# THE USER'S MANUAL

## User Safety, Training, and General Information

READ THIS IMPORTANT INFORMATION ON SAFE AND EFFICIENT OPERATION BEFORE USING YOUR BFDX FOR TABLE TWO-WAY RADIO.

## Compliance with RF Energy Exposure Standards

The two-way radio is designed and tested to comply with a number of national and international standards and guidelines (listed below) regarding human exposure to radio frequency electromagnetic energy. This radio complies with the IEEE (FCC) and ICNIRP exposure limits for occupational/controlled RF exposure environment at duty cycles of up to 50% talk-50% listen and should be used for occupational use only. In terms of measuring RF energy for compliance with the FCC exposure guidelines, your radio radiates measurable RF energy only while it is transmitting (during talking), not when it is receiving (listening) or in standby mode.

**Note:** The approved batteries supplied with this radio are rated for a 5-5-90 duty cycle (5% talk-5% listen-90% standby), even though this radio complies with the FCC occupational RF exposure limits at duty cycles of up to 50% talk.

### Complies with the following of RF energy exposure standards and guidelines:

United States Federal Communications Commission, Code of Federal Regulations; 47CFR part 2 sub-part J

American National Standards Institute (ANSI)/Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992

Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1999 Edition International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1998

### Operational Instructions

To ensure optimal performance and compliance with the occupational/controlled environment RF energy exposure limits in the above standards and guidelines, users should transmit no more than 50% of the time and always adhere to the following procedures:

### Hand-held radio operation

Hold the radio in a vertical position with the microphone 5 cm away from the lips and let the antenna farther away from your head.

### Notices 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.

•Refer service to qualified technicians only.

**WARNING:** It is important that the operator is aware of and understand hazards common to the operation of any transceiver. Explosive environment(such as gases, dust, fumes, etc). Turn off your transceiver while talking on fuel, or while parked in gasoline service stations.

If you require this machine to be developed or some changed, pleased connect with BFDX or your BFDX dealer.

## FCC Caution:

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 Requirements**

Your radio must be properly licensed Federal Communications Commission prior to use. Your HYT Wireless dealer can assist you in meeting these requirements. Your dealer will program each radio with your authorized frequencies, signaling codes, etc., and will be there to meet your communications needs as your system expands.

## Precautions

Only qualified technicians are allowed to maintain this product.

Do not use the radio or charge a battery in explosive areas such as coal gas, dust, steam, etc.

Switch OFF the radio while refueling or parking at gas station.

Do not modify or adjust this radio without permission.

Do not expose the radio to direct sunlight over a long time, nor place it close to heating source.

Do not place the radio in excessively dusty, humid areas, nor on unstable surfaces.

## CE Caution:

Hereby, **Fujian Quanzhou Beifeng Telecom Systems Co., Ltd.** declares that this Tow-way radio is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

A copy of the DoC may be obtained through the following address.

**Puren Industrial Area, Beimen Quanzhou, Fujian, China**

## Training Guidelines

1.Only qualified technicians are allowed to maintain this product.

2.To avoid electromagnetic interference and/or compatibility conflicts, turn off your radio in any place where posted notices instruct you to do so. Hospitals or health care facilities may be using equipment that is sensitive to external RF energy. When on aircraft, turn off your radio when airline crew instruct you to do so.

3. When in vehicles with an airbag, do not place a portable radio in the area over an airbag or in the airbag deployment area.

4.Turn off your radio prior to entering any area with a potentially explosive atmosphere. Do not remove, install, or charge batteries in such areas.

5.To avoid possible interference with blasting operations, turn off your radio when you are near electrical blasting caps.

6.Do not use any portable radio that has a damaged antenna. If a damaged antenna comes into contact with your skin, a minor burn may result.

7.Do not expose the radio in direct sunlight for a long time or place it close to a heating source.

8.When transmitting with a portable radio, hold the radio in a vertical position with its microphone about 5 centimeters away from your mouth.

9.The communication range will be impacted in rainy or cloudy days or when you are in forest.

We are grateful you chose BFDX for your land mobile radio applications. We believe this easy-to-use transceiver will provide dependable and reliable communication to personal operating at peek efficiency.

BFDX transceiver incorporated the latest in advanced technology. As a result, we feel strongly that you will be pleased with the quality and features of this product!

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## Unpacking and Checking

**Note:** The following explain for unpacking is aim to the dealer, promised service institution or factory.

Please carefully unpack the transceiver, we recommend you identify the items listed in the following table. If any items is missing or have been damaged, please immediately contact your dealer.

## Supplied accessories:

| Item | No. | Quantity |
|---|---|---|
| Antenna | **1** | 1 |
| User’s manual | **2** | 1 |
| Battery | **3** | 1 |

## Preparation:

**Alarm:**

- **Please don’t charging too long for the battery pack**
  If the charging not finished in the stated time, please stop it, the battery pack may over heat and smoking blast or build a fire.
- **Please don’t put the battery pack into the microwave lamp or high voltage container**
  The battery pack may over heat and smoking blast or build a fire.
- **Please don’t close the broken battery pack to the fire**
  If the battery pack broken and with the bad smell, please put them far from the flammable area. The electrolyte is easy to fire, may result in the battery pack smoking or fire.
- **Please don’t use the exceptional battery pack**
  If the battery pack smelled bad, different color, anamorphic or some other reason for the abnormity, please take off the battery pack from the charger or operation equipment and not to use.
- **Please use the special charge**
  The charge is special made for the 6200, it is scientific and more safe for charging to this model. This charge can identify the battery type for 6200 (Li-ion battery or Ni-H battery).

### ■ Use the Li-ion battery pack

- Please charging before use it
- In order to reduce the discharge, please take off the battery pack and it on the shade and dryness place
- When need long time to store the battery pack, please:
  1. Tack off the battery pack from the transceiver
  2. If possible, please discharge for the battery pack
  3. Put the battery pack on the shade (≤25℃) and dryness place

### ■ The characteristic of the Li-ion battery

- The capacity reduce after charging again and again
- Even if not use the battery pack, it will also aging
- It is need more time in cool environment
- It may reduce the using life if charging in heat environment, the

battery pack may aging faster when store in heat environment. Please don't leave the battery pack in vehicle or beside the heater.

- If the using time of the battery pack become short, even if the full capacity, please change it. Go on charging and discharge for the battery pack, it may result in the electrolyte leak.

■ **Charging for the Li-ion battery**

The charger of the 6800 when put through the power supply, the light will turn orange, put the battery in then it will turn red and start to charging. The light will turn green after full, if the temperature exceed the using range, the orange light will flicker. If the battery damaged or connect out of place, the red light will flicker.

■ **Install & Take off the battery pack**

- ◆ Can not be short circuit or put the battery into the fire
- ◆ Can not try to take off the cover of the battery pack
- ◆ Can not to install the battery pack on dangerous environment, otherwise the spark will course the blast

1. Press the battery pack behind the transceiver, push it in till you hear a "kada" sound, the battery pack will be locked.
2. When take off the battery pack, press the latch of the back, take it away from the bottom of the transceiver.

■ **Install the antenna**

Hold the bottom of the antenna, spin the antenna into the connector of the transceiver with clockwise, till it is close.

## Getting acquainted

① **Power on/off and volume adjuster**

Turn the knob clockwise then the power will turn on, it can adjust the volume after turn on. Turn the knob counter-clockwise, it will turn off the power.

② **LED light**

When transmit it turn red, receive it turn green. The red light glitter when in low battery.

③ **Turn the coder**

Turn the coder to choose the channel, when adjusting the squelch, it also can use for other function.

④ **PTT**

Press the PTT button then you can speak to transmit.

⑤ **MONI**

Press the MONI button to monitor the current channel.

⑥ **LAMP**

Press the lamp button the turn on or turn off the lamp

⑦ **CH2F**

Press this button can switch from frequency mode to channel mode, using with the FUNC button can lock the transceiver and inverse frequency function.

⑧ **FUNC**

Press or hold this button can open the other function.

⑨ **SCAN**

Press this button to start or stop scanning, besides it also use with the FUNC button to add or delete the scanned channel.

⑩ **LOW**

Press this button can switch the current channel power output, use with the FUNC can adjust the squelch and the keypad tone.

⑪ **KEYPAD**

When input the frequency, it can be used directly.

## ■ Display

| Icon | Description |
|---|---|
| – | Current channel power output Tx lower than Rx |
| + | Current channel power output Rx lower than Tx |
| **A** | When the choosing channel included in scanning list it display, deleted channels aren't display this icon |
| **LO** | Current channel on low power output transmitting |
| | Display frequency, channel number, menu setup or other function |
| | According to the function you chose, display the number |
| | Display when in the process of converse frequency |
| | Display when the channel have the CTCSS function |
| | Display when the channel have the DCS function |
| | When receiving, it shows the high or low signal. When transmitting, it shows the battery voltage |
| | Display after press the FUNC and enter the function mode |

Note: the unaccounted icons above are not to be use provisionally in the transceiver

# Operation Basics

## ■ Switching power ON/OFF

Turn the power switch/volume control clockwise to switch the transceiver ON.

Turn the power switch/volume control counterclockwise to switch the transceiver OFF.

## ■ Adjusting the volume

Rotate the power switch/volume control to adjust the volume clockwise increase the volume and counterclockwise decreases.

- When talk to others, it is need adjust the volume exactly

Note: When adjusting the volume, you can press MONI key to monitor background noise.

## ■ Choose the channel

Rotate the channel selector to choose the channel you need, clockwise

to choose the high channel number, counterclockwise to choose the low channel number.

- The selected channel number display on the screen

## Adjusting the squelch

The function of squelch can let the speaker no voice when no signal input, when open the squelch, you will hear the background voice from the speaker, contrarily you can not hear.

The squelch which you choose decide where it open or closed, if the squelch you chose is too high, you will not receive the lower signal, if the squelch you chose is too low, you will hear the background voice.

**When adjusting the squelch:**

1. Press the FUNC, then Low
   - Display “-SqL” and current squelch level.
2. Rotate the channel selector from 0-9 to choose the squelch
   - clockwise to choose the high squelch, counterclockwise to choose the low squelch.
3. Press FUNC button finish installation, the level of the squelch store into the function data. Press the button except FUNC exit install, it can not be changed about the level of the squelch.
   - Return to the normal operation

## Transmitting

1. According to the different setup for the monitor function, use MONI button for a moment, make sure that no any transmitting on the channel you have chosen.
2. Hold on the PTT button then speak to the microphone
   1) Please keep about 4-5cm to the microphone, speak with the normal tone, it can get the best effect for the receiver.
   2) When pressing the PTT, the LED turn red.
3. Unclinch the PTT can be received.

## Receiving

When you receive any signal, the LED turn green, you can hear the voice.

- If the transmit signal is too low, and you setup the transceiver too high squelch, you may can’t receive the signal.

- The local dealer may programming the transceiver with the QT and DQT, when you choose these channels, you can just hear the same code in the same channel, any others will not receive.

■ Display mode

Press the CH2F can switch from frequency mode to channel mode.

## Scanning

### Channel display mode

Scanning is useful function, it used to monitor the channel's signal of the transceiver. When scanning, the transceiver will test the signal to every channel and stop on the channel which has the signal input.

**Note:** the channels which are the delete list will not be scanned.

The transceiver will keep on the transmitting channel till the signal disappear, the scanning will return in 5 minutes after the signal disappear except receive the new signal in the delay time.

**Note:**

- Just when your local dealer programming at least 2 channels, it can use the scanning function. Otherwise must at least 2 channels not setup for the scan deleted.
- About how to use the code squelch or the transmitting scanning, please ask the local dealer, star scanning please press SCAN.
- Scanning start from current channel, the channel number rise, the screen display "SCAn". Finish scanning, press the buttons except MONI, PTT and LAMP.
- When scanning stop in one channel, the dot between "CH" and channel number flicker.
- In any time of scanning, if you press PTT button it will stop scanning, the transceiver return to the latest channel and transmit. If always receive the signal in the period of scanning, it will return to the start channel and transmit.

### Frequency display mode

Use the scanning function on the frequency display mode, press the SCAN button, the transceiver will scan for the step frequency from the current frequency. When the transceiver receiving the signal and stop

on the current frequency, it can receive and transmit. In the any time of scanning, if you press the PTT button the transceiver will stop scanning, the transceiver return to the latest channel and transmit. If always receive the signal in the period of scanning, it will return to the start channel and transmit. Finish scanning, press the buttons except MONI, PTT and LAMP.

- Channel locked

You can choose the channels which out of the list of scanning, before scanning please finish the steps as follows:

1. Rotate the channel selector to choose the channels which out of the list of scanning.
2. Press the FUNC button then SCAN.

The state of the chosen channel is switch between the through and cut, the “A” on the screen show that the channel is on the scanning list, contrarily it is not.

**Note: This function just can use on the frequency display mode.**

## QT and DQT

1. The local dealer may programming the transceiver with the QT and DQT, when you choose these channels, you can just hear the same code in the same channel, any others will not receive.
2. This function can let you no need to hear the needless receiving, although use the QT and DQT you have the own channel, but if someone else use the same code, it also can receive your call.

## Auxiliary functions

- Keypad locked

1. This function can prevent accidentally operate to the transceiver.
2. It can lock all the buttons except MONI, FUNC, PTT, Power and Volume.
3. When lock the buttons, press FUNC for one second then press CH2F, the screen display “L”.
4. For unlock the same operation.

- Keypad voice

You can choose keypad voice close, open and Chinese voice.

Choose keypad voice:

1. Hold on the FUNC button for one second, then press LOW button
2. Rotate the channel selector to choose the voice you need, choose close display “OF”, choose open display “1”, choose Chinese voice display “2”. (This function just can use on frequency display mode)
3. Press FUNC button to finish setup, the keypad voice change to your chosen, press any buttons except FUNC in the process of setup, the keypad voice will not be changed.

- Busy channel locked (BCL)

**Note: this function just can use on frequency display mode**

Busy channel locked can close or open by local dealer, when opening, BCL can prevent disturb in the same channel of other transceiver. When pressing PTT, if this channel is using, the transceiver will sound the alarm and can not transmit. Undo the PTT will stop alarm and return to the receive mode.

- Lamp

1. The transceiver has the night lamp function, press the LAMP, open the lamp, if no any operation when the lamp open, the lamp will be closed after 5 minutes.
2. Long time open the lamp, press the FUNC button, then press the LAMP, the lamp open, the lamp just can close till next time press FUNC and Lamp button or cut off the power supply of the transceiver.

- High/Low power output

Press LOW button can change the power output, if the current channel or frequency is under the low power output transmitting, LCD display “LO”, contrarily it will not display.

- Battery voltage

Finishing setup the battery the transceiver will test the voltage automatically, when low battery, LED flicker red, you can use the transceiver for a short time. When the voltage is very low, you will hear the error alarm, at that time it can not transmit, please charging it

or change another battery pack.

- Monitor

  You can use the MONI button to receive the very low signal, and it also can adjust the volume when the channel don't have signal, hold on the MONI button to monitor the background voice, undo to return to the normal operation.

- Choice QT

  Channel display mode

  Change the QT code provisionally

  1. Press the FUNC button then #, the LCD display "OFF"
  2. Rotate the channel selector to choose the new QT code
  3. press any button can finish setup

  **Note: Turn off the transceiver or press any button except MONI, LAMP and PTT can cannel the provisional data.**

  Frequency display mode

  The same operation like channel display mode, choose the QT code you need, press FUNC button the QT code will change to your needed. In the process of operation press the buttons except FUNC and VOL, it will exit the setup and return to the normal display mode, the QT code is not changed.

- Choice DQT

  Channel display mode

  Change the DQT code provisionally

  1. Hold on the FUNC button one second then #, the LCD display "OFF"
  2. Rotate the channel selector to choose the new DQT code
  3. press any button can finish setup

  **Note: Turn off the transceiver or press any button except MONI, LAMP and PTT can cannel the provisional data.**

  Frequency display mode

  The same operation like channel display mode, choose the DQT code you need, press FUNC button the DQT code will change to your needed. In the process of operation press the buttons except FUNC and VOL, it will exit the setup and return to the normal display mode, the DQT code is not changed.

- Setup for the provisional different Tx/Rx frequency

  This function just can use on the frequency display mode

  1. Press FUNC button then SCAN button, the LCD display “±”
  2. Use the keypad and channel selector choose the Tx frequency you need, press the FUNC button, the selected Tx frequency store into the current channel. If you press the keypad or other buttons except FUNC, it will exit the setup mode and the current channel frequency data can not be changed.
  3. On the state of different Tx/Rx frequency, if you do some operation like change the frequency or scanning, the transceiver will return to the same Tx/Rx frequency mode.

- Beat setup on the frequency mode

  1. Press the FUNC button then “*”, LCD display current beat frequency
  2. Rotate the channel selector to choose the beat frequency you need, press the FUNC button, the selected beat frequency will store to the date of frequency display mode.

- Step frequency setup on the frequency mode

  1. Hold on the FUNC button one second then press “*”, LCD display current step frequency
  2. Rotate the channel selector to choose the step frequency you need, press the FUNC button, the selected step frequency will store to the date of frequency display mode.

**DQT**

| | | | | | |
|---|---|---|---|---|---|
| 023 | 114 | 174 | 315 | 445 | 631 |
| 025 | 115 | 205 | 331 | 464 | 632 |
| 026 | 116 | 223 | 343 | 465 | 654 |
| 031 | 125 | 226 | 346 | 466 | 662 |
| 032 | 131 | 243 | 351 | 503 | 664 |
| 043 | 132 | 244 | 364 | 506 | 703 |
| 047 | 134 | 245 | 365 | 516 | 712 |
| 051 | 143 | 251 | 371 | 532 | 723 |
| 054 | 152 | 261 | 411 | 546 | 731 |
| 065 | 155 | 263 | 412 | 565 | 732 |
| 071 | 156 | 265 | 413 | 606 | 734 |
| 072 | 162 | 271 | 423 | 612 | 743 |
| 073 | 165 | 306 | 431 | 624 | 754 |
| 074 | 172 | 311 | 432 | 627 | |

**QT**

| QT NO | Frequency HZ | QT NO | Frequency HZ | QT NO | Frequency HZ | QT NO | Frequency HZ |
|---|---|---|---|---|---|---|---|
| 1 | 67.0 | 11 | 94.8 | 21 | 131.8 | 31 | 186.2 |
| 2 | 69.3 | 12 | 97.4 | 22 | 136.5 | 32 | 192.8 |
| 3 | 71.9 | 13 | 100.0 | 23 | 141.3 | 33 | 203.5 |
| 4 | 74.4 | 14 | 103.5 | 24 | 146.2 | 34 | 210.7 |
| 5 | 77.0 | 15 | 107.2 | 25 | 151.4 | 35 | 218.1 |
| 6 | 79.7 | 16 | 110.9 | 26 | 156.7 | 36 | 225.7 |
| 7 | 82.5 | 17 | 114.8 | 27 | 162.2 | 37 | 233.6 |
| 8 | 85.4 | 18 | 118.8 | 28 | 167.9 | 38 | 241.8 |
| 9 | 88.5 | 19 | 123.0 | 29 | 173.8 | 39 | 250.3 |
| 10 | 91.5 | 20 | 127.3 | 30 | 179.9 | | |

## Technical Specifications

| | |
|---|---|
| Frequency range | Low frequency range 406.125-407.350MHz<br>Mid frequency range from 440.125-441.350MHz<br>High frequency range from 468.125-469.400MHz |
| Channels | 50 |
| Channel space | 25KHz |
| Operating temperature range | -20℃ to +60℃ |
| Power supply | 7.2V DC (±20%) |
| Volume | 51(L)×28(W) ×90(H)mm |
| Weight | 183g(including the battery pack) |
| **Transmitter** | **UHF** |
| Power output | 3W/1W (Conducted power) |
| Frequency stability | ±5ppm |
| Modulated mode | 16K￠F3E |
| Spurious emissions | ≤-70dB |
| FM noise | ≤-40dB |
| FM distortion | ≤5% |
| Maximum frequency deviation | ≤±5HKz |
| **Receiver** | **UHF** |
| Frequency stability | ±5ppm |
| Selectivity (at 12dB SINARD) | Better than 0.25μV |
| Receiving FM bandwidth | ≥±7KHz |
| Adjacent channel selectivity | ≥65dB |
| Intermodulation rejection ratio | ≥60dB |
| Anti interfere of spurious wave | ≥60dB |
| Audio output power | 500mW |