PIONEER®

Synthesized Stereo Tuner

TX-710L

OPERATING INSTRUCTIONS

HE, HB

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

FM Tuner Section

Usable Sensitivity 10.8dBf (1.9μV)
Sensitivity (DIN)
  MONO 1.5μV
  STEREO 50μV
50dB Quieting Sensitivity
  MONO 16dBf (3.5μV)
  STEREO 38dBf (44μV)
Signal-to-Noise Ratio (at 85dBf)
  MONO 78dB
  STEREO 75dB
Signal-to-Noise Ratio (DIN)
  MONO 71dB
  STEREO 62dB
Distortion (at 65dBf)
  MONO 1kHz; 0.08%
  STEREO 1kHz; 0.15%
Distortion (DIN)
  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 45d8
IF Response Ratio 80dB
AM Suppression Ratio 55d8
Antenna Input . . . . . 300 ohms balanced, 75 ohms unbalanced

LW Tuner Section

Sensitivity
  IHF, ferrite antenna 450μV/m
  IHF, external antenna 45μV/m
Selectivity 25dB
Signal-to-Noise Ratio 50dB
Image Response Ratio 40dB
IF Response Ratio 70dB
Antenna . . . . . Ferrite loopstick antenna

MW 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)
  FM (100% MOD) 650mV
  AM (30% MOD) 150mV

Miscellaneous

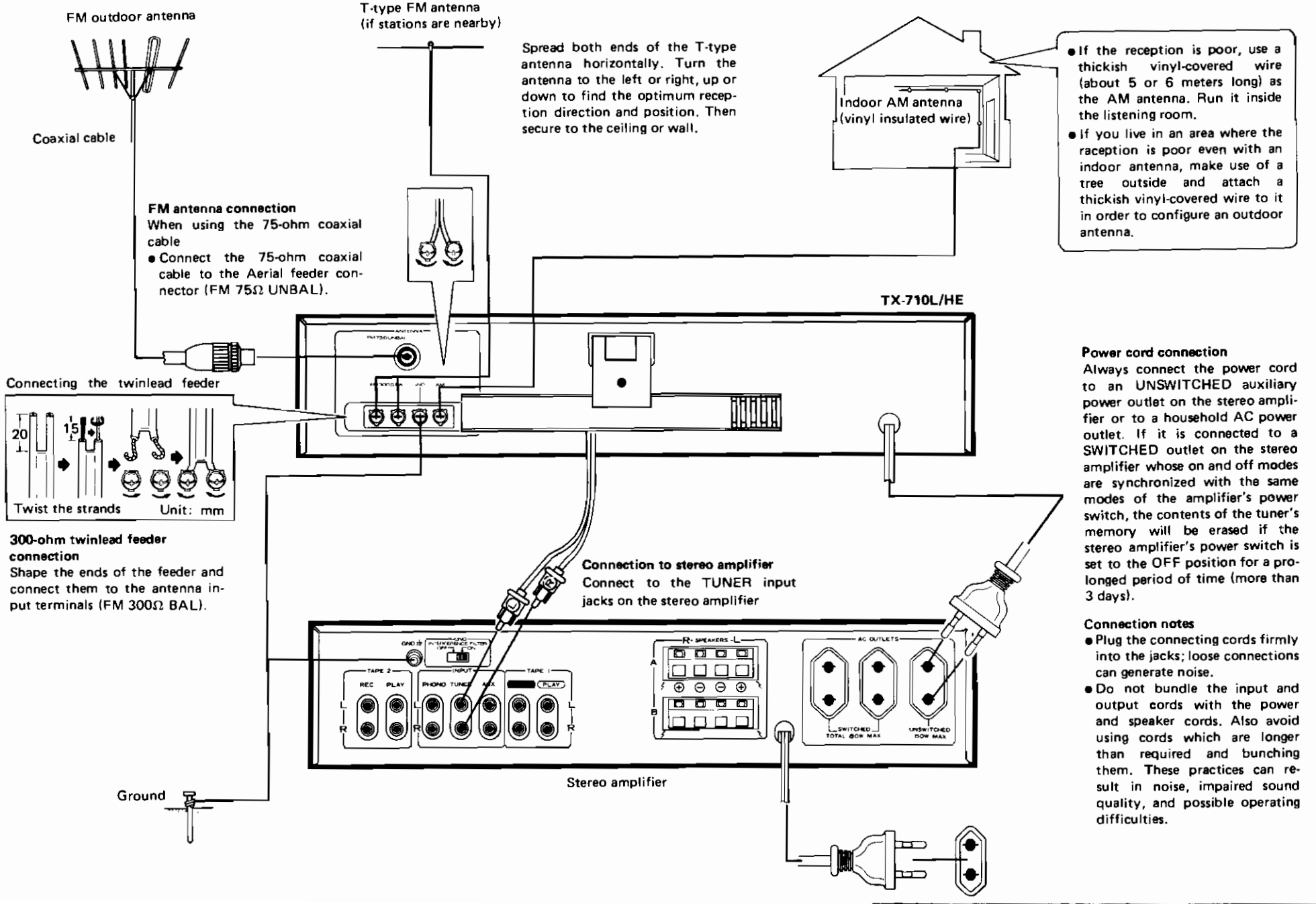
Power Requirements
  HE model . . . . . a.c. 220V, 50/60Hz
  HB model . . . . . a.c. 240V, 50/60Hz
Power Consumption 16W
Dimensions . . . . . 420(W) x 94(H) x 270(D)mm
  16-9/16(W) x 3-11/16(H) x 10-5/8(D) in
Weight (Without Package) 3.3kg (7lb 4oz)

Furnished Parts

FM T-type antenna 1
Operating Instructions 1

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

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 twin-lead 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 twin-lead feeder in safeguarding against external interference noise from impairing the sound quality. In other words, twin-lead 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 above CONNECTION DIAGRAM 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 TWIN-LEAD FEEDER

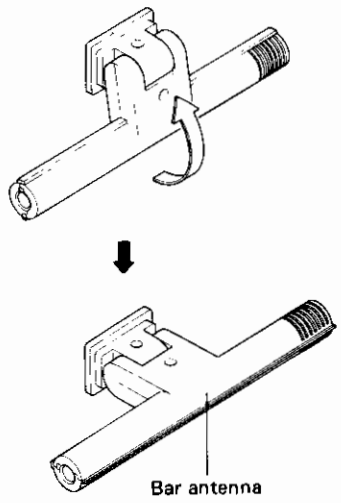
In cases where it is only possible to use a twin-lead feeder with a community receiving system antenna, refer to above CONNECTION DIAGRAM and follow the procedure. Prepare the ends of the twin-lead feeder and attach them to the 300Ω-BAL antenna input terminals. Then make the twin-lead feeder as short 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 the CONNECTION DIAGRAM, attach the antenna to the 300Ω-BAL antenna input terminals and then tune into an FM station, following the instructions listed under PRESETTING on the right-hand page. 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.

AM (LW and MW) ANTENNAS

A bar antenna is provided on the rear panel. Pull it up to a 90° angle as shown in the figure below.



- 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 the CONNECTION DIAGRAM. 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 the CONNECTION DIAGRAM.

GROUNDING

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

STEREO AMPLIFIER CONNECTIONS

Connect the OUTPUT cords to the TUNER jacks on the stereo amplifier, making sure that the power to the stereo system is switched off before hand.

When connecting these to the inputs of a stereo amplifier, first check the channel indications and then connect firmly.

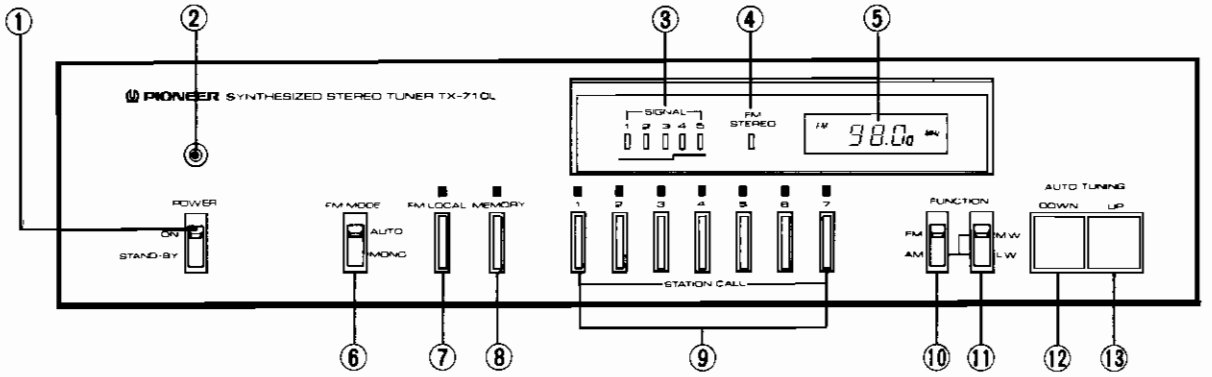
In order to provide power for the memory circuitry of the preset broadcasting stations, connect the power cord to a household AC power outlet or to an UNSWITCHED auxiliary power outlet on the stereo amplifier.

INSTALLATION PRECAUTIONS

When installing the tuner, avoid locations such as the following:

- In direct sunlight, near radiators or other heat sources.
- In humid or dusty surroundings.
- On unlevel or unstable supports, or where subject to vibration.

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. For this reason, the programmed broadcasting stations will not be erased.

Disconnect the power cord from the power outlet when you do not plan to use the unit for a long period of time. When it has been disconnected, the broadcasting stations remain programmed for about 3 days.

② POWER INDICATOR

This comes on as soon as the tuner's power switch is set to ON.

③ SIGNAL INDICATORS

These indicators "1" through "5" light up in accordance with the strength of the signal.

④ FM STEREO INDICATOR

This indicator lights up when the tuner is receiving a stereo program.

⑤ FREQUENCY DISPLAY

This indicates the tuned frequency.

⑥ FM MODE SWITCH

This is used to select the FM reception mode.

AUTO . . When an FM broadcast is being received in stereo, the unit will automatically set reception to mono in the event of an FM mono broadcast.

MONO . . If there is a great deal of noise or if the broadcasting station signals are weak during reception at the AUTO position, set the switch to this position.

⑦ FM LOCAL SWITCH

This selects the stop level with auto tuning.

When this switch is depressed to the LOCAL position, a broadcasting station with a relatively strong input level is chosen when the tuning switch is depressed and the frequency band is scanned, and the scanning operation stops.

When the switch is set to the OFF position (the indicator goes off), frequency scanning stops even with broadcasting stations with a weak input level, and the station's program can be received.

When the power switch is at the ON position, the FM LOCAL switch will always return to the OFF position.

⑧ MEMORY SWITCH

This is depressed when presetting a broadcasting station into one of the station call switches. For presetting, depress the memory switch and then depress the station call switch which will be used for presetting the station while the indicator above the memory switch remains lighted (about 5 seconds).

⑨ STATION CALL SWITCHES

These are depressed to call out preset broadcasting stations and to preset the stations.

To call out a station, first set the desired frequency band using the function switch and then depress the desired switch.

NOTE:
If the AM selector switch is set to a position which does not correspond to the broadcasting wave band with the preset station with AM station recall, the numbers on the frequency display will change but only interstation noise will be heard.

⑩ 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.

⑪ AM SELECTOR SWITCH

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

MW . . . . For reception of MW broadcasting.

LW . . . . For reception of LW broadcasting.

NOTE:
This switch can be operated only when the function switch is at AM position.

⑫ AUTO TUNING DOWN SWITCH

When this switch is depressed lightly, the reception frequency automatically scans the frequencies below that on the frequency display. As soon as a station is received, the frequency display stops and the optimum tuned state is held by the AFC circuit.

NOTE:
If the switch is kept in the depressed position, scanning continues without automatically stopping evan when there are broadcasting stations. When the lower limit of the frequency band is reached, scanning jumps to the highest frequency and then proceeds again down the band.

⑬ AUTO TUNING UP SWITCH

When this switch is depressed lightly, the reception frequency automatically scans the frequencies above that on the frequency display. As soon as a station is received, the frequency displays stops and the optimum tuned state is held by the AFC circuit.

NOTE:
If the switch is kept in the depressed position, scanning continues without automatically stopping even when there are broadcasting stations. When the upper limit or the frequency band is reached, scanning jumps to the lowest frequency and then proceeds again up the band.

PRESETTING THE BROADCASTING STATIONS AND LISTENING TO BROADCASTS

PRESETTING

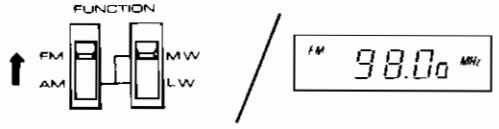
The seven station call switches can be used to accommodate seven FM stations and seven AM stations to make a total of 14 stations. Preset as outlined below.

The example gives the procedure for presetting an FM station broadcasting on the 106.5 MHz frequency into station call switch 1.

NOTE:
Before proceeding, check that the connections with the stereo amplifier and FM antenna are correct. Set the stereo amplifier's function selector to TUNER and turn up the volume control slightly.

1. Set the power switch to ON.

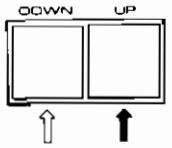
2. Set the function switch to FM.



The letters "FM" and "MHz" as well as the frequency are indicated on the frequency display.

3. Set the mode switch to AUTO.

4. Depress the tuning switch.



If the frequency of the broadcasting station to be tuned in is lower than the frequency on the display, depress the DOWN switch lightly. If it is higher, depress the UP switch.

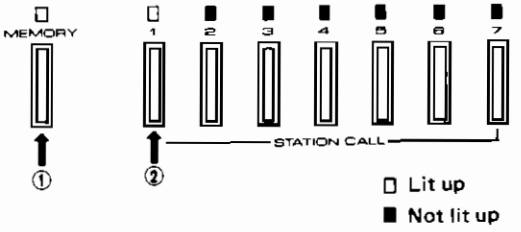
Depending on the tuning switch which you have just depressed, the frequency display either increases or decreases. Scanning stops when the reception input level exceeds the fixed level.

If the frequency display has stopped before the desired station, depress the tuning switch again.

NOTE:
When the tuning switch is depressed, the frequency display scans and the desired broadcasting station is bypassed, it means that the reception input level is too low with the FM LOCAL switch at the LOCAL position. In case like this, set the FM LOCAL switch to the OFF position and depress the tuning switch in the reverse direction.

Once the frequency of the desired station is displayed on the frequency display, check the sound using the amplifier's volume control.

5. Depress the memory switch (the indicator above the switch lights) and then depress the station call switch 1.



NOTE:
If the memory switch indicator goes off before you depress the station call switch, the station cannot be preset.

The memory indicator will remain lighted for about 5 seconds. If the memory switch indicator has gone off before the indicator above the station call switch has lighted, depress the memory switch again and then depress the station call switch.

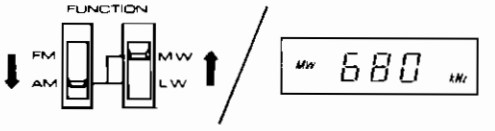
When the memory switch indicator and the station call switch 1 indicator have lighted simultaneously, the FM station broadcasting on the 106.5 MHz frequency has been correctly preset into station call switch 1.

Using the above procedure, it is possible to preset 7 FM stations in station call switches 1 through 7.

Now change the position of the function switch and try presetting an AM station.

The example gives the procedure for presetting a station broadcasting on a frequency of 1000 kHz into station call switch 1.

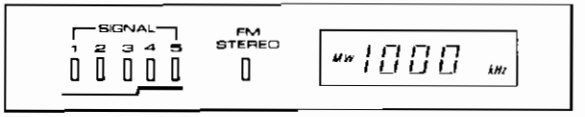
1. Set the function switch to AM and set the AM selector switch to MW.



The letters "MW" and "kHz" appear on the frequency display.

2. Depress the tuning switch.

The tuning operation is the same as that described for FM reception.



If the indication on the frequency display bypasses the desired broadcasting station, it means that the reception input level is too low. Refer to the section on **AM ANTENNAS** on the left-hand page and improve the reception by changing the direction of the unit or connecting an outdoor antenna.

3. Depress the MEMORY switch and then the station call switch 1.

In accordance with the above operation, the 106.5 MHz FM station and the 1000 kHz MW station are both preset into station call switch 1.

NOTE:
Each station call switch can accommodate two stations: one FM station and one AM (LW or MW) station.

LISTENING TO BROADCASTS

1. Set the power switch to ON.
2. Select the function switch and AM selector switch in line with the broadcasting station whose program you want to listen to.
3. Depress the station call switch corresponding to the station required.

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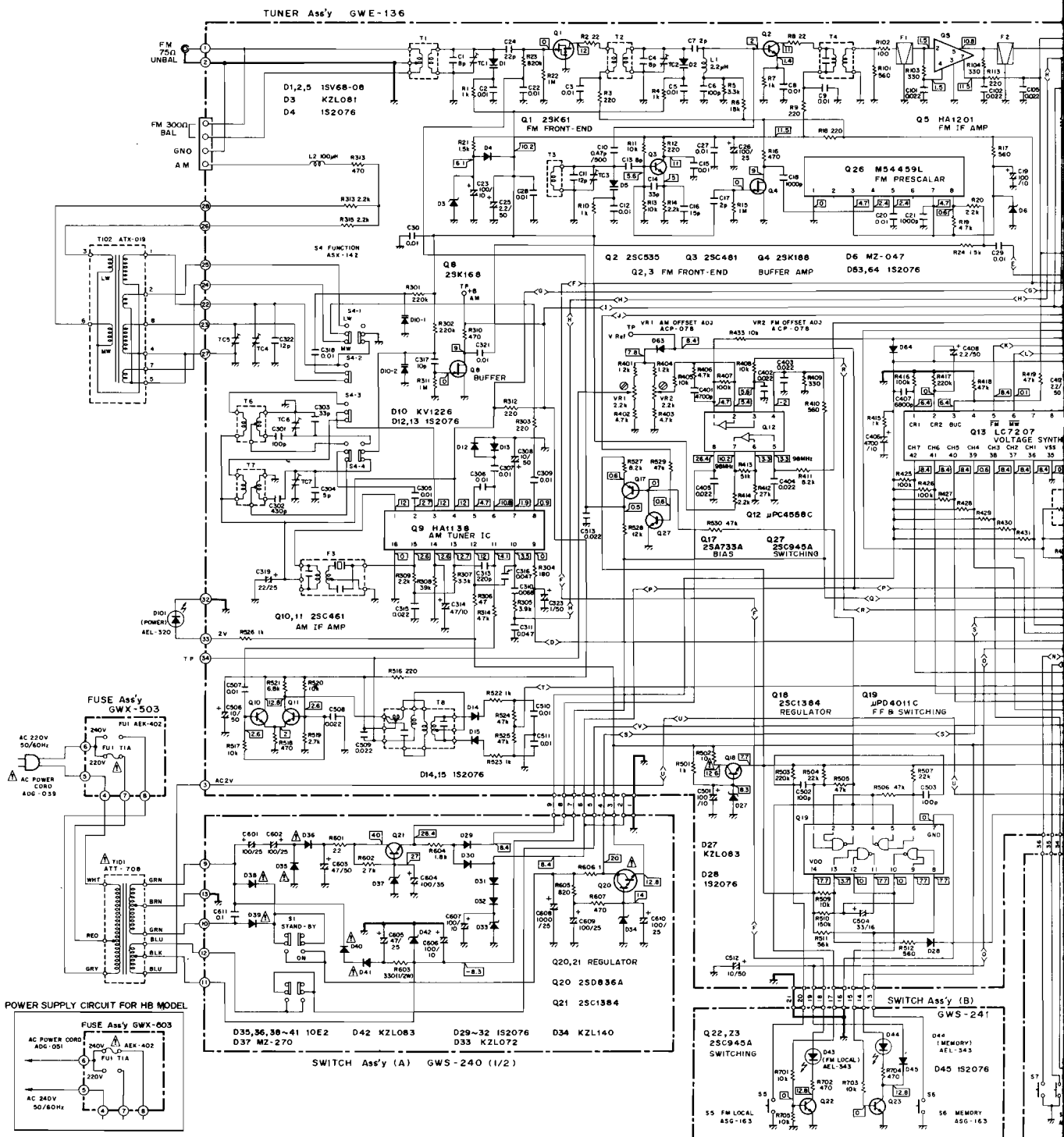
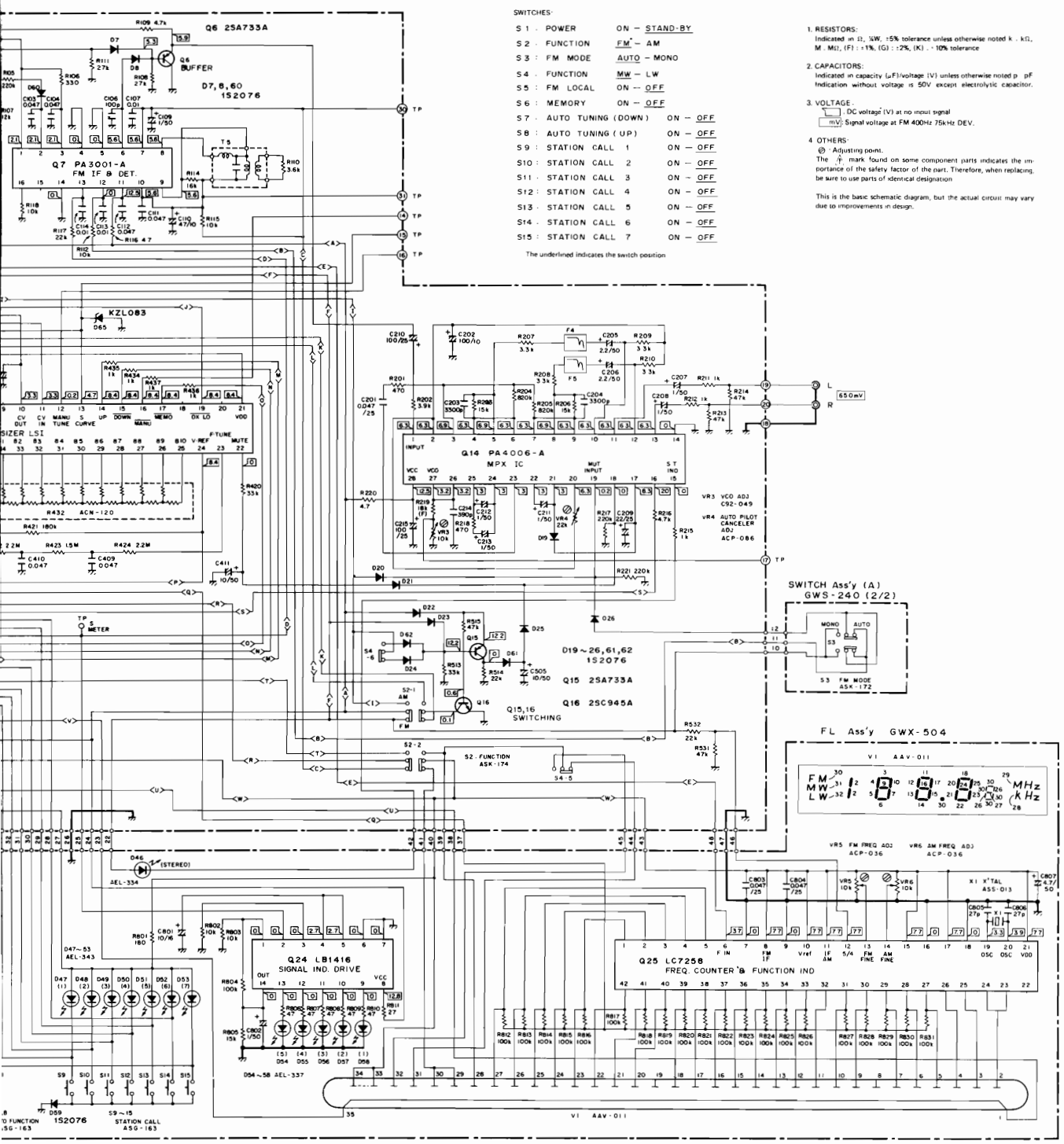
SCHEMATIC DIAGRAM





SWITCHES:

S1 : POWER	ON — STAND-BY	
S2 : FUNCTION	FM — AM	
S3 : FM MODE	AUTO — MONO	
S4 : FUNCTION	MW — LW	
S5 : FM LOCAL	ON — OFF	
S6 : MEMORY	ON — OFF	
S7 : AUTO TUNING (DOWN)	ON — OFF	
S8 : AUTO TUNING (UP)	ON — OFF	
S9 : STATION CALL 1	ON — OFF	
S10 : STATION CALL 2	ON — OFF	
S11 : STATION CALL 3	ON — OFF	
S12 : STATION CALL 4	ON — OFF	
S13 : STATION CALL 5	ON — OFF	
S14 : STATION CALL 6	ON — OFF	
S15 : STATION CALL 7	ON — OFF	

The underlined indicates the switch position

1. RESISTORS:
Indicated in Ω, ¼W, ±5% tolerance unless otherwise noted k : kΩ, M : MΩ, (F) : ±1%, (G) : ±2%, (K) : ±10% tolerance

2. CAPACITORS:
Indicated in capacity (μF)/voltage (V) unless otherwise noted p : pF
Indication without voltage is 50V except electrolytic capacitor.

3. VOLTAGE:
: DC voltage (V) at no input signal
mV: Signal voltage at FM 400Hz 75kHz DEV.

4. OTHERS:
Ⓐ : Adjusting point.
The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

TROUBLESHOOTING

Sometimes an operational fault can be mistaken for a malfunction or failure. Check the following points and see if the symptoms of the trouble are outlined below before you get in touch with the serviceman. If you cannot locate the symptoms, turn off the power and contact your nearest Pioneer Service Center, Service Station or authorized Pioneer dealer.

Symptom	Diagnosis check points	Remedy
No sound	• Power switch is STAND-BY.	• Set to ON.
	• Power plug is not connected to the power outlet.	• Connect the plug to the outlet securely.
Cannot receive FM station.	• Function switch does not correspond to the correct frequency band.	• Set the function switch to the correct frequency band.
	• The antenna connecting leads hava worked free.	• Connect firmly to the terminals.
	• The input signal level is weak.	• When the FM LOCAL switch is set to ON, try resetting it to OFF and depressing the TUNING switch.
	• The signals being picked up are weak and so the muting circuit has been activated and no sound is heard.	• Install a nighly sensitive antenna outdoors.
Cannot receive AM station.	• Function switch does not correspond to the correct frequency band.	• Set the function switch to the correct frequency band.
	• Signal indicators do not work properly indicating that signal strength is insufficiant.	• Try changing the position of the bar antenna or install an outdoor antenna.
Cannot receive programmed station even when the station call switch is depressed.	• Function switch does not correspond to the correct frequency band.	• Set the function switch to the correct frequency band.
	• Power cord has been disconnected for a long time (more than 3 days) and so contents of memory have been erased.	• Perform memory operation again.
Memory function does not work.	• After memory indicator goes off, station call switches are depressed.	• Depress the station call switch immediately after depressing the memory switch again.
Intermittent noise or sound is distorted.	• The FM antenna is being affected by the multipath phenomenon.	• Point the FM antenna properly in the direction of the transmitting antenna.

NOTE

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

- *For U.K. (HB stamped on packing case); Power line voltage is 240 volts.*
- *For mainland Europe (HE stamped on packing case); Power line voltage is 220 volts.*

Models have their 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 tallias with tha 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.

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