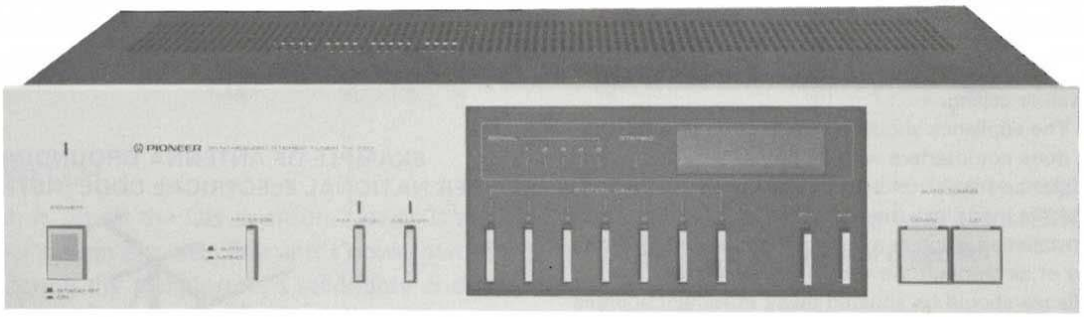
Operating Instructions

STEREO TUNER

TX-720

KU



IMPORTANT NOTICE

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep in a secure area. This is for your security.

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

CONTENTS

PIONEER®

SAFETY INSTRUCTIONS

READ INSTRUCTIONS — All the safety and operating instructions should be read before the appliance is operated.

RETAIN INSTRUCTIONS — The operating instructions should be retained for future reference.

HEED WARNING — All warnings on the appliance and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS — All operating and use instructions should be followed.

WATER AND MOISTURE — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

LOCATION — The appliance should be installed in a stable location.

WALL OR CEILING MOUNTING — The appliance should not be mounted to a wall or ceiling.

VENTILATION — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

HEAT — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

POWER SOURCES — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

POWER-CORD PROTECTION — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

CLEANING — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzine, insecticides or other volatile liquids since they may corrode the cabinet.

POWER LINES — An outdoor antenna should be located away from power lines.

NONUSE PERIODS — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

OBJECT AND LIQUID ENTRY — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

DAMAGE REQUIRING SERVICE — The appliance should be serviced by Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged; or
- Objects have fallen, or liquid has been spilled into the appliance; or
- The appliance has been exposed to rain; or
- The appliance does not appear to operate normally or exhibits a marked change in performance; or
- The appliance has been dropped; or the enclosure damaged.

SERVICING — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

OUTDOOR ANTENNA GROUNDING — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges. Section 810 of the National Electrical Code, ANSI/NEPA No. 70-1978, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

EXAMPLE OF ANTENNA GROUNDING AS PER NATIONAL ELECTRICAL CODE INSTRUCTIONS

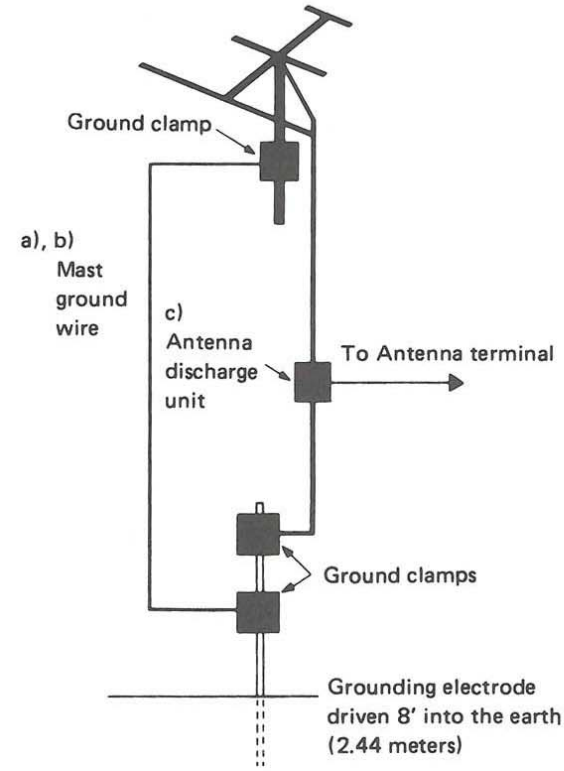


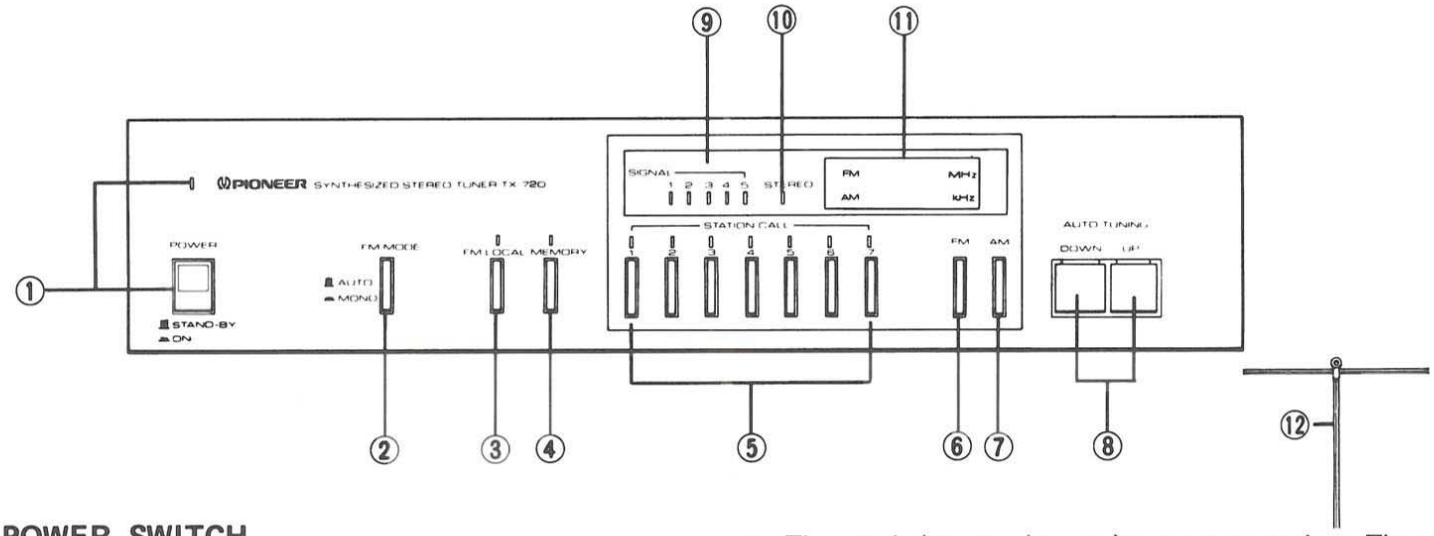
Fig. A

a) Use No. 10 AWG copper or No. 8 AWG aluminum or No. 17 AWG copper-clad steel or bronze wire, or larger as ground wires for both mast and lead-in.

b) Secure lead-in wire from antenna to antenna discharge unit and mast ground wire to house with stand-off insulators, spaced from 4 feet (1.22 meters) to 6 feet (1.83 meters) apart.

c) Mount antenna discharge unit as closely as possible to where lead-in enters house.

FRONT PANEL FACILITIES



① POWER SWITCH

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 power outlet when you do not plan to use the unit for a long period of time.

② FM MODE SWITCH

This switch is set in accordance with the FM signal strength. For normal operation, keep it at the AUTO position.

When the signals are weak and there is too much noise or distortion at the AUTO position or when reception is poor, set the switch to the MONO position for monaural reproduction.

This switch does not function with AM reception.

③ FM LOCAL SWITCH

This switch is set in accordance with the FM signal strength. For normal operation, keep it at the OFF position.

Set the switch to ON (lamp lights) when the broadcasting station is near. At this position, the weak-signal stations cannot be heard and only strong-signal stations are picked up.

This switch does not function with AM reception.

④ MEMORY SWITCH

Depress this switch so that the lamp lights when programming (memorizing) stations (FM or AM). (For details, refer to page 5 and 6.)

The lamp automatically goes off 5 seconds after the switch has been depressed.

⑤ STATION CALL SWITCHES (1~7)

- Depress the switch that corresponds to the programmed station for instant recall of programmed stations (FM and AM). (For details, refer to page 6.)
- These switches are also used to program stations. They are employed along with the MEMORY switch. (For details, refer to page 5 and 6.)

⑥ FM SWITCH

Depress this to listen to FM programs.

⑦ AM SWITCH

Depress this to listen to AM programs.

⑧ AUTO TUNING BUTTONS

These are used to locate the stations (FM and AM). (For details, refer to page 5 or 6.)

DOWN: For listening to a program from a station broadcasting on a frequency lower than that displayed.

UP: For listening to a program from a station broadcasting on a frequency higher than that displayed.

⑨ SIGNAL INDICATOR

This indicates the strength of the signal from the (AM or FM) broadcasting station to which you are presently listening. The larger the number of the lamps lit up, the stronger the signal (a strong signal indicates that reception conditions are optimum).

⑩ STEREO INDICATOR

This lamp lights up automatically when an FM broadcast is in stereo. It does not light up when the FM MODE switch is set to MONO.

⑪ FREQUENCY DISPLAY

This indicates the type of program (FM or AM) as well as the frequency (in MHz or kHz) of the station.

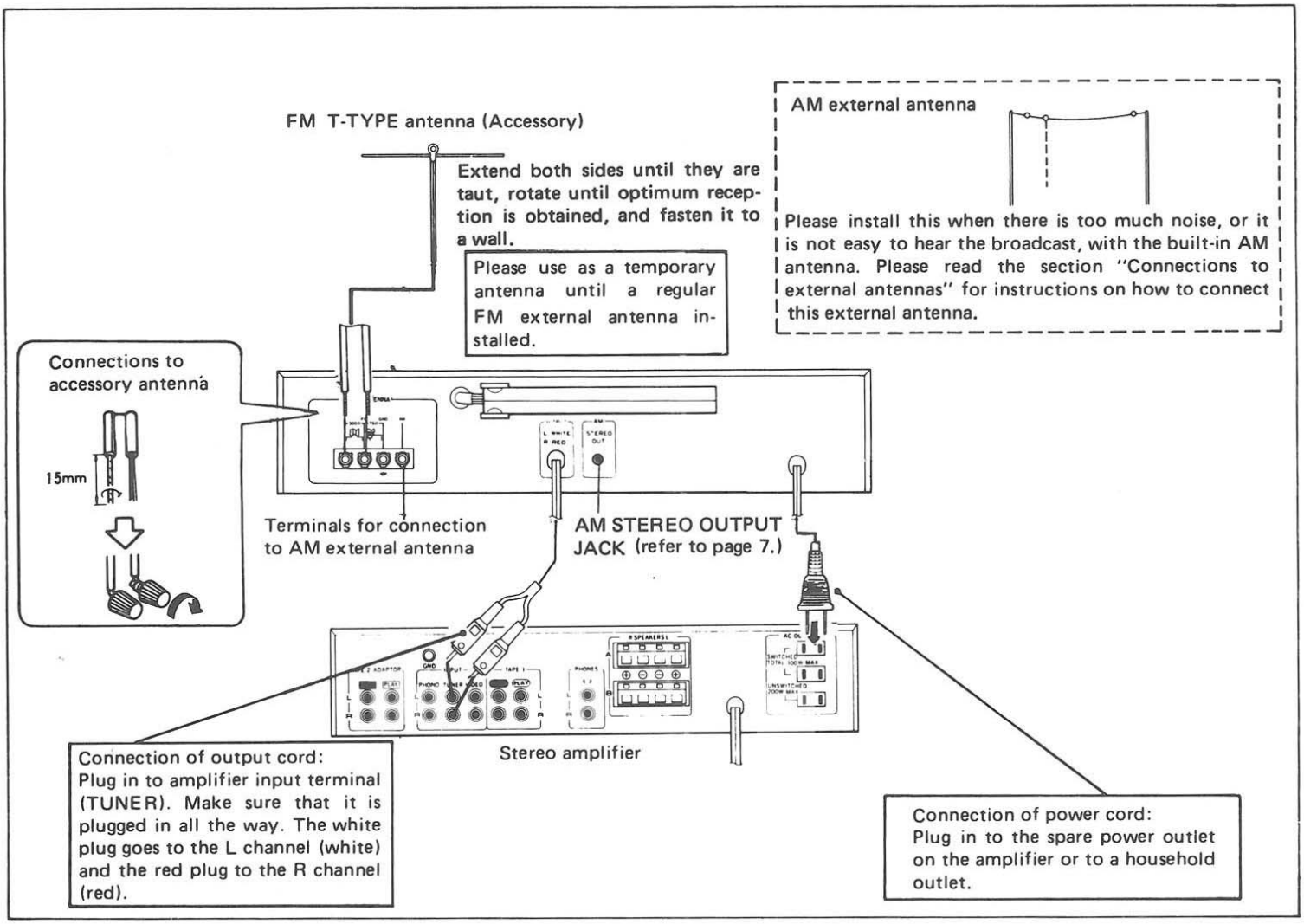
⑫ FM T-TYPE ANTENNA (accessory)

This antenna permits FM broadcasts to be heard until a regular FM antenna is installed.

NOTE:

When the broadcasting station is far away, or in case of weak signals blocked by mountains, it might not be possible to receive FM broadcasts with this antenna. In such a case, please install an antenna exclusively for FM use outdoors.

CONNECTIONS

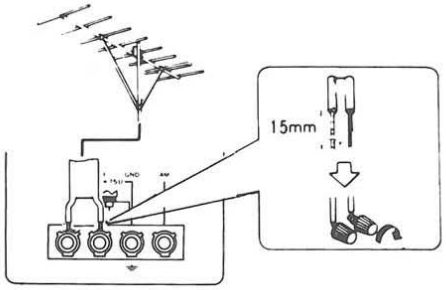


CONNECTIONS TO EXTERNAL ANTENNAS

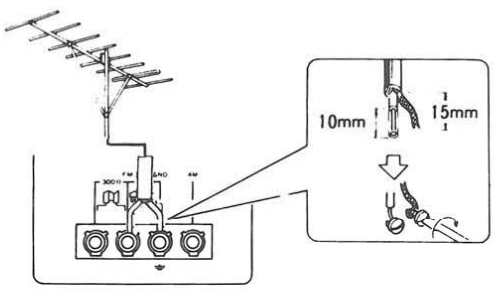
FM external antenna

When installing, ask the dealer or a nearby electronics store for advice on type of antenna and proper installation.

When the connecting cable is 300 ohm feeder wire

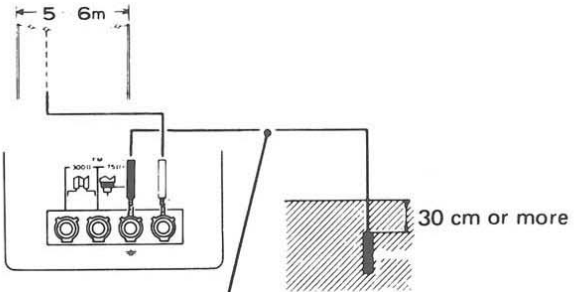


When the connecting cable is 75 ohm coaxial cable



AM external antenna

Install an external antenna when listening to distant broadcasting stations, inside a concrete building, or when there is too much noise or it is hard to hear the broadcast with only the built-in antenna. Attach a commercially available vinyl-covered wire to the underside of eaves, or suspend between trees (refer to the figure).



Connecting the ground wire:
When there is still too much noise even after an outdoor antenna is installed, bury a commercially available ground rod and connect it to the ground terminal (GND) on this set.

Ground rod 30cm or deeper in moist soil.

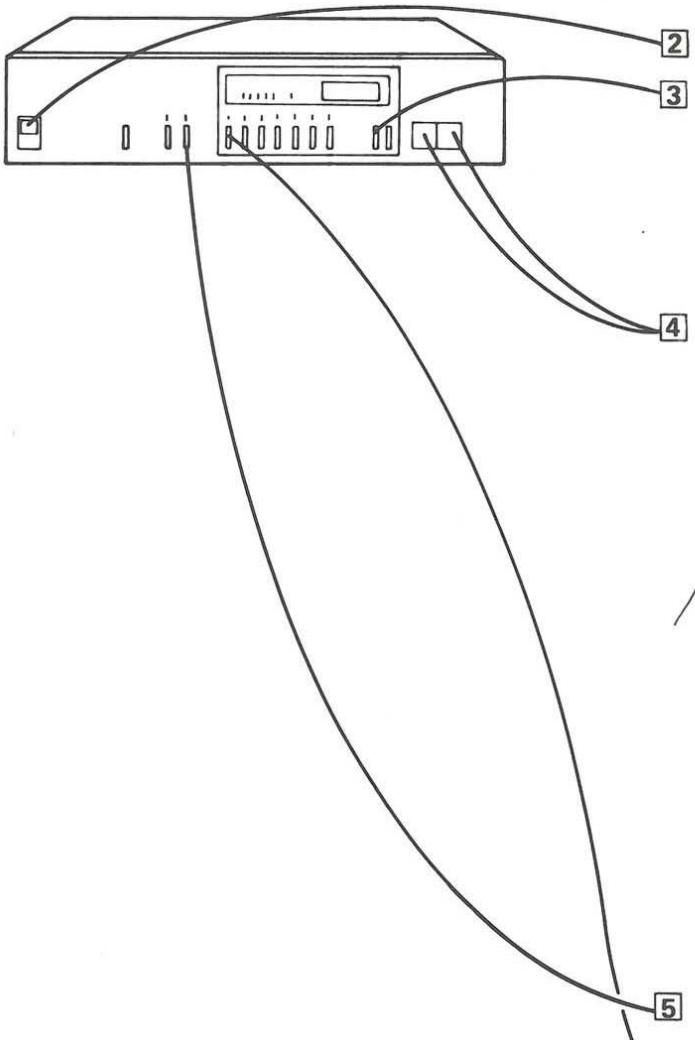
Never connect to a gas pipe. This is very dangerous, as there is a danger that a spark will ignite the gas.

OPERATION

PROGRAMMING (MEMORIZING) STATIONS

Each of the seven STATION CALL switches on this unit can be used to memorize one FM station and one AM station. Then, all you have to do to tune into the station is depress the corresponding switch for instant recall.

The example below describes the memorizing procedure for an FM station broadcasting on 106.5 MHz and an AM station broadcasting on 1080kHz using switch 1. The procedure is exactly the same for all the other switches.



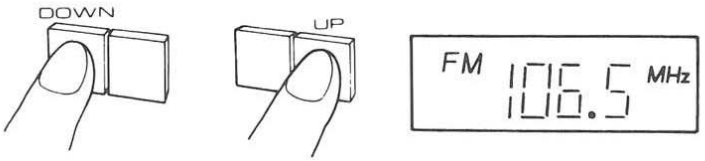
1 Set up the amplifier for tuner use.
(For details, refer to the amplifier's Operating Instructions.)

2 Depress the POWER switch and turn on the power.

3 Depress the FM switch.

4 Depress the DOWN or UP AUTO TUNING button until the frequency display indicates 106.5.

When the figures indicated on the display are higher than 106.5, depress the DOWN button; when they are lower, depress the UP button.



When this tuner picks up the station nearest to the figures indicated on the frequency display by the DOWN or UP AUTO TUNING buttons, the tuning operation automatically stops. Depress again the AUTO TUNING buttons if the station picked up is not the right one.)

NOTE:
If the FM LOCAL switch is set to ON, the tuning operation may not stop at the weak-signal stations. In cases like this, set this switch to the OFF position.

5 Depress the MEMORY switch (the lamp lights).

6 Depress STATION CALL switch 1 and memorize the station.

The lamp lights.
The memorizing operation is performed while the MEMORY switch lamp is lighted (approx. 5 sec.). It cannot be performed after it has gone out. (If the lamp does go out, it will light again when the MEMORY switch is depressed again.)
The FM station broadcasting on 106.5 MHz is now memorized. Now proceed to memorize the 1080kHz AM station.

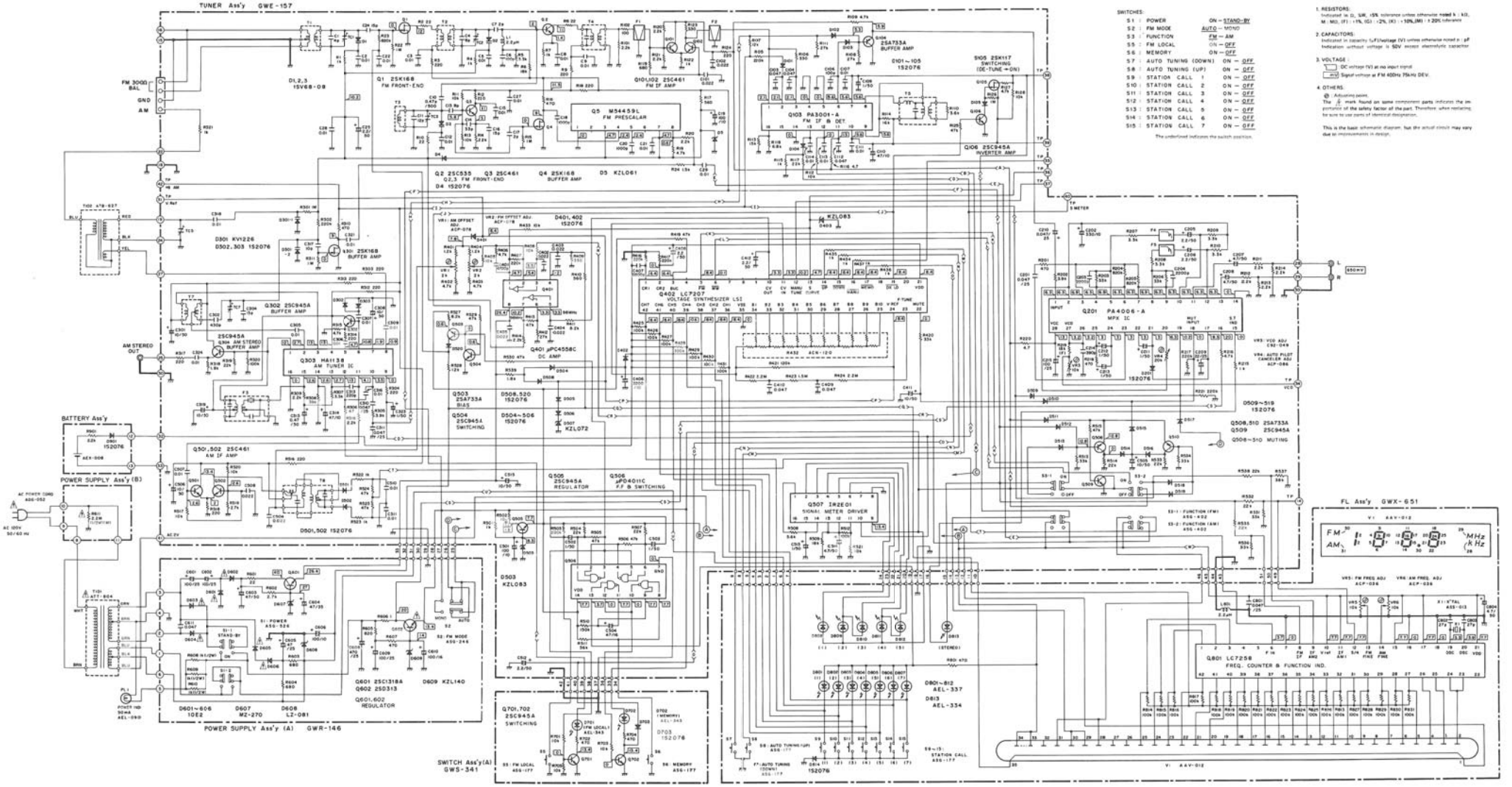
The following factors may be to blame if FM reception is not possible (the tuning does not stop at the frequency of the station indicated on the display) or if the recalled station is accompanied by a great deal of noise.

- Station's signals are too weak
  1. Set the FM MODE switch to MONO. (In this case, the program is heard in mono.)
  2. Replace the accessory FM T-type antenna with an external FM antenna. (For details, refer to page 4.)
- Rear panel antenna has become disconnected
- Antenna is not directed or positioned correctly

  If you are using the accessory FM T-type antenna, stretch both ends taut and secure them in the position and direction where optimum reception is yielded.

TX-720 KU

SCHEMATIC DIAGRAM



SPECIFICATIONS

FM Tuner Section

Usable Sensitivity 10.8dBf (1.9μV)
50dB Quieting Sensitivity
  MONO 16dBf (3.5μV)
  STEREO . . . . . 38 dBf (44μV)
Signal-to-Noise Ratio (at 85dBf)
  MONO 78dB
  STEREO 75dB
Distortion (at 65dBf)
  MONO 1kHz; 0.08%
  STEREO 1kHz; 0.15%
Capture Ratio 1dB
Alternate Channel Selectivity (400kHz) 60dB
Stereo Separation
  1kHz 40dB
Frequency Response . . . . . 20Hz to 15kHz $^{+0.2}_{-1}$ dB
Spurious Response Ratio 65dB
Image Response Ratio 45dB
IF Response Ratio 80dB
AM Suppression Ratio 55dB
Antenna Input . . . . . 300ohms balanced, 75ohms unbalanced

AM Tuner Section

Sensitivity
  IHF ferrite antenna 300μV/m
  IHF external antenna 30μV
Selectivity 25dB
Signal to Noise Ratio 50dB
Image Response Ratio 40dB
IF Response Ratio 70dB
Antenna . . . . . Ferrite loopstick antenna

Audio Section

Output (Level/Impedance)
  FM (100% MOD) 650mV/1kΩ
  AM (30% MOD) 150mV

Miscellaneous

Power Requirements . . . . . AC 120V, 50/60Hz
Power Consumption 16W
Dimensions . . . . . 420(W) x 94(H) x 262(D)mm
  16-9/16(W) x 3-11/16(H) x 10-5/16(D) in
Weight (Without Package) . . . . . 3.3 kg (7lb 4oz)

Furnished Parts

FM T-type antenna 1
Operating Instructions 1

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

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