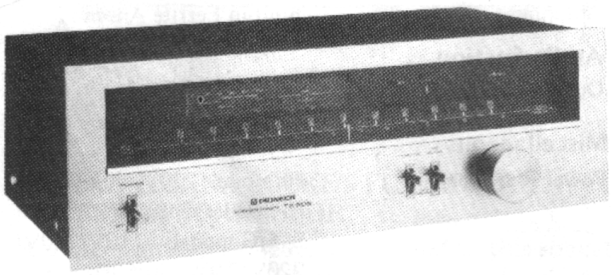
TX-608

S, S/G
HE , HP

OPERATING INSTRUCTIONS



CONTENTS

The specifications of this model differ according to the shipment destination.

- For Australia ('HP' stamped on packing case): Power line voltage is 240 volts.
- For mainland Europe ('HE' stamped on packing case): Power line voltage is 220 volts.
- For destinations excluding above ('S', 'S/G' stamped on packing case): A 4-point (110V/120V/220V/240V) voltage selector switch is provided on the rear panel, and an FM DE-EMPHASIS selector is provided on the rear panel.

NOTE:
Models for the Australia ('HP') and mainland Europe ('HE') have their power line voltages set in accordance with their destination before they are shipped from the factory. The voltage which has thus been set is indicated on the rear panel of the main unit.
Before switching on the power, make absolutely sure that the voltage tallies with the value used in your area. If it does not tally or if you move to another area with a different voltage (such from 220V to 240V or vice versa), get in touch with your nearest authorized Pioneer Service Center or Service Station or, alternatively, call for a qualified electrician to set the voltage properly.

IMPORTANT

To prevent electric shock, do not remove cover. No user serviceable parts inside, refer servicing to qualified service personnel.
Always disconnect all the equipment from the mains supply when disconnecting the signal leads. The power cord should be connected last, make sure that the power switch is off.
Unplug the set from the wall socket when it is not to be used for an extended period of time.

FOR USE IN UNITED KINGDOM AND AUSTRALIA

CAUTION 240V: Mains supply voltage is factory adjusted at 240V.

FOR USE IN UNITED KINGDOM

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

Blue:	*Neutral*
Brown:	*Live*

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

SPECIFICATIONS

Semiconductors

ICs	3
FET	1
Transistors	8
Diodes	15

FM Section

Usable Sensitivity	MONO;	10.8dBf (1.9μV)
50dB Quieting Sensitivity	MONO;	15dBf (3.1μV)
	STEREO;	38dBf (43.5μV)
Sensitivity (DIN)	MONO; 1.5μV	
	STEREO; 50μV	
Signal-to-Noise Ratio at 65dBf	MONO;	80dB
	STEREO;	74dB
Signal-to-Noise Ratio (DIN)	MONO; 76dB (unweighted)	
	STEREO; 66dB (unweighted)	
Distortion at 65dBf	MONO; 100Hz	0.1%
	1kHz	0.1%
	6kHz	0.15%
	STEREO; 100Hz	0.2%
	1kHz	0.2%
	6kHz	0.25%
Capture Ratio	1.0dB	
Alternate Channel Selectivity	60dB	
Stereo Separation	1kHz;	40dB
	30Hz to 15kHz;	35dB
Frequency Response	20Hz to 15kHz $^{+0.5}_{-1.0}$ dB	
Spurious Response Ratio	70dB	
Image Response Ratio	60dB	
IF Response Ratio	80dB	
AM Suppression Ratio	55dB	
Subcarrier Product Ratio	50dB	
Muting Threshold	17.2dBf (4.0μV)	
SCA Rejection Ratio	50dB	
De-Emphasis Switch (S, S/G models)	25μs - 50μs - 75μs	
Antenna Input	300ohms balanced	
	75ohms unbalanced	

AM Section

Sensitivity	
IHF, ferrite antenna	300μV/m
IHF, external antenna	15μV
Selectivity	35dB
Signal-to-Noise Ratio	50dB
Image Response Ratio	40dB
IF Response Ratio	70dB
Antenna	Built-in Ferrite Antenna

Audio Section

Output Level	650mV/4.3kΩ

Miscellaneous

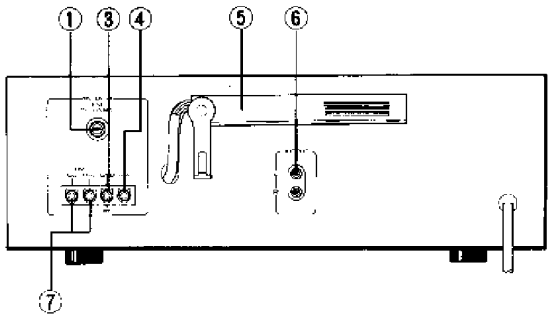
Power Requirements	HEmodel; 220V, 50/60Hz HP model; 240V, 50/60Hz S, S/G models ; 110V/120V/ 220V/240V, 50/60Hz
Power Consumption	14W
Dimensions	420(W) x 150(H) x 284(D) mm 16-9/16(W) x 5-7/8(H) x 11-3/16(D) in
Weight (Without Package)	HE, HP models; 5.1 kg (11 lb 4 oz) S, S/G models; 5.2 kg (11 lb 7 oz)

Furnished Parts

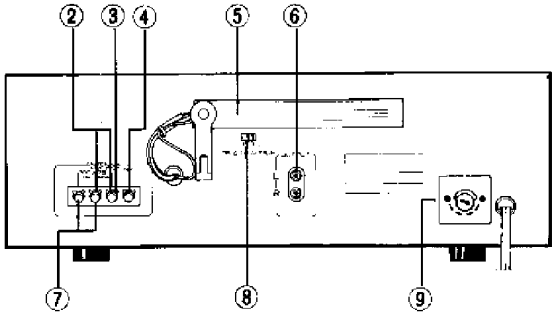
FM T-type Antenna	1
Connection Cord with Pin Plugs	1
Operating Instructions	1

NOTE:
Specifications and the design subject to possible modification without notice due to improvements.

REAR PANEL FACILITIES



TX-608/HE, HP models



TX-608/S, S/G models

① FM ANTENNA SOCKET FOR AERIAL FEEDER CONNECTOR

Connect an aerial feeder connector to this socket when using 75-ohm coaxial cable as the feeder from the FM antenna.

② FM ANTENNA INPUT TERMINALS FOR 75-OHM COAXIAL CABLE

Connect a 75-ohm coaxial cable to these terminals when using it as the feeder from the FM antenna. Refer to Fig. 1 on page 5.

③ GND TERMINAL

This is the ground terminal. From aspects of both safety and reduced noise, connect a ground lead to this terminal. Refer to Fig. 3 on page 5.

④ AM ANTENNA INPUT TERMINAL

When using an external AM antenna, connect it to this terminal.

⑤ AM BAR ANTENNA

This antenna is for AM broadcasts. When tuning in an AM station, first use the tuning knob for fine tuning and then move this bar antenna and set it where the optimum reception is obtained.

⑥ OUTPUT TERMINALS

Connect these terminals with the tuner input terminals on your stereo amplifier. L indicates left channel and R right channel. Use the accessory connecting cords and plug them firmly into the input terminals of the stereo amplifier.

⑦ FM ANTENNA INPUT TERMINALS FOR 300-OHM TWINLEAD FEEDER

Connect a 300-ohm twinlead feeder to these terminals when using it as the feeder from the FM antenna. Use these terminals when connecting the accessory T-type FM antenna.

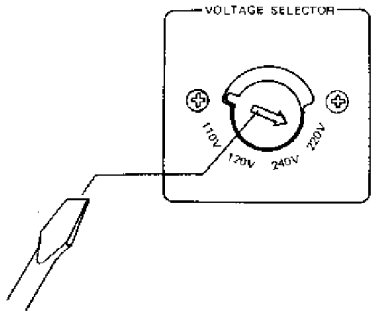
⑧ FM DE-EMPHASIS SWITCH

This switch is used to select the de-emphasis value. Before the tuner leaves the manufacturing plant, it is set to the de-emphasis of the tuner's destination. For the United States and Canada, it is set to 75μs, and for other countries to 25μs. Check that the switch is set properly before use. If the switch is set to the wrong position, the high-frequency range sound will appear distorted during the reception of an FM broadcast. Contact your dealer and inquire if you are not sure about the de-emphasis in your area.

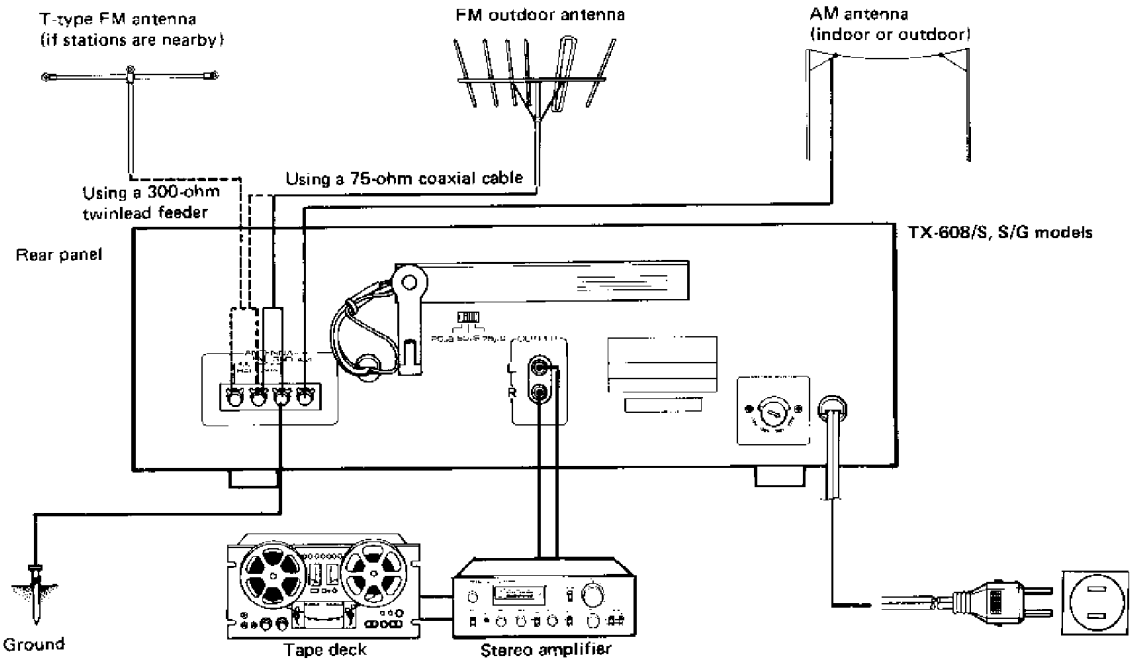
⑨ LINE VOLTAGE SELECTOR SWITCH (S, S/G models only)

Check that the indication of the switch is same as your residence before plugging the power cord into the outlet. If it isn't or if you move to an area where the voltage requirements differ, change the switch setting as follows.

1. Disconnect the power cord.
2. Prepare a medium size screwdriver.
3. Insert the screwdriver into the arrow on the voltage selector and adjust so that the tip of the arrow points to the voltage value of your area.



CONNECTION DIAGRAM



ANTENNA AND GROUND CONNECTIONS

FM ANTENNAS

There are two methods you can use when connecting the FM antenna to the antenna input terminals: you can use a 300-ohm twinlead feeder or a 75-ohm coaxial cable.

Pioneer recommends the 75-ohm coaxial cable (RG59U, etc.) if you want your tuner to display its capabilities to the full. The coaxial cable is more effective than the twinlead feeder in safeguarding against external interference noise from impairing the sound quality. In other words, twinlead feeders are liable to pick up external noise, and this is why they are not recommended.

CONNECTIONS USING A 75-OHM COAXIAL CABLE

Refer to Fig. 1 and follow the procedure. Prepare the tip of the coaxial cable and connect it to the antenna input terminals (75Ω-UNBAL).

CONNECTIONS USING A 300-OHM TWINLEAD FEEDER

In cases where it is only possible to use a twinlead feeder with a community receiving system antenna, refer to Fig. 1 and follow the procedure. Prepare the ends of the twinlead feeder and attach them to the 300Ω-BAL antenna input terminals. Then make the twinlead feeder as short as possible but do not bundle the wires or run them loose on the floor.

ACCESSORY T-TYPE ANTENNA

This antenna is designed to allow you to receive FM programs in areas where strong signals are beamed by broadcasting stations until you install your FM antenna. As shown in Fig. 1, attach the antenna to the 300Ω-BAL antenna input terminals and then tune into an FM station, following the instructions listed under "LISTENING TO BROADCASTS" on page 7. Extend both ends of the antenna horizontally, locate the optimum receiving location by moving the antenna to the left or right, or up or down, and then secure it to the ceiling or wall.

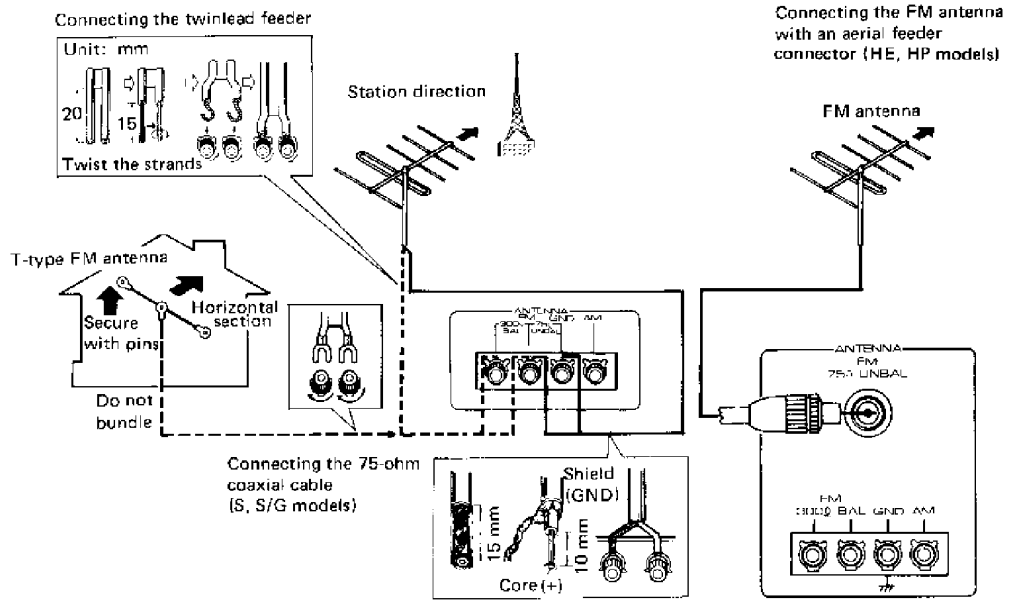


Fig. 1

AM ANTENNAS

While listening to AM stations (see AM RECEPTION on page 7), move the rear panel ferrite bar antenna and position it for best reception.

- Select the desired AM station, and move the bar antenna around in every direction and then set it at the position where the best reception is obtained (Fig. 2).
- In cases when the bar antenna is insufficient for adequate reception, an indoor AM antenna can be made from a length (5 to 6 meters) of vinyl insulated wire as shown in Fig. 3, connect one end of the wire to the AM antenna terminal and suspend the free end from an wall or ceiling at as high a location as possible.
- If reception is still difficult with an indoor antenna, use vinyl insulated wire to erect an outdoor AM antenna between two supports as shown in Fig. 3.

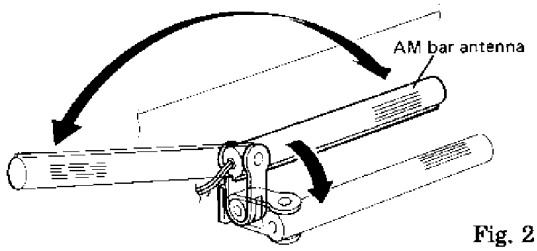


Fig. 2

GROUNDING

From the viewpoint of both safety and reduced noise, Pioneer recommends that you employ a ground as shown in Fig. 3. Connect the ground lead to the GND terminal of the tuner. Never connect it to a gas pipe or other dangerous location.

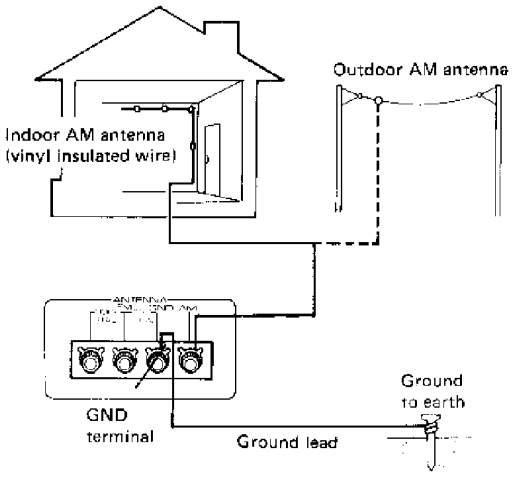
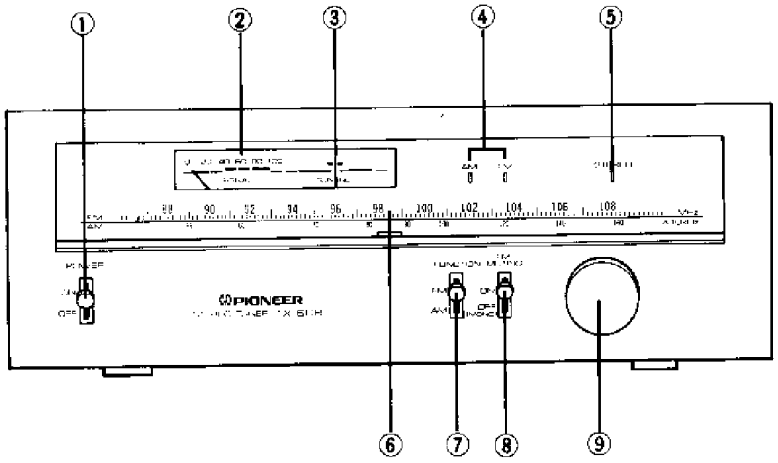


Fig. 3

FRONT PANEL FACILITIES



① POWER SWITCH

Set this switch to ON to supply power to the tuner.

② SIGNAL METER

This meter indicates the antenna input level of the AM and FM broadcasting waves. The higher the input level, the more the meter deflects toward right. When selecting the desired station, find the position of the tuning knob which effects the maximum deflection of the meter pointer. When selecting an FM station, also observe the tuning meter to determine the optimum tuning point.

③ TUNING METER

This meter indicates the optimum tuning point irrespective of the field strength when selecting an FM station. With no signal, the pointer remains at the center; as a signal is tuned in, it deflects to the right or left; when the signal is tuned in accurately, the pointer will correctly move to the center of the scale. If the tuning knob is adjusted further, the pointer deflects to the right or left; as the signal moves off completely, the pointer returns to the center position again.

④ FUNCTION INDICATORS

These indicators light up during an FM or AM reception, respectively.

⑤ FM STEREO INDICATOR

This indicator lights up when the tuner is receiving a stereo program if the FM muting/mode switch is set to ON.

⑥ DIAL POINTER

This pointer indicates the broadcasting stations.

⑦ FUNCTION SWITCH

This switch is used to select the type of broadcasting waves.

FM ..... For reception of FM broadcasting
AM ..... For reception of AM broadcasting

⑧ FM MUTING/MODE SWITCH

When this switch is set to ON, unpleasant interstation noise is eliminated, which makes selection of stations easier. However, if the muting switch is set to ON in areas where the field strength is extremely weak, the station being received may also disappear. In such areas, therefore, the muting switch should be turned OFF (MONO). When this switch is set to OFF (MONO), monaural reception will be obtained even though the station is broadcasting a stereo program.

⑨ TUNING KNOB

This knob is used for selecting station. When selecting an AM station, observe the signal meter, and when selecting an FM station, observe both the signal meter and the tuning meter.

LISTENING TO BROADCASTS

FM RECEPTION

1. Set the power switch to ON.
2. Set the function switch to FM.
3. Set the FM muting/mode switch to ON.
4. Turn the tuning knob to select the desired station. Operate the tuning knob so that the signal meter pointer deflects toward the far right and also the tuning meter will indicate the center of the scale as shown in Fig. 4.
   When a stereo program is being received, the stereo indicator comes on; if a monaural program is being received, this indicator will remain off.

NOTE:
If accurate tuning cannot be obtained even through the signal meter is deflecting, set the FM muting/mode switch to OFF (MONO), and begin the tuning process again.

Fig. 4

AM RECEPTION

1. Set the power switch to ON.
2. Set the function switch to AM.
3. Select the desired station by adjusting the tuning knob. The signal meter pointer will strongly deflect toward the right when accurate tuning is obtained, as shown in Fig. 5.

Fig. 5

FM DOLBY BROADCASTS (S, S/G models only)

The FM de-emphasis switch is provided to allow reception of FM-Dolby broadcasts in locations where these programs are being transmitted. A separately sold adaptor must be connected to the stereo amplifier in this case, then proceed according to the following steps:

1. As shown in Fig. 6, connect the Dolby NR adaptor to the tape (record & play) jacks of the stereo amplifier.
2. Set the rear panel FM de-emphasis selector switch to 25μs.
3. Set the tape monitor switch of the stereo amplifier to ON.
4. Set the function switch to the FM position and use the tuning knob to tune in to an FM-Dolby broadcast. Tuning is performed in the same manner as described in "FM RECEPTION".
5. Operate the adaptor and set for reception. Adjust the volume and tone with the controls of the stereo amplifier.

NOTES:
- *Refer to the Dolby NR adaptor operating instructions regarding connection and operation.*
- *When not listening to FM-Dolby broadcasts, be sure to set the FM de-emphasis selector switch to other position.*

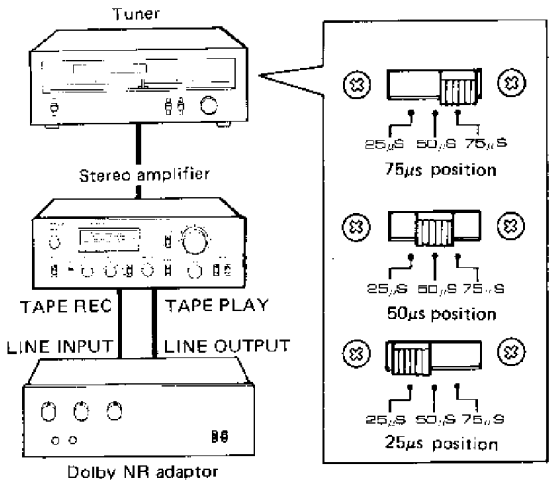


Fig. 6

*The word "Dolby" is a trademark of Dolby Laboratories Inc.

CONDITIONS FREQUENTLY MISTAKEN FOR MALFUNCTIONS

If the TX608 is not displaying its usual tip-top performance on account of the poor sound level or a great deal of noise, check the points listed below:

- Sound is not heard: Check the connections and operation procedure again, referring to the "Operating Instructions."
- Great deal of noise: Referring to the table below, diagnose and remedy the symptoms.

If you find it difficult to analyze the source of the noise, get in touch with your nearest Pioneer After-Service Center or Service Station.

SYMPTOM	SUSPECTED SOURCE OF NOISE	DIAGNOSIS AND REMEDY
When you start to receive a broadcast, there is a continuous or intermittent noise like "jjjjj" or "zzzzz".	• Static or lightning. • Fluorescent lamp, motor or electrical appliance with thermostat may be in use in or near the house.	If it is often very difficult to remove the cause of the noise. However, in order to raise the level of the input signals above the noise level, set up a good FM antenna outside and make a complete grounding.
Sound is distorted and separation is downgraded even though the broadcasting station is nearby.	• There may be a TV/FM community antenna in use in the building. This is causing mismatching in the antenna input. • The radio signals are too strong. • The radio signals are being multipath-reflected.	Check the distributor and attain the correct matching. Insert an attenuator into the antenna. Vary the location and direction of the antenna to find where there is least distortion.
When you start to receive broadcasts, there is a humming sound or a "zzzzz."	• Ignition noise generated from automobile engines. • A high-frequency sewing machine or welding set is being used in the vicinity.	In an area surrounded by hills, mountains or high buildings or in an area which is distant from the broadcasting station, the FM input signals will be weak and so the tuner's built-in noise control circuit (limiter) will not work and the noise will increase. Stop using the simple antenna and set up an FM outdoor antenna having a great many director elements.
The amount of noise is higher when listening to an FM stereo program than when listening to a mono broadcast.	• This is because with FM stereo broadcasts the service area is about half that of ordinary mono broadcasts.	In order to increase the antenna input of the radio signals, erect an exclusive FM outdoor antenna when listening with the indoor T-type antenna.

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