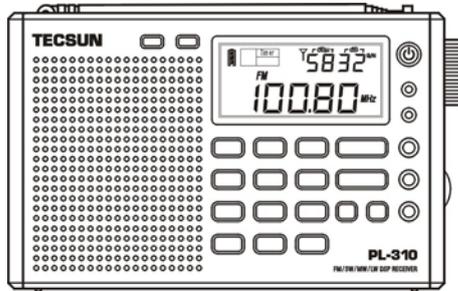


# TECSUN

## PL-310

### FM stereo / SW / MW / LW DSP RECEIVER

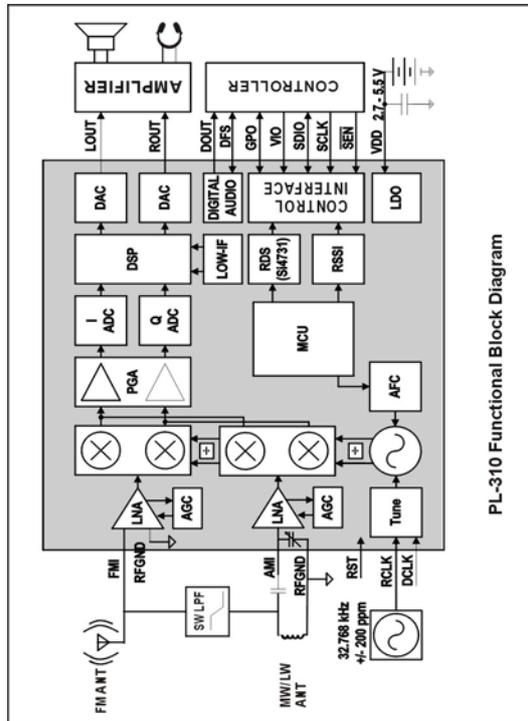


OPERATION MANUAL

DRAFT

## PL-310 Functional Block Diagram

PL-310 is using DSP si4734 Microchips (from Silicon Labs in USA) to digitalize the analog AM/FM broadcasting signal base on the modern software technology and radio principles. It can highly improve on radio's sensitivity, selectivity, S/N ratio and anti-interference.

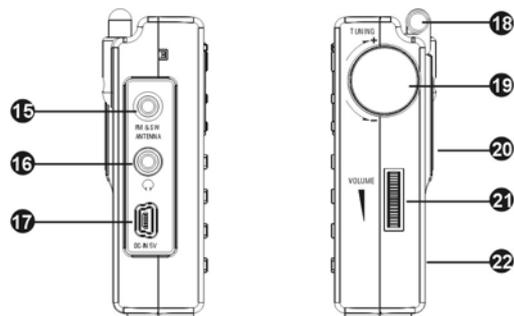
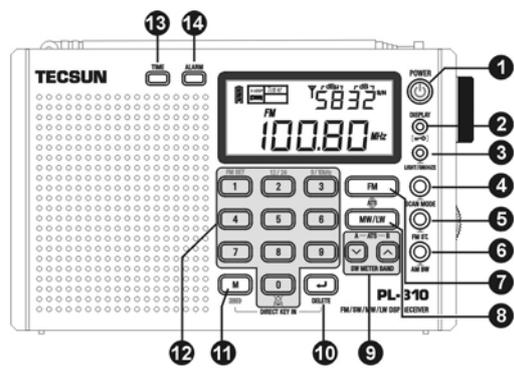


PL-310 Functional Block Diagram

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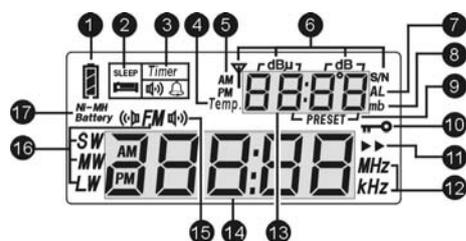
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## CONTROL LOCATIONS



1. Power button
2. Display & Lock button
3. Light / Snooze button
4. Scan Mode button
5. FM ST. button
6. AM BW button
7. FM Band Selector & Auto Tuning Storage button
8. MW/LW Band Selector & Auto Tuning Storage button
9. SW Band & Auto Tuning Storage button
10. Delete button
11. Memory button
12. Numeric Keypad
13. Time Set button
14. Alarm Set button
15. FM & SW Antenna Jack
16. Earphone Jack
17. USB 5V DC-Jack
18. FM & SW Telescopic Antenna
19. Multifunctional Tuning Knob
20. Stand
21. Volume Knob
22. Battery Compartment

## LCD DISPLAY



1. Battery consumption indicator
2. Sleep Indicator
3. Alarm indicator  
" 📻 " alarm by radio  
" 🔔 " alarm by buzzer
4. Temperature (Temp.)
5. AM, PM indicator for 12-hour format clock
6. Signal indicators  
dBu: signal strength unit  
dB : Signal to Noise Ratio (S/N) unit
7. Alarm indicator
8. Meter band indicator
9. Preset memory address indicator
10. Key-lock indicator
11. Tuning speed  
" > " Slow Tuning  
" >> " Fast Tuning
12. kHz: frequency unit for MW, LW & SW  
MHz: frequency unit for FM
13. 4 Digits  
With radio off: world time, alarm time, temperature  
With radio on: word time, signal strength / SNR, alarm time, temperature, local time, memory address, meter band.
14. Master Digits  
With radio off: local time  
With radio on: frequency display, band display
15. FM-stereo indicator
16. Band indicator
17. Ni-MH Battery Symbol

## QUICK START GUIDE

### TIME SETTING

1. Long press [TIME] button until "hour" is flashing in the display. Rotate the [TUNING] knob to adjust the correct "hour".
2. Short press [TIME] button again, rotate the [TUNING] knob to adjust "minute".
3. Press the [TIME] button again to confirm your time setting.

### ALARM SETTING

1. Long press [ALARM] button. Rotate the [TUNING] knob when "hour" is flashing in the display.
2. Short press [ALARM] button again, the "minute" flashing. Rotate the [TUNING] knob to adjust the "minute".
3. Short press [ALARM] button again to select 1 ~ 90 minutes of the Alarm's duration.
4. Finally, short press [ALARM] button again to confirm.

#### Note:

In ALARM section, [ 🔊 ] means ALARM is set to radio-on; [ 🔔 ] means ALARM is set to buzzer, or if the display corner remains blank, which means the alarm is off.

### LISTEN TO THE RADIO

1. Short press [POWER] button to turn on your radio.
2. Select FM by pressing the [FM] button, MW and LW by pressing the [MW/LW] button, SW by pressing the [ ∨ ] or [ ^ ] button sequentially until you have selected the desired meter band (meter band number flashes in the upper right corner of the display) .
3. Turn the TUNING knob to your desired radio station.
4. You can also direct key-in the frequency numbers by pressing the numeric keys.
5. Adjust the volume level by turning the VOLUME knob up & down.

#### Note:

Be sure to fully extend the telescopic antenna when listening to SW and FM.

ATS (Auto Tuning Storage) on FM, MW, LW or SW band

1. Turn on the radio, and fully extend the antenna.
2. Short press [FM] button to Select FM band.
3. Long press on [FM] button until frequency number is running on the display. All the available stations will be stored in the memory automatically. It will stop when it is done.
4. Then use the [TUNING] knob to tune around for those stored stations.

MW, LW or SW ATS is same as the FM ATS.

**Special note:** There are mode A & mode B during applying ATS in SW.

Mode A : Auto-searching & storing all the radio stations within all meter bands.

Mode B: Auto-searching & storing all the radio stations within present meter band.

### Special note:

During processing ATS with mode A in FM / MW / LW & SW, pre-stored radio stations would be deleted & covered automatically by the new searched & stored stations. If ATS is interrupted or being turned off during process, radio stations without deleted & covered by ATS would still be kept.

With ATS mode B in SW, it will not delete & cover all existing memories; all the newly found radio stations would be stored in the blank memories addresses.

### STORING FREQUENCIES INTO MEMORY

1. Turn on your radio, and tune into your favorite station.
2. Short press [M] button, with the memory address is flashing in the display, press [M] button again to confirm.

### LISTEN TO STATIONS IN THE MEMORY

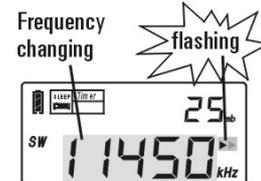
1. Turn on the radio, press and release the [SCAN MODE] button with notice that the PRESET show in the display's upper right corner.
2. Turn the [TUNING] knob to listen to what's you stored.

### DELETE MEMORY

1. Turn on the radio and press the [SCAN MODE] button, causing PRESET to appear in the display's upper right corner.
2. Use the [TUNING] knob to select the memory that you want to delete.
3. Long press [DELETE] button. " DEL " is flashing in the display, press [DELETE] button again to confirm it.

### AUTO SCAN STATION

1. Turn on the radio and press the [SCAN MODE] button with notice that Frequency flashes.
2. Long press [SCAN MODE] button to search for those available stations. Auto search will stop on each available station for 3 seconds before it goes on searching for the next available station.
3. To stop auto search function, simply press any buttons except [M] button.



Auto-scan with pre-listening

### AUTO SCAN MEMORY

1. Turn on the radio and press the [SCAN MODE] button, causing "PRESET" to appear in the display's upper right corner.
2. Long press [SCAN MODE] button until "PRESET" is flashing in the display. It will search all the stations within the memory, and stop on each station for 3 seconds.
3. To stop auto search memory, simply press any buttons except [DELETE] button.

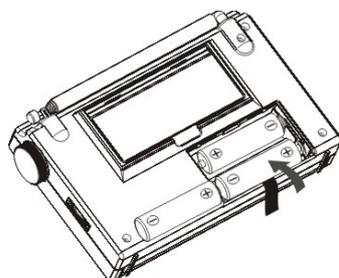


Auto-scan memory with pre-listening

## TURN THE RADIO ON OR OFF

### 1. Installing batteries

The battery compartment is located on the back of the PL-310. To remove the battery compartment cover, apply thumb pressure and slide it towards the bottom of the radio. Install 3 AA alkaline batteries into the battery compartment, observing the battery polarity diagram on the back of the radio.



### 2. Short press on [POWER] button to turn the radio on or off.



## LISTEN TO THE RADIO

Short press [POWER] button to turn on your radio, and select your band by short press on [FM]、[MW/LW]、SW[  $\vee$  ] or [  $\wedge$  ] button. Adjust the volume level. Now, turn in your favorite station with either one of the following methods:

### Method 1: Manual tuning

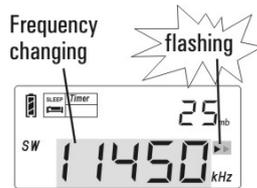
Rotate the [TUNING] knob to select your station.

FAST/SLOW tuning is shown in the chart below for each band.

step band	► slow tuning mode	►► Fast tuning mode
	Slow turning	Fast turning
FM	0.01 MHz	0.1 MHz
MW	1 kHz	9 / 10 kHz
LW	1 kHz	9 kHz
SW	1 kHz	5 kHz

### Method 2: Auto scan stations

1. Short press [SCAN MODE] button with a "BB" sound.
2. Long press [SCAN MODE] button with a "B" sound to activate the Auto-scan function. Auto search will stop on each available station for 3 seconds before it goes on searching for the next available station.
3. To stop auto search function, simply press any buttons except [M] button.



Auto-scan with pre-listening

**Method 3: Direct frequency entry**

Use the numeric keypad to enter the frequency directly.

**Note:**

No need to enter decimal point for FM Band when input the frequency numbers. For example, FM 89.0 MHz, Just ENTER 8 9 0 .

**Method 4:** Manual memory search (see page 12)

**Method 5:** Auto-scan memory (see page 12)

**Method 6:** Direct memory access (see page 12)

**TO STORE STATION**

There are total 500 preset memories within PL-310. For FM, MW, and LW, each band has 100 preset memories; and 200 preset memories for SW.

**ATS (Auto Tuning Storage) on FM, MW, LW or SW band**

1. Turn on the radio, and fully extend the antenna.
2. Short press [FM] button to select FM band.
3. Long press on [FM] button with a "B" sound and frequency is running on the display. All the available stations will be stored in the memory automatically. It will stop when it is done.
4. Then use the [TUNING] knob to tune around for those stored stations.

MW, LW or SW ATS is same as the FM ATS.

**Special note:** There are mode A & mode B during applying ATS in SW.

Mode A : Auto-searching & storing all the radio stations within all meter bands.

Mode B: Auto-searching & storing all the radio stations within present meter band.

**Special note:**

1. During the processing ATS with mode A in FM / MW / LW & SW, pre-stored radio stations would be deleted & covered automatically by the new searched & stored stations. If ATS is interrupted or being turned off, radio stations without deleted & covered by ATS would still be kept.

With ATS mode B in SW, it will not delete & cover all existing memories; all the newly found radio stations would be stored in the blank memories addresses.

2. If there is interference found in surroundings area and ATS is not function properly, lower down the telescopic antenna to restart the ATS again. (For Turning the radio body around to other directions in order to receive better frequency in MW / LW).

### **To store a station manually**

1. Turn on your radio, and tune into your favorite station.
2. Short press [M] button with a "B" sound.
3. Short press [M] button again to confirm with a long "B--" sound.

### **To store station with auto search function**

1. Short press the [SCAN MODE] button with a "BB" sound.
2. Long press [SCAN MODE] button with a "B" sound to activate the Auto-scan function.
3. If you want to store that station, simply press on the [M] button to store the station with a long "B--" sound. Keep store up your stations when auto search is activated unit it is done.
4. To stop auto search function, simply press any buttons except [M] button.

## **LISTEN TO STATIONS IN THE MEMORY**

### **Method 1:** Manual memory search

1. Short press the [SCAN MODE] button with a "B" sound.
2. Rotate the [TUNING] knob for those stations in the memory.

### **Method 2:** Auto scan memory

1. Short press the [SCAN MODE] button with a "B" sound.
2. Long press the [SCAN MODE] button with a "B" sound to activate the auto scan memory function. It will search all the stations within the memory, and stop on each station for 3 seconds.
3. To stop auto search memory, simply press any buttons except [DELETE] button.

### **Method 3:** Direct memory access

1. Short press the [SCAN MODE] button with a "B" sound.
2. Use the numeric keypad to key-in the memory number. For example, if the desired radio station is in memory number 006, just press 0, 0, 6, and it will go to memory 006.

### **NOTE:**

When " - - - - " appeared in the display with a "B" sound after you key in a number of the memory, means there is nothing stored.

## **DELETE MEMORY**

### **Method 1:** Manual delete memory

1. Short press the [SCAN MODE] button with a "B" sound.
2. Rotate the [TUNING] knob for those stations in the memory.
3. Long press the [DELETE] button with a "B" sound.
4. Short press [DELETE] button again to confirm with a long "B- -" sound.

### **Note:**

If "DEL" is flashing more than 3 seconds without confirmation, it will exit the delete function automatically.

**Method 2:**

To delete stations with auto search memory function

1. Short press the [SCAN MODE] button with a "B" sound.
2. Long press the [SCAN MODE] button with a "B" sound to activate the Auto scan memory function.
3. If you want to delete that station, simply press [DELETE] button with a long "B--" sound.
4. To stop auto search memory function, simply press any buttons except [DELETE] button.

**Method 3:** To delete all memories

1. Short press the [SCAN MODE] button with a "B" sound.
2. Long press [DELETE] button for about 3 seconds with a "BB" sound or until " DEL " and "ALL" appear in the display.
3. Press [DELETE] button again to confirm.

**Note:**

If "DEL" is flashing more than 3 seconds without confirmation, it will exit the delete function automatically.

**SLEEP FUNCTION**

With sleep function, you can adjust the length of time for the radio to turn off automatically.

Long press the [POWER] button with a long "B- -" sound, rotate the [TUNING] knob to select time from 1 ~ 120 minutes for sleep timer within 3 seconds.

(select " ON " to turn on the radio permanently)

**CLOCK SETTING**

The factory has set the clock to function as a 24-hour format clock. If you prefer a 12 hour, AM/PM clock format, see the section titled CHANGING THE CLOCK FROM 24 TO 12 HOUR FORMAT in the section titled SYSTEM SET CODES.

**Method 1:**

1. Long press [TIME] button with a "B" sound until you see the "hour" flashing. Rotate the [TUNING] knob to adjust the correct "hour".
2. Short press [TIME] button again with a "BB" sound, the "minute" flashing. Rotate the [TUNING] knob to adjust "minute".
3. Short press [TIME] button with a long "B- -" sound to confirm your time setting.

**Method 2:**

1. Long press [TIME] button with a "B" sound until you see the "hour" flashing.
2. Enter "hour" and "minute" with numbers directly by pressing numeric keys. (For example, 14:50pm, just enter 1 4 5 0)

**ALARM SETTING**

1. Long press [ALARM] button with a "B" sound. Rotate the [TUNING] knob when "hour" is flashing in the display.
2. Short press [ALARM] button again with a "BB" sound, the "minute" flashing. Rotate the [TUNING] knob to adjust the "minute" .
3. Short press [ALARM] button again with another "BB" sound and notice the alarm's duration flashing. Rotate the [TUNING] knob to select 1 ~ 90 minutes of the alarm's duration.
4. Finally, short press [ALARM] button again with a long "B--" sound to confirm.

Note: After the alarm setting, it will auto start the alarm by radio note that "📻" appears on the display.

Select the alarm by radio "📻" or by buzzer "🔔"

1. To activate the alarm by radio, short press [ALARM] button with a "B" sound and notice that the "📻" symbol shows up in the Timer display section.
2. To activate the alarm by buzzer, short press [ALARM] button again with a "BB" sound and notice that the "🔔" symbol appears in the Timer display section.
3. Short press [ALARM] button again with a long "B--" sound and notice nothing appears in the Timer display section to turn off the alarm.

#### **Set the alarm by radio**

1. Turn on the radio, tune into your favorite alarm radio station. Please set the volume at the noticeable level.
2. Short press [M] button with a "B" sound.
3. Short press [ALARM] button with a "B" sound and notice "📻" symbol is flashing for couple seconds. Now this alarm radio station is set.

It will go on when the alarm is activated in either the radio is off, or the radio is on other station.

#### **Alarm by buzzer**

1. When the alarm is activated, "BB" sound will continuously alarmed. It will turn off automatically according to your setting.
2. If the alarm is activated, when you are listening the radio; this radio will automatically turn off, and activate the alarm (only "BB" sound will come out).

#### **Snooze**

When your alarm functions and [LIGHT/SNOOZE] button is pressed, it allows you to sleep for 5 more minutes then the alarm sounds again.

#### **TO TURN OFF THE ALARM**

When the radio is turned on by the alarm function with radio, you can short press [POWER] button to continue listening radio afterwards.

Short press [POWER] again to turn off the radio.

When the radio is on by alarm functions with buzzer, you can short press [POWER] button to turn off the alarm.

### **DISPLAY MODE**

OFF status: Short press [DISPLAY] button to view on Temperature, Alarm time.

ON status: Short press [DISPLAY] button to view on Alarm time, Temperature, Local time, signal strength/ SNR.

### **USING THE LOCK BUTTON**

Long press [] button with a long "B- -" sound and the "" symbol appears in the display to lock up all keys / buttons.

Long press [] button again with a "B" sound to unlock it.

### **USING THE LIGHT BUTTON**

Short press [LIGHT] button with a "B" sound, LCD backlight illuminates for 3 seconds.

Long press [LIGHT] button with a long "B- -" sound, LCD illuminates permanently.

Short press [LIGHT] button again with a "BB" sound to turn off it.

### **FM ST. (FM STEREO) BUTTON**

Short press [FM ST.] button when in the FM band to take the radio in or out of stereo reception mode. When it's in stereo mode, "" appears over the left side of the frequency in the display. As long as you are not using headphones or earphones, it can be left in mono mode.

### **AM BW (BANDWIDTH) BUTTON**

Short press [AM BW] button to choose 6, 4, 3, 2, 1 kHz bandwidth. This may help to reduce interference on some frequencies. Using WIDE usually results in better audio fidelity, while using narrow limits the audio fidelity somewhat. You can use it in MW, LW and SW band.

### **SYSTEM SETTING**

#### **Frequency range setting for FM**

Turn off the radio, long press [FM SET] button, until 87.5-108MHz, 64-108MHz, 76-108MHz, or 87-108MHz appears in the display. Quickly keep pressing on the [FM SET] button to select suitable frequency range for your local FM.

#### **Changing the clock format**

Turn off the radio, long press [12/24] button, until " 12 " or " 24 " appears in the display. If " 12 " appears in the display, which means the clock system will be in the 12 hour format.

#### **MW(AM) step setting**

Turn off the radio, long press [9/10kHz] button until "9kHz" or "10kHz" appear in the display. If the display shows "10kHz" with degree of Fahrenheit (°F), which means this radio is set to 10 kHz step for AM with temperature in Fahrenheit (°F). 10kHz step is used by North America AM broadcast.

Turn LW on/off

Turn off the radio. Press and hold the [MW/LW] button until "ON" or "OFF" appears in the display, If " OFF" appears in the display, which means LW is turned off.

Turn off the "Bi" sound

Press and hold the [SNOOZE/LIGHT] button until "OFF" or "ON" appears in the display; If " OFF" appears in the display, which means "Bi" sound is turned off.

This radio bears the **intelligent backlight function** which backlight would be on for 3 seconds when tuning knob is being rotated or any key is being pressed.

Press & hold [5] key, then symbol "OFF" appears in the display; which means this intelligent lighting function is being turned off. By pressing & hold [5] key again, symbol "ON" appears in the display LCD, and this means the intelligent lighting function is on now.)

**Special note:** After shutting off the intelligent lighting function, the [LIGHT/SNOOZE] key is still workable for turning on or off the backlight.

#### Turning on / off the charging function

Press & hold [RECHARGE] key , symbol of "CHA ON" & "Ni-MH Battery" to be shown and means recharging the batteries is now activated. Press & hold [RECHARGE] key , "CHA OFF" & "Ni-MH Battery" sign is disappeared on the screen, this means regular batteries to be used and charging function to be turned off.

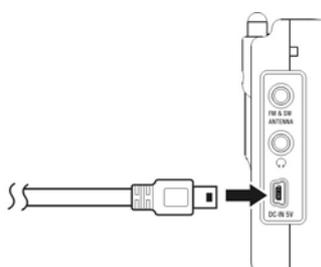
**Special note:** Please check the radio default for the batteries type before using the correct batteries. In case of using rechargeable batteries, you should switch default to the rechargeable status for batteries. The correct power capacity of rechargeable batteries would be shown more accurately.

#### 14. Apply the intelligent recharging function (Rechargeable batteries & external power connectors are sold separately.

1. With radio is turned off, installing 3 x UM3 (AA) rechargeable batteries , press & hold [RECHARGE] key until symbol "CHA ON" & "Ni-MH Battery" appear, this means the charging function is on.
2. Using any USB 5v external DC power sources to connect this radio for charging, symbol "🔋" will advance from the bottom to top during power charging. It stops when batteries are fully charged.

#### Connect USB 5V to external power sources

**Special note:** Using the USB 5V to 连接USB 5V外接电源



connect to the radio as an the external power sources for supplying power to play this radio

**Notes for charging power:**

1. Insisting to use up all power with batteries before charging again, this could extend the life time of battery and keeping them in good conditions.
2. 3 pcs of batteries to be used as a group and don't separate them to other usage. Also don't mix to use batteries with different power capacity
3. Don't charge on any non-rechargeable batteries in the radio, this will cause an hazard or damage to your radio.

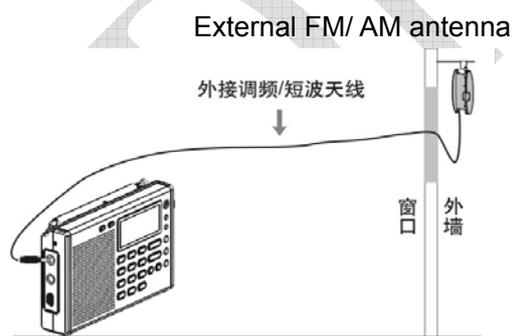
**15. Notes for using batteries**

1. If no battery has been installed inside the radio for long time, the clock of radio would stop. However, pre-stored frequencies are still kept. Clock would work again after new batteries being installed again, and simply adjust the correct time for the clock.
2. This radio have AUTO-OFF for INSUFFICIENT POWER function. When the batteries is going to run out, the radio function would turn off automatically with flashing symbol “” to alert you for changing new batteries.
3. Mix use of old & new batteries would cause damage of radio and also cause incorrect display on capacity of power.
4. in case of radio not to be used for a long period, draw out the batteries for preventing liquid leakage and damaging the parts of radio.

**USING THE EXTERNAL ANTENNA SOCKET**

The external antenna socket is used to improve shortwave or FM performance.

**Caution: Don't install external FM/ AM antenna in the frequent thunder area**



 注意：多雷雨地区切勿安装室外外接天线！

Notice: Do not install any external antenna at the area with thunder & lighting.

## TROUBLE SHOOTING

QUESTIONS	ANSWERS	SOLUTIONS
Can not turn on the radio.	<ul style="list-style-type: none"> <li>-no power with the batteries</li> <li>-didn't install the batteries properly</li> <li>-power button is locked</li> </ul>	<ul style="list-style-type: none"> <li>-replace the new batteries</li> <li>-according to "+" or "-" sign to install the batteries again</li> <li>-press [ ] button to unlocked</li> </ul>
Radio goes off when you are listening	<ul style="list-style-type: none"> <li>-no power with the batteries</li> <li>-sleep timer is activated</li> </ul>	<ul style="list-style-type: none"> <li>-replace the batteries</li> <li>-turn on the radio again</li> </ul>
Can not store some stations using ATS Some station store with noise using ATS	<ul style="list-style-type: none"> <li>-frequency of stations are too weak</li> <li>-there are interference near by your area</li> </ul>	<ul style="list-style-type: none"> <li>-search the station manually</li> <li>- low down the antenna or move to other location and try again</li> </ul>
Only limited FM stations can be received in Japan	-FM frequency is 76~90MHz for Japan	<ul style="list-style-type: none"> <li>-turn the radio off and long press on the [FM SET] button, short press [FM SET] button again to select 76~108MHz</li> </ul>
Received very poor AM in USA	-Because USA is using 10kHz step for AM	<ul style="list-style-type: none"> <li>-turn off the radio press the [9/10kHz] button to select 10kHz</li> </ul>
When the alarm activated (alarm by radio), there is only noise with the broadcast	<ul style="list-style-type: none"> <li>-Did not set the proper radio station for the alarm</li> <li>-Or there are no broadcasting at that radio station</li> <li>-Or you have travelled to other city where does not have a radio station for your preset frequency.</li> </ul>	<ul style="list-style-type: none"> <li>-Preset your alarm station properly (see the above setting)</li> <li>-Make sure it has radio broadcast in your location.</li> <li>-Or set the alarm by buzzer.</li> </ul>
radio malfunction	This may caused	Remove the battery,

	by interference, and the computer microchip not function properly.	then you can reload. If it is still not able to work, please contact your nearest dealer for customer service.
--	-----------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------

### "B" SOUND VIA FUNCTIONS

Function	Button	Status	Sound	Display
Time setting	TIME	Hour setting	B	"hour" flashing
		Minute setting	BB	"minute" flashing
		Confirm or Auto confirm	B..	Nothing flashing
Alarm setting	ALARM	Hour setting	B	"hour" flashing
		Minute setting	BB	"minute" flashing
		Adjust the length of alarm	BB	1 ~ 90 minutes display, "🔊" or "🔔" and "🔔" are flashing
		confirmed	B..	Display time
		Select alarm by radio	B	🔊
		Select alarm by buzzer	BB	🔔
		Select alarm off	B..	"🔊" and "🔔" disappear
Radio on or off	POWER	Radio on	B	
		Radio permanently	B..	"🔒" display
		Radio off	BB	
Sleep timer Completed	POWER & TUNING KNOB	Rotate at 30, 60, 90, 120 mins.	B	
		Radio permanently	BB	"🔒" display
Lock	🔑	Lock	B..	"🔑" display
		Unlock	B	"🔑" disappear
BACKLIGHT	SNOOZE/ LIGHT	Illuminate short time	BB	Backlight on for 3 seconds
		Illuminate permanently	B..	Backlight on
		Turn off	B	Backlight off
SNOOZE	SNOOZE/ LIGHT	Temporary off	B	"🔊" or "🔔" flashing
View Frequency or view memories	SCAN MODE	Frequency tuning mode	B	Freq. blink for 1 s
		Memory mode	BB	Memory address on the top right corner
AUTO SCAN	SCAN MODE	Frequency tuning mode	B	Auto search
		Memory mode	B	Auto search in Memory
FM STEREO	FM ST.	STEREO	B	"🔊🔊" display
		MONO.	BB	"🔊🔊" disappear

Function	Button	Status	Sound	Display
FM	FM	FM	B	" <b>FM</b> " in the display
MW (AM) or LW	MW/LW	MW	B	" <b>MW</b> " in the display
		LW	B · ·	" <b>LW</b> " in the display
SW BAND METER BAND	∨ or ^	SW	B	" <b>SW</b> " & SW frequency
		METER BAND	B	Meter band on the right corner
ATS (Auto Tuning Storage)	FM MW/LW SW (∨ or ^)	ATS on	B	Freq. & memory address are running
		ATS off	B · ·	Display 01 memory address and Frequency
Store memory	MEMORY	On	B	Memory address flashing on the top right corner
		Confirmed	B · ·	Stopped
Delete memory	DELETE	Delete single memory	B	Memory address and " <b>dEL</b> " are flashing
		Delete all memory	BB	" <b>ALL</b> " & " <b>dEL</b> " are flashing
		Confirmed	B · ·	Back to Freq. display
Out bound meter band range	TUNING	Tuning into the range	B	Meter band appear on the top right corner
		Tuning out the range	B	Meter band disappear
FM freq. range	FM SET	Select FM freq.	B	87.5-108MHz, 64-108MHz, 76-108MHz or 87-108MHz
12/24 format	12/24	Select 12 format	B	" <b>12H</b> " in the display
		Select 24 format	BB	" <b>24H</b> " in the display
MW(AM) STEP	MW/LW	Select 9kHz step	B	"9kHz" and "°C" in the display
		Select 10kHz step	BB	"10kHz" and "°F" in the display
Charge on/off		On	B	" <b>On</b> " in the display
		Off	BB	" <b>OFF</b> " in the display
关闭或开启 智能照明		On	B	" <b>On</b> " in the display
		Off	BB	" <b>OFF</b> " in the display
"B" sound on/off		On	B	" <b>On</b> " in the display
		Off	BB	" <b>OFF</b> " in the display

## SPECIFICATIONS

### 1. Frequency range

FM	87~108 MHz Russia 64~108MHz Japan 76~108 MHz China, USA 87.5~108 MHz
MW	522~1620 (USA 520~1710) kHz
LW	153~513 kHz
SW	2300~21950 kHz

### 2. Sensitivity

FM (S/N=30dB)	Less than 2 $\mu$ V
MW (S/N=26dB)	Less than 1mV/m
LW (S/N=26dB)	Less than 10mV/m
SW (S/N=26dB)	Less than 20 $\mu$ V

### 3. Selectivity

FM	> 60 dB
MW	> 60 dB
LW	> 60 dB
MW	> 60 dB

### 4. FM Stereo crosstalk

Less than 35 dB

### 5. Memory

500

### 6. Output

350 mW

### 7. Power

UM3 or AA X 3

USB 5V DC

### 8. Speaker

$\Phi$ 57mm, 500mW/16 Ohm

### 9. Earphone Jack

$\Phi$ 3.5mm, 8~32 Ohm, Stereo type

### 10. Dimensions Approx.

141(W) X 87(H) X 30(D) mm

### 11. Weight

187g (Batteries not included)