

# BaoFeng BF-UV5R Programming Guide

## INTRODUCTION

BaoFeng BF-UV5R is a dual-band (VHF, UHF) versatile amateur radio. It offers 128 channels, you can add or remove channels from scanning list and give channels alphanumeric names via programming with a computer. With the enhanced capabilities of the UV5R radio, this Programming Guide will help you get a quick start to program the radio.

\*If you have any problem with the BF-UV5R radio using or programming, please don't hesitate to contact us via support: [walkietalkiesoftware.com](http://walkietalkiesoftware.com). Also visit our Facebook pages ([TIDRADIO](#)) for more help. It's always our honor to help.

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## **Preparation before Programming**

### **1. Computer System Requirements**

Manufacture Programming Software Operating System: Windows 7, Windows 8 and Windows 10

CHIRP Programming Software Operating System: Windows 7\8\10, Windows 2000, Mac OS, Linux

### **2. FTDI Programming Cable is Included**

A. Come with an FTDI cable, it does not need to be installed with a driver. You can just plug in and play directly.

1) If your computer did not automatically install the driver, you will need to update the driver to the latest driver

Download the latest FTDI driver at : <https://ftdichip.com/drivers/vcp-drivers/>

### **3. Software Download & Install**

1) Turn on the computer, check if your computer system meets the requirements.

2) Download the manufacture software on [walkietalkiesoftware.com](http://walkietalkiesoftware.com) or CHIRP software on <https://chirp.danplanet.com/>

3) Install the programming software

### **4. Connect your Walkie Talkie with Computer**

1) USB programming cable connects with the computer end.

2) Connect the other end of the cable with your walkie talkie.

3) When both ends have been connected, turn on your radio. Make sure it has enough power during the programming procedure.

### **ERROR: Failed to Connect to the transceiver (Radio)**

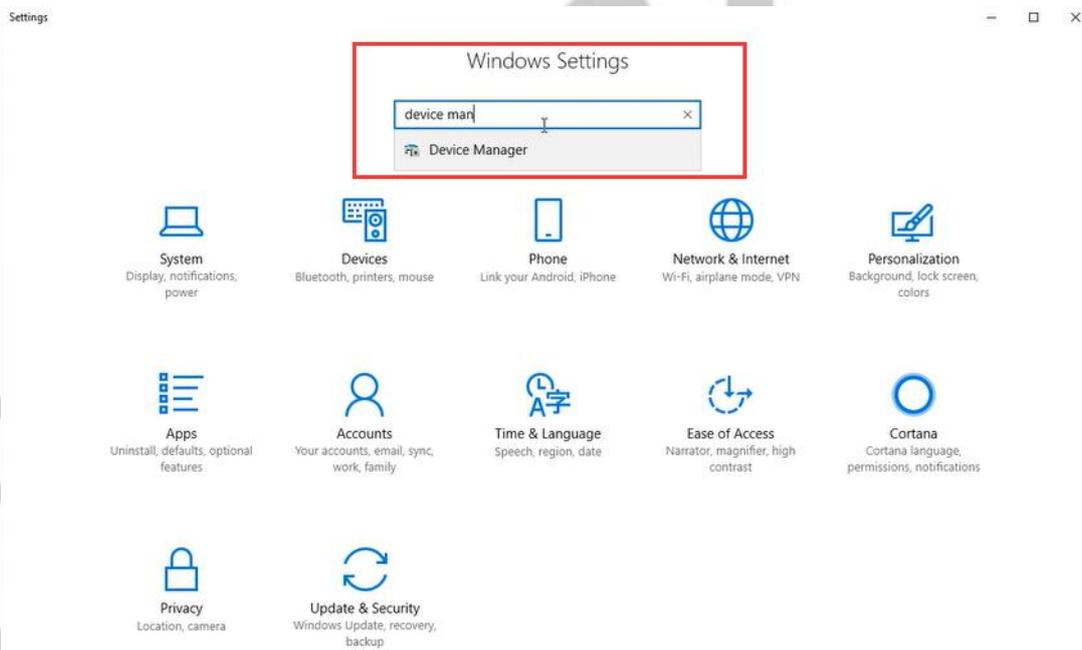
If it says it cannot connect to the radio - this means the cable is working but is not installed correctly into the radio.

#### **Items to Check:**

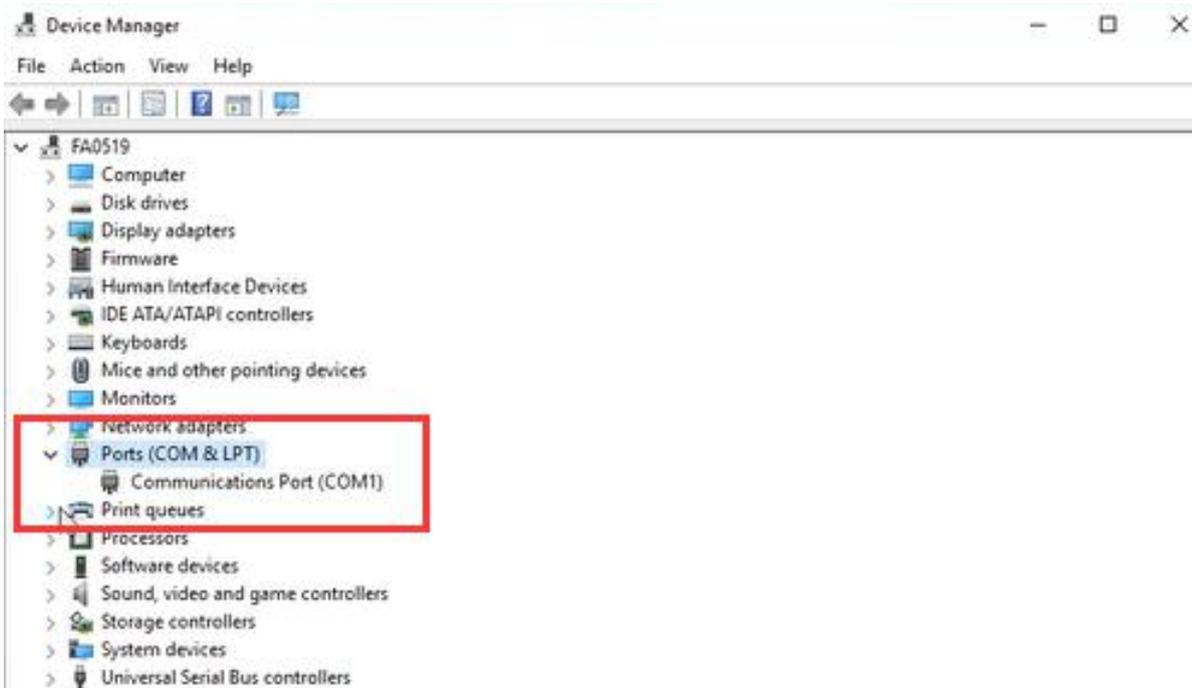
- Radio is turned on
- The cable is FULLY inserted (it can be deceiving but there is a double click)
- Hold the cable into the radio - some radios might not make contact without pressure
- A way to cheat - dampen the pins of the cable before pushing it into the radio. This will give a solid contact

## **5.How to choose your port?**

1.Get into “Window Setting”, then search “Device Manager”.



2. Open "Device Manager", and unfold Port (COM & LPT) to check the existing port.



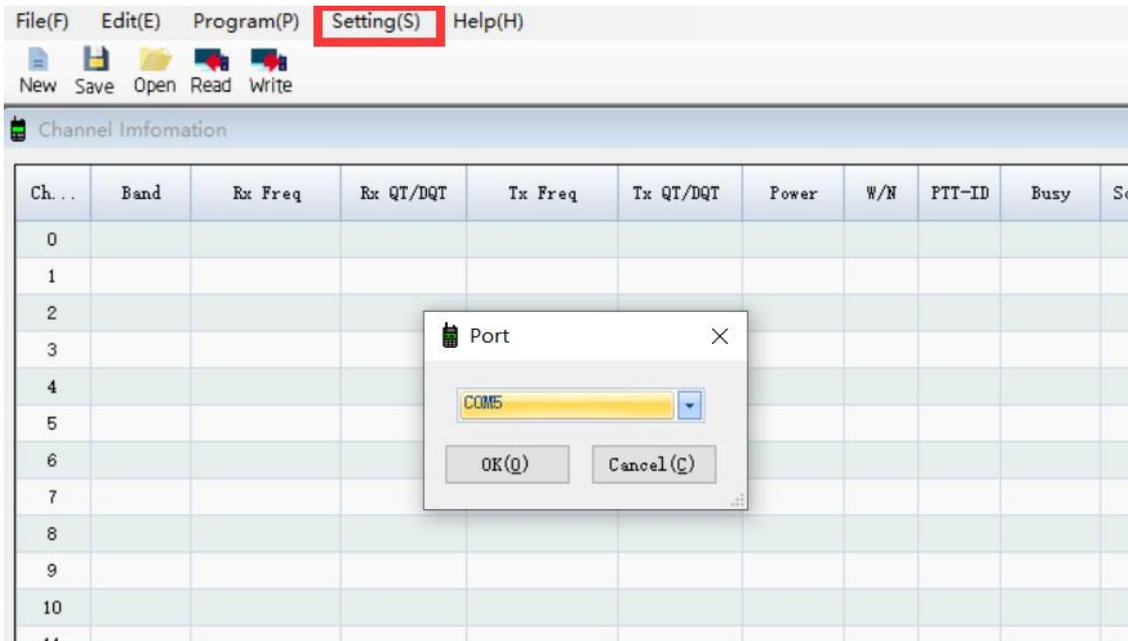
3. FTDI programming cable port is **USB Serial Port (COM?)**

端口 (COM 和 LPT)

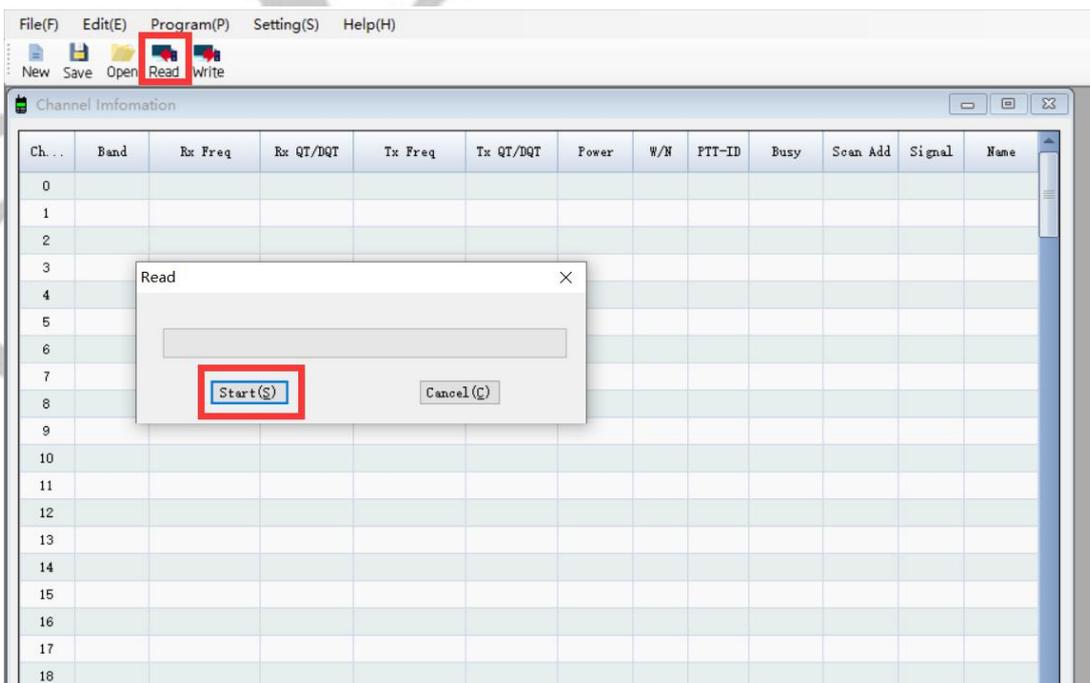
 USB Serial Port (COM3)

## UV-5R Manufacture Software Programming Process

1) Download and open the manufacture software. Click "Setting(S)→Port" and then Confirm the port the same as the port viewed by Device Manager, then click the "OK" button.



2) Click the "Read" button, then click "Start" and ready to read the data from your radio.( Make sure the radio is turned on)



3) You will come to the parameter page and adjust the limited parameters (Channel, Band, RX Frequency, TX Frequency, CTCSS/DCS, Power, and Wide/Narrow, PTT-ID, etc).

| Ch... | Band    | Rx Freq   | Rx QT/DQT | Tx Freq   | Tx QT/DQT | Power | W/N | PTT-ID | Busy | Scan Add | Signal | Name |
|-------|---------|-----------|-----------|-----------|-----------|-------|-----|--------|------|----------|--------|------|
| 0     | UHF/VHF | 136.02500 | OFF       | 136.02500 | OFF       | H     | W   | OFF    | OFF  | ON       | 1      |      |
| 1     | UHF/VHF | 462.62500 | OFF       | 462.62500 | OFF       | H     | W   | OFF    | OFF  | ON       | 1      |      |

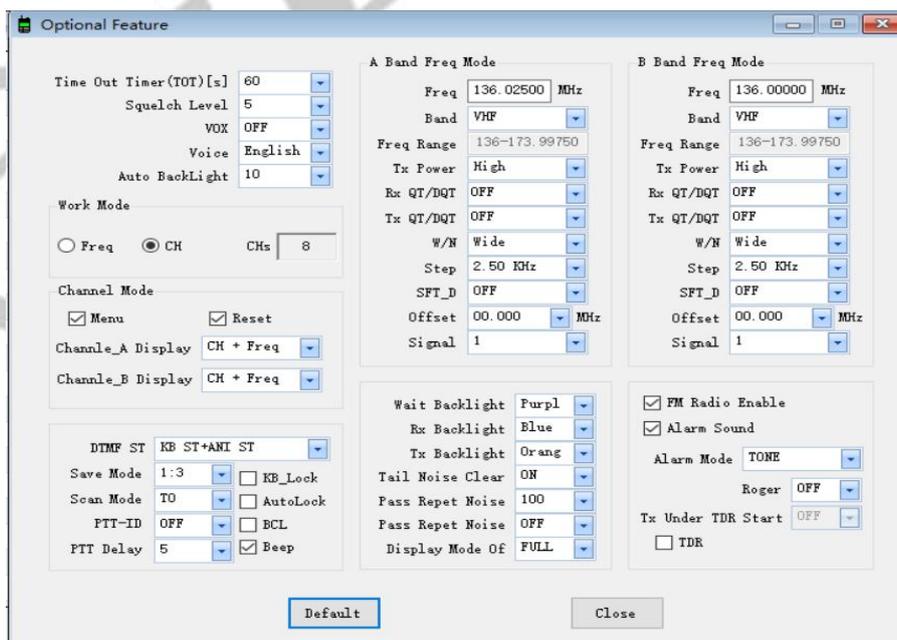
## Channel Information

The UV5R radio has 128 channels, you can edit the channel number and channel information according to your needs. The following is an introduction to each term.

| Name      | Meaning                 | Setting   | Description   |
|-----------|-------------------------|---|---|
| RX Freq   | Receiving frequency     | VHF:136-174MHz<br>UHF:400-520MHz  |   |
| TX Freq   | Transmitting frequency  | VHF:136-174MHz<br>UHF:400-520MHz  |   |
| RX QT/DQT | Receiving CTCSS/DCS     | Refer to the DCS table and CTCSS table in the manual.   | Mutes the speaker of the transceiver in the absence of a specific low level digital signal. If the station you are listening to does not transmit this specific signal, you will not hear anything. |
| TX QT/DQT | Transmitting CTCSS/DCS  | Refer to the DCS table and CTCSS table in the manual.   | Transmits a specific low-level digital signal to unlock the squelch of a distant receiver (usually a repeater).   |
| POWER     | Transmit power          | HIGH/LOW  | High power:5W<br>Low power:1W   |
| W/N       | Channel bandwidth       | WIDE/NARROW   | Wideband (25kHz bandwidth)<br>narrowband (12.5 kHz bandwidth).  |
| PTT-ID    | When to send the PTT-ID | <b>OFF</b> does not send code;<br><b>BOT</b> press PTT button to send code;<br><b>EOT</b> release PTT button to send code;<br><b>BOTH</b> press and release PTT button to send code | Codes are sent during either the beginning or end of a transmission.  |

|          |                        |                  |   |
|----------|------------------------|------------------|---|
| Busy     | Busy Channel Lockout   | OFF/ON           | <p><b>ON:</b> If the channel is occupied, when you press the [PTT] key on this channel, the radio will make a beep tone and will not transmit any signal.</p> <p><b>OFF:</b> No matter if the channel is occupied, the radio will transmit the signal when you press the [PTT] key.</p> |
| Scan add |                        | OFF/ON           | <p>In the scan mode, whether add the channel to the scan list.</p> <p><b>ON:</b> the channel is added to scan list;</p> <p><b>OFF:</b> the channel cannot be scanned.</p>   |
| Signal   | Signal code            | 1-15             | Selects 1 of 15 DTMF codes. The DTMF codes are programmed with software and are up to 5 digits each   |
| Name     | Customize channel name | Up to 10 digits. | Support alphanumeric channel name.  |

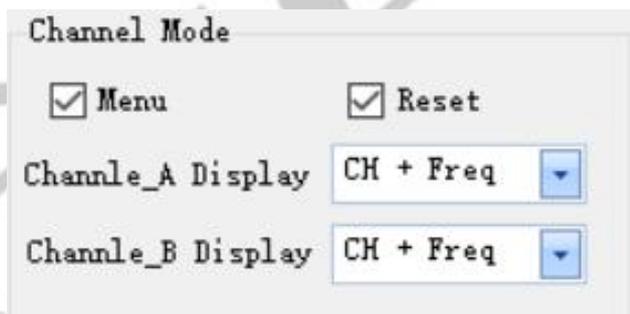
4) Click "Optional Features" under "Edit", a page of "Optional Features" will pop up, you can adjust the limited parameters (VOX Function, Squelch, Backlit, DTMF, FM Radio, Voice Prompt, Scanning, VFO Mode, etc.).



## A.Basic Setting

| Name               | Meaning                     | Settings            | Description   |
|--------------------|-----------------------------|---------------------|---|
| TOT(Time Out)      | Transmission time-out timer | 15-600(s)           | This feature provides a limits transmission time to a programmed value. This will promote battery conservation by not allowing you to make excessively long-time transmissions and in the event of a stuck PTT switch, it can prevent interference to other users as well as battery depletion. |
| Squelch Level      |                             | 0-9                 | Mutes the speaker of the transceiver in the absence of a strong signal. Squelch is either OFF or 1-9 levels. The higher level, the stronger the signal must be to in-mute the speaker.  |
| VOX                | Voice operated TX           | 0-10                | When enabled it is not necessary to push the [PTT] button on the transceiver. Adjust the gain level to an appropriate sensitivity to allow smooth transmission.   |
| Voice Annunciation |                             | OFF\English\Chinese | Switch the language of menu display and voice prompts   |
| ABR                | Display time                | OFF/0-5 (s)         | Time-out for the LCD backlight.   |
| Work mode          |                             | Frequency           | CHs is channel quantity   |
|                    |                             | Channel             |   |

## B.Channel Mode



You can customize the display on Channel A/B:

CH: Display Channel Number

CH + Name: Display Channel Number and Channel Name (Name column in Channel information part)

CH + Freq: Display Channel Number and Frequency

## C.DTMF

|           |              |  |
|-----------|--------------|--|
| DTMF ST   | KB ST+ANI ST | <input type="checkbox"/>                 |
| Save Mode | 1:3          | <input type="checkbox"/> KB_Lock         |
| Scan Mode | TO           | <input type="checkbox"/> AutoLock        |
| PTT-ID    | OFF          | <input type="checkbox"/> BCL             |
| PTT Delay | 5            | <input checked="" type="checkbox"/> Beep |

| Name   | Setting   | Description   |
|--|---|---|
| DTMF ST<br>(DTMF side tone of transmit code) | <b>OFF ALL:</b> No DTMF Side Tones are heard  | Determines when DTMF side tones can be heard from the transceiver speaker   |
|  | <b>KB DTMF Side Tone:</b> Side Tones are heard only from manually keyed DTMF codes                    |   |
|  | <b>Send ANI DTMF Side Tone:</b> Side Tones are heard only from automatically keyed DTMF codes         |   |
|  | <b>KB DTMFST+Send ANI DTMFST:</b> All DTMF Side Tones are heard                                       |   |
| Save mode                                    | OFF/1:1/1:2/1:3/1:4   | Selects the ratio of sleep cycles to awake cycles. The higher number the longer the battery lasts. When enabled, a word or two might be missed when the frequency being monitored becomes active. |
| Scan mode                                    | <b>TO:</b> Time Operation - scanning will resume after a fixed time has passed                        | Scanning Resume Method  |
|  | <b>CO:</b> Carrier Operation -Scanning Resume Method scanning will resume after the signal disappears |   |
|  | <b>SE:</b> Search Operation scanning will not resume  |   |
| PTT_ID                                       | <b>OFF:</b> No ID is sent   | When to Send PTT-ID; Codes are sent during either the beginning or end of a transmission.   |
|  | <b>BOT :</b> The selected S-CODE is sent at the beginning   |   |
|  | <b>EOT:</b> The selected S-CODE is sent at the ending   |   |
|  | <b>BOTH:</b> The selected SCODE is sent at the beginning and ending                                   |   |
| PTT Delay                                    | 0-30ms  | Signal code sending delay   |
| KB_LOCK                                      |   | If you select this option, the keyboard is locked.  |

|                                  |  |   |
|----------------------------------|--|---|
| AutoLock (automatic keypad lock) |  | When ON, the keypad will be locked if not used in 8 seconds. Pressing the [# PTT] key for 2 seconds will unlock the keypad.   |
| BCL (busy channel Lock-out)      |  | <b>Check:</b> If the channel is occupied, when you press the [PTT] key on this channel, the radio will make a beep tone and will not transmit any signal.<br><b>Uncheck:</b> No matter if the channel is occupied, the radio will transmit the signal when you press the [PTT] key. |
| Beep (keypad beep)               |  | Allows audible confirmation of a key press  |

## D.Frequency mode

**STEP:** Select the amount of frequency change in VFO/Frequency mode when scanning or pressing the keys.

**SFT\_D:** Enable access of repeaters in VFO/Frequency Mode ([OFF]: TX = RX (simplex); [+]: TX will be shifted higher than RX in frequency; [-]: TX will be shifted lower than RX in frequency)

**Offset:** Specifies the difference between the TX and RX frequency (For the explanation of TX Power, RX QT/DQT, TX QT/DQT, W/N, Signal, please refer to introduction above)

| A Band Freq Mode |               | B Band Freq Mode |               |
|------------------|---------------|------------------|---------------|
| Freq             | 136.02500 MHz | Freq             | 136.00000 MHz |
| Band             | VHF           | Band             | VHF           |
| Freq Range       | 136-173.99750 | Freq Range       | 136-173.99750 |
| Tx Power         | High          | Tx Power         | High          |
| Rx QT/DQT        | OFF           | Rx QT/DQT        | OFF           |
| Tx QT/DQT        | OFF           | Tx QT/DQT        | OFF           |
| W/N              | Wide          | W/N              | Wide          |
| Step             | 2.50 KHz      | Step             | 2.50 KHz      |
| SFT_D            | OFF           | SFT_D            | OFF           |
| Offset           | 00.000 MHz    | Offset           | 00.000 MHz    |
| Signal           | 1             | Signal           | 1             |

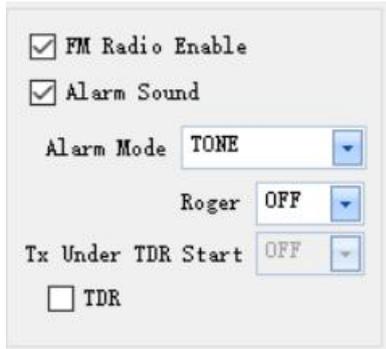
## E.FM Radio

**FM Radio Enable:** When you check off, FM Radio function will be activated on the radio.

**Roger:** Sends an end-of-transmission tone to indicate to other stations that the transmission has ended

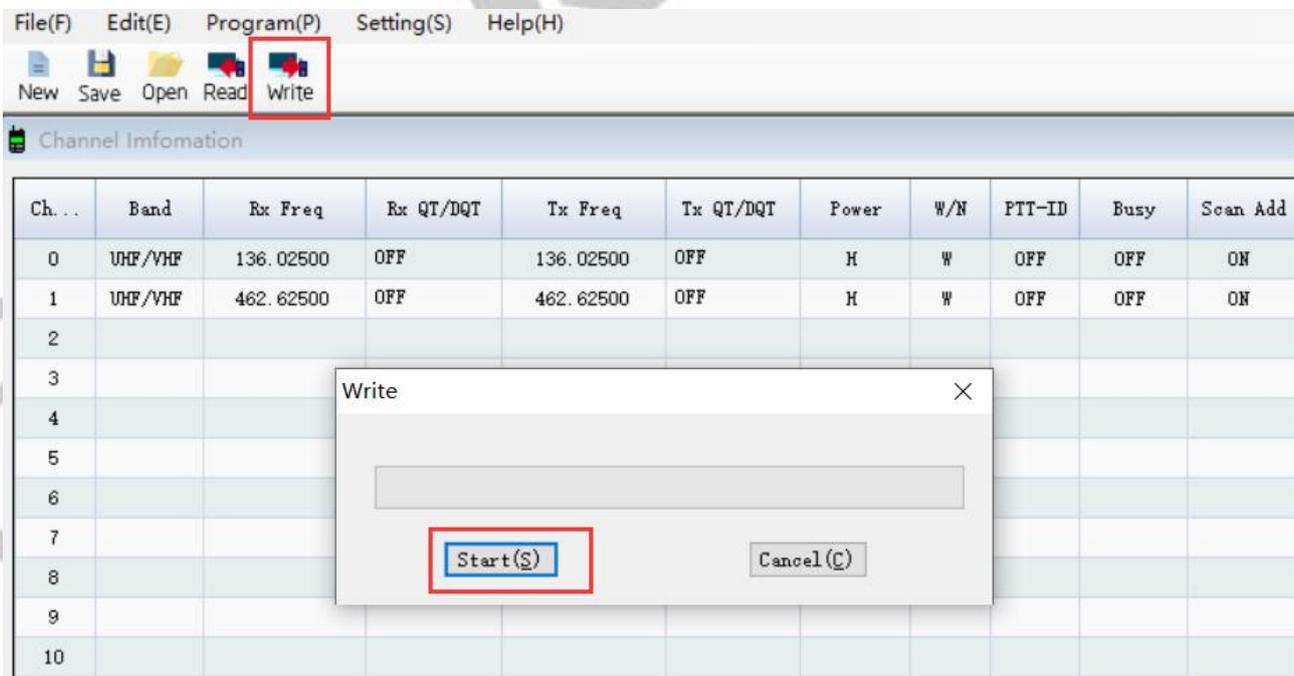
**TX Under TDR Start:** Transmit selection while in Dual Watch mode, when enabled, priority is returned to selected display once the signal in the other display disappears.

**TDR:** Dual Watch mode, the ability to monitor two channels at once can be a valuable asset



FM Radio Enable  
 Alarm Sound  
Alarm Mode: TONE  
Roger: OFF  
Tx Under TDR Start: OFF  
 TDR

5) Finally, all the modification will be saved by clicking the "Write" button, then clicking the "Start" button on the popup. And you can check the setting you modified after reboot the radio.



File(F) Edit(E) Program(P) Setting(S) Help(H)  
New Save Open Read Write

Channel Information

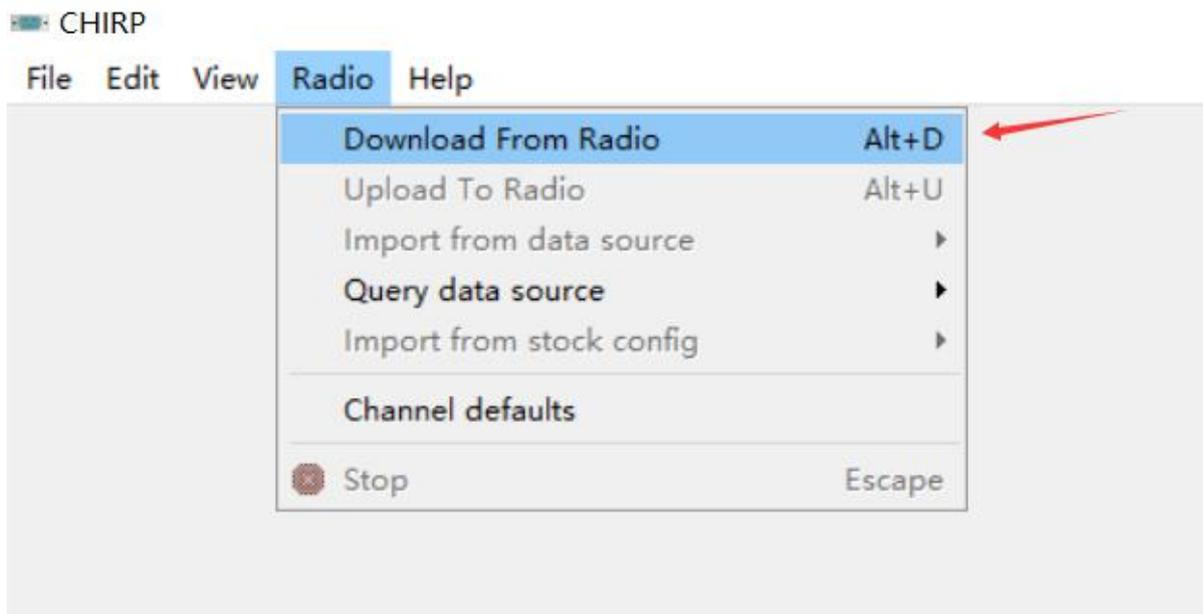
| Ch... | Band    | Rx Freq   | Rx QT/DQT | Tx Freq   | Tx QT/DQT | Power | W/N | PTT-ID | Busy | Scan Add |
|-------|---------|-----------|-----------|-----------|-----------|-------|-----|--------|------|----------|
| 0     | UHF/VHF | 136.02500 | OFF       | 136.02500 | OFF       | H     | W   | OFF    | OFF  | ON       |
| 1     | UHF/VHF | 462.62500 | OFF       | 462.62500 | OFF       | H     | W   | OFF    | OFF  | ON       |
| 2     |         |           |           |           |           |       |     |        |      |          |
| 3     |         |           |           |           |           |       |     |        |      |          |
| 4     |         |           |           |           |           |       |     |        |      |          |
| 5     |         |           |           |           |           |       |     |        |      |          |
| 6     |         |           |           |           |           |       |     |        |      |          |
| 7     |         |           |           |           |           |       |     |        |      |          |
| 8     |         |           |           |           |           |       |     |        |      |          |
| 9     |         |           |           |           |           |       |     |        |      |          |
| 10    |         |           |           |           |           |       |     |        |      |          |

Write

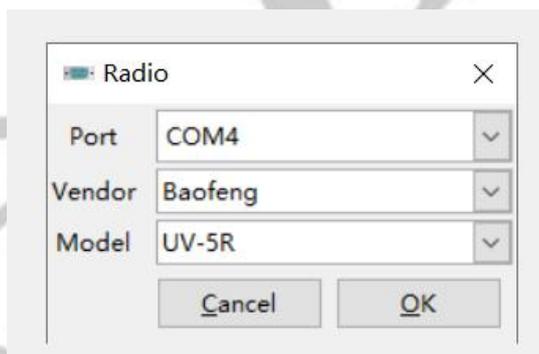
Start(S) Cancel(C)

## UV-5R Chirp Software Programming Process

1) Open the CHIRP software (Latest Version), click "Download From Radio" under "Radio"



2) Select the corresponding cable driver port, and select Model "UV-5R" under Vendor "Baofeng", then click "OK" to read the radio



3) And you will come to the page of Memories, in which you can adjust the limited parameters (For the explanation of Channel, TX Frequency, RX Frequency, CTCSS/DCS, High/Low Power, and Wide/Narrow Band. Please refer to introduction above)

CHIRP

File Edit View Radio Help

Baofeng UV-5R: (Untitled)\*

Memories Memory Range: Refresh Special Channels Show Empty Properties

| Settings | Loc | Frequency  | Name | Tone Mode | Tone | ToneSql | DTCS Code | DTCS Rx Code | DTCS Pol | Cross Mode | Duplex | Offset | Mode | Power | Skip |
|----------|-----|------------|------|-----------|------|---------|-----------|--------------|----------|------------|--------|--------|------|-------|------|
|          | 0   | 136.025000 |      | (None)    |      |         |           |              |          |            | (None) |        | FM   | High  |      |
|          | 1   | 462.625000 |      | (None)    |      |         |           |              |          |            | (None) |        | FM   | High  |      |
|          | 2   | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 3   | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 4   | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 5   | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 6   | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 7   | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 8   | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 9   | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 10  | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 11  | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 12  | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |
|          | 13  | 0.000000   |      | (None)    |      |         |           |              |          |            | (None) |        | FM   |       |      |

4) Then if you switch to the page of Settings, you can adjust the limited parameters (For the explanation of VOX Function, Squelch, Backlit, DTMF, FM Radio, Voice Prompt, Scanning, VFO Mode. Please refer to introduction above)

CHIRP

File Edit View Radio Help

Baofeng UV-5R: (Untitled)\*

Memories

Settings

- Basic Settings
- Advanced Settings
- Other Settings
- Work Mode Settings
- FM Radio Preset
- DTMF Settings
- Service Settings

Carrier Squelch Level: 5

Battery Saver: 1:3

Backlight Timeout: 10

Beep:  Enabled

Timeout Timer: 60 sec

Display Mode (A): Frequency

Display Mode (B): Frequency

Standby LED Color: Purple

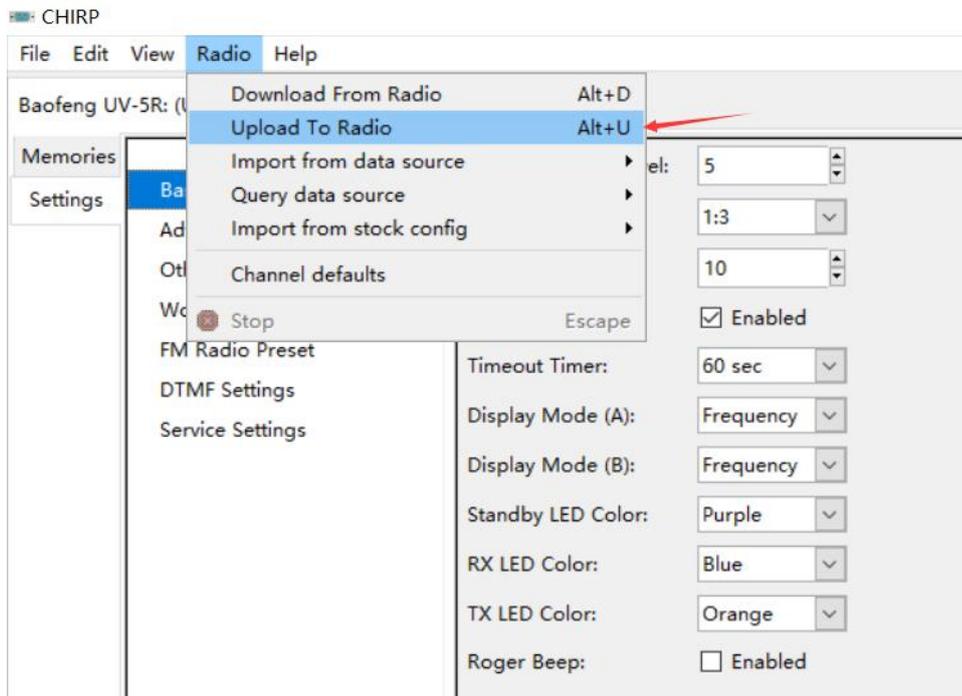
RX LED Color: Blue

TX LED Color: Orange

Roger Beep:  Enabled

5) All the modification will be saved by clicking "Upload To Radio" under "Radio".

Then you can check the settings you modified after reboot the radio.



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