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# VHF/UHF FM TRANSCEIVER

## BHD B-868 B-828 400 - 470 MHz

Software for Baofeng BF31D or BF480  
programming cable for Kenwood/Puxing



# CTCSS/DCS

## FEATURES

- HIGH ILLUMINATION FLASHLIGHT
- HIGH CAPABILITY LI-ION BATTERY
- SCRAMBLER
- BATTERY SAVE.VOX.CTCSS.DCS
- NOISE REDUCTION CIRCUIT
- REPORTING NUMBER COMMAND
- EMERGENCY ALARM CALL
- OF ENGLISH AND CHINESE
- FM RADIO、RECEIVING ALARM CALL
- FUNCTION HUMANISM DESIGN

## PRECAUTIONS

1. Refer service to qualified technicians only.
2. Do not disassemble or modify the transceiver for any reason.
3. Do not expose the transceiver under direct sunlight long time or to extremely hot condition.
4. Do not place the transceiver on the unstable surface.
5. Keep the transceiver out of dust, moisture, and water.
6. Do not operate the transceiver or charge the battery pack under explosive conditions.

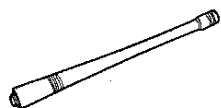
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## UNPACKING AND CHECKING EQUIPMENTS

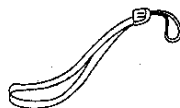
Carefully unpack the transceiver. We recommend that you identify the items listed in the following table before discarding the packing material. If any items are missing or have been damaged during shipment, please contact the dealers immediately.

## SUPPLIED ACCESSORIES

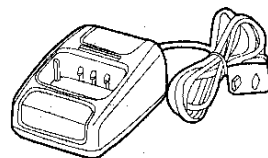
ITEM	QUANTITY
Antenna	1
Handstrap	1
Charger	1
Battery	1
Belt Clip	1
User's Manual	1



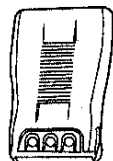
Antenna



Handstrap



Charger



Battery



Belt Clip

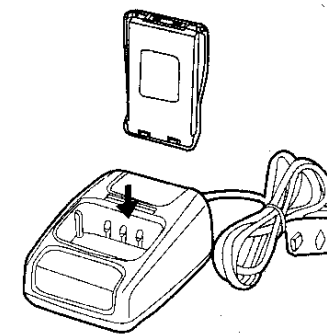
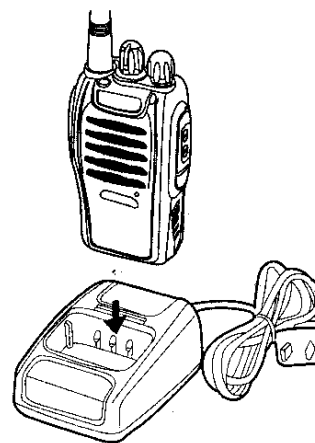
## CHARGING THE LI-ION BATTERY PACK

Please charge the new battery pack before using it.

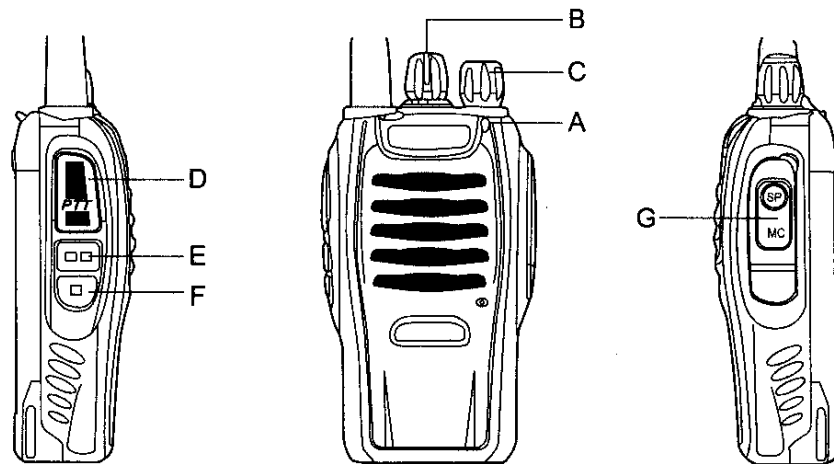
The new or stored (more than two months) battery pack, which can not reach its full capacity for the first charging. After 2 or 3 times charging and discharging, it can reach full charge.

### JUST SEE THE FOLLOWING INSTRUCTIONS

1. Plug the adapter into an electric socket.
2. Insert the transceiver or battery into the drop-in charging tray.
3. Ensure that the battery's contacts connect with the drop-in charging tray properly, while the charging is taking place, the light will glow red.
4. After 3 hours charging, the LED indicator will light green which means the full charge. Now remove the battery or the transceiver from the drop-in charging tray.



## GETTING AC QUANTED



**A. Led Indicator**— The LED indicator lights continuously red when transmitting. And lights green when in reception condition.

**B. Channel Switch**—Rotate it to select the channel. No.16 channel is scanning channel.

### **C. POWER SWITCH/VOLUME CONTROL**

Turn clockwise to switch ON the transceiver.

Turn counterclockwise fully to switch OFF the transceiver. Rotate to adjust the volume.

### **D. PTT (PUSH-TO-TALK) BUTTON**

Press this button, then speak into the microphone to call a station.

Release to receive a call.

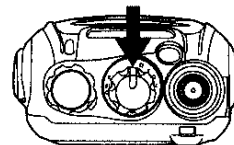
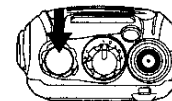
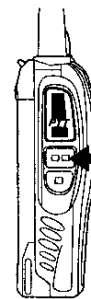
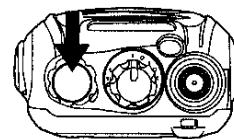
### **E. MONITOR BUTTON**

Press and hold (Squelch OFF) to hear the background noise;

Release to return to normal operation.

**F. FUNCTION KEY**—Just press to activate the torch function.

**G. SPEAKER/MICROPHONE JACKS**



## OPERATION

### **SWITCHING POWER ON/OFF**

Turn the power switch/volume control clockwise. You will hear a beep and speech, indicating the transceiver is ON.

### **ADJUSTING THE VOLUME**

Hold Monitor button down to listen to audio level while rotating the Power switch/Volume control. Rotate clockwise to increase and counterclockwise to decrease volume.

### **SELECTING THE CHANNEL**

Turn the channel switch to select your desired channel. NO.16 is Scanning Channel.

### **TRANSMITTING**

To transmit, press and hold [ PTT ] and speak into the microphone in your normal tone of voice.

The LED indicator lights continuously red when transmitting.

To maximize sound clarity at the receiving station, hold the transceiver 2 to 3 inches from mouth and talk in normal tone of voice.

## **ADDITIONAL FUNCTIONS**

### **SQUELCH LEVEL**

The purpose of Squelch is to mute the speaker when no signals are present (Squelch OFF). With the squelch level correctly set, you will hear sound only while actually receiving signals (Squelch ON). The squelch level can be adjusted via program software.

### **TIME-OUT TIMER (TOT)**

The purpose of the Time-out Timer is to prevent any caller from using a channel for an extended period of time which will cause thermal damage. The built-in Time-out Timer limits each transmission time to a certain time. The transmission time extends the certain time you set, an alert tone will sound.

### **SCAN**

Scan is a useful function for hands-off monitoring of your favorite frequencies. When transceiver is set as SCAN via software, turn the channel selector to channel 16, the transceiver will automatically detect the activities of scanning channel from 1 to 15 (Different channel can be set) .

- 1.The transceiver stops scanning at the frequency (or memory channel) where a signal is detected. It then continues or stops scanning.
- 2.If there are less than 2 channels, it can not scan.
- 3.On channel 16, press PTT and MONI key, it will turn on the SCAN, or turn off the SCAN.
- 4.If the FM radio function is activated, it can not scan.

### **VOICE PROMPT**

- 1.Voice Prompt ON/OFF can be set via software.
- 2.On channel 10, press PTT and MONI key, then switch on the transceiver, Voice Prompt can be cancelled or activated.
- 3.On channel 15, press PTT and MONI key, then switch on the transceiver to choose different voice prompt languages.

### **VOX(Voice Operated Transmission)**

VOX eliminates the necessity of manually switching to the transmission Mode each time you want to transmit. The transceiver automatically switches to Transmission Mode when the VOX circuitry senses that you have begun speaking into the microphone.

When you operate the VOX function, you must use an optional headset with microphone.

- 1.When operating the VOX function, be sure to set the VOX Gain level which allows the transceiver to recognize the sound levels.
  - 2.If the microphone is too sensitive, the transceiver will begin transmitting when there is noise in the background.
  - 3.If it is not sensitive enough, it will not pick up your voice when you begin speaking. Be sure to adjust the VOX Gain level to an appropriate sensitivity to allow smooth transmission.
- On channel 1-5, press and hold the MONI and PTT, then switch on the transceiver, thus to activate the VOX functions ON/OFF.

### **EMERGENCY ALARM**

On channel 11, press and hold the PTT and MONI, then switch the transceiver on, thus to activate the emergency alarm function ON/OFF. Also it can be set with program software. If the function is OFF, the other transceiver receives the signal, it is not able to alarm.

#### **Battery Saver**

The battery saver function will decrease the amount of power used when a signal is not being received and no operations are being performed (no keys are being pressed, and no switches are being turned).

While the channel is not busy and no operation is performed for more than 10 seconds, Battery Saver turns ON.

When a signal is received or an operation is performed, Battery Saver turns OFF.

### **BATTERY LOW ALERT**

Battery Low Alert reminds you of recharging.

When the battery power is very low, an alert tone will sound and the LED indicator will blink red. Please recharge or replace the battery pack.

### **MONITOR**

When you are receiving and no signals present, the squelch function can mute the speaker, so you can not hear the background noise. If you want to switch the squelch function OFF, press and hold [MONI] button. It is very helpful when you want to adjust the volume level and receive the weak signals.

### **BUSY CHANNEL LOCK-OUT (BCL)**

Busy Channel Lock-out function can be turned ON/OFF with program software on every channel.

When activated, BCL prevents you from interfering with other parties who may be using the same channel that you selected. Pressing the PTT switch while the channel is in use

will cause your transceiver to emit an alert tone and transmission will be inhibited (you cannot transmit). Release the PTT switch to stop the tone and return to receive mode.

### **CTCSS/DCS**

CTCSS (Continuous Tone Coded Squelch System)/ (Digital Coded Squelch)

You may sometimes want to hear calls from only specific persons or groups. In this case, use the selective call which allows

You to ignore unwanted calls from other persons who are using the same frequency.

CTCSS or DCS is a sub-audible tone and is selectable from among the 39 or 83 tone frequency listed.

#### **NOTE:**

CTCSS and DCS do not cause your conversation to be private and scrambled. It only relieves you from listening to unwanted conversations.

## SPECIFICATIONS

Frequency Range	400-470MHz
RF Rated Power	≅ 5W
Channel Capacity	16
Operated Voltage	3.7V
Dimensions	115mm × 60mm × 33mm
Weight	150g

### NOTE:

All specifications are subject to change without notice.

## TROUBLESHOOTING GUIDE

No Power	Check battery installation and/or replace batteries. Voltage Capacity Quickly Go Out. The battery life is over, replace new one.
Couldn't I communicate with other group members.	First, please verify that the channel frequency and the CTCSS you are using are the same as those of your group members. If the channel frequency and the CTCSS are the same, please verify that your group members are within the radio coverage
Hear the voice from other groups.	Please change your CTCSS for the channel. At the same time, you also need to the CTCSS for all the radios in your group. If you don't like this, you may apply another channel frequency.
Why can I hear the voices clearly from other group, sometimes, my voice is intermittent.	Please check whether the MIC is blocked by something. If so, Please return the radio to your authorized dealer for maintenance. Sometimes, your frequency is same as the frequency of other groups.
Can't turn on the radio and even it is turned on, it often shuts off automatically.	Please check the battery contacts on the radio. If it is broken or twisted, please return the radio to your authorized dealer for maintenance

<http://www.powerphone.com.cn/eproducts.asp?page=2>

<http://www.powerphone.com.cn/exprj.asp>

<http://www.powerphone.com.cn/UploadFiles/Download/BF-31D.rar>

<http://www.powerphone.com.cn/UploadFiles/Download/BF-480.rar>

I have successfully programmed the B-828. The cable is puxing standard, the software is Baofeng BF-480. Not too easy to use it (hard to type, because no cursor, you cant type comma separator, only copy-paste, you can copy-paste only with right click mouse, ctcss freqs works with comma separator, not point separator, you must copy-paste it too) but works. If you type a frequency the program will say, that out of range-its not problem. And yes, if you type a frequency you must click anywhere to accept it (enter and tab not work). To set the device "programming mode" you must turn off, plug the data cable and turn on with pressing the "moni" key. Now the 828 working fine. You can use 5 or 6,25 khz spacing, and offset frequencies too.

I think that this method will work with B-868 too.

In alternativa utilizzare il programma per il Baofeng BF-31D  
ovvero settare la radio come BAOFENG BF-450

I due programmi, BF-31D e BF480 funzionano entrambi bene, per sicurezza effettuare sempre un backup della situazione attuale e prima di ogni "scrittura" effettuare sempre una operazione di lettura... unicamente per verificare che l'interfaccia sia in ordine.

Il programma legge i settaggi della radio ed è in grado di modificarli, però...

però non può scrivere il punto "." e la virgola ","

quindi per modificare i campi è necessario scrivere i nuovi valori in un file di testo esterno in formato ascii (con Bloco note per capirsi..), quindi evidenziale la nuova frequenza, tasto destro del mouse "copia", quindi evidenziale il campo da modificare sul programma della radiotasto destro "incolla"

Per confermare spostare il mouse in basso a sinistra, sotto il campo grogio del canale 16, tasto sinistro...

Il programma segnala un errore che la frequenza è oltre il consentito, e lo è per il BF450 e il 480, ma non per il BHD B868 il cui range è da 400 a 470 MHz.

Procedura analoga per i toni, la terza colonna sono i toni in ricezione (decodifica), la quarta è l'encoder, ovvero i toni in trasmissione verso il ripetitore.

La sequenza è dunque

freq. in RX - Freq. in TX - decode - encode - potenza - ecc....

esempio...

```
udt ch1
430,50000
435,50000
82,5
```

```
diretta ch2
433,20000
433,20000
```