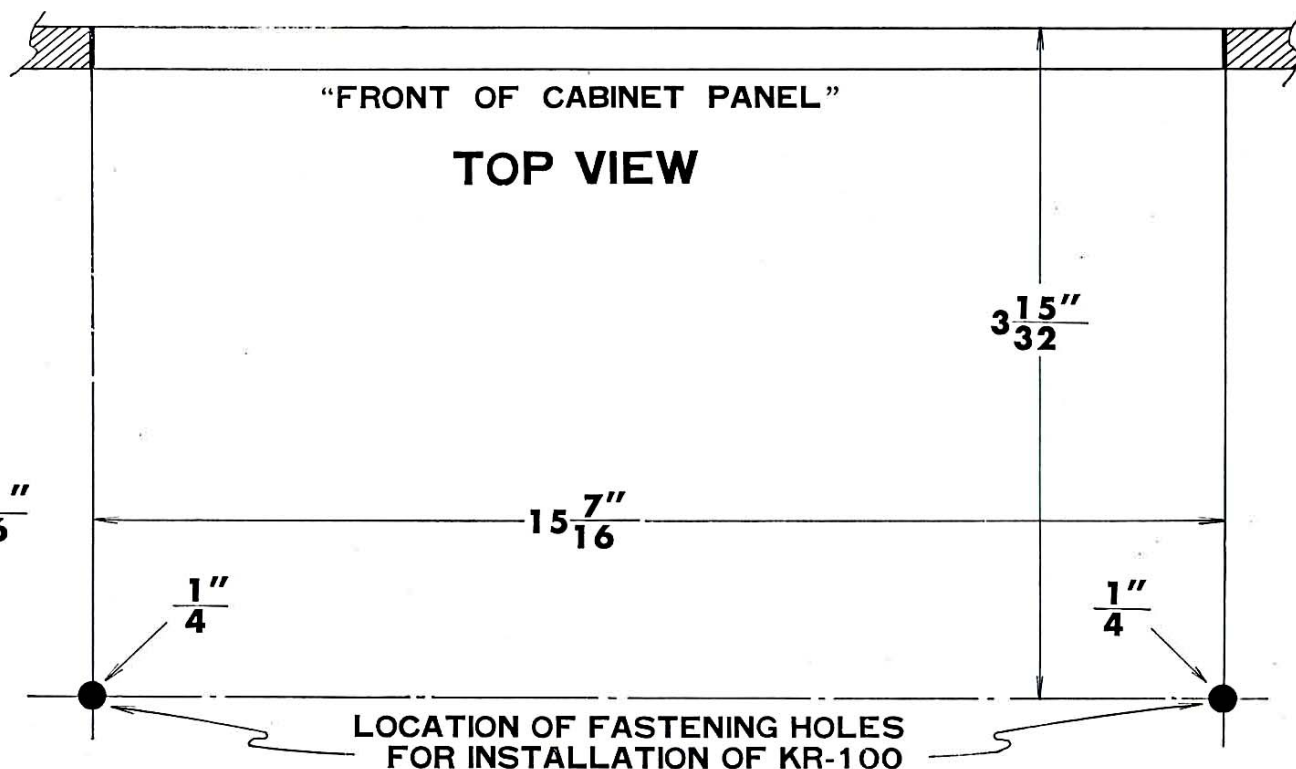
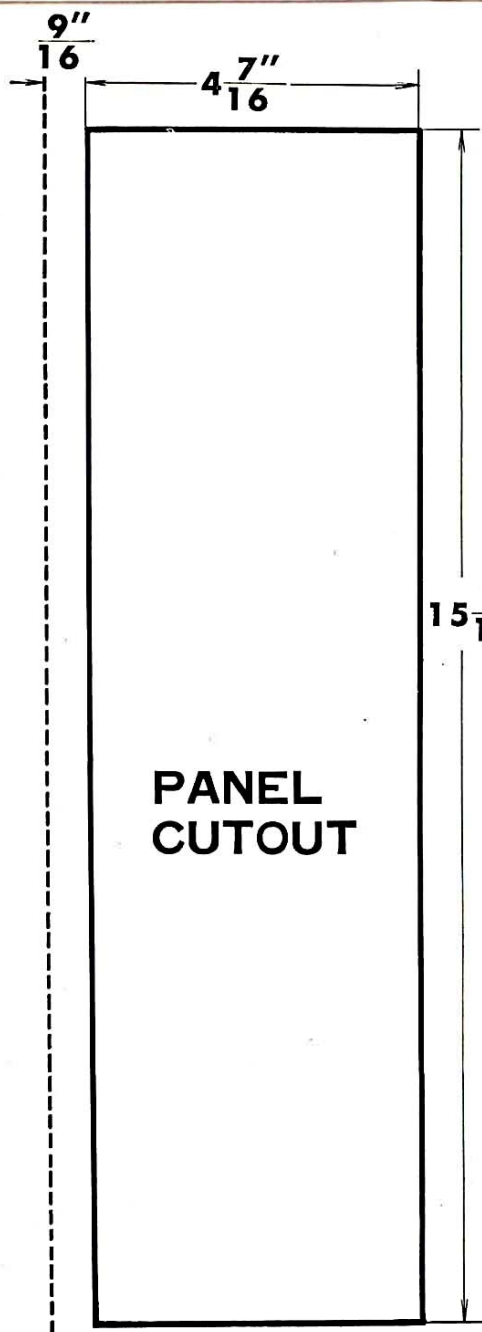
To make a copy of a recorded tape on to another tape, follow the connecting instruction as shown in FIG. 8. Then set Input selector switch at AUX, set TAPE MONITOR switch to "ON" position and operate your equipments simultaneously.

Front Panel Tape Dubbing (Recording) Jack

When dubbing into a new tape from a recorded tape of the Playback Tape Deck (A), insert the Input Jack of the Tape Recorder (B) to be used for recording into the Tape Dubbing Jack on the front panel of the KR-100. The tape monitor switch should be set at "ON" position. (See Figure 9)



MOUNTING TEMPLATE



DIRECTIONS FOR PANEL MOUNTING FOR KR-100

1. Locate the supporting shelf at the height you wish the receiver positioned.
2. Using the full scale "Cutout Template" make a 4-7/16" x 15-7/16" cutout in the cabinet panel. The bottom of the cutout should be flush with the bottom plate of the receiver as shown in the side view. The distance between the bottom of the cutout and the top of the supporting shelf is 9/16.
3. The receiver is held in place by two bolts. The holes must be made in the shelf to correspond with the holes in the receiver. Use the "Top view" template to locate these holes on the supporting shelf. The holes should be made 1/4" in diameter or somewhat larger.
4. Remove the four bottom legs.
5. An air space must be made between the bottom of the set and the supporting shelf to assure good ventilation and cool operations. This spaces can be made by placing two boards which measure 9/16" thick by 1" width between chassis and the supporting shelf.

NOTES

KR-100 Serial No. _____

Owner _____



Manufactured by TRIO ELECTRONICS, INC., TOKYO, JAPAN.