

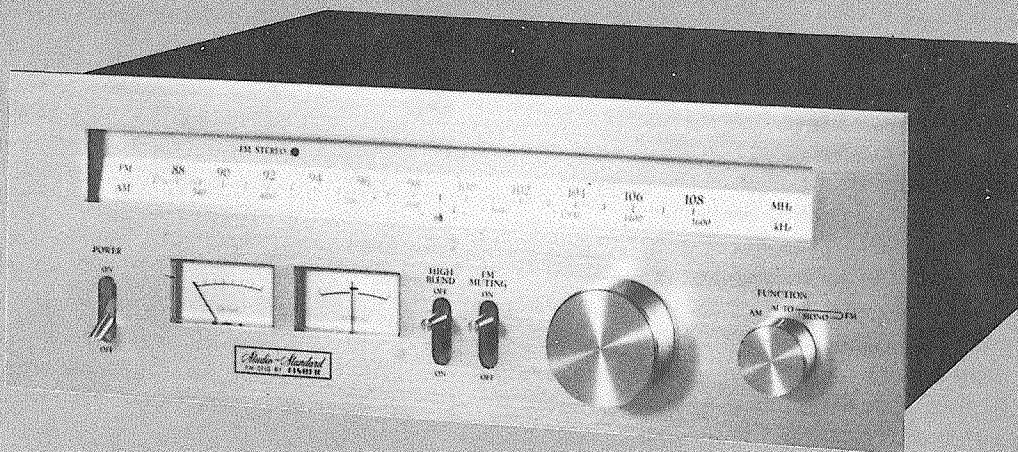
FISHER

FM-2110

Studio-Standard

STEREO TUNER

OPERATING INSTRUCTIONS



THE FIRST NAME IN HIGH FIDELITY

NOTE: Please record here your tuner's serial number (as shown on the rear panel):

INTRODUCTION

This highly advanced tuner was developed by FISHER to give you a means of receiving local or distant FM stations clearly and reliably. Its performance with regard to sensitivity, selectivity, low distortion and noise suppression is outstanding and will thus give many years of enjoyable service.

CONNECTIONS TO REAR TERMINALS

While installation is relatively simple, certain precautions must be observed. PLEASE KEEP IN MIND THAT OUR WARRANTY DOES NOT COVER DAMAGE CAUSED BY MISHANDLING, MISUSE, EXCESSIVE LINE VOLTAGE, OR INSUFFICIENT VENTILATION. We therefore urge you to follow the instructions in this section carefully and in sequence.

CAUTION:

- Do not plug the power cord into an AC outlet until after all connections have been made.
- Be sure to make correct connections, paying attention to the R (right) and L (left) marks. Connect the lead wires securely because loose connections will result in unsatisfactory sound reproduction or cause noise problems.

1. ANTENNA terminals

(1) Connecting FM antenna

Choose an appropriate FM antenna, taking into due consideration the strength of signals to be received and the prevailing conditions for FM reception. (See page 5)

- Dipole antenna
Connect the dipole antenna supplied to the antenna terminals marked FM-300Ω (Fig. 1) or . . .
- Outdoor antenna with 300Ω feeder-line (Fig. 2)
Connect the lead-in to the antenna terminals marked FM-300Ω the same way as the dipole antenna or . . .
- Outdoor antenna with 75Ω coaxial cable
To minimize noise interference from engines of motor vehicles and high-tension power lines, the use of a 75Ω coaxial cable is recommended. Connect it to the FM-75Ω terminals as in Fig. 3.

NOTE:

In weak signal areas, the use of an FM outdoor antenna and 75Ω coaxial cable is necessary for good FM reception. Contact a FISHER dealer for advice.

(2) Outdoor single-wire antenna for AM reception

For the reception of faint AM signals in a remote area or inside a steel-concrete building, the installation of an outdoor single-wire antenna is recommended.

Spread a vinyl-coated wire about 10 m in length as illustrated (Fig. 4). An antenna of this kind will pick up radio waves too faint for the built-in ferrite bar antenna to receive.

A single-wire antenna stretched along an eave of a house will also produce good results. The indoor end of the antenna should be connected to the ANTENNA terminal marked AM.

2. FERRITE BAR ANTENNA

This unit is equipped with a ferrite bar antenna for the reception of AM radio programs. Unless radio signals are too weak, no external antenna is necessary. When listening to AM broadcasts, rotate the receiver for the best reception.

3. GROUND connection

A ground connection should be made to the system amplifier.

4. OUTPUT connection

Connect the output jacks of your tuner to your amplifier's TUNER or AUX input jacks.

5. AC wall outlet

After completing the connections of all system components, make sure that the POWER switch on the front panel of this tuner is set to OFF. Then, plug the power cord into an AC outlet.

6. AC SELECTOR

THIS UNIT FACTORY ADJUSTED FOR YOUR LOCAL AC VOLTAGE AS INDICATED BY AC SELECTOR. TO CONVERT THE UNIT TO 110V OR 220V OPERATION, PROCEED AS FOLLOWS:

- (1) Before arrangement, be sure to remove the power plug from an AC wall outlet.
- (2) Take off the screw of the guide board and slide the switch to its other setting.
- (3) Secure the guide board with other screw after turning it in the opposite direction.

NEVER TO LOOSE SCREW OF GUIDE BOARD AND OTHER SCREW AT SAME TIME.

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

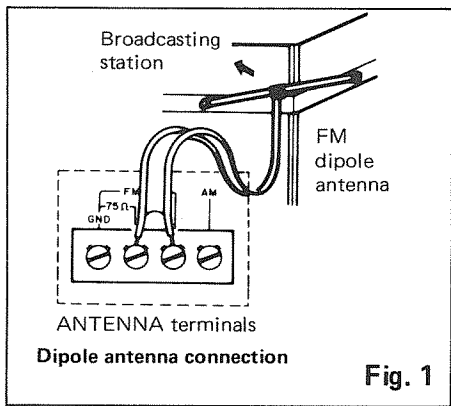


Fig. 1

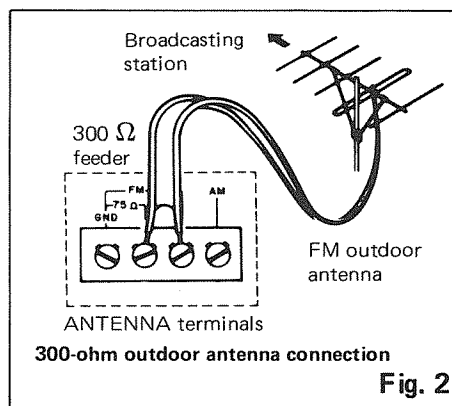


Fig. 2

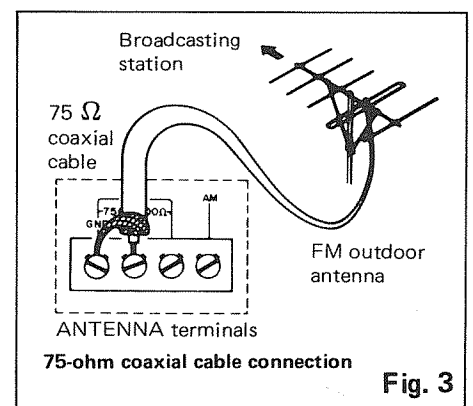
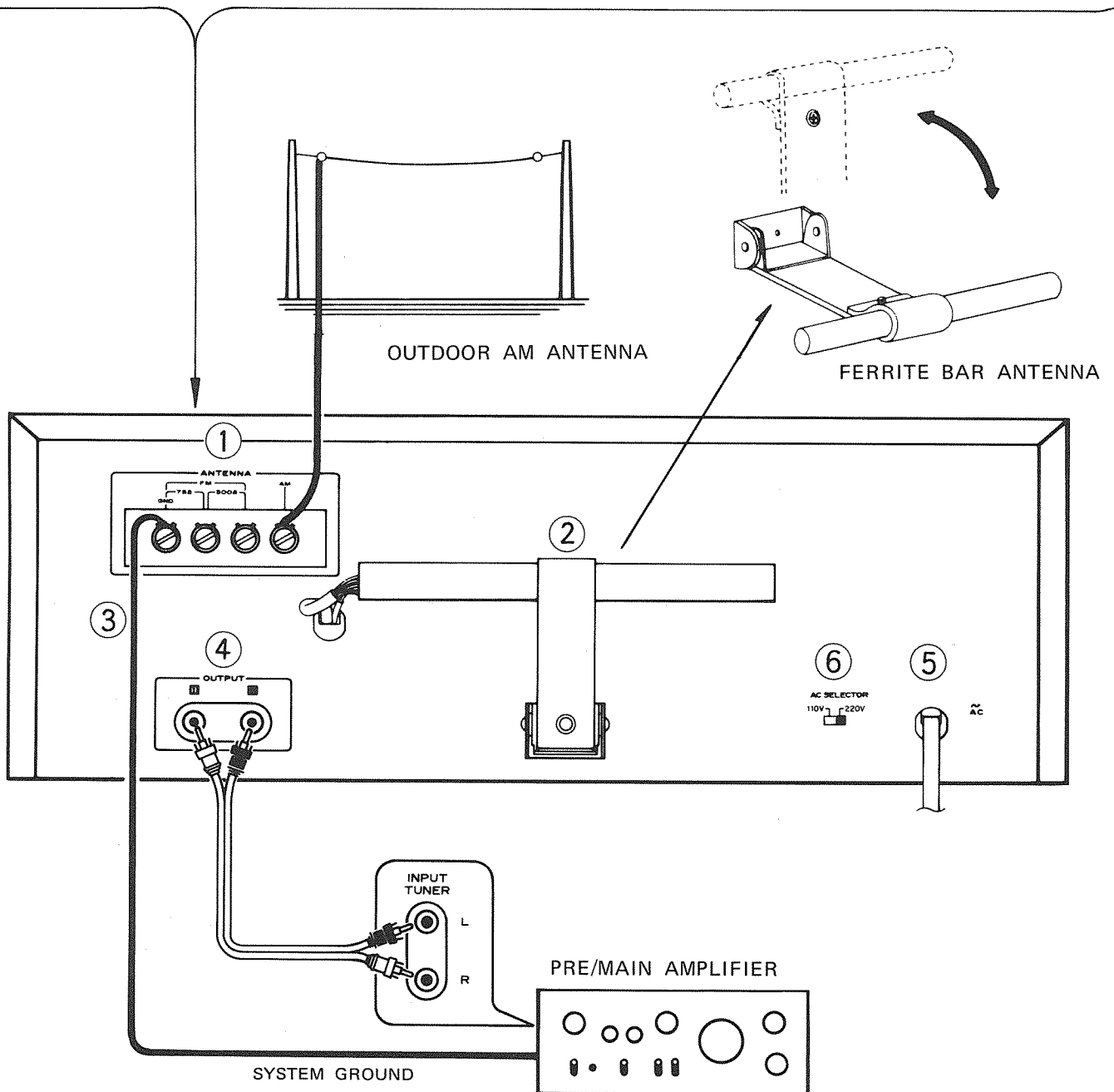


Fig. 3



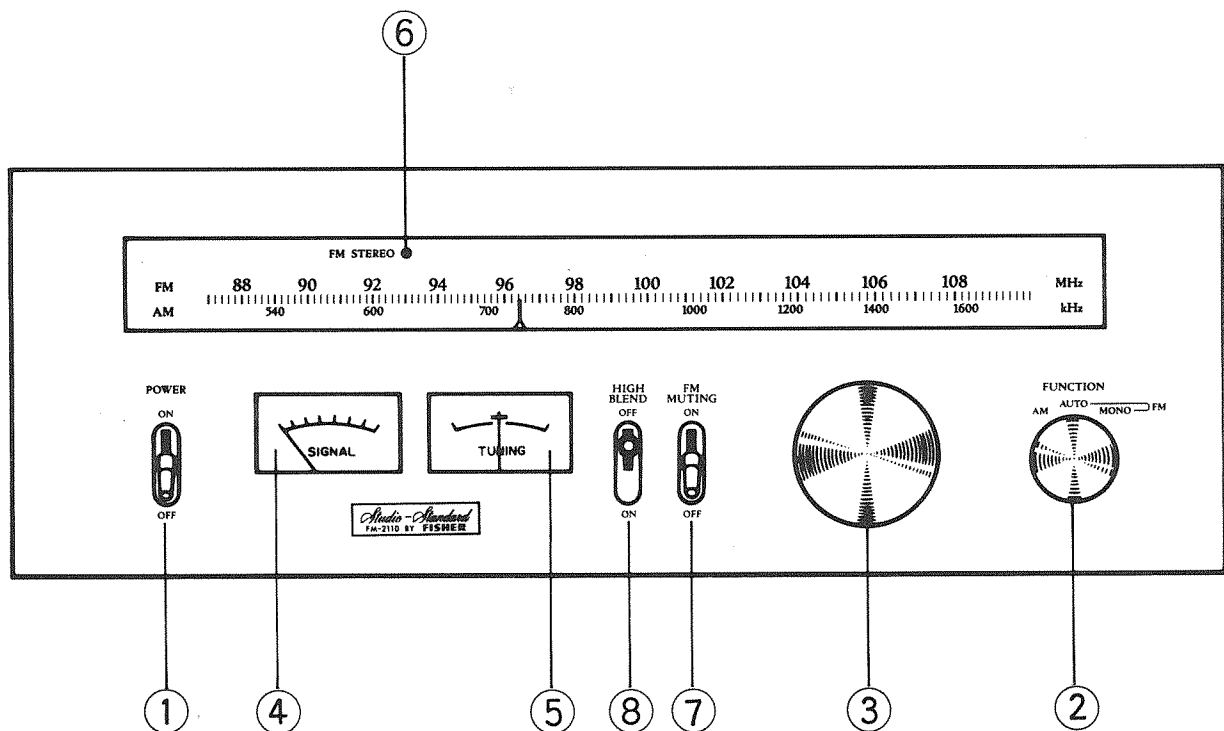
VIEW OF TUNER FRONT PANEL

Fig. 4

HOW TO OPERATE THE FRONT PANEL CONTROLS

This section describes the tuner's controls in the order in which you would normally use them. Follow the instructions in step-by-step sequence and you will find that, in a very short time, you will have mastered complete operation of the unit.

1. **POWER switch**
With this switch set to ON, power is supplied to the tuner. At OFF, power to the tuner is switched OFF.
2. **FUNCTION selector**
FM MONO. . .For listening to FM monaural broadcasts. (In this position of the switch, a stereo broadcast will be reproduced in the monaural mode.)
FM AUTO . . .Tuner will automatically switch to stereo if program material is stereo. (Normally, set the selector to this position.)
AM.For listening to AM broadcasts.
3. **TUNING**
Select a desired FM or AM station by slowly turning this control.
4. **SIGNAL meter**
The SIGNAL meter indicates signal strength while tuning in AM or FM broadcast stations. A higher reading indicates a stronger station.
5. **TUNING meter**
Used for fine tuning control during the reception of FM programs. The tuner is tuned exactly to the station being received, when the needle is in the center of the meter.
6. **FM STEREO indicator**
With the FUNCTION selector in the FM AUTO position, the indicator will light up when an FM stereo broadcast is received. If the indicator does not light during the reception of an FM stereo program, this indicates insufficient signal strength. Flashing of the indicator is due to spurious interference. Neither phenomenon indicates any disorder of the unit.
7. **FM MUTING switch**
To eliminate interstation noise, set this switch to the ON position (normal position).
When receiving a weak signal, set this switch to the OFF position, otherwise, not only interstation noise but also the weak signal itself is muted.
8. **HIGH BLEND switch**
When receiving noisy FM stereo broadcast signals, set this switch to ON.
NOTE:
The HIGH BLEND switch slightly reduces Stereo separation at higher audio frequencies. If this is objectionable be sure to set the HIGH BLEND switch to OFF.



VIEW OF TUNER REAR PANEL

Fig. 5

TROUBLE-SHOOTING GUIDE

If you have followed the instructions in the TERMINALS and CONTROLS sections, and have trouble operating your system, locate the SYMPTOM in the left column below. Check the corresponding POSSIBLE CAUSE and CORRECTIVE ACTION columns to locate and remedy the problem.

OPERATION	SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
* AM & FM	* No sound or dial light when power switch is turned on.	* Poor contact at power outlet.	* Insert the plug firmly into the outlet.
	* No sound at all. (dial light on)	* Selector switch of amplifier is not set to TUNER.	* Set switch to TUNER.
		* TAPE MONITOR switch of amplifier is set to PLAY (or TAPE).	* Set switch to SOURCE.
* AM	* Continuous or intermittent hissing noise, especially at night.	* Noises caused by motor, fluorescent lamp, lightning, television, etc.	* Keep the unit away from noise sources. * Install an AM antenna. * (Noises can only be reduced, but can not be completely removed.)
	* Interference by amateur-radio signals.	* Amateur-radio stations in the neighborhood.	* Consult with official amateur-radio organization or Fisher Service Station.
* FM	* Continuous hissing noise, especially when a stereo broadcast is received.	* Weak signal.	* Install an FM outdoor antenna. * Use 5 to 8 elements in case the broadcasting station is far away.
	* Flickering of stereo indicator lamp.	* Weak signal.	* Install an FM outdoor antenna.

INSTALLATION OF FM ANTENNA

For the best FM sound quality, it is necessary to install an appropriate type of antenna. This should be done in due consideration of the signal strength of the broadcasting station and surrounding conditions.

SELECTION OF FM ANTENNA

1. IN AREAS NEAR FM STATIONS

When FM programs are to be received from broadcasting stations not far away or when there is no significant noise interference from motor vehicles, use the dipole antenna.

NOTE:

Every antenna has a directional characteristic (its sensitivity varies according to its position).

Spread the T-section of the dipole antenna, turn it around in order to determine the best signal-receiving position and then install it.

2. IN AREAS RELATIVELY NEAR FM STATIONS

In case the dipole antenna fails to eliminate noise completely and produce high-quality sound or in case you want to pick up signals from distant stations, install a multi-element antenna outdoors.

NOTE:

Generally, the sensitivity of an FM outdoor antenna corresponds to the number of its elements. This should be the criterion for the selection of an FM antenna.

3. DIRECTIONAL CHARACTERISTICS OF FM OUTDOOR ANTENNA

An increase in the number of elements not only improves the sensitivity of the outdoor FM antenna but enhances its directional characteristics.

This means that such an antenna has to be positioned accurately for the best reception of FM radio waves.

The multi-path phenomenon, however, may present a problem.

MULTI-PATH PHENOMENON

A nearby mountain or a high-rise building reflects FM radio waves, which interfere with the waves coming in directly. Noise and sound distortion caused by this are known as the multi-path phenomenon.

This trouble can be remedied by taking advantage of the directional characteristic of the FM antenna and by using an antenna rotor.

GENERAL REMARKS ON FM ANTENNA FOR OUTDOOR INSTALLATION

Keep the following in mind when installing an FM antenna outdoors.

- (1) Install the antenna away from road traffic and place the antenna as high as possible.
- (2) Determine the antenna position in relation to nearby buildings and trees.
- (3) Keep the antenna away from high-tension power lines.

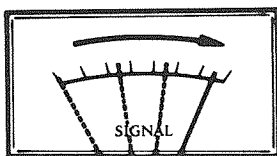
TUNER OPERATION

LISTENING TO FM BROADCASTS

1. Switch on power.
Set POWER switch to ON, after reducing the sound volume on the system amplifier.
2. Set the FUNCTION selector to FM-AUTO.
3. Select an FM broadcasting station by turning the tuning knob.
First, turn the tuning knob until the SIGNAL meter needle swings to the extreme right. (Fig. 6)
4. Next, turn the tuning knob slowly. The tuner will be tuned exactly to the station when the TUNING meter needle comes to the center of the scale. (Fig. 7)
5. Operate the system amplifier controls to obtain the sound volume and tone quality most pleasing to you.

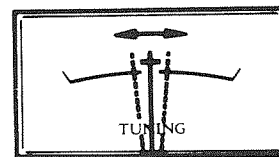
NOTE:

- (1) If there is noise interference while receiving an FM program with the FUNCTION selector set to FM-AUTO, select either the HIGH BLEND switch on or MONO position. At MONO, FM stereo broadcasts will be reproduced in mono but noise will be greatly suppressed.
- (2) Rasping noise during tuning can be eliminated when the FM MUTING switch is set to ON. However, this may mute the sound partially or completely, if signals are weak. Should this be the case, switch off FM MUTING.
- (3) Inappropriate type of antenna or improper antenna installation are frequent causes of poor FM reception. Read carefully the instructions given in the section "Installation of FM Antenna" and check the antenna in use.



Indicates signal intensity.

Fig. 6



Pointer should come with the dotted lines.

Fig. 7

LISTENING TO AM BROADCASTS

1. Set the FUNCTION selector to AM.
2. Tune in the AM station you want to listen to by tuning the TUNING knob.
The SIGNAL meter needle swings to the extreme right when the station is tuned in precisely. (Fig. 6)
3. Adjust the system amplifier controls to obtain the desired sound volume and tone quality.

NOTE:

Humming noise during AM broadcast reception may be caused by the AC line. This problem can be remedied by taking the following measures:

- (1) Position the power cord away from the antenna line and the ferrite bar antenna.
- (2) Unplug the power cord, reverse the position of the prongs and plug it in again.
- (3) Adjust the position of the ferrite bar antenna.

FOR OPERATIONAL SAFETY

1. PLACE FOR INSTALLATION

For safe operation and satisfactory performance of the tuner, keep the following in mind when selecting a place for its installation.

- (1) Shelter it from direct sunlight and keep it away from a source of intense heat.
- (2) Avoid a dusty and humid place.
- (3) Avoid a place where there is not enough ventilation for heat dissipation.
- (4) Install it on a steady support, as vibration is detrimental.

2. WHEN HANDLING POWER CORD

- (1) Do not handle the power cord with a wet hand.
- (2) Do not pull on the power cord when disconnecting it from an AC wall outlet. Hold it at the plug.

3. PREVENTION OF ELECTRIC SHOCKS AND FIRE HAZARDS

If, by accident, water is spilled on the tuner, unplug the power cord immediately and bring the unit to a FISHER dealer or service center for servicing. Wet insulation may cause electric shocks and fire hazards.

4. CLEANING

Wipe the front panel and other exterior surfaces of the tuner clean with a soft, dry cloth.

Stains should be removed by wiping its surfaces with a soft cloth immersed in lukewarm water and wrung dry.

Never use solvent or alcohol. Do not spray insecticide liquid near the tuner. Such chemicals may cause surface discoloration and cracking.

5. SERVICING

If the tuner has developed trouble, do not attempt to correct it yourself. Switch off power, unplug the power cord, and have it serviced by FISHER-authorized personnel.

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