

## **Notice to the user**

Government law prohibits the operation of unlicensed radio transmitters within the territories under government control.

Illegal operation is punishable by fine or imprisonment or both.

## **THANK YOU**

We are grateful you choose BelFone series professional radio communications products!

Since 1989, BelFone has been always engaging in research and exploration of radio communications technologies, In order to lead intelligent technologies in the industry. We still make every effort to research and design products according to modern complicated communications environment, and we offer complete and customized communication solutions to clients. Our products will satisfy you because of its excellent performance and outstanding communications strength. No matter what field you are in. You will be Satisfied with the radio.

digital transceiver model: BF-TD511 UHF

## **Warning !**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

#### **FCC radiation exposure statement**

This radio is intended for use in occupational/controlled applications where users have been made aware of the potential risks for exposure and can exercise control over their exposure.

This product is not authorised for general population, consumer or similar use.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. Your radio should be used in its normal operating position when hand-held, worn on the body or secured within a cradle. Always ensure that the antenna is pointed away from the body, particularly the eyes. When body-worn, the radio must be secured using a Sepura approved attachment. Ensure the antenna is at least 2.5 cm (1 in.) away from the body when transmitting.

#### **IC radiation exposure statement**

This radio is intended for use in occupational/controlled applications where users have been made aware of the potential risks for exposure and can exercise control over their exposure.

This product is not authorised for general population, consumer or similar use. This transmitter must not be co-located or operating in conjunction with any other antenna

or transmitter.

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. Your radio should be used in its normal operating position when hand-held, worn on the body or secured within a cradle. Always ensure that the antenna is pointed away from the body, particularly the eyes. When body-worn, the radio must be secured using a Sepura approved attachment. Ensure the antenna is at least 2.5 cm (1 in.) away from the body when transmitting.

Cette radio a été conçue pour un usage professionnel dans un environnement contrôlé, où les utilisateurs sont pleinement conscients du danger potentiel de l'exposition à laquelle ils sont soumis et peuvent exercer un contrôle sur cette exposition. Ce dispositif radio N'EST PAS autorisé pour l'ensemble de la population, les consommateurs en général, ni pour une utilisation similaire. Cet émetteur ne doit pas être co-localisés ou fonctionner en conjonction avec une autre antenne ou émetteur.

RSS (Category I Equipment):

This device complies with Industry Canada licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement*

Transmit no more than the rated duty factor of 50% of the time. To transmit(talk), push the Push-To-Talk(PTT) Bottom. To receive calls, release the PTT button. Transmitting 50% of the time or less is important because this radio generates measureable RF energy exposure only when transmitting (in terms of measuring for standards compliance)

## Precautions

It's important that the operator is aware of and understands hazards common to the operation of any radio .Please observe the following safety precautions to prevent radio damage or personal injury. The following precautions shall be observed during operation, service and repair of this radio.

- ◆The recommended usage rate is 1 minute for TX and 4 minutes for RX, when the radio is used for transmission for many hours continuously, the radiator and chassis will become hot, allow the rear panel of the radio to contact surface of low melting point /low Ignition point object;
- ◆Don't leave the transceiver in direct sunlight for a long time, don't place the transceiver on extremely heat, damp, dusty area, and don't put it on unstable surfaces;
- ◆When restriction or warnings are posted regarding the use of radio devices, please obey the regulation turn the transceiver power off;
- ◆Use of the radio while you are driving may be against traffic laws, please prohibit using it ;
- ◆If you notice any problems on the radio, please turn off at first. Then contact with local dealer. Do not modify this radio unless instructed by this manual or refer service to a qualified licensed or certified technician only;
- ◆If you want to use the machine for secondary development, please contact with BelFone's technical engineer or dealer for technical assistance;
- ◆Please keep the surface of radio is clean and dry, clean the radio using a

cloth moistened with clean water and a mild dishwashing liquid.

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# Supplied Accessories

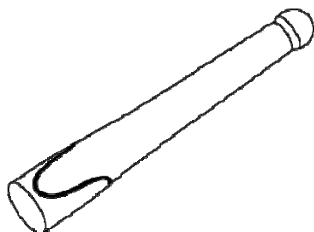
**Notes:** The accessories listed below are covered by BelFone dealer, authorized BelFone agents or factories .

After carefully unpacking the transceiver, identify the items listed in the table below. If any items are missing or have been damaged during shipment please contact with dealer immediately.

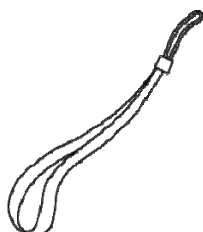
## Accessories

Items	Number	Quantity
Antenna		1
Strap		1
Belt Clip		1
Charger		1
Li-ion Battery		1
Screws		1
User Manual		1
Warranty Card		1
Certificate		1

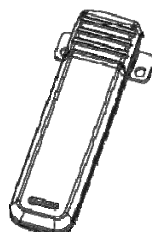
Antenna



Strap



Belt Clip

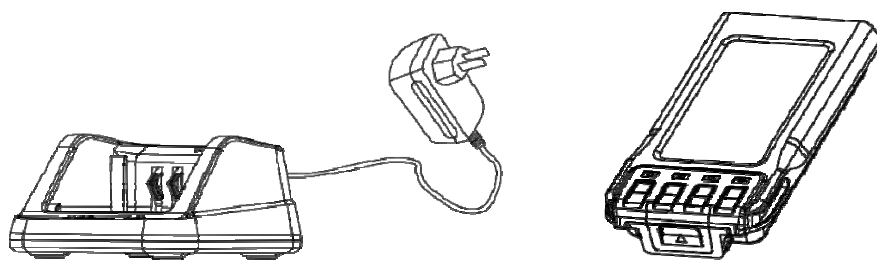


Screws



Charger

Li-ion Battery

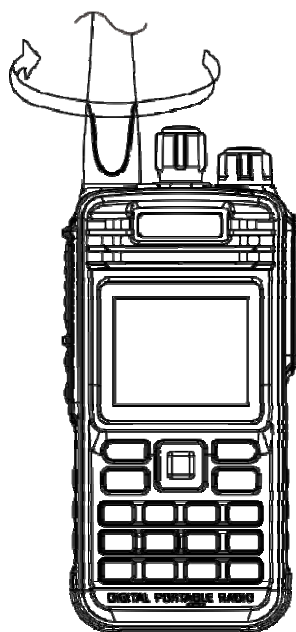


## **Installation of Accessories**

### **Installation/ removing the antenna**

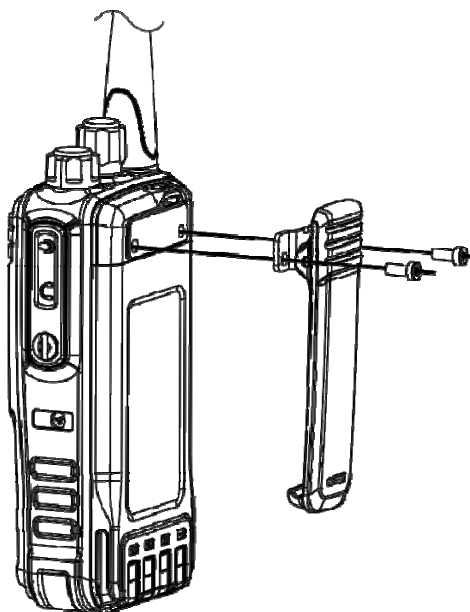
Hold the supplied antenna by its base, then screw it into the connector on the top panel of the radio until fasten.

Turn the antenna anti-clockwise to remove it.



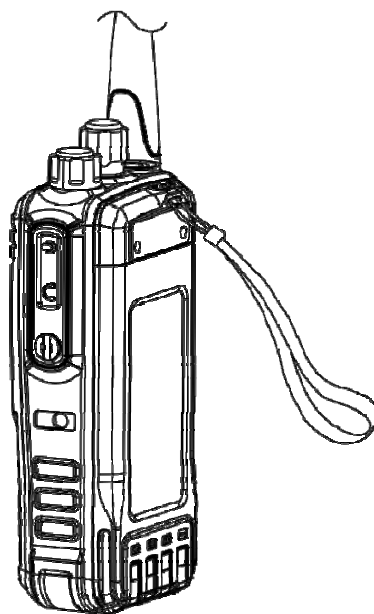
### **Installation/ removing the belt clip**

Attach the belt clip using the two supplied 3\*4mm binding screws.



## Attaching/Removing the Strap

Thread the hand strap to the loop back of your two-way radio.



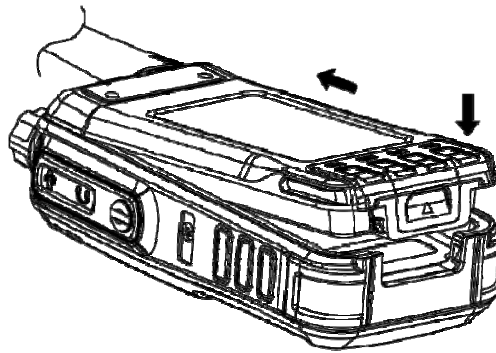
## Attaching/Removing the Battery

### Warning !

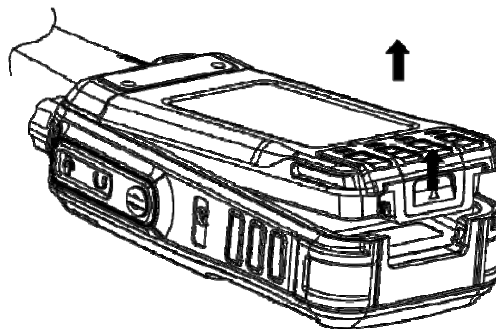
1. Don't short-circuit the battery, it may cause the battery damaged or burst into flame;
2. Never attempt to remove the casing from battery, that avoid to short the battery terminal;
3. Battery is flammable objects, don't throw it into fire or don't use it on dangerous area.



Match the guides of the battery with the corresponding grooves on the upper rear of the radio, then press the battery until a click is heard to lock it in place.



To remove the battery, please turn the power off then press the release latch to unlock the battery pull the battery away from the radio.



**Note:** Don't attach / remove the battery if the transceiver turned on.

## Battery Information

New battery is shipped not fully charged from the factory, please charge your battery before using it, charging 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 lows, please recharge the battery.

## **Applicable Battery**

To reduce the risk of injury, please only use the battery and charger specified by belfone, other batteries may burst, causing bodily injury and property damage.

## **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 soft cloth prior to charge.
5. Even if the battery is full charged, the operating time is noticeably shorter than normal performance; it is time to buy a new battery.

## **To 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 battery breakdown, please use a clean dry cloth to wipe it before attaching the battery to the radio.

## **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, to avoid battery capacity

reduction due to over-discharge.(NI-MH batteries:3 months, Li-Ion& Li-polymer batteries: 6 months)

3. Store your battery in a cool, dry place under room temperature, to reduce self-discharge.

## Charging the battery

Use only the charger specified by the manufacturer, the charge indicator indicates the charging progress.

Charger Status	Charger Indicator
Standby(No-load)	Charge Indicator glows green
Battery is charging	Charge Indicator glows red
Battery is fully charged	Charge Indicator glows green

### Charge Steps:

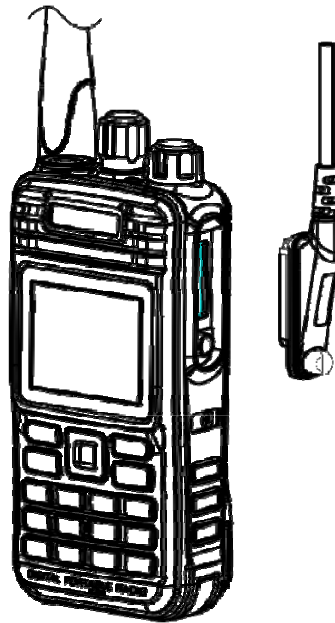
1. Plug the AC connector of the switching power into the AC outlet socket.
2. Place the battery or the radio is attached with a battery in the charger.
3. Making sure the battery is connected to the charger, the charging process initiates when the charger indicator glows red.
4. The charger indicator glows green when the battery is fully charged, please remove the battery then.

**Note:** While charging the temperature out of the limit the LED indicator of charger will flash red and green; if battery has damaged or battery is not connected to the charger correctly, The LED indicator of charger also will flash red and green

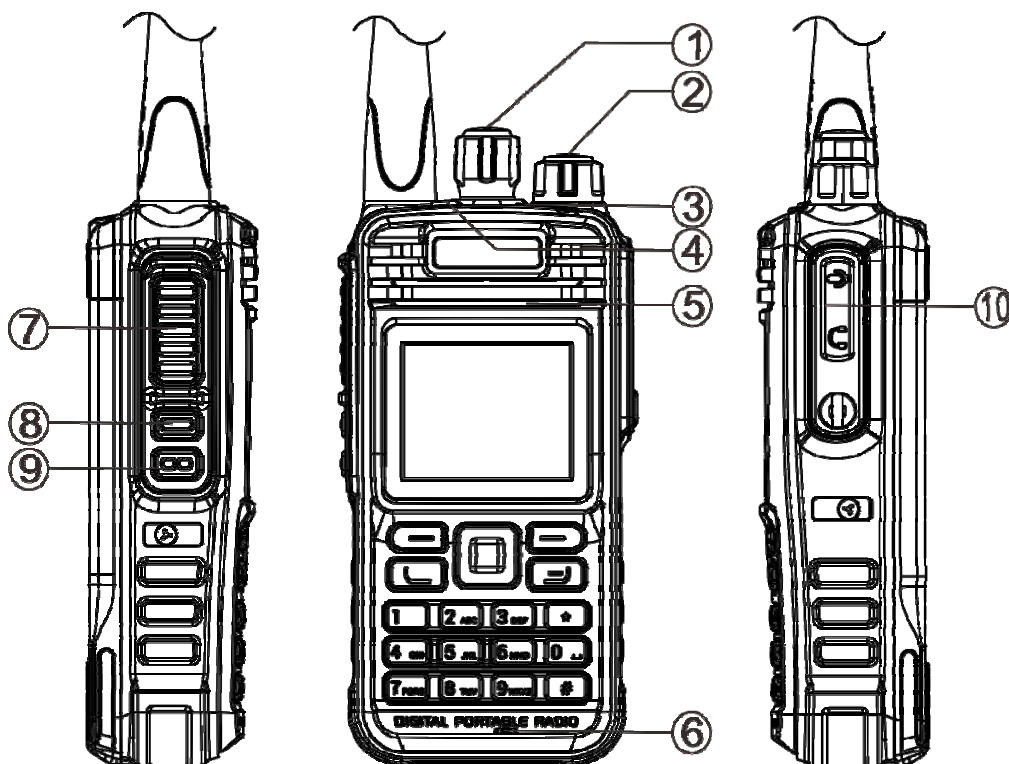
## Attaching the Speaker/Microphone

Open the accessory port cover, then align the plug with the accessory port and

tighten the screw on the plug.



## Getting Acquainted



### ① Channel Selector Knob

Turn the knob to select channel 1-16.

## ② Power switch/volume adjust keys

Turn clockwise to switch the radio power on, when the radio is turned on, rotate clockwise to increased volume, counter- clockwise to decrease the volume. Turn counterclockwise fully to switch the radio off.

## ③ LED Indicator

When transmitting LED glows red, when receiving LED glows green; when un-programmed LED flashes red; when scanning LED flashes red.

## ④ Orange Button

Press to activate the programmable function. (The detailed consult to basic operation)

## ⑤ Speaker

## ⑥ MIC

## ⑦ PTT key

Press and hold down the PTT key then speak into the microphone to transmit.

## ⑧ Button 1

Press to activate the programmable function. (The detailed consult to basic operation)

## ⑨ Button 2

























Press to activate the programmable function. (The detailed consult to basic operation)

## ⑩ MIC-SP-USB Jack

Connect to optional speaker/MIC and USB programming cable.

# Basic Operation

## LCD Icons

	Signal Strength		Unread message		VOX on
	High/Low Power		Inbox or Outbox Full		Plug in earphone
	Digital Mode		Message send successfully		Direct /Talk around Mode
			Message send Failed		Monitoring/Permanent Monitoring
			Read Message Inbox		Connect to Computer
			Unread Message Inbox		
	Private Call		Missed Call		Record On
	Group Call		Keypad Locked		Battery Capacity
	All Call		Disable All Tone Alert		
	Scanning On		Emergency On		

## Turning the power on /off

Rotate the power switch/volume adjusting keys clockwise to turn the power on.

Rotate the power switch/volume adjusting keys anti-clockwise to turn the power off.

**Note:** If you active power on password function via program software ,each time you turn on transceiver, must be enter 6 digit password, while occur password error, the transceiver will restart automatically and then input password again . When 3 times wrong in input password continuously, after it transceiver must be kill, only reprogram it then device work normal. Please enable power on password with due care.

## **Adjusting the volume**

After the radio is power on, you can rotate the power switch/volume adjust keys to adjust the volume level, rotate the knob clockwise to increase the volume, or rotate the knob anti-clockwise to decrease the volume.

## **Selecting a Channel**

Turn the channel selector knob to select channel 1 to 16, rotate the knob clockwise to increase the channel number, or rotate the knob anti-clockwise to decrease the channel number, while enable all tone alert ,handover channel will hear a channel number.

**Note:** If a channel is not programmed, the display appears : Un-programmed Channel and prompt no channel, LED indicator flash red.

## **Selecting a Zone**

The radio supports up to 32 zones, each with a maximum of 16 channels, 32 zones all support up to 512 channels. You may select a desire zone through enter zone menu or setting zone selection function to orange button, button 1 or button 2, then handover zone. While enable all tone alert, select zone will

hear a channel number.

## **Call**

Each digital channel may preset a contact, the preset contact could be a private call contact, a group call contact or an all call contact;

To transmit press and hold down the PTT key, LED indication glows red, speak into the microphone, hold the palm microphone approximately 3 to 4 centimeters away from your mouth.



**Note:** While enable talk permit indication feature, if the channel available, press PTT key to transmit will with a tone.

## **Private Call**

If the feature “private call ACK” is enabled, to transmit a private call need to confirm whether it is power on or activate on the current channel.

- (1) If you preset a private call contact for current digital channel. Press PTT key to transmit a private call;
- (2) Enter Contacts menu to select the private call number you want to call, then press PTT key to transmit a private call;
- (3) Enter Contacts menu and go to manual dial menu or press programmed “Manual Dial” key, input a private call number you want to call, then press PTT key to transmit;
- (4) Enter Call Log menu to select the private call number you want to call, then press PTT key to transmit a private call;
- (5) You can set the One Touch Call key as private call feature, then press programmed key to transmit a private call.

## **Group Call**

- (1) If you preset a group call contact for current digital channel. Press PTT key to transmit a group call;
- (2) Enter Contacts menu to select the group call number you want to call,

then press PTT key to transmit a group call;

- (3) Enter Call Log menu to select the group call number you want to call, then press PTT key to transmit a group call;
- (4) You can set the One Touch Call key as group call feature, then press programmed key to transmit a group call.

## **All Call**

- (1) If you preset an all call contact for current digital channel. Press PTT key to transmit an all call;
- (2) Enter Contacts menu to select the all call number you want to call, then press PTT key to transmit an all call;
- (3) Enter Call Log menu to select the all call number you want to call, then press PTT key to transmit an all call;

## **Receiving and responding to a call**

On digital channel, while a private call is received, you may press the PTT key within the preset time period to call back. If you do not respond to a received private call within the preset time period, the radio will display the missed call icon; while a group call is received, you may press the PTT key within the preset time period to call back. If you do not respond to a received group call within the preset time period, the radio will display the missed call icon; while an all call is received, you can't respond to an all call.

**Note:** While enable channel free indication feature, if the transmitter release PTT key will with a tone.

## Button Setting

For enhanced convenience, you may program the keys button1, button2, short and Long press of a key can be assigned with different functions.

Programmable keys are including functions listed below, icon indicates functions that are available on mode .

No.	Shortcut Keys	Description
1	Unassigned	Not assigned with any function
2	On Touch Call 1-6	Quick transmit group call/ private call/call alert or preset SMS
3	Manual Dial For Private	Quick access to Manual Dial
4	Emergency On	To send emergency information, only set short press on orange button
5	Emergency Off	To exit emergency mode, only set long press on orange button
6	Monitor	To enable or disable monitor function
7	Backlight Auto On/Off	Quick switch backlight mode

8	Keypad Lock	To lock or unlock the keypad quickly
9	Scan On/Off	To enable or disable scan function quickly
10	All Alert Tones On/Off	To enable or disable all tones quickly
11	Battery Indication	Quick view battery capacity
12	Short Message	Quick access to short message
13	Zone Toggle	Quick access to Zone Toggle
14	Priority Interrupt	To interrupt activity of current channel forcibly
15	Flashlight On/Off	To enable or disable flashlight quickly
16	Address List	Quick access to Address List
17	Radio Enable	Quick access to Radio Enable
18	Radio Disable	Quick access to Radio Disable
19	Radio Check	Quick access to Radio Check
20	Remote Monitor	Quick access to Remote Monitor
21	High/Low Power <sup>4</sup>	To switch High/Low Power quickly

22	Repeater/Talkaround	To enable or disable talk around quickly
23	Vox On/Off	To enable or disable VOX quickly
24	Nuisance Delete	To temporarily ignore unwanted channel activity
25	Record On/Off	To enable or disable record quickly
26	Permanent Monitor	To enable or disable permanent monitor function

## Functions and Operations

### Contacts

On the contacts, you can search address list members, add new contacts, manual dialing.

#### 1. **Group Call** ( )

While the contacts type as group call, you can select the menu to view its ID or send message.

#### 2. **Private Call** ( )

While select a contact as private call, a private call can view its detail、 send call alert 、 send message、 edit name or number 、 delete、 send device check、 disable or enable、 send remote monitor.

●Call Alert : Call alert is used for prompting the private receiver; ask them respond to transmitter if communication is available. While receiving call alert command the radio will generate alert tone.

●Device Check : This function can check if the target radio is active in the system while don't send any tone alert to the target radio. When the radio is available, the screen displays: target radio has replied, while the radio is unavailable, the screen displays: fail!

●Remote Monitor: Allow a user to send a "Remote Monitor" request to the target device via menu. If the request is successful, you can enable the microphone of the target radio, and monitor its activities. Only the target radio is set remote monitor decode, that enable monitor its activities.

●Device enable : Allow a user to send "Device enable" command to the target killed device, to allow it to be used normally.

●Device Disable: Allow a user to send "Device Disable" command to the target device via menu. If the device is lost or stolen, a user can use this function to disable the device. However, this device will continue monitoring air interface to receive its "Device Enable" command.

●Edit: Modify the number or name of a private call contact. Press” \*” key to delete, press “#” to switch input method, the available number range is 1~16776415, name input 16 characters at most.

●Delete: Delete unwanted contacts from the address list, if private call contact is set as channel default address or call number on one touch call, its unable to delete.

### 3. All Call ( )

While the contacts type as group call, you can select the menu to view its ID or press PTT to call.

### 4. Manual Dial


You can manually input the private call number for calling or sending call alert , send message ,device check, remote monitor ,device enable ,device disable.

### 5. New Contact

You can add a private call contact to the contact list. When edit name, press” \* ” key to delete, press “#” to switch input method, name input 16 characters at most; then input number, the available number range is 1~16776415. After add a private call contact successfully, on contacts list will show new contact.

## Scan

### 1. Scan On/Off

While current channel add scan list and the list contain 2 channels at least, you may enable the feature. Scanning allows the device to search the scan list connected to the current channel to locate qualified channel for receiving or voicing. During scanning, the icon “” flashes, when activities are detected on a channel, the radio will stay on the channel to receive current

activities, the icon “Z” stop flashes. If you don’t want to receive activities on the channel, press the programmed Nuisance Delete key to remove the channel from the scan list temporarily. To exit the scanning process, enter scan menu, switch channel or press the programmed Scan key.

**Note:**

- If the channel enables the feature “Auto Scan” via the programming software, switch to the channel will enter scanning automatically;
- While button 1 or 2 programmed as Scan on/off, press it to enable scan feature.

## **2. View/Edit List**

Allow a user to view/edit the scan list via menu, "View Member" allows a user to view the scan member, deleting a member from the scan list; Add Member allow a user to add a new member to the scan list, the list contain 16 channels at most. It is not allowed to create a new scan list or delete existing scan lists from the device. Digital channel will be appear in the same scan list.

## **Zone**

The radio supports up to 32 zones, each of zone supports 16 channels, totally 512 channels supported. Enter “Zone” menu to select a desired zone.

## **SMS**

### **1. New SMS**



You can edit desired text message(140 characters at most) and send it to an private call contact or group call contact, when editing a message, press “#”key for switching input method, press “\*” key for deletion and modification, press up or down key to switch input cursor. For non-numeric input method, key “1” is a symbol key. Key “0” is a space key. After the message is edited, you can select a contact from the address list which the message is sent to or manually dial a number to send to.

## **2. Inbox**



The Inbox can save up to 30 received messages. Inbox the unread message displays:  , read message displays: . For each message, you can choose to perform any of these operations: Reply, Forward and Delete.

## **3. Preset SMS**

Via programming software, user can save 10 entries text messages and each of a message contains 140 characters at most on preset SMS. You can choose to edit and send any entry.

**Note:** Preset text messages also can assign to one touch call, and press the programmed key to send messages.

## **4. Outbox**

Enter outbox menu, you can view the message is sent successfully or failed, outbox can save up 30 sent messages. If sent message is successful displays , you can choose to forward or delete it; If sent message is failed displays , you can choose to resend, forward or delete.

## **5. Delete All**

This function is convenient to delete all messages on inbox or outbox, Clear All will delete all messages on Inbox and Outbox at the same time, but the preset messages can't be deleted.

## **Call Logs**

### **1. Missed Call**

The missed calls list can save up to 10 entries, when the memory for call logs is full, the oldest entry will be deleted automatically. You can add it to contact list or delete it.

### **2. Answered Calls**

The answered calls list can save up to 10 entries, when the memory for call logs is full, the oldest entry will be deleted automatically. You can add it to contact list or delete it.

### **3. Outgoing Calls**

The outgoing calls list can save up to 10 entries, when the memory for call logs is full, the oldest entry will be deleted automatically. You can add it to contact list or delete it.


### **4. Clear Record**

This function is convenient to delete Missed call logs Answered or Outgoing call logs, Clear All will delete all call logs at the same time.

# Settings

## 1. Settings

Allow a user to perform basic settings for the radio.

●Talk Around: When your repeater malfunctions, or when radio is out of repeater's range, you can continue to communicate in talk around mode. While enable talk around feature, the screen displays:  , By this time TX frequency the same as to RX frequency. If switch channel 、 enable scan feature or restart radio will disable the feature.

Note :

●To enable this function, TX frequency should be different from RX frequency, and the channel will set as allow talk around on the programming software.


●Press the programmed Talk Around key to switch DM mode and RM mode.

●Tone/Alerts: To set tones for your radio, tone alerts include settings of all tones, call alert tone, message tone and keypad tone. If disable all tones, all alerts will be off except emergency tone.

●TX Power : Allow a user to change the power level, there are two levels available: high (indicated by H) and lower (indicated by L).

●Backlight: To set the backlight parameters, you can select on or automatic, while you select automatic on, the light will become dark after 5 second you don't operate the key, and the light will keep on all the time when the backlight is on.

● **Boot Interface:** Allow a user to enable or disable the boot screen via menu. If the Intro screen is enabled, while the radio power on, the screen display BF Logo and device name; While the Intro screen is disable ,the screen only displays device name .

● **Keypad Lock:** Allow a user to enable or disable keypad lock via menu. While Keypad locked indicate: , that you can't operate the keypad except PTT key and orange button, button 1 or button 2. Press "MENU" and" #" key to unlock.

● **LED indicator:** To set whether to enable LED indication via menu. While disable all indicator, the screen becomes dark and TX red indicator, Rx green indicator, scan orange indicator are off. Please use this function with due care.

● **VOX:** While this function is enabled, you can enjoy hands-free communication.

The radio will automatically begin transmitting when you speaking, and terminate transmitting when you stop talking with no need of PTT press. Allow user to set the VOX level (level 1-8) and VOX delay(0.5~10second) via menu.VOX on indicate by :



**Note:** The VOX feature only is used if you are using a supported headphone.

● **Power-on Password:** If enable power-on password feature via programming software, you can modify the password by this menu. First you need input old password correctly, then input a new password twice the same, that will modify the password successfully.

**Note:** This menu is effective if power on password is set via programming software.

● **Language:** The radio supports two languages: Chinese and English.

- RTC Configure:** This option allows you to set the current date, time.

- Theme Choose:** It allows user to choose the screen displaying style, there are 4 themes available: Default Theme, Light Yellow, Light Blue and Light Green

## 2. System Info

With this option, you can view the basic information of your radio, including battery status, my number, firmware version, CP version, hardware version, voice record version.

- Battery Status:** To view the radio's rest battery capacity, it's convenient for user to know battery capacity and charge the battery in time. If the battery shows green indicates capacity is sufficient, shows yellow indicates the capacity is meddle, shows red indicates the capacity is low, please recharge in time.

## 3. Channel Configure

Channel configure function is used to modify the current channel parameters, on digital channel, it allows you to modify RX/TX frequency, channel name. TOT, TX contact, CC index, choose slot, RX group list.

**Note:** While finish the parameters modification, please return to home screen to save the setting, then all modified data is effective.

# Digital Emergency

In case of an emergency you can enter emergency mode to ask for help, for each emergency mode, there are three emergency types and three emergency mode available.

## Emergency Type:

**Regular:** In emergency mode, the radio will give audible and visible indication;

**Silent:** In emergency mode, the radio won't give any audible or visible indication;

**Silent with Voice:** In emergency mode, the radio won't give any audible or visible indication, but will receive voice.

## Emergency Mode:


**Alarm:** In this mode, you can send alarm information, while receive ACK or reach the maximum retries will exit emergency mode.

**Alarm with Call:** You can press programmed" Emergency On/Off" key to send emergency information, then press PTT to transmit an emergency call.

**Alarm with voice to follow:** You can press programmed" Emergency On/Off" key to send emergency information, then you can speak into the microphone, allowing your voice and background noise be transmitted automatically as you do not to press PTT key.

## 1. Send Emergency Alarm


If the current channel adds emergency system and the current channel as the

emergency revert channel, press the programmed “emergency on/off” key to send alarm information, LED indicator glows red, the radio displays icon  as “regular” type.

## **2. Exit emergency mode**

If choose regular type and emergency alarm mode, after send emergency information then receive ACK command or the alarm cycles expire, the radio will exit the emergency mode automatically. And long press the programmed emergency key to exit the emergency mode; If choose silent or silent with voice type, press PTT key or long press programmed emergency key to exit the emergency mode.

## **3. Receive Emergency Information**

When the feature “emergency alarm indication” is enable, if received emergency information, the radio displays icon , the transmitter’s ID and name, an alarm tone will sound. To exit the emergency mode, long press the programmed emergency key.

## **Alone Worker**

This function is useful for persons who work lonely and encounter an incident; you cannot press any keys or transmit audio within the preset period time. The radio will alarm automatically to ask help. Via the programming software to enable the feature, and setting work alone response time, work alone warn time, work alone response operation.

Via programmable software to set it: Signaling Systems folder→Work Alone→Work

Alone Enable→Work Alone Response Time→Work Alone Warn Time→Work Alone  
Response Operation

**Note:** Alone Worker is an optional feature.

## **Man Down**

When this feature is enabled, the radio automatically sends an alarm for help if it is positioned aslant or keeps motionless long time. If the trigger type is set as Only Lean, the radio tilts to a specified gradient( 30°,45°,60° )within a preset period, the radio gives alerts, you can terminate such alerts by put radio upright otherwise it will enter Emergency mode; If the trigger type is set as Only Motion Detection, the radio stays motionless within a preset period, it will enter Emergency mode, via the programming software to enable this feature and to set parameters.

Via programmable software to set it: Signaling Systems folder→Upend →Upend  
Enable→Enter Delay→Exit Delay→Upend Pre Warning Time→Trigger Type→Trigger  
Gradient

**Note:** Man Down is an optional feature.

## **Voice Encryption**

The voice encryption can encrypt your audio signals to guarantee the privacy of your communication, via the programming software user can select encryption type as static or dynamic. If the encrypt feature is enabled, the transmitter and receiver will be set as the same encryption type and same encryption key, otherwise the receiver is



mute.

**Note:** This feature is effective on digital channel.

## **Dual Capacity Direct Mode**

If enable TDMA direct mode, the members in the same group call must use the same slot, one frequency supports calls in two slots synchronously in order to avoid interfering communications in the other slot.

Via programmable software to set it: Channels folder→Zone→a digital channel or A/D Channel→TDMA Bypass Mode→Slot Align→Slot→Pseudo Trunk TX Slot

**Note:** This function is available only in digital operation.

## **Radio Priority-Based Interrupt**

The call priority feature allows you to interrupt the on-going call on current forcibly, a preemptive call can interrupt other on-going calls with lower priority to release the channel for itself. There are 5 voice priorities available, level 0 is lower, level 3 is higher, and emergency call is the highest. To transmit the Priority Interrupt command also can press the programmed [Priority Interrupt] key, in order to make the channel free for new call or message transmission.

Via programmable software to set it: Channels folder→Zone→a digital channel or A/D Channel→Priority Interrupt→Voice Priority

**Note:** This function is available only in digital operation.

## **Time Out Timer (TOT)**

The purpose of TOT is to prevent any user occupy a channel for an extended period. If a channel is busy, the time will be shorter. If the preset time expires, the radio will generate beep and terminate transmission automatically. Via programming software, you can set TOT as 15-495 second.

## **TX Permission**

### **Digital Channel**

This feature can restrict the channel if it is already in use you will be unable to transmit. There are three options available: always, color code free, channel free, if choose always, whenever press PTT key to transmit directly; If choose color code free, you will be unable to transmit on the channel if the color code is already in use; If choose channel free, you will be unable to transmit on the channel if it is already in use. If the channel is busy, press PTT key a warning tone will sound.

Via programmable software to set it: Channels folder→Zone→a digital channel→TX Parameters→Admit Criteria

## **Battery Saver**

This function allows an idler radio to automatically enter battery saver mode, the mode will extend battery service life, but response time may be delayed. You can set battery saver time ratio as : 1:1, 1 :2, 1:3, 1:4, the time rate is smaller, the power saving more evidently.

Via programmable software to set it: General Setting folder→Battery Saver

## Low Battery Warning

When your battery gets low, LED indicator glows red and with a warning tone:

“Please Charge” , please replace the battery or charge the battery in time. The radio will turn off automatically while battery is too low.

Via programmable software to set it: General Setting folder→RX low battery internal

## Specifications

General	
Frequency range	400-480 MHz
Channel Capacity	512
Zones	32
Channel Spacing	12.5KHz
Rated Voltage	DC 7.4V
Battery Capacity	2000 mAh
Battery Life ( 5/5/90 )	Digital 22 Hours
Frequency Stability	±1ppm
Antenna Impedance	50Ω
Dimensions (L×W×H)	57 ( L ) * 32(W)* 119 (H)mm
Weight	239g(Including Battery)
Transmitter	
RF Output Power	High Power : 4.2W Low Power : 1W
4FSK Modulation	12.5kHz Only data : 7K60F1D,F1E
Conducted Emission	-36 dBm≤1GHz/-30 dBm≥1GHz

Adjacent Channel Power	$\geq 60\text{dB}$
<b>Receiver</b>	
Digital Sensitivity	5% BER : 0.25 $\mu\text{V}$
Intermodulation	$\geq 65\text{dB}$
Adjacent Channel Selectivity	$\geq 60\text{ dB}$
Spurious Response Rejection	$\geq 70\text{ dB}$
Conducted Spurious Emission	-57dBm
<b>Environmental Specifications</b>	
Working Temperature	-20°C—+55°C
Storage Temperature	-30°C—+85°C
Humidity	MIL-STD-810C/D/E/F Standard
Vibration & Shock	MIL-STD-810C/D/E/F Standard
Dustproof & waterproof	IP67

## Statement

Our Company endeavors to achieve the accuracy and completeness of this manual, if you have any question, you can contact with us, we will make a detailed answer to you in time. All the above specifications and design are subject to change without prior notice due to continuous development.