User Manual(Draft)

WT-UV5F Plus

■Features

Frequency range: Rx:136-174/400-480MHz Tx :144-148/420-450Mhz

Friendly man-machine interface, with voice prompts, easier to operate

Dual band, dual display, dual-frequency point waiting

Up to 128 memory channels for programming frequencies

CTCSS/DCS, DTMF signaling

VOX voice-activated transmission,

Emergency alarm and ANI identification through DTMF

8-step step frequency selection

Equipped with the relay pilot and scramble function

SOS emergency alert function

Computer programming, reading and writing frequency password protection

Full keyboard design, manual frequency transmission function

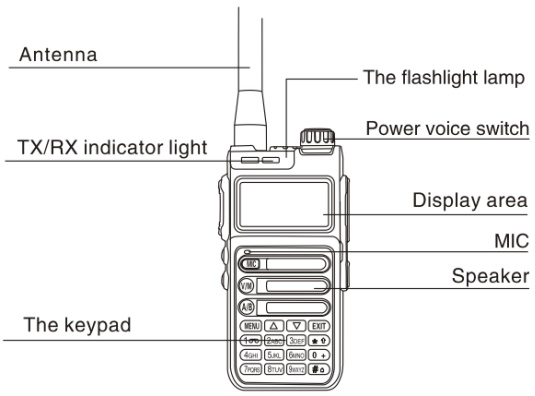
Strong light flashlight lighting function

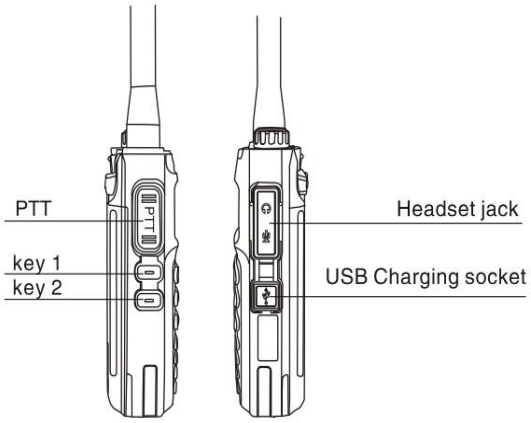
Frequency measurement function(model optional),atanytime to copy other machine frequency

USB charging function,you can use USB charging cable tocharge

If not, please contact your dealer.

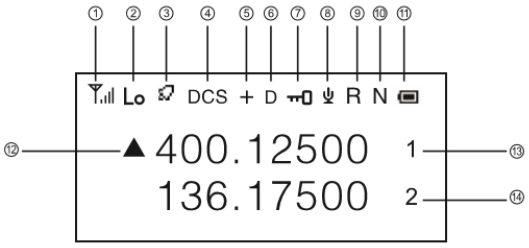
Radio Controls





Status Indications

LCD Icons



Number	Icon	Radio Status
1		The number of bars indicates the signal strength.
2	H	The channel transmits at high power；
	M	The channel transmits at medium power
	L	The channel transmits at low power
3		When the DTMF is set to DT-ST/DT+ANI/ANI-ST, the symbol appears
4	DCS	The current is CDCSS
	CT	The current is CTCSS
5	+	The current transmission frequency is the reception frequency plus a frequency bias(Set in menu 24th)
	–	The current transmission frequency is the reception frequency minus a frequency bias(Set in menu 24th)
6	D	Has been set to dual-band double-waiting function, and allows waiting on two frequency bands displayed on the screen at the same time
7		The keyboard lock is locked; Press the [*] to unlock
8		The VOX has been turned on
9	R	In channel or frequency mode the invert the receiving and transmitting frequencies
10	N	The radio work in narrowband mode
11		The number of bars indicates the charge left in the battery.
12		A/ B band pointer
13	01	In channel mode, the current channel number for A
14	01	In channel mode, the current channel number for B

Charging the Battery

Before initial use, fully charge the battery to ensure optimum performance. To charge the battery, do as follows:

1. Insert the output connector of the power adapter into the port on the back of the charger.

2. Plug the power adapter into a power outlet.

3. Place the battery into the charger, and then switch the power outlet on.

To determine the charging status, check the light-emitting diode (LED) indicator on the charger according to the following table:

Charging Indicator	Charging Status
Glows red	The battery is charging.
Glows green	The battery is fully charged.

Flashes red rapidly	The battery fails to be charged.

View battery

Long press the 【0】 key for display battery voltage.

The top right of the screen shows the current battery power icon is as follows:

Icon	Battery power
	High
	Medium
	Low
	Insufficient

Basic Operations

If you want to…	Do this…
Power switch/ volume adjustment	Power On/Off: Turn the [Power/Volume Switch] knob clockwise to turn the transceiver on and adjust the volume to maximum. • Turn the [Power/Volume Switch] knob counterclockwise to adjust the volume to the minimum until the transceiver is turned off. • If the channel broadcast function is turned on, the current channel number is broadcast.
Frequency/ Channel mode selection [V/M] key	Press [V / M] button, mode switching between frequencies or channel mode. • Frequency mode: Manual input frequency and channel storage. • Channel mode: Press the [▲/▼] key to select the channel.
A/B Band Selection [A/B] key	Press [A/B] key to switch the band pointer in the upper and lower bands. • Press the PTT key to transmit in the band pointed by the pointer.
Selecting a Channel	After power on, press [V/M] to select the channel mode, press [▲/▼] key to select the channel, and the channel number on the right side of the screen. • If the channel announcement function is enabled, the intercom will broadcast the current channel number.
Making a Call [PTT] key	• Call channel mode: After selecting a channel, hold down the [PTT] key to initiate a call to the current channel. Speak into the microphone with normal tone. Initiate a call, the red LED is on. • Frequency mode call: Press the [V / M] key to switch to the frequency mode, the frequency range allowed entering, press the [PTT] button, a call to the current channel. Speak into the microphone with normal tone. Initiate a call, the red LED is on. • Receive a call: When you release the [PTT] button, you can answer it without any action. When receiving a call, the green LED is on.  To ensure the best reception volume, keep the distance between the microphone and the mouth at the time of transmission from 2.5 cm to 5 cm.
SK1 (Side key 2)	• Monitor function: Press and hold the [SK2] button to turn on the monitor function, and release the [SK] button to cancel the monitor.
SK1 (Side key 1)	• Flashlight function: Press [SK1] button, turn on the flashlight function and hand lamps lit; press again [SK1] key to close the flashlight function. • SOS emergency alert function: Press [SK1] key to open the alarm function on, the green lights, red lights, hand lights blink, the press [SK1] key, and the alarm is released again.
Keyboard lock and unlock	• Manually lock: Press and hold the [#] button to lock the transceiver. • Automatically locked: Open automatic keypad lock, keys, knobs without any

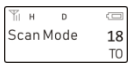
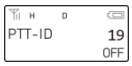
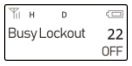
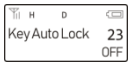
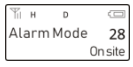
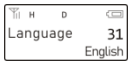
	operation, automatic locking 5 seconds delay. • Unlock: Press [#] key, unlock the keypad.

Optional Features

Menu Settings

You can use the MENU key on the terminal to enter “Menu Settings” to set some common functions. The specific instructions and operation methods are as follows:

Menu №	Function name	Enter function	First level menu display	Choose Parameters	Secondary menu Optional Parameters	Confirm	Return to standby
0	Squelch level	MENU → 0 →	Squelch 00 3	→ MENU → ▲/▼	0,…,9	→ MENU →	EXIT
1	Step	MENU → 1 →	Step 01 12.5KHz	→ MENU → ▲/▼	2.5KHz 5.0KHz 6.25KHz 10.00KHz 12.50KHz 20.0KHz 25.0KHz 50.0KHz	→ MENU →	EXIT
2	Tx Power	MENU → 2 →	Tx Power 02 LOW	→ MENU → ▲/▼	High Middle Low	→ MENU →	EXIT
3	Power save	MENU → 3 →	Power save 03 ON	→ MENU → ▲/▼	OFF ON	→ MENU →	EXIT
4	Vox Level	MENU → 4 →	Vox Level 04 OFF	→ MENU → ▲/▼	OFF 1,2,… 10	→ MENU →	EXIT
5	Bandwidth	MENU → 5 →	Bandwidth 05 Width	→ MENU → ▲/▼	Wide Narrow	→ MENU →	EXIT
6	Backlight	MENU → 6 →	Backlight 06 5Sec	→ MENU → ▲/▼	Bright 1Sec,2Sec,… 10Sec	→ MENU →	EXIT
7	Dual Standby	MENU → 7 →	Dual Standby 07 ON	→ MENU → ▲/▼	OFF ON	→ MENU →	EXIT
8	Beep Prompt	MENU → 8 →	Beep Prompt 08 ON	→ MENU → ▲/▼	OFF ON	→ MENU →	EXIT
9	Voice	MENU → 9 →	Voice 09 ON	→ MENU → ▲/▼	OFF ON	→ MENU →	EXIT
10	Tx over time	MENU → 1 → 0 →	Tx over time 10 120S	→ MENU → ▲/▼	OFF 15,30,…600	→ MENU →	EXIT
11	Rx DCS	MENU → 1 → 1 →	Rx DCS 11 OFF	→ MENU → ▲/▼	OFF D023N,…,D754I	→ MENU →	EXIT
12	Rx CTCSS	MENU → 1 → 2 →	Rx CTCSS 12 OFF	→ MENU → ▲/▼	OFF 67.0HZ,…,254.1HZ	→ MENU →	EXIT
13	Tx DCS	MENU → 1 → 3 →	Tx DCS 13 OFF	→ MENU → ▲/▼	OFF D023N,…,D754I	→ MENU →	EXIT
14	Tx CTCSS	MENU → 1 → 4 →	Tx CTCSS 14 OFF	→ MENU → ▲/▼	OFF 67.0HZ,…,254.1HZ	→ MENU →	EXIT
15	DTMFST	MENU → 1 → 5 →	DTMFST 15 OFF	→ MENU → ▲/▼	OFF DT-ST	→ MENU →	EXIT

					ANI-ST DT+ANI	
16	R-TONE	MENU→1→6→		→MENU→▲/▼	1000hz,1450hz, 1750hz,2100hz	→MENU→EXIT
17	S-CODE	MENU→1→7→		→MENU→▲/▼	1,2，…,15	→MENU→EXIT
18	Scan Mode	MENU→1→8→		→MENU→▲/▼	TO CO SE	→MENU→EXIT
19	PTT-ID	MENU→1→9→		→MENU→▲/▼	OFF BOT EOT BOTH	→MENU→EXIT
20	MDF-A	MENU→2→0→		→MENU→▲/▼	Frequency Name	→MENU→EXIT
21	MDF-B	MENU→2→1→		→MENU→▲/▼	Frequency Name	→MENU→EXIT
22	Busy Lockout	MENU→2→2→		→MENU→▲/▼	OFF ON	→MENU→EXIT
23	Key AutoLock	MENU→2→3→		→MENU→▲/▼	OFF ON	→MENU→EXIT
24	Direction	MENU→2→4→		→MENU→▲/▼	None Plus Minus	→MENU→EXIT
25	Offset	MENU→2→5→		→MENU→▲/▼	00.000,…,99.998	→MENU→EXIT
26	Memory	MENU→2→6→		→MENU→▲/▼	1,…,128	→MENU→EXIT
27	Delete	MENU→2→7→		→MENU→▲/▼	1,…,128	→MENU→EXIT
28	Alarm Mode	MENU→2→8→		→MENU→▲/▼	On site Send sound Send code	→MENU→EXIT
29	TAIL	MENU→2→9→		→MENU→▲/▼	OFF ON	→MENU→EXIT
30	PROGER	MENU→3→0→		→MENU→▲/▼	OFF ON	→MENU→EXIT
31	Language	MENU→3→1→		→MENU→▲/▼	Chinese English	→MENU→EXIT
32	Reset	MENU→3→2→		→MENU→▲/▼	VFO ALL	→MENU→EXIT

Optional Features

The functions supported by the radio are shown in the table below.

Function Name	Description
Setting the CTCSS/CDCSS Feature	Setting the CTCSS/CDCSS Feature The Continuous Tone-Coded Squelch System (CTCSS)/ Continuous Digital-Coded Squelch System (CDCSS) feature allows the radio to filter out unwanted voice on the current channel. You can request your dealer to enable this feature.
Time-out Timer	The Time-out Timer (ToT) feature allows the radio to stop transmission automatically and keep beeping when the period reset by your dealer expires. To stop beeping, release the [PTT] key. You need to wait for a certain period (also preset by your dealer) to start transmission again. This feature aims to prevent a radio user from occupying a channel for an extended period and to avoid radio damage due to overheating.
Automatic Power Save Feature	Your radio has a unique circuit designed to dramatically extend the life of the battery. If you do not transmit and do not receive an incoming call， or no button and knob operation within 3 seconds, your radio switches to the Power Save mode. The radio is still able to receive transmissions in this mode.
Low battery alarm	When the battery is low, it can be charged in time by voice reminder. When the battery is too low, the transmission will be prohibited.
Scan	The Scan feature allows you to listen to activities on a channel, keeping track of your team members. With this feature enabled, the radio searches the scan list preset for the current channel and stays on a channel with activities. In standby mode, press and hold the [#] key to turn on the scan function. After opening the scan, the terminal will scan according to the scan list, the channel scanning when there is an event; will stay on the channel to listen to understand the current status of activities related members. The scan list will be edited by the programming software.
Busy Channel Lockout	The Busy Channel Lockout feature allows the radio to keep beeping when you press and hold [PTT] key when the current channel is occupied by other radios. When the current channel is idle, you can transmit by pressing and holding [PTT] key.
Frequency measurement function	under the standby mode, press function【MENU+*/ky】, the current frequency can be demodulated when the signal is received. If the current frequency is attached with a sub-audio, the sub-audio will show on the screen.
Set the backlight	Select Backlight, and select one of the following as required: • Bright: The backlight stays always on. • Timed: The backlight automatically goes out if no operation or activity is performed with in the preset period.

Detailed Instructions of Some Important Functions

Voice Operated Transmit

The Voice Operated Transmit (VOX) feature allows you to transmit voice without pressing and holding the [PTT] key. The radio automatically transmits voice when the volume reaches the preset level. A higher gain level indicates lower sensitivity, which requires higher volume for triggering transmission.

Standby mode, press [MENU] [4] (or press the [▲]/[▼] key) to enter “Vox Level”, press [MENU] selection：

- Turn off the function: Press [▲]/[▼] key and select OFF to turn off the voice operated transmit function.
- Turn on the function: Press [▲]/[▼] key to select the level value of 1-10, and then select the appropriate level. Press the [MENU] button to save the settings and turn on the voice operated transmit function.

Dual Standby

When in dual standby mode, the radio can receive the A or B channel.

Standby mode, Press [MENU][7]（or press the [▲]/[▼] key）to enter “Dual Standby”, Press[MENU]selection：

- Turn off the function: Press [▲]/[▼] key and select OFF to turn off the dual standby function.
- Turn on the function: Press [▲]/[▼] key and select ON to turn on the dual standby function.

In dual standby mode, the radio is in the scanning state of main and secondary channels. Even if the power saving function is enabled, the power saving function is still invalid, and the standby time of the interphone will be shortened.

Memory channel

1) When the transceiver works in the channel mode, it is able to copy all the parameters except the channel names into the specified channel.
2) When the transceiver works in the frequency mode, set the offset frequencies, shift direction and other parameter ahead, and then save into the specified channels.
3) Same frequency saved in one channel

For example, specified channel CH-20, same frequency 435.125MHz, RX CTCSS 67Hz, TX CTCSS 67Hz.

Setp 1, input [4][3][5][1][2][5] in the frequency mode.

Setp 2, press [MENU]+[1][2]+ [MENU] to start setting RX CTCSS, use [UP]/[DN] to select 67.0, and then press [MENU] to confirm.

Setp 3: press [MENU]+[1][4]+ [MENU] to start setting TX CTCSS, use [UP]/[DN] to select 67.0, and then press [MENU] to confirm.

Setp 4: press [MENU]+[2][6]+ [MENU], then use [▲]/[▼] key to selecting the desired channel CH-20 to memory.

Finally， press [MENU] to confirm and finish.

If tone is not needed, then the step 2 and 3 are not necessary.

4) Memory channel in different TX and RX frequencies. This is working for repeating communication.

For example, specified channel CH-20, RX frequency 435.125MHz, TX frequency 445.125MHz, RX CTCSS 67Hz, with TX CTCSS 67Hz.

Setp 1, input [4][3][5][1][2][5] in the frequency mode.

Setp 2, press [MENU]+[2][5]+ [MENU] to set the offset frequency 10.000MHz.

Setp 3, press [MENU]+[2][4]+ [MENU] to set the direction to “Plus”.

Setp 4: press [MENU]+[2][6]+ [MENU], then use [▲]/[▼]key to selecting the desired channel CH-20 to memory.

Finally， press [MENU] to confirm and finish.

■Technical Specifications

1	Frequency Range	Rx:136-174/400-480MHz Tx:144-148/420-450MHz

	Channel Capacity		128
	Channel Spacing		12.5kHz
	Input Voltage		7.4 VDC±10%
	Battery		1400mAH(Li-Ion)
	Battery Life (5-5-90 Duty Cycle, High TX Power)		About 14 Hours
	Current Drain	Stand-by	≤85mA
		Receive	≤450 mA
		Transmit	≤1.8A
	Frequency Stability		±2.5ppm
	Operating Temperature		-30℃ to +60℃
	Antenna Impedance		50Ω
	Radio Dimensions (with standard battery, without antenna)		121×61×33mm
	Radio Weight (with antenna & standard battery)		223g
Transmitter Part	RF Output Power		4W
	FM Modulation		11K0F3E@12.5KHz
	Spurious Emission		-36dBm < 1GHz, -30dBm > 1GHz
	FM Hum & Noise		40dB @12.5KHz
	Audio Distortion		≤5%
	Modulation Limiting		±2.5 KHz@12.5 KHz
	Audio Response (300-3000Hz)		+1~3dB
Receiver Part	Receive Sensitivity		0.25μV (12dB SINAD)
	Adjacent Channel Selectivity		,≥55dB@12.5KHz
	Inter Modulation and Rejection		≥55dB@12.5KHz
	Conducted Spurious Emission		≤-57dB @12.5KHz
	FM Hum & Noise		≥40dB @12.5KHz
	Rated Audio Power Output		1.0W @16 ohms
	Rated Audio Distortion		≤5%

■ATTENTION

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

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.