TECSUN
RADIOS AUSTRALIA

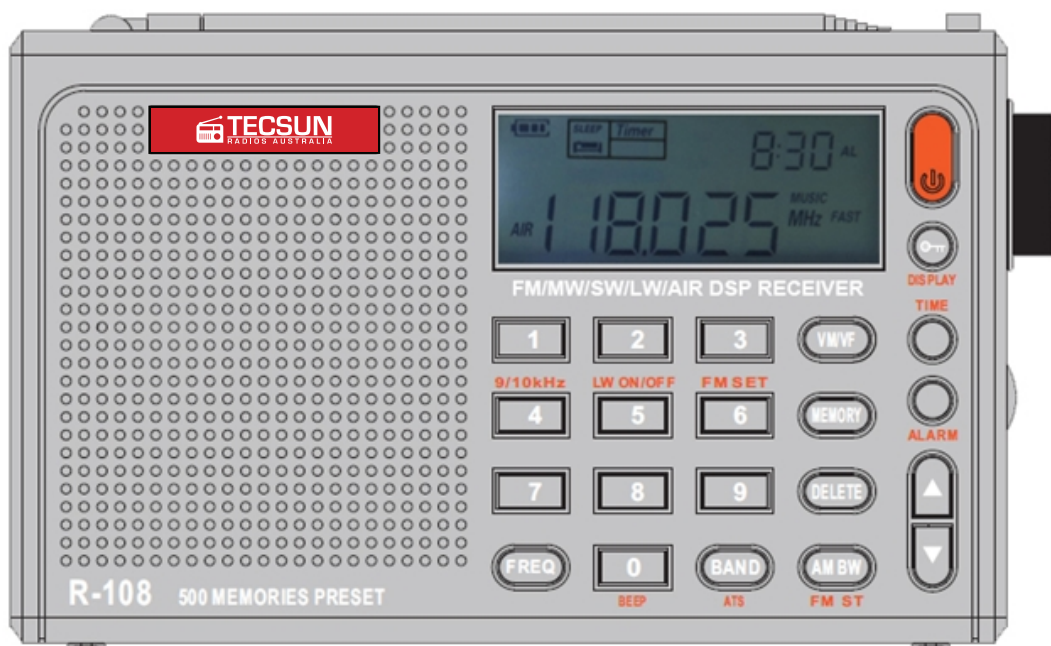# R-108

SYNTHESIZED RECEIVER
FM STEREO/MW/LW/SW/DSP/AIR BAND
OPERATION MANUAL

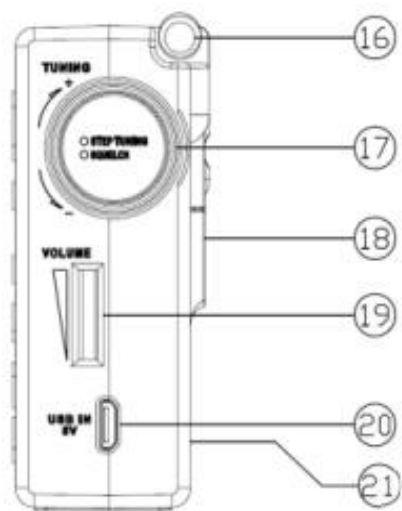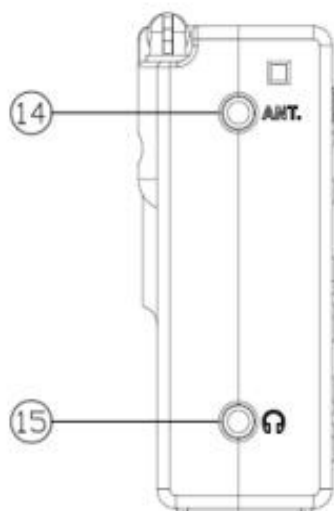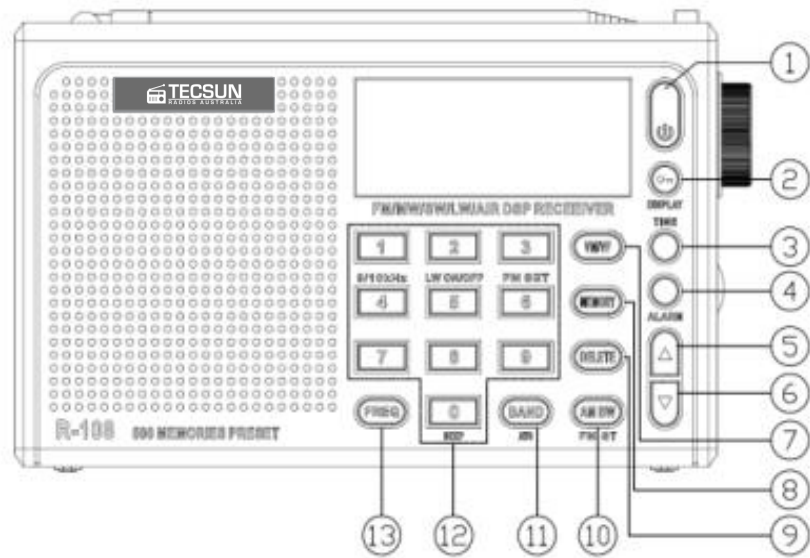# TABLE OF CONTENTS

FM/MW/SW/LW/AIR DSP RECEIVER

TECSUN

R-108   600 MEMORIES PRESET

ANT.

TUNING

STEP TUNING
SQUELCH

VOLUME

USB IN
5V

●CONTROL LOCATION

1 Power on/off

2 Display & Lock button

3 Time Set

4 Alarm Set

5 Previous

6 Next

7 VM/VF Button

8 Memory button

9 Delete button

10 FM ST. / AM BW (Band width) button

11 ATS button (Auto Tuning Storage)

12 Numeric keypad

13 FM Band Selector

14 FM & SW Antenna Jack

15 Earphone Jack

16 FM & SW Telescopic Antenna

17 Multifunctional Tuning Knob / SQUELCH

18 Back Stand

19 Volume Knob

20 USB 5V DC-IN Jack

21 Battery Compartment

●LCD DISPLAY
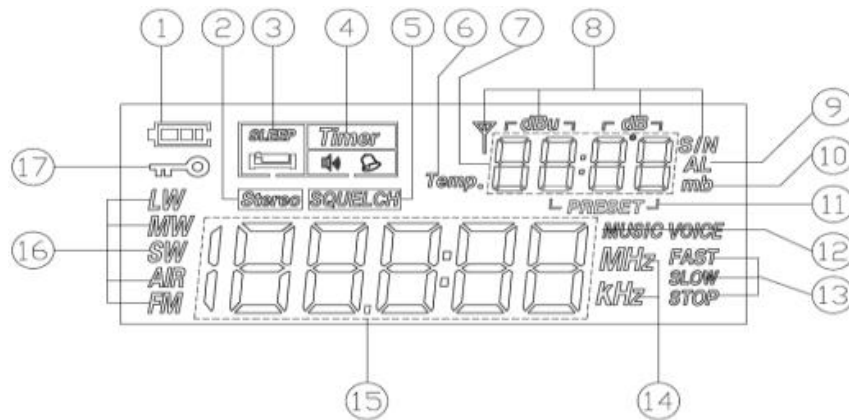
1. Battery consumption indicator

2. FM stereo status indicator

3. Sleep indicator

4. Alarm indicator

" 🔊 " alarm by radio

"🔔" alarm by buzzer

5. SQUELCH indicator

6. Temperature (Temp.)

7. Digital number display (4 Digits)

●With radio off: local time, alarm time, temperature

●With radio on: local time, signal strength / SNR, alarm time,

   temperature, memory address, meter band.

8. Signal indicators

   ●dBµ: signal strength unit

   ●dB: Signal to Noise Ratio (S/N) unit

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9. Alarm indicator

10. Meter band indicator

11. Preset memory address indicator

12. Sound Mode indicator

13. Tuning speed: FAST /SLOW / STOP

14. KHz: frequency unit for MW, LW & SW

MHz: frequency unit for FM

15. Master Digits

●With radio off: local time

●With radio on: frequency display, band display

16. Band indicator

17. Key-lock indicator

* Signal strength (unit: dBμ): Refers to the received station signal strength. The higher of the value, the better.

* Signal to Noise Ratio (S/N) (unit: dB): Refers to the ratio of useful signal strength to noise signal. The higher, the better.

●Quick Operation Guide

CLOCK SETTING　　　(Refer to 12)

1. Press & hold the **[TIME]** button until hours flashing, then rotate the **[TUNING]** knob to adjust the hour.
2. Press the **[TIME]** button, and then rotate the **[TUNING]** knob to adjust minute while the minute is flashing.
3. Press the **[TIME]** button to confirm the setting.

※If the [TIME] button has not been pressed again within 3 seconds, the unit will automatically confirm the setting.

ALARM TIME SETTING　　　(Refer to 13)

The Setup method is basically the same as setting the normal time method, but you also need to select the automatic shutdown time after the alarm:

1. Press & hold the **[ALARM]** button until hours flashing in the upper right corner, then rotate the **[TUNING**] knob to adjust the hours；
2. Press the **[ALARM]** button, and then rotate the **[TUNING]** knob to adjust the minute while minutes flashing.；
3. Press the **[ALARM]** button again and notice "30" shows on display then rotate the **[TUNING]** knob to select 1 ~ 90 minutes to set the auto alarm off timer；
4. Press the **[ALARM]** button again to confirm.

*※ You can press the **[ALARM]** button repeatedly to activate/deactivate the alarm by buzzer / radio respectively*

TUNE INTO STATIONS　　　(Refer to 8)

1. Press the **[POWER]** button to turn on the radio;
2. Select your desired band by pressing the **[BAND]** button;
3. Rotate the **[TUNING]** button to search for stations OR Press the numeric keys **[0] - [9]** to enter the station frequency directly.

Notes: In case of receiving FM/ SW broadcasting, fully extend the telescopic antenna for a better reception. When receiving MW (LW) broadcasting, please rotate the radio or change it's location to

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achieve optimum reception. You can adjust the appropriate volume by rotating the **[VOLUME]** button.

Auto Tuning Storage (ATS)　　(Refer to 9 ）
FM ATS:
1. Fully extend the telescopic antenna and press the**[BAND]**, button to select FM band;

2. Press & hold the **[BAND]** button, The radio will automatically search FM radio stations and store all available stations into the memories;

3. When the frequency count stops, it means the ATS operation is done completely. You can rotate the **[TUNING]** knob to search for those stored stations.

Notes: The ATS operation in the MW, LW, SW and AIR bands are basically the same as above**;** During ATS process in FM, MW / LW or SW /AIR, pre-stored radio stations will be replaced automatically by the new found stations.

STORING STATON MANUALLY　(Refer to 9)
1. Select band and tune to your desired station;

2. Press the **[MEMORY]** button,"*PRESET* ” will start flashing；

3.Rotate the **[TUNING]** button to select the storage location（1-100）；

4. Press the **[MEMORY]** button again to store the station into memory.

LISTENING TO STORED STATIONS　(Refer to 11)
1. Select your desired band by pressing **[BAND]** button;

2. Press the **[VM/VF]** button to switch into frequency mode, switch to address status, with memory address number flashing;

3. Rotate the **[TUNING]** knob to tune into the stored station one by one.

DELETE MEMORY   (Refer to 11)

1. Select your desired band by pressing **[BAND]** button;

2. Press the **[VM/VF]** button to switch into frequency mode, switch to address status;

3. Press & hold the **[DELETE]** button until "*DEL*" and "*memory address*" flashing;

4. Rotate the **[TUNING]** knob to select the memory that you want to delete;

5. Press the **[DELETE]** button to remove the unwanted memory address.

AUTO BROWSE MEMORY   (Refer to 11)

1. Select your desired band by pressing **[BAND]** button;

2. Press the **[VM/VF]** button to switch into frequency mode, switch to address status, with memory address number flashing;

3. Press & hold ⌂ / ⌄ button, auto scan from one memory to another, staying on each station for about 5 seconds.

4. To stop auto search memory, simply press the ⌂ / ⌄button.

SQUELCH SETTING   (Refer to 17)

1. Press the **[POWER]** button to turn on the radio and select your desired band by pressing **[BAND]** button；

2. Press & hold **[SQUELCH]** button，Switch to the signal strength selection page；

3. Rotate the **[TUNING]** knob to select signal strength；

4. Press the **[SQUELCH]** button again to confirm

SWITCH SOUND MODE   (Refer to 16)

1.Turn on the radio and select any band you desired ；

2. Press & hold **number"4"**button，and then switch the sound mode MUSIC/VOICE.

TUNING SPEED SETTING   (Refer to 17)

1. Turn on the radio and select any band you desired；

2. Press the **[SQUELCH]** button to select **Fast/Slow** speed or select **Stop** to lock station.

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►HOW TO TURN ON/OFF THE RADIO

1. Open the battery compartment located on the back of the radio; Install 1 x BL-5C battery. Close the battery door. The LCD display shows the battery level, time and other symbols
2. Press the **[POWER]** button to turn on/off the radio.

Note: If the radio does not turn on, please check if the battery were installed correctly, or the battery capacity is sufficient and the lock function has not been turned on.
(Press & hold the [◎] button to unlock.)

►TUNE INTO STATIONS

Press the **[POWER]** button to turn on your radio, and then select your desired band by pressing the **[BAND]** button. In case of receiving FM/ SW broadcasting, fully extend the telescopic antenna for a better reception. When receiving MW (LW) broadcasting, please rotate the radio or change it's location to achieve optimum reception.

Rotate the **[VOLUME]** button to adjust the volume.
Now, you can turn into your favorite stations with any of the below tuning methods:

METHOD 1: MANUAL TUNING

1. Press the **[VM/VF]** button to switch into frequency mode, and hear a sound of "Be---" with "*PRESET*'' flashing;
2. Rotate the **[TUNING]** knob to search your desired station.

METHOD 2: DIRECT KEYPAD ENTRY

1. Press the **[FREQ]** button, you can hear a sound of "Be---";
2. Press the numeric keys **[0] - [9]** to enter the station frequency directly.

Notes:
1. Ignore the decimal point for FM band when inputting the frequency numbers.
   For example, FM 89.3 MHz, just enter 8   9   3.
2. If the entered frequency is not within the covering area, the display would display "Err" (error) symbol.

►WORKING WITH STATION MEMORIES

There are in total 500 memory presets within the unit. 100 memory presets for each FM、MW、LW、SW 、AIR band.

METHOD 1: Auto Tuning Storage (ATS)

●FM ATS
1. Fully extend the telescopic antenna and press the **[BAND]** button to select FM band;
2. Press & hold the **[BAND**] button until "*PRESET*" flashing and the frequency is counting; now the unit starts scanning and storing all available stations into the memories;
3. When the frequency stops counting, it means the ATS operation is done completely. Now you can rotate the **[TUNING]** knob to browse for those stored stations.

●MW/LW ATS
1．Press the [MW/LW] button to select MW/LW band;
2. Press & hold the **[BAND**] button until "*PRESET*" flashing and the frequency counting; now the unit starts scanning and storing all available MW/LW band stations into the memories；
3. When the frequency stops counting, it means the ATS operation is done completely. Now you can rotate the **[TUNING]** knob to browse for those stored stations.

●SW ATS
1．Fully extend the telescopic antenna and press the **[BAND]** button to select SW band;

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2. Press & hold the **[BAND]** button until "*PRESET*" flashing and the frequency counting; now the unit starts scanning and storing all available SW band stations into the memories；

3. When the frequency stops advancing, it means the ATS operation is done completely. In the address state, you can rotate the **[TUNING]** knob to browse for those stored stations.

●AIR ATS

1. Fully extend the telescopic antenna and press the **[BAND]** button to select AIR band;

2. Press & hold the **[BAND]** button until "*PRESET*" flashing and the frequency counting; now the unit starts scanning and storing all available AIR band stations into the memories;

3. When the frequency stops counting, it means the ATS operation is done completely. Now you can rotate the **[TUNING]** knob to search for those stored stations.

Notes:

1. During ATS process in FM, MW / LW / SW or AIR, pre-stored radio stations will be replaced automatically by the new found stations;

2. If there is too much interference in your surrounding or many mirror/blank stations are being stored during ATS, you should adjust the telescopic antenna (FM & SW) or rotate the radio for better reception (MW & LW).

METHOD 2: STORING STATON MANUALLY

1.Select band and tune to your desired station；

2. Press the **[MEMORY]** button with "*PRESET* " flashing;

3. Rotate the **[TUNING]** button to select the location you want to store;

4. Press the **[MEMORY]** button again, and hear a sound of "Be—" , indicating that the station has been stored into memory.

Note: If you do not press the **[MEMORY]** button again within 3 seconds, the radio will automatically exit the storage.

►LISTENING TO STORED STATIONS

METHOD 1: MANUAL MEMORY TUNING

1. Press the **[VM/VF]** button to enter memory mode. "*PRESET* " will appear on screen；
2. Rotate the **[TUNING]** knob to tune into the stored station one by one.

METHOD 2: AUTO BROWSE MEMORY

1. Press the **[VM/VF]** button to enter memory mode; "*PRESET* " will appear on screen;
2. Press & hold the △ / ▽ button until the "*PRESET*" flashing to auto scan from one memory to another, staying on each station for about 5 seconds;
3. To stop auto browse memory, simply press the △ / ▽ button.

Note: After the station has been found, you can press the **[DELETE]** button to delete the station.

►DELETE MEMORY

METHOD 1. DELETING A SINGLE MEMORY MANUALLY

1. Press the **[VM/VF]** button, then you enter the address mode;

2. Press & hold the **[DELETE]** button until "DEL" and "memory address" flashing;
3. Rotate the **[TUNING]** knob to select the memory that you want to delete;
4. Press the **[DELETE]** button and you will completely delete the frequency in this address until you hear a sound of "Be--".

Note： If you do not press the **[DELETE]** button for 3 seconds to confirm, the radio will automatically exit the delete operation.

METHOD 2: SEMI-AUTO DELETE MEMORY

1. Press the **[VM/VF**] button turn into memory address mode until you hear a sound of "Be--";

2. Press & hold ⌂ / ▽ button to auto browse those stored stations until you hear a sound of "Be--";

3. Press the **[DELETE]** button at anytime in auto browse to direct delete the unwanted station; the radio will keep on auto browsing to the next available station until you press any other button to stop this function.

Note: This function is especially suitable for organizing store memory.

METHOD 3: MANUAL DELETES ALL MEMORY WITHIN THE BAND

1. Press the **[VM/VF]** button until "**PRESET**" flashing

2. Press & hold the **[DELETE]** button for 3 seconds and notice "*ALL DEL*" appears on the upper right corner of the display;

3. Press the **[DELETE]** button to delete all memory within the selected band.

Note：If you do not press the **[DELETE]** button for 3 seconds to confirm, the radio will automatically exit the delete operation.

►SLEEP FUNCTION

The radio is turned on by default to "120" (120 minutes), you can adjust the auto power off time as needed;

1.Press& hold **[POWER]**button until "▭" flashing on the display；

2. Rotate the **[TUNING]** knob immediately to select sleep timer from 1 ~ 120 minutes or select permanently "*ON* ";

3. Then wait until the radio auto turn on to confirm the setting.

►CLOCK SETTING
Set local time

1. Press & hold the **[TIME]** button until hours flashing, then rotate the **[TUNING]** knob to adjust the hour;

2. Press the **[TIME]** button, then rotate the **[TUNING]** knob to adjust the minutes while minutes is flashing;

3. Press the **[TIME]** button to confirm the setting.

Note：If you do not press the **[TIME]** button for 3 seconds to confirm, the radio will automatically exit the adjustment

Set the alarm time

1. Press & hold the **[ALARM]** button until hours flashing, then rotate the **[TUNING]** knob to adjust the hour;
2. Press the **[ALARM]** button, then rotate the **[TUNING]** knob to adjust the minutes while minutes is flashing ;
3. Press the **[ALARM]** button until you hear a sound of "BB--", then rotate the **[TUNING]** knob to adjust the automatic off time after power on (1-90 minutes);
4. Press the **[ALARM]** button to confirm the setting.

Note：If you do not press the **[ALARM]** button for 3 seconds to confirm, the radio will automatically exit the adjustment.

►WORKING WITH ALARM

You can press the **[ALARM]** button repeatedly to activate/deactivate the alarm by buzzer / radio.

1. If " 🕪 " shows on the display with a sound of "B", it means the alarm by radio is turned on.
2. If "🔔 " shows on the display with a sound of "BB", it means the alarm by buzzer is turned on.

3. If "🔔" / " 🕪" does not show on the display with a sound of "B---", it means the alarm by buzzer / radio is turned off.

METHOD1: SET THE ALARM BY RADIO

(You should pre-store the radio frequency before setting the alarm by radio)
1. Turn on the radio, then tune into your favorite station for alarm by radio and adjust your desired alarm volume level.
2. Press& hold the **[ALARM]** button with "" 🕪" flashing to store station.

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3. When the alarm by radio preset on time is reached, the radio will automatically turn on and play the pre-stored stations. It will automatically shut down when the preset off time is reached.

Note: The radio will turn on automatically playing the preset station when it reaches the alarm time. If the preset alarm is activated when you are listening to the radio, it will auto switch to the preset radio station.

METHOD2: SET THE ALARM BY BUZZER

（It is recommended to set the alarm by buzzer if you are not familiar with the local radio frequency and air time.）
1. Press the **[ALARM]** button with " 🕪 " flashing to turn on the alarm by buzzer.
2. The radio will turn on a continuous sound of "BB" when it reaches the alarm time. It will auto turn off as well when it reaches the preset alarm off time.

SNOOZE FUNCTION

When the preset alarm is activated, you can press any button other than the power button to temporarily turn off the alarm and the radio will start alarming again 5 minutes later.

Notes：

1. Press the **[POWER]** button to turn off the radio when Radio alarm is turned on.
2. Press the **[POWER]** button to turn off the Buzzer alarm when it is turned on.

►HOW TO CHANGE THE DISPLAY MODE

With radio OFF: Repeat pressing the **[DISPLAY]** button to view temperature, home/world time or alarm time showing on the upper right corner of the display.

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With radio ON: Press the**[DISPLAY]** button to view home time, world time, alarm time, temperature or signal Press strength showing on the upper right corner of the display

►KEY-LOCK FUNCTION

1. Press & hold the [◎] button until "⚷" symbol appears on the display to activate the key lock function.

2. Press & hold it again until "⚷" symbol disappears to deactivate the locking function.

►WORKING WITH INTELLIGENT LIGHT

This radio has an intelligent lighting function which keeps the backlight on for 10 seconds when operating any keys or knobs.

►FM ST. (FM STEREO)

1. While listening to FM stereo stations, press the **[FM ST]** button to activate the stereo listening. Notice"Stereo"appears in the display. If the received FM broadcast signal is too weak, it is recommendable to turn off the stereo function by pressing the **[FM ST]** button again. "Stereo" disappears.

2. The stereo function will not be activated if the FM station is not stereo broadcasting.

►AM BW (BANDWIDTH)

Repeat pressing the **[AM BW]** button to select your desired 6, 4, 3, 2, 1 kHz bandwidth
Wide band: It has better audio fidelity when receiving strong signals or local stations.

Narrow band: It is suitable to receive weak & long distance stations as narrow band is able to limit the interference from adjacent strong signal and reduce background noise.

►SYSTEM-SETTING

(Operating in the OFF state)

SETTING FM FREQUENCY RANGE

Press & hold the **[FM SET]** button until 64.0-108MHz, 76.0-108MHz, or 87-108MHz, 87.5-108MHz appears in the display.

SETTING MW (AM) TUNING

Press & hold **[9/10 kHz]** button until "9kHz" or "10kHz" appears on the display to select your desired AM tuning step.

Note: When the AM tuning step is 10 kHz, the temperature displays will auto switch to Fahrenheit (℉). When the AM tuning step is 9 kHz, the temperature display will auto switch to Centigrade (℃). The 10 kHz step is mostly used in the USA.

TURN ON/OFF THE LW

Press & hold the **[LW ON/OFF]** button until "LW ON" or "LW OFF" appears on the display to turn ON or OFF the LW respectively.

TURN ON/OFF THE "Beep (B)" SOUND:

With radio off, press & hold the **[LW ON/OFF]** button until "ON" or "OFF" appears in the display to activate or deactivate the "Beep (B)" sound respectively.

►SWITCH SOUND MODE

1.Turn on the radio and select any band you desired ；

2. Press & hold **number"4"**button，you can hear a sound of "B-B" It shows that the switch was successful；

3. The sound is in music mode when "**MUSIC**" is displayed and in news mode when "**VOICE**" is displayed.

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► SQUELCH FUNCTION

1. Press the **[POWER]** button to turn on the radio and select your desired band by pressing **[BAND]** button；

2. Press & hold the **[SQUELCH]** button until "B" sound heard to switch to the signal strength selection page with a symbol " SQUELCH " in display；

3. Rotate the **[TUNING]** knob to select signal strength"OFF-1-2-3-4- 5-6-7-8-9"；

4. Press the **[SQUELCH]** button again to confirm.

Note: If the **[SQUELCH]** button is not pressed shortly within 3 seconds, the radio will automatically confirm the adjustment; OFF means turn off the squelch function; the higher the number, the higher the signal strength needed to turn the sound on.

►TUNING SPEED SETTING

1. Turn on the radio and select any band you desired；

2. Press the **[SQUELCH]** button until you hear a sound of "B" and release your hand. The corresponding reference table of"*FAST*" " *SLOW* " "*STOP*" is shown below.

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	FAST	*SLOW*	*STOP*
FM	0.1 MHz	0.01 MHz	STOP
LW	3KHz	1KHz	STOP
MW	9/10KHz	1KHz	STOP
SW	5KHz	1KHz	STOP
AIR	25KHz	1KHz	STOP

►INTELLIGENT CHARGING FUNCTION

1. With radio off, install BL-5C rechargeable battery.

2. Use the 5V external adaptor with USB plug to connect to the

radio. The symbol " 🔋 " will advance from the bottom to the top during power charging. It will stop advancing when the battery is fully charged.

►HOW TO IMPROVE FM / SW RECEPTION

Plug in the external wire antenna to the [FM & SW] antenna jack

of this radio, and then hang its end outside the window for better

reception of FM, SW and AIR bands.

⚠**Caution:** *Do not install any external antenna at the area with thunder & lighting*

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►TROUBLE SHOOTING

QUESTIONS	ANSWERS	SOLUTIONS
	- low battery	-Replace new
--Can not turn on the radio.		Battery / Charge the battery.
	-improperly installed battery	-Re-install BL-5C battery correctly.
		.
	-Power button is	-Press the ⊙
	locked.	button to unlock.
-Radio auto turns	-Low battery	- Replace new Battery
off while listening.		/Charge the battery.
	-Sleep timer is	-Turn on the radio
	activated.	again.
-Some station is	-Frequency of	-Search the stations
not being stored	stations is too	manually.
using ATS.	weak.	-Low down the
-Some station is	-There is	antenna or move to
being stored with	interference	another location.
noise using ATS.	nearby.	
	FM frequency.	Turn off the radio,
-Poor FM reception	range does not	repeat press & hold
	match local radio	the [FM SET] button
		to select FM
		frequency range.
	- The MW stepping	Turn off the radio,
-Poor AM reception	does not match	repeat press & hold
	the local station	the [9/10kHz] button
		to select 9 or 10kHz.
--When the alarm	-Did not set the	-Preset your alarm

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activated (alarm by radio), there is	proper radio station for the alarm	station properly (see the above setting)
only noise with the broadcast	-Or there are no	-Make sure it has radio broadcast in your location.
	broadcasting at that radio station	-Or set the alarm by buzzer.
	-Or you have travelled to another	
	city where there is no	
	station at the preset frequency	
--radio malfunction	-This may be	Reinstall the battery,
	caused by interference or	If it is still not able to
	the computer microchip does not function properly	operate correctly, you can perform a reset.

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►IMPORTANT NOTICE ABOUT USING BATTERY

1. If no battery has been installed for a long time, the clock of the radio will stop to work. However, pre-stored frequencies are still kept. The clock will work again after new batteries are re-installed.
2. When the battery power is low, the " ⫐▭ " symbol flashes on the display meaning that you have to charge battery.
3. In case of the radio will not be used for a long period, take out the battery to prevent liquid leakage which can damage the radio.

►RESET

If the radio does not function properly, you can perform a reset by inserting a pin such as straightened paper clip, into the "RESET" hole in the bottom of the unit.

►RADIO MAINTENANCE

1. Avoid violent shock, fall into the water.

2. Do not place in direct sunlight, high temperature, humidity, and do not use or keep the radio in an environment with temperatures below 5℃, higher than +50℃, to avoid damage the LCD screen.

3. Avoid wiping the radio surface by a liquid with corrosive chemical composition.

4. Do not disassemble your own radio to adjust internal component parameters.

►SPECIFICATIONS

1. Frequency range	64~108 MHz
Russia	64~108MHz
Japan	76~108 MHz
EU, USA	87.5~108 MHz
MW	522~1620 kHz
USA	520~1710 kHz
LW	150~450 kHz
SW	1711-29999 kHz
AIR	118-137MHz
2.Sensitivity	
FM (S/N=30dB)	Less than 3μV
MW (S/N=26dB)	Less than 0.5mV/m
LW (S/N=26dB)	Less than 10mV/m
SW (S/N=26dB)	Less than 10Mv
AIR (S/N=26dB)	Less than 0.5μV
3.Selectivity	
FM ＞60 dB (**±**150kHz)	
MW ＞60 dB (BW=3kHz, **±**9kHz)	
LW ＞60 dB (BW=3kHz, **±**9kHz)	
SW ＞60 dB (BW=3kHz, **±**5kHz)	
AIR ＞60 dB (BW=3kHz, **±2**5kHz)	
4.FM Stereo crosstalk: Less than 35 dB	
5.Memory: 500	
6.Output (Distortion 10%): 1W	

7.Alarm clock mode: Alarm by radio & Alarm by buzzer

8. Power: BL-5C Battery or USB 5V DC

9.Speaker: 5W/4Ohm

10.Earphone Jack: φ3.5mm, Stereo type

11. Dimensions Approx.: 118(W) X 73(H) X 27(D) mm

12. Weight: 190g (Battery not included)

13. Accessories:

* 1 x TECSUN RADIOS AUSTRALIA

* 1 x External Antenna

* 1 x USB Charge Cable

* 1 x BL-5C Lithium Battery

* 1 x English User Manual

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