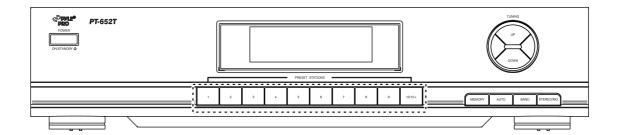


QUARTZ DIGITAL SYNTHESIZER TUNER



OPERATION MANUAL

PRECAUTIONS

Thank you for purchasing this HI-FI product. Taking time to read these operating instructions carefully before use will acquaint you fully with all its features and help ensure optimum performance.

• In order to simplify the explanation illustrations may sometimes differ from the originals.



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER(OR BACK) NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: To prevent fire or shock hazard, do not expose this appliance to rain or moisture



Power plug

When disconnecting the power cord from the power outlet, always take hold of the plug, and not the wire, and pull free. Never connect or disconnect the power plug with wet hands since you may receive an electric shock.

Remember to disconnect the power plug from the power outlet when you do not intend to use the unit for a prolonged period of time.



Do not remove the case and bottom panel

Any inspections or adjustments inside the unit may lead to malfunctions and electric shocks. Do not touch any of the inside parts.



Ventilation warning

The normal ventilation of the product shall not be impeded for intended use.



Installation precautions

Do not install the unit in any of the following locations since this may result in deterioration in performance or malfunction:

- * Locations exposed to direct sunlight or near objects radiating heat such as heating appliances.
- * Locations exposed to moisture or humidity.
- Locations with poor ventilation exposed to dust and dirt.
- * Locations which are unstable and not perfectly flat or which are susceptible to vibration.

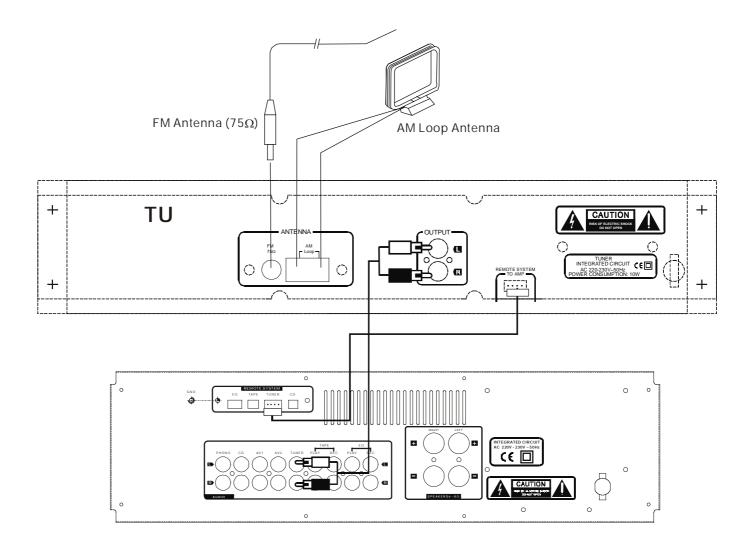


Do not wipe with thinners

Wipe the panels and case from time to time with a soft cloth. Using any kind of thinner, alcohol or volatile liquid will mar the surface, cause blotching on the exterior and erase the markings and should therefore be avoided. Do not use insecticide sprays in the vicinity.

Dripping warning

The product shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the product.



* Instructions and requirements indicated may vary to some extent depending on sales area, local law and regulations.

Connection precautions

- * When connecting or re-locating the unit, be sure to turn the power off or disconnect the power cable.
- * Check the left and right channels and align them correctly (L to left and R to right.)

Connections to amplifier

The supplied pin-plug cables should be used for connection between the unit's rear panel OUTPUT terminals and your amplifier's TUNER terminals. Make sure not to confuse the left and right cables in connection.

FM antenna connection

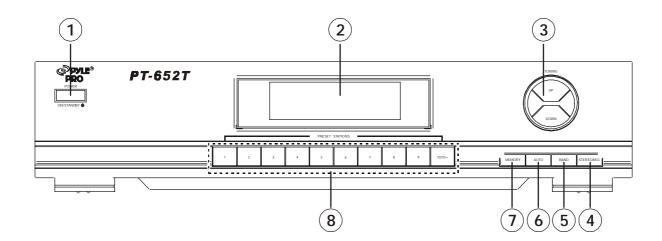
Use FM 75-ohms terminals when connecting a 75 ohms coaxial cable from an outdoor antenna.

AM loop antenna connection

Connect the cord of the accessory AM loop antenna to the AM LOOP antenna terminals, and attach it to the accessory antenna holder.

Attach antenna holder to a wall with the range of the loop antenna cord. When tuning into AM (MW, LW) stations, move the antenna to the left or right and set it in the direction which yields the optimum reception.

- * AM (MW, LW) reception is not possible with the loop antenna detached. Even if n outdoor AM antenna is erected, keep this loop antenna in place.
- * Do not bring the power cord or the speaker cords near the loop antenna since noise will be generated.
- * Do not bring the loop antenna near the display, otherwise it will affect the reception.



1. ON/STANDBY SWITCH

Press this button to switch "ON" the unit and press again to switch "OFF" unit into "STANDBY MODE". If the unit is left unattended for long periods, remove the AC cord from the power socket.

2. TUNER DISPLAY

The frequency of the station which has been in is indicated in digits. MHz units are used for FM frequencies and KHz units for AM frequencies. When the PRESET STATION switch is pressed, the current station number will be displayed.

3. TUNING SWITCH (UP or DOWN)

Press UP or DOWN to search your favourite station.

Tuning can be performed either automatically or manually, depending on the setting of the tuning mode selector switch.

Auto tuning: When the DOWN TUNING switch is depressed, the frequency which is tuned in is counted down and this countdown operation stops automatically as soon as the station is tuned in the LOCK indicator together with the relative frequencies will be continuously counted down without stopping when stations are tuned in until you release the switch. This will stop the automatic tuning operation when the lower frequency limit is reached, count-down changes over to count-up.

Manual tuning: Every time one of the TUNING switches is depressed, the received frequency moves up or down in 50Khz units for FM and 9 KHz for AM. (For USA, 10 KHz for AM). When the switches are kept in the depressed position, the received frequency moves up and down rapidly in the units you release the switches.

* With manual tuning, the frequency will not stop changing as long as the UP or DOWN switch is held pressed.

4. FM STEREO/MONO SWITCH

This switch has a dual function: It switches the stereo and mono reception. FM stereo broadcasts can be heard in stereo while FM mono broadcast are heard in mono. Normally, the stereo is received when press the stereo/mono knob once. And the mono when the switch is pressed once again, the relative light will be shown on the display. When received stereo signal is too weak, then there will be some noise, you can press the mono key to cut the noise.

5. AM / FM SELECTOR SWITCH

Press this switch to select the broadcast band (AM or FM).

6. AUTO SEARCH SWITCH

This switch is used to select AUTO or MANUAL tuning for AM or FM stations. Press once to set to AUTO, press again to set MANUAL.

7. MEMORY SWITCH

- Tune in the station you wish to preset.
- Press the MEMORY switch. While this switch is held pressed, the MEMORY indicator will show.
- Then press the PRESET STATION switch to enter the tuned station into the memory within 5 seconds.

8. PRESET STATION SWITCHES

Up to 20 AM or FM stations may be preset at random. Presetting the switches will allow you to tune in your favourite stations simply and easily.

SPECIFICATIONS

FM Section	AM (MW) Section
Tuning range87.5 to 108 MHz	Tuning range MW: 522 to 1629 kHz
Usable Sensitivity	Usable sensitivityMW: 68 dB/m (446uVm)
Mono IHF12 dB (3.9 uv)	Signal to noise ratio40 dB
50 dB quieting sensitivity	Image response ratioMW: 40 dB at 1,000kHz
Mono16.5 dBf	Others
Stereo37.0 dBf	Output voltage and impedance220 mV/2.2kohms
Signal to noise ratio at 65 dBf	Power requirements
Mono70 dB	Power voltage220V ~ 50 Hz
Stereo70 dB	For U.K240V ~ 50Hz
Distortion at 65 dBf	For U.S.A & Canada110V \sim 60Hz
Monoless than 0.15% at 1	,000Hz Power consumption10 watts maximum
Stereoless than 0.2% at 1,0	000Hz
Alternate channel selectivity	Dimensions
(at 400 KHz)30 dB	93mm H
Stereo separation40 dB at 1,000 Hz	225mm D
Frequency response40 to 14 KHz	Weight 2.7 Kg
+3.0 dB, -3.0 dB	
Antenna input impedance300 ohms balanced	
75 ohms unbalance	d