

VHF/UHF FM TRANSCEIVER

USER'S MANUAL

FC CE 0678  ROHS

DUAL BAND/DUAL WATCH
CTCSS TONE SCANNING

DSP
DIGITAL SIGNAL
PROCESSING SYSTEM

ImportCommunications.com

PREFACE

Thank you for purchasing our Amateur Portable Radio, which is a dual band/dual display radio. This easy-to-use radio will deliver you secure, instant and reliable communications at peak efficiency. Please read this manual carefully before use. The information presented herein will help you to derive maximum performance from your radio.

CONTENT

1.-SAFETY INFORMATION	03
2.-FEATURES AND FUNCTIONS	03
3.-UNPACKING AND CHECKING EQUIPMENTS	04
4.-OPTIONAL ACCESSORIES	04
5.-INSTALLATION OF ACCESSORIES	05
5.1.-INSTALLING THE ANTENNA	05
5.2.-INSTALLING THE BELT CLIP	05
5.3.-MICRO-HEADSET INSTALLATION OF EXTERNAL	05
5.4.-BATTERY INSTALLATION	05
6.-BATTERY CHARGING	06
7.-BATTERY INFORMATION	07
7.1.-INITIAL USE	07
7.2.-BATTERY TIPS	07
7.3.-PROLONG BATTERY LIFE	07
7.4.-BATTERY STORAGE	08
8.-PARTS, CONTROLS AND KEYS	08
8.1.-RADIO OVERVIEW	08
8.2.-COMMAND/KEY DEFINITION	09
9.-'LCD' DISPLAY	10
10.-1750 Hz TONE FOR ACCESS TO REPEATERS	11
11.-BASIC OPERATION	11
11.1.-RADIO ON-OFF/VOLUME CONTROL	11
11.2.-SELECTING A FREQUENCY OR CHANNEL	11
12.-ADVANCED OPERATION	11
12.1.-SET MENU DESCRIPTION	11
12.2.-SHORTCUT MENU OPERATION	13
12.3.-"SQL" (SQUELCH)	13
12.4.-FUNCTION "VOX" (VOICE OPERATED TRANSMISSION)	13
12.5.-SELECT WIDEBAND OR NARROW BAND "W/N"	13
12.6.-TDR (DUAL WATCH/DUAL RECEPTION)	13
12.7.-TOT(TRANSMISSION TIMER)	14
12.8.-CTCSS/DCS	14
12.9.-ANI	14
12.10.-DTMFST (DTMF TONE OF TRANSMITTING CODE)	14
12.11.-SC-REV(SCAN RESUME METHOD)	14
12.12.-PTT-ID(PTT OR RELEASE PTT TO TRANSMIT THE SIGNAL CODE)	15
12.13.-BCL(BUSY CHANNEL LOCKOUT)	15
12.14.-SFT-D(DIRECTION OF FREQUENCY SHIFT)	15
12.15.-OFFSET(FREQUENCY SHIFT)	15
12.16.-STE(STE TAIL TONE ELIMINATION)	15
13.-CTCSS TABLE	15
14.-DCS TABLE	16
15.-TECHNICAL SPECIFICATION	16
15.1.-GENERAL	16
15.2.-TRANSMITTER	17
15.3.-RECEIVER	17
16.-TROUBLESHOOTING	18
17.-WARRANTY	19

1.-SAFETY INFORMATION:

The following safety precautions shall always be observed during operation, service and repair of this equipment.

- This equipment shall be serviced by qualified technicians only.
- Do not modify the radio for any reason.
- Use only BAOFENG supplied or approved batteries and chargers.
- Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn can result.
- Turn off your radio prior to entering any area with explosive and flammable materials.
- Do not charge your battery in a location with explosive and flammable materials.
- To avoid electromagnetic interference and/or compatibility conflicts, turn off your radio in any area where posted notices instruct you to do so.
- Turn off your radio before boarding an aircraft. Any use of a radio must be in accordance with airline regulations or crew instructions.
- Turn off your radio before entering a blasting area.
- For vehicles with an air bag, do not place a radio in the area over an air bag or in the air bag deployment area.
- Do not expose the radio to direct sunlight over a long time, nor place it close to heating source.
- When transmitting with a portable radio, hold the radio in a vertical position with the microphone 3 to 4 centimeters away from your lips. Keep antenna at least 2.5 centimeters away from your body when transmitting.



WARNING: If you wear a radio on your body, ensure the radio and its antenna are at least 2.5 centimeters away from your body when transmitting.

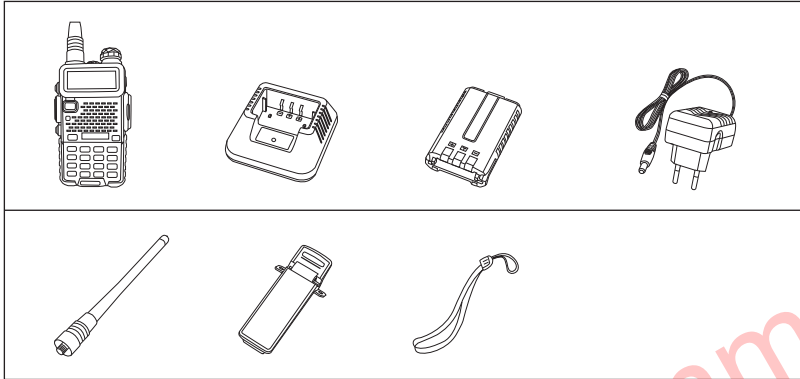
2.-FEATURES AND FUNCTIONS:

- Dual-band handheld transceiver with display function menu on the display "LCD".
- DTMF encoded.
- Lithium-ion battery with high capacity.
- Commercial FM radio receiver (65 MHz ~ 108 MHz).
- Incorporates 105 codes "DCS" and 50 privacy codes "CTCSS" programmable.
- Function "VOX" (voice operated transmission).
- Alarm function.
- Up to 128 memory channels.
- Broadband (Wide) / Narrowband (Narrow), selectable.
- High power / low (5 W/1 W) selectable.
- Display illumination and programmable keyboard.
- Function "beep" on the keyboard.
- Dual Watch/dual reception .
- Selectable Frequency Step 2.5/5/6.25/10/12.5/25 kHz.
- Function "OFFSET" (frequency offset for repeater access).
- Battery saving function "SAVE".
- Timer transmission "TOT" programmable.
- Selecting the Scan Mode.
- Function Busy Channel Lock "BCLO".
- Built-in RX CTCSS/DCS scan
- Built-in LED flashlight.
- Programmable by PC.

- Level Threshold "Squelch" adjustable from 0 to 9.
- Crossband reception
- Tone end of transmission
- Built-in key lock

3.-UNPACKING AND CHECKING EQUIPMENTS:

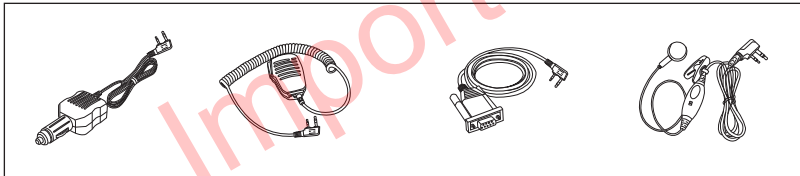
Carefully unpack the transceiver. We recommend that you identify the items listed in the following before discarding the packing material. If any items are missing or have been damaged during shipment, please contact your dealers immediately.



Note:

- Items included in the package, may differ from those listed in the table above depending on the country of purchase. For more information, consult your dealer or vendor.

4.- OPTIONAL ACCESSORIES:



Note:

- Consult the dealer or retailer for information about options available.

5.- INSTALLATION OF ACCESSORIES:

5.1.- INSTALLING THE ANTENNA:

Install the antenna as shown in the figure below and turn it clockwise until it stops.

Note:

- When installing the antenna, don't rotate it by its top, holding it by its base and turn.
- If you use an external antenna, make sure the 'SWR' is about 1.5:1 or less, to avoid damage to the transceiver's final transistors.
- Do not hold the antenna with your hand or wrap the outside of it to avoid bad operation of the transceiver.
- Never transmit without an antenna.

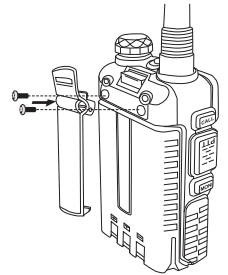


5.2.- INSTALLING THE BELT CLIP:

If necessary, install the belt clip at the rear of the battery compartment cover as shown in the figure below.

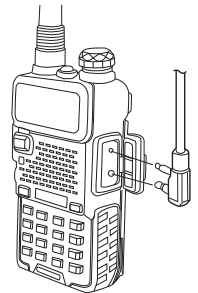
Note:

- Do not use any kind of glue to fix the screw on the belt clip. The solvents Glue may damage the battery casing.



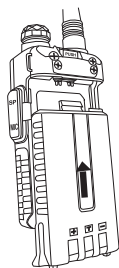
5.3.- MICRO-HEADSET INSTALLATION OF EXTERNAL:

Plug the external micro-headset connector into the jack of 'SP. & MIC' of the transceiver as shown in the figure below.



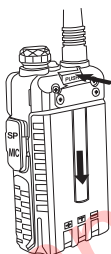
5.4.- BATTERY INSTALLATION:

- When attaching the battery, make sure the battery is in parallel and in good contact with the aluminum chassis. The battery bottom is about 1 to 2 centimeters below the bottom of the radio's body.
- Align the battery with the guide rails on the aluminum chassis and slide it upwards until a 'click' is heard.
- The battery latch at the bottom locks the battery.



-Turn off the radio before removing the battery.

- Slide the battery latch, at the bottom of the radio's body, in the direction indicated by the arrow.
- Slide down the battery for about 1 to 2 centimeters, and then remove the battery from the radio's body.



6.-BATTERY CHARGING:

Use only the charger specified by the manufacturer. The charger's LED indicates the charging progress.

CHARGING STATUS	LED INDICATION
Standby (no-load)	Red LED flashes, while Green LED glows
Charging	Red LED solidly glows
Fully Charged	Green LED solidly glows
Error	Red LED flashes, while Green LED glows



Please follow these steps:

1. Plug the power cord into the adapter.
2. Plug the AC connector of the adapter into the AC outlet socket.
3. Plug the DC connector of the adapter into the DC socket on the back of the charger.
4. Place the radio with the battery attached, or the battery alone, in the charger.
5. Make sure the battery is in good contact with the charging terminals. The charging process initiates when the red LED lights.
6. The green LED lights about 4 hours later indicating the battery is fully charged. Then remove the radio with the battery attached or the battery alone from the charger.

7.-BATTERY INFORMATION:

7.1.-INITIAL USE

New batteries are shipped uncharged fully from the factory. Charge a new battery for 5 hours before initial use. The maximum battery capacity and performance is achieved after three full charge/discharge cycles. If you notice the battery power runs low, please recharge the battery.



WARNING: -To reduce the risk of injury, charge only the battery specified by the manufacturer. Other batteries may burst, causing bodily injury and property damage.
-To avoid risk of personal injury, do not dispose of batteries in a fire!

- Dispose of batteries according to local regulations (e.g. recycling). Do not dispose as household waste.
- Never attempt to disassemble the battery.

7.2.-BATTERY TIPS:

1. When charging your battery, keep it at a temperature among 5°C - 40°C. Temperature out of the limit may cause battery leakage or damage.
2. When charging a battery attached to a radio, turn the radio off to ensure a full charge.
3. Do not cut off the power supply or remove the battery when charging a battery.
4. Never charge a battery that is wet. Please dry it with a soft cloth prior to charge.
5. The battery will eventually wear out. When the operating time (talk-time and standby time) is noticeably shorter than normal performance, it is time to buy a new battery.

7.3.-PROLONG BATTERY LIFE:

1. Battery performance will be greatly decreased at a temperature below 0°C. A spare battery is necessary in cold weather. The cold battery unable to work in this situation may work under room temperature, so keep it for later use.

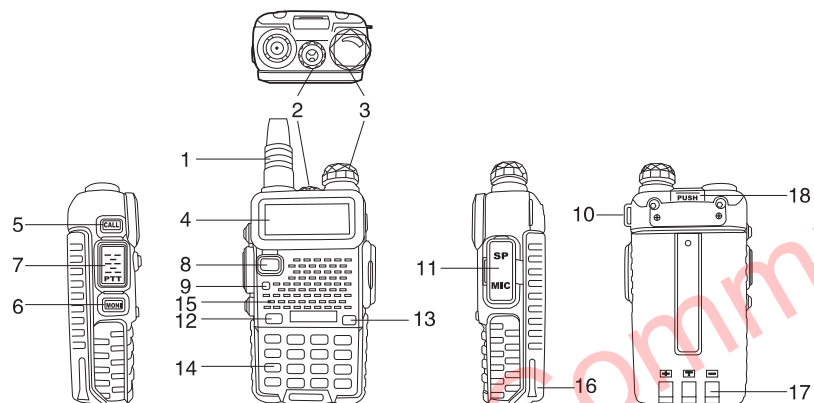
2. The dust on the battery contact may cause the battery cannot work or charge. Please use a clean dry cloth to wipe it before attaching the battery to the radio.

7.4.-BATTERY STORAGE:

1. Fully charge a battery before you store it for a long time, to avoid battery damage due to over-discharge.
2. Recharge a battery after several months' storage (Li-Ion batteries: 6 months), to avoid battery capacity reduction due to over-discharge.
3. Store your battery in a cool and dry place under room temperature, to reduce self-discharge.

8.-PARTS, CONTROLS AND KEYS:

8.1.-RADIO OVERVIEW:



1. antenna	10. strap buckle
2. flashlight	11. accessory jack
3. knob (ON/OFF, volume)	12. A/B key (frequency display switches)
4. LCD	13. BAND key (band switches)
5. SK-side key1/CALL (radio, alarm)	14. keypad
6. SK-side key2/MONI (flashlight, monitor)	15. SP.&MIC.
7. PTT key (push-to-talk)	16. battery pack
8. VFO/MR (frequency mode/channel mode)	17. battery contacts
9. LED indicator	18. battery remove button

8.2.- COMMAND/KEY DEFINITION:

► [PTT](PUSH-TO-TALK):

Press and hold down the [PTT] button to transmit; release it to receive.

► SK-SIDE KEY1/[CALL]:

- Press the [CALL] button, to activate the FM Radio; Press it again to deactivate the FM Radio.
- Press and hold on the [CALL] button, to activate the alarm function; Press and hold it again, to deactivate the alarm function.

► SK-SIDE KEY2/[MONI]:

- Press the [MONI] button, to turn on the flashlight; Press it again to turn off. Press and hold on the [MONI] button, to monitor the signal.

► [VFO/MR]BUTTON:

- Press the [VFO/MR] button, to switch the frequency mode and channel mode.

► [A/B]BUTTON:

- Press the [A/B] button, to switch frequency display.

► [BAND]BUTTON:

- Press the [BAND] button, to switch band display.
- While FM radio being activated, press the [BAND] button to switch the band of FM radio (band 65-75MHz/76-108MHz).

► [*SCAN]KEY:

- Press the [*SCAN] key to activate the Reverse function, it will exchange a separate reception and transmission frequency.
- Press the [*SCAN] key for 2 seconds to start scanning (frequency/channel).
- While FM radio being activated, press the [*SCAN] key to search FM radio station.
- While setting the RX CTCSS/DCS, press the key [*SCAN] to scan the RX CTCSS/DCS.

► [# r] KEY:

- Under channel mode, press [# r] key to switch High/Low transmit power.
- Press [# r] key for 2 seconds to lock/unlock the keypad.

► FUNCTION KEYPAD:

- [MENU] key:
- To enter the menu of the radio and confirm the setting.
- [▲] [▼] key:
- Press and hold [▲] or [▼] key for frequency up or down fast.
- Press [▲] or [▼] key, the scanning will be opposite.
- [EXIT] key:
- To cancel /clear or exit.

► NUMERIC KEYPAD:

- Used to enter information for programming the radio's lists and the non-standard CTCSS
- Under transmission mode, press the numeric key to send the signal code (the code should be set by PC software).

