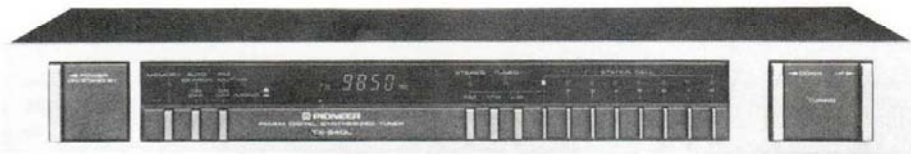


Operating Instructions

FM/MW/LW Digital Synthesized Tuner

TX-940L



Thank you for buying this Pioneer product.

Please read through these operating instructions and then you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

These operating instructions are based on the model HE, and they can be used for the HB model. The differences between the models are given below.

HE model:

For Europe ('HE' stamped on packing case): power line voltage is a.c. 220 volts~.

HB model:

For U.K. ('HB' stamped on packing case): power line voltage is a.c. 240 volts~.

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

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:

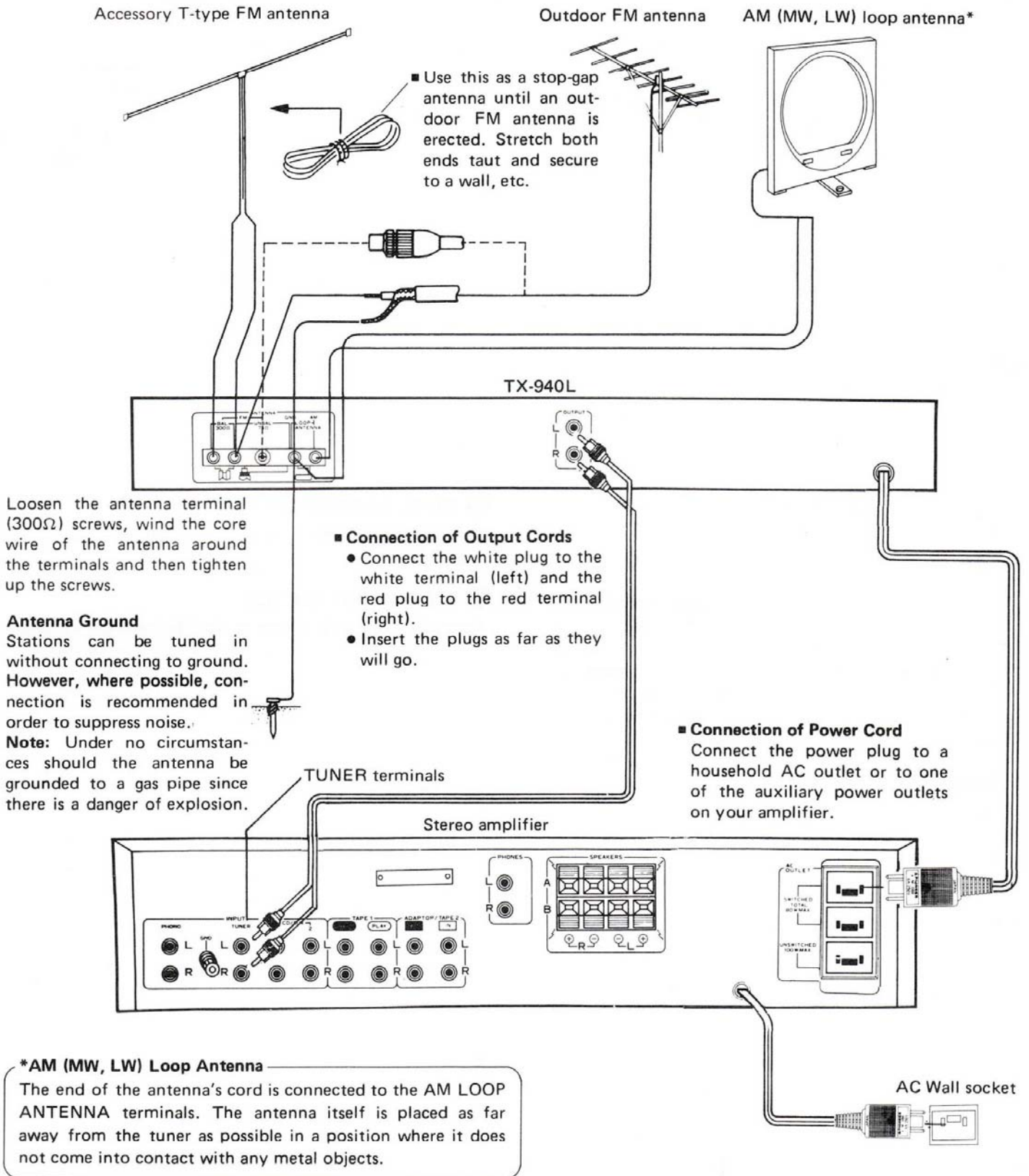
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

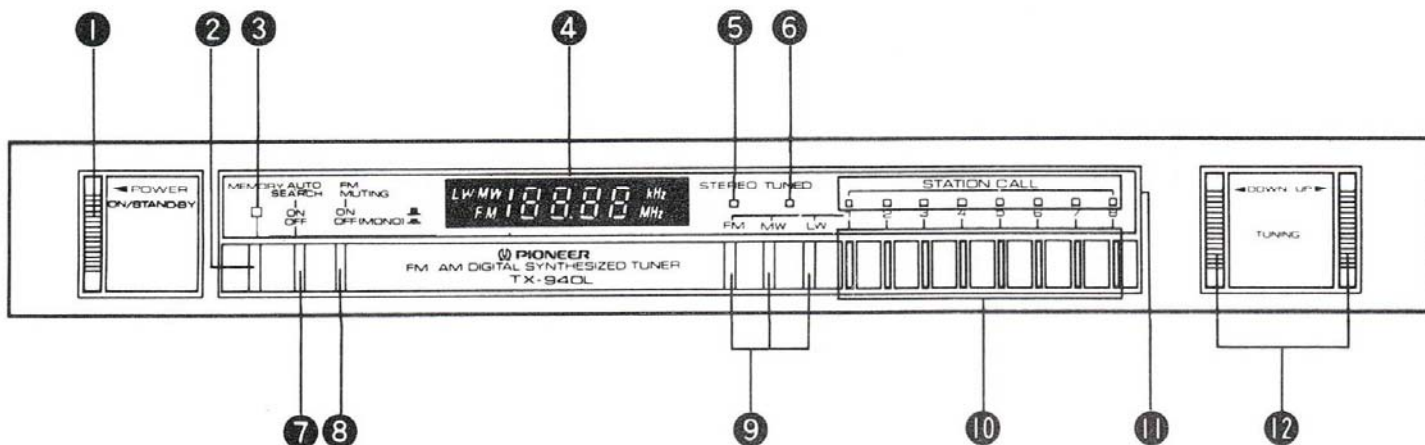
CONNECTIONS

Be sure to connect the antennas!

- Refer to "HINTS FOR BETTER RECEPTION" on page 10 for the connection of the FM antenna and AM outdoor antenna.



FRONT PANEL FACILITIES



① POWER SWITCH (POWER)

When this switch is set to the ON position, power is supplied to the tuner's main circuits. The unit's power switch is geared to selecting the transformer's secondary and so even at the STAND-BY position, the unit's circuitry will work as long as the power cord is connected to the power outlet. Disconnect the power cord from the AC power outlet when the unit is not in regular use.

② MEMORY SWITCH

This switch is pressed when presetting the frequency of a broadcast station into one of the STATION CALL switches. Once the station has been preset (or memorized), all you have to do in order to tune in that station is simply press the STATION CALL switch. In other words, there is no need to tune in the same station again every time you want to listen to a program using the tuning switches.

③ MEMORY INDICATOR

This lights when the MEMORY switch is pressed. A station can be preset into one of the STATION CALL switches while this indicator is lighted.

Refer to page 8 for the presetting stations procedure.

④ FREQUENCY DISPLAY

This indicates the frequency of the station which has been picked up. The frequency is displayed in MHz units for the FM band and in kHz units for the MW/LW bands.

⑤ STEREO INDICATOR

This lights when an FM stereo station has been picked up.

⑥ TUNED INDICATOR

This lights when a station is picked up. Operate the TUNING switches so that this indicator lights. It will not light, however, if a station's signals are too weak, even if the frequency of that station has been tuned in properly.

⑦ AUTO SEARCH SWITCH

This is used to select the tuning mode: auto search or manual search.

⑧ FM MUTING SWITCH

Normally this switch is kept at the ON (released) position. When an FM station is picked up, the muting circuit is activated, the inter-station noise is suppressed and the tuning operation itself is made more pleasant. When the desired station cannot be received with this switch at ON (for instance, when the station is too distant and its signals are weak or when noise drowns out stereo reception), depress the switch to the OFF (MONO) position.

⑨ BAND SELECTOR SWITCHES

FM : Press this for FM reception.

MW : Press this for MW reception.

LW : Press this for LW reception.

10 STATION CALL SWITCHES

These switches are pressed when presetting broadcast stations and also when recalling preset stations. Each switch can accommodate an FM station and an MW/LW station since there are 8 switches in all, a total of 16 stations can be preset.

11 STATION CALL INDICATORS

When any of the STATION CALL switches 1 through 8 is pressed, the corresponding indicator above the switch lights to indicate that a station is preset.

12 TUNING SWITCHES

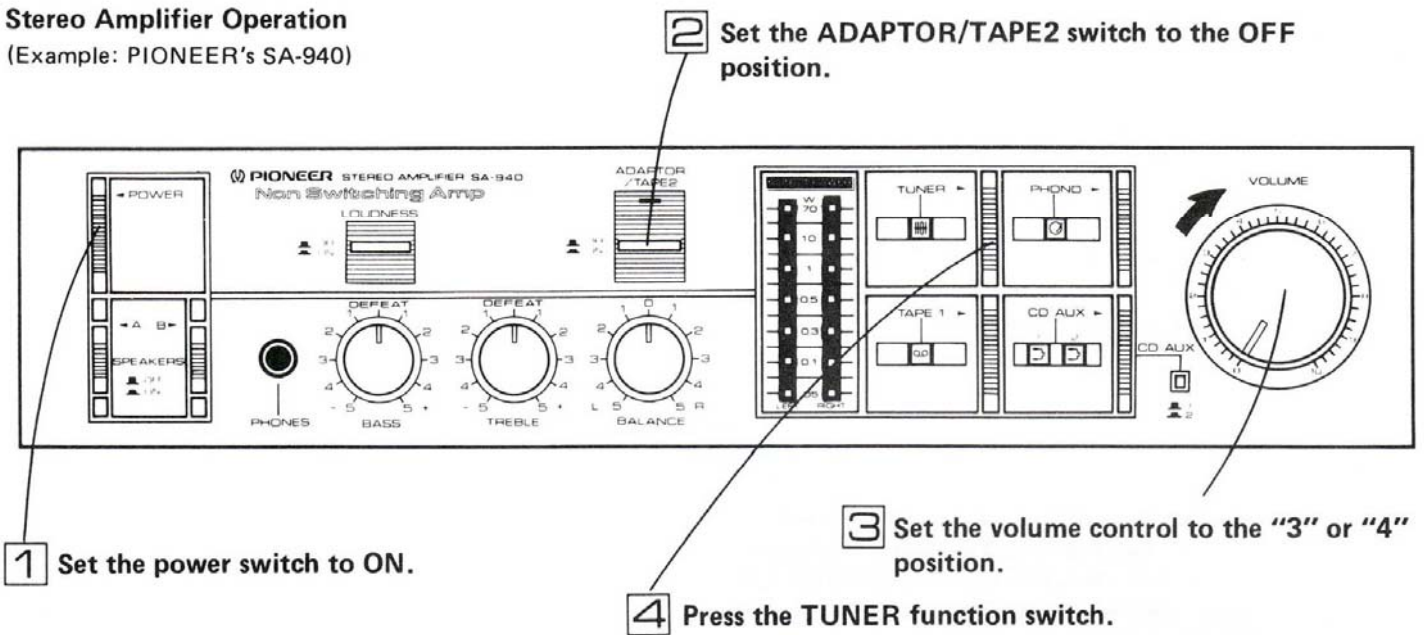
These are used for tuning in stations. Press the UP switch to tune in a station with a frequency higher than that displayed; press the DOWN switch to tune in a station with a frequency lower than that displayed. The frequency changes in 50kHz steps for FM reception and in 9kHz steps for MW/LW reception. The frequency will change continuously when the TUNING switches are kept in the depressed position.

CAUTION WITH AUTO-SEARCH:

- Since this is a highly sensitive mechanism, the frequency search operation may stop even with weak foreign broadcasts, particularly at night. Also, frequency noise in large cities may also cause the search operation to stop.
- When using Auto-Search to preset AM stations, if the frequency search operation stops too frequently, changing the position of the AM loop antenna may be of help in reducing its sensitivity so that only powerful, nearby stations are received. After tuning in the station, be sure to reposition the antenna to its best position for reception.
- For very weak stations, use the manual tuning mode to preset stations.

TUNING

Stereo Amplifier Operation (Example: PIONEER's SA-940)



NOTE:
Refer to the Operating Instructions of your stereo amplifier.

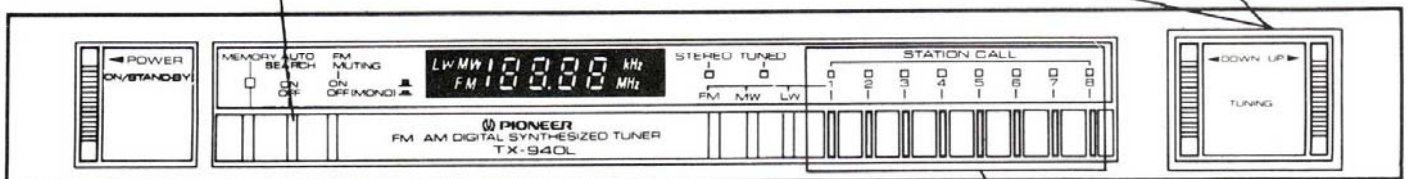
3 TUNING METHODS

AUTO SEARCH

The electronic tuning circuit inside the unit automatically searches for the station. When the AUTO SEARCH switch is released to the ON position and the TUNING switches are pressed, the frequency advances but stops as soon as a station is reached, and the TUNING indicator lights. The frequency will not stop advancing if it comes across a station with weak signals. To tune in such a station, use the manual tuning method.

MANUAL TUNING

This method operates in the same way as the conventional tuning knob. Push the UP or DOWN TUNING switch to locate the desired station. The frequency will change continuously if the switch is kept in the depressed position.



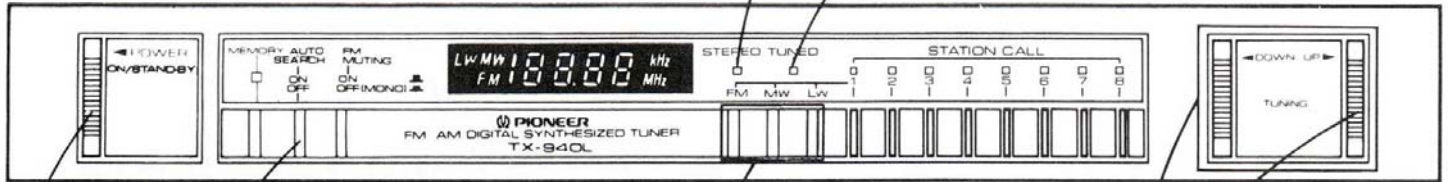
PRESET TUNING

Once stations have been preset into the STATION CALL switches, they can be recalled immediately by pressing the STATION CALL switches. See page 8 for details on the presetting operation.

TUNING (IN AUTO SEARCH MODE)

This lights when a stereo station has been received.

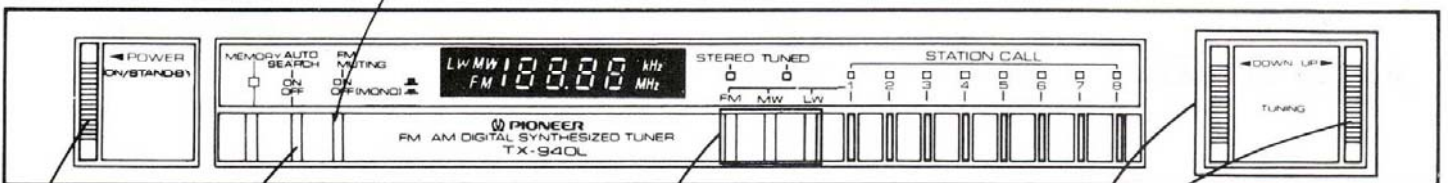
When the tuning mode is set to auto search, the frequency search operation stops and the TUNED indicator lights.



- 1 Press the **POWER** switch
- 2 Release the **AUTO SEARCH** switch to the **ON** position (to set the unit to the **AUTO SEARCH** mode).
- 3 Select the broadcast band, **MW, LW** or **FM**.
- 4 Press the **UP** or **DOWN TUNING** switch.

TUNING (IN MANUAL MODE)

FM MUTING switch



- 1 Press the **POWER** switch.
- 2 Push the **AUTO SEARCH** switch to the **OFF** position.
- 3 Select the broadcast band, **MW, LW** or **FM**.
- 4 Press the **UP** or **DOWN TUNING** switch.

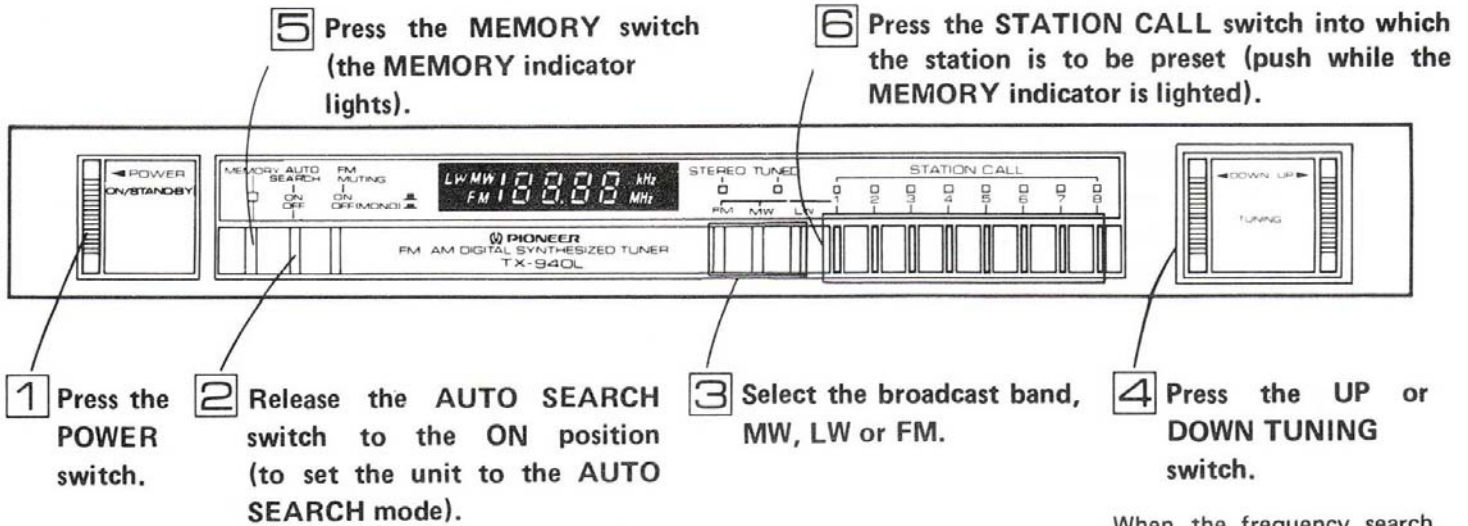
USING THE FM MUTING SWITCH

When the FM MUTING switch has been set to ON, all broadcasting station signals below a certain level are suppressed and cannot be received. Press this switch and tune in the muting "OFF" mode when the desired station is broadcasting from a distant area or when its signals are too weak. In cases like this, even stereo broadcasts will be heard in mono.

PRESETTING STATIONS

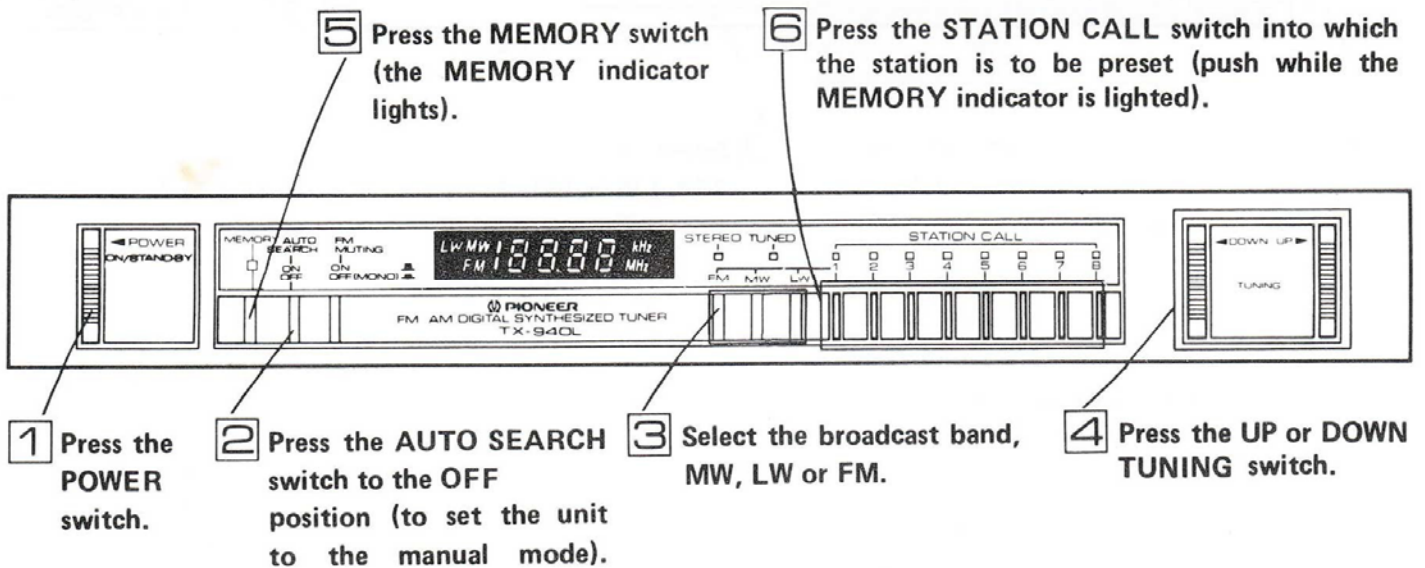
This unit comes with a presetting function for memorizing stations. Each of the 8 STATION CALL switches can accommodate one FM station and one AM station, giving a total of 16 stations which can be preset. Preset the stations by the following procedure indicated below.

PRESET OPERATION USING AUTO SEARCH



When the frequency search operation stops, the TUNED indicator lights.

PRESET OPERATION USING MANUAL TUNING

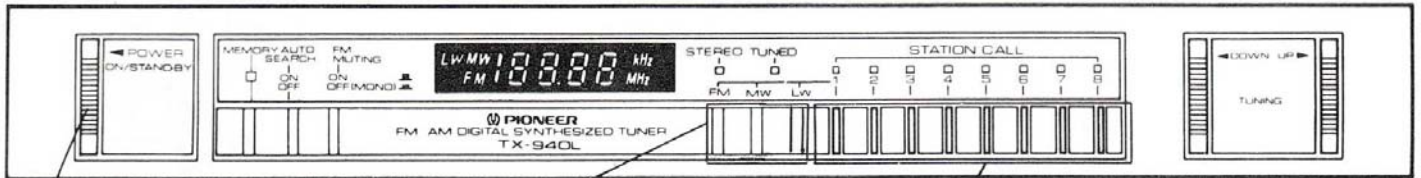


CAUTION WITH PRESETTING

Presetting stations is possible only when the MEMORY indicator is lighted. Make sure that the desired STATION CALL switch is pushed while this indicator is lighted whether the unit is set to the auto search or manual tuning mode. Presetting is not possible even when the switch is pushed after the indicator has gone out.

PRESET TUNING

Once the stations have been preset, select the broadcast band (AM or FM) and the desired station can be tuned in simply by pressing the corresponding STATION CALL switch.



- 1 Press the POWER switch.
- 2 Select the broadcast band (MW, LW or FM).
- 3 Press the switch corresponding to the preset station.

MEMORY FUNCTION

The contents of the preset stations are retained by an internal memory back-up so that they are not erased even when the power cord is disconnected. Furthermore, when the power is switched on, the station last heard before the power was switched off, is now received.

To change the contents of the STATION CALL switches, simply preset a new station and the old preset station will be automatically erased.

If, after many years of use, it is not possible to recall the contents once the power cord has been disconnected for a long period of time, contact your dealer or PIONEER Service Center.

HINTS FOR BETTER RECEPTION

Indoor vs. Outdoor Antennas

If FM reception is poor when using the accessory T-shaped antenna, it means that you are not living in a good reception area. In this case, setting up a good outdoor FM antenna will solve this problem. Seek the advice of an audio store in selecting the best FM antenna for your reception needs and in setting up the antenna properly.

NOTE:

Consult your dealer as to the selection and actual installation of the FM antenna.

FM Antenna Connections

There are two ways of connecting the FM antenna to the antenna input terminals: with a 300Ω twin-lead feeder or with a 75Ω coaxial cable. If full justice is to be done to the tuner's performance, a 75Ω coaxial cable (RG-59U) is recommended since it is more immune than the twin-lead feeder to noise and interference from external sources. If an FM antenna has already been erected outdoors, connect it, referring to the figure on the right.

Grounding

Grounding is recommended if reception of FM programs is impaired by noise. To ground, connect a thick polyvinyl wire to the GND terminal and attach the other end to a metal water pipe or grounding bar or wind it around a copper plate and bury it.

NOTE:

Never connect a wire to a gas pipe for grounding since sparks may ignite the gas.

Outdoor AM (MW/LW) Antenna

The accessory AM loop antenna is quite sufficient if you live in a strong-signal area. However, an outdoor AM (MW/LW) antenna should be erected if surrounding objects are interfering with reception or if the stations are distant and their signals are weak.

NOTE:

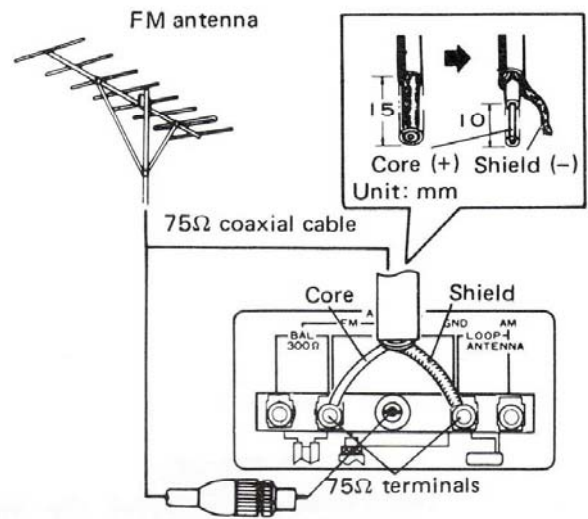
Do not detach the AM loop antenna when using an outdoor AM (MW/LW) antenna.

AM Loop Antenna

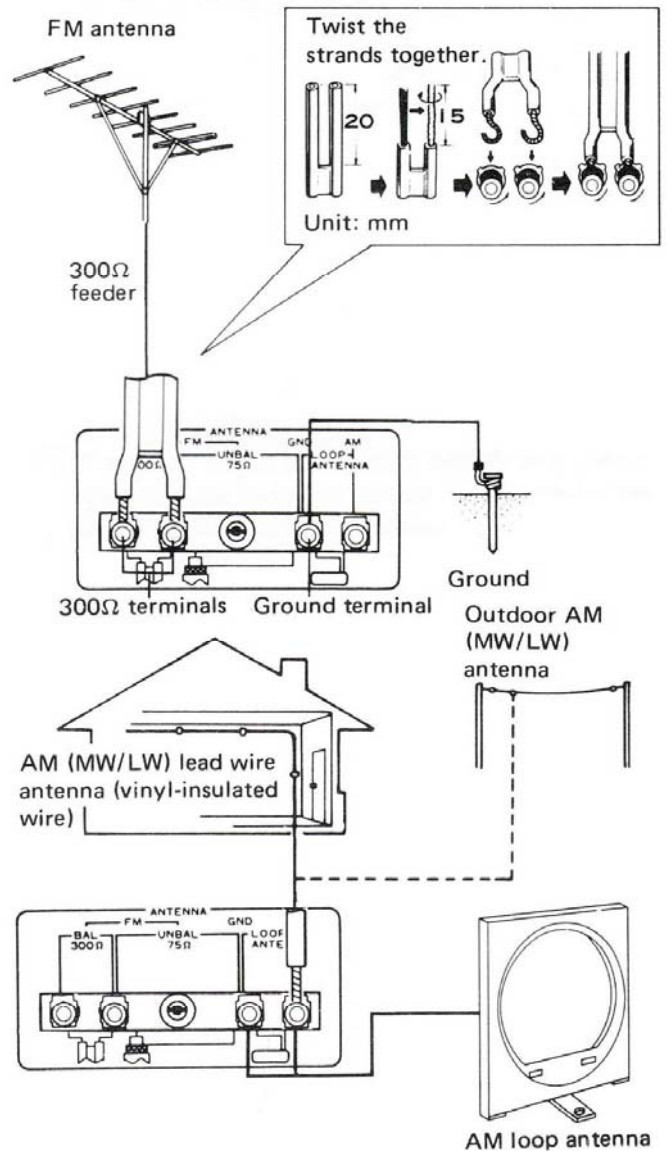
NOTE:

Any contact of the loop antenna with metal objects will result in impaired sensitivity and a deterioration in reception.

Connecting the coaxial cable



Connecting the 300Ω feeder



TROUBLESHOOTING

If you think that your unit is malfunctioning, take the time to check out the points below. If the trouble is not remedied even after checking the points below, call in the service engineer from your nearest PIONEER Service Center or your dealer.



SPECIFICATIONS

FM Tuner Section

Frequency Range	87.5~108.0MHz
Usable Sensitivity	Mono; 10.8dBf (0.95 μ V), 75 Ω
50dB Quieting Sensitivity	Mono; 16.2dBf (1.8 μ V), 75 Ω
	Stereo; 37.2dBv (19.8 μ V), 75 Ω
Sensitivity (DIN)	Mono; 0.75 μ V/75 Ω
	Stereo; 2.2 μ V/75 Ω
Signal-to-Noise Ratio (at 85dBf input)	Mono; 85dB
	Stereo; 80dB
Signal-to-Noise Ratio (DIN)	Mono; 72dB
	Stereo; 65dB
Total Harmonic Distortion	Mono; 0.05% (1kHz)
	Stereo; 0.08% (1kHz)
Capture Ratio	1.0dB
Alternate Channel Selectivity	400kHz; 56dB
Stereo Separation	1kHz; 50dB
Frequency Response	30Hz~15kHz $^{+0.5}_{-1.0}$ dB
Image Response Ratio	50dB
IF Response Ratio	80dB
Spurious Response Ratio	70dB
AM Suppression Ratio	60dB
Muting Threshold	30dBf (8.5 μ V), 75 Ω
Antenna Input	300 Ω balanced
	75 Ω unbalanced

- The above figures are measured values obtained under the new IHF method.

MW Tuner Section

Frequency Range	522~1611kHz
Usable Sensitivity (accessory loop antenna)	250 μ V/m
Selectivity	40dB
Signal-to-Noise Ratio	50dB
Image Response Ratio	35dB
IF Response Ratio	50dB
Antenna	Loop antenna (supplied)

LW Tuner Section

Frequency Range	153~360kHz
Usable Sensitivity (accessory loop antenna)	1200 μ V/m
Selectivity	40dB
Signal-to-Noise Ratio	50dB
Image Response Ratio	35dB
IF Response Ratio	40dB
Antenna	Loop antenna (supplied)

Output Section

Output Terminals (Output Level)	
FM (100% MOD)	Fixed 700mV
AM (30% MOD)	Fixed 150mV

Miscellaneous

Power Requirements	a.c. 240 volts \sim , 50/60Hz
Power Consumption	8.5W
Dimensions	420(W) x 60(H) x 223(D)mm
	16-9/16(W) x 2-3/8(H) x 8-13/16(D) in
Weight	2.5 kg (5 lb 8 oz)

Furnished Parts

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

NOTE:

Specifications and design subject to possible modification without notice.