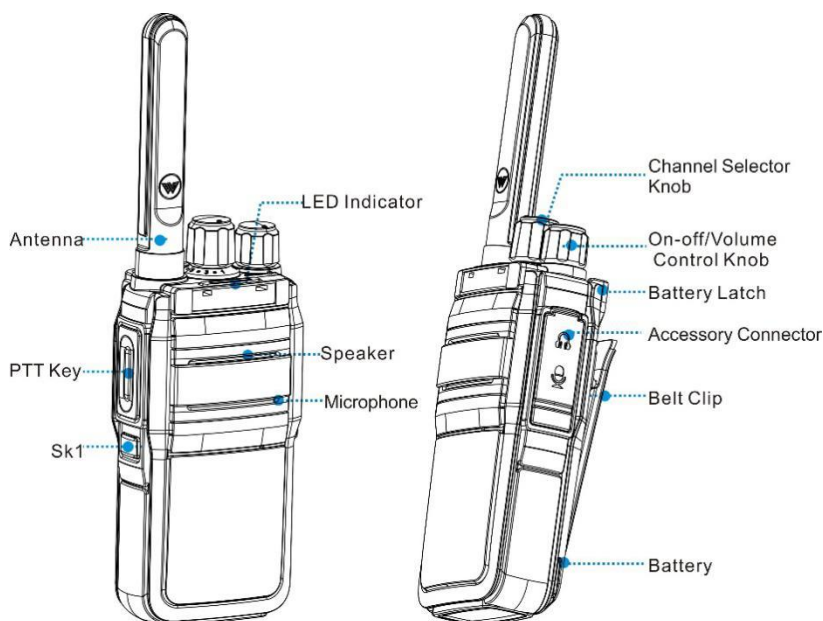


User Manual_(Draft)

WT-F21

Features

1. Operating frequency band: FRS 462.5500 - 462.7250 MHz
2. 16 memory channels
3. Chinese/English language prompts for easier operation
4. 50 sets of standard CTCSS, 105 sets of standard DCS
5. Time-out Timer
6. Automatic power saving function to extend battery life
7. VOX voice-activated transmission, you can call normally without pressing the PTT button
8. Scanning function
9. narrowband compatible
10. Scrambling function, the call is more confidential
11. Companding function, the call is clearer
12. Computer programming, read/write frequency password protection
13. Special signaling function (frequency hopping), stronger anti-interference ability
14. Non-standard mute function



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

1. Plug the charger into the power outlet.

2. 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.

Basic Operations

If you want to...	Do this...
Power switch/ volume adjustment	<p>Power On/Off: Turn the [Power/Volume Switch] knob clockwise to turn the transceiver on and adjust the volume to maximum.</p> <ul style="list-style-type: none"> • 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.
Select a channel	<p>After turning on the power, rotate the [Channel Selector] Knob to select the channel. If the channel broadcast function is enabled, the intercom will broadcast the current channel number.</p>
PTT key Initiating a Call	<ul style="list-style-type: none"> • Initiate a call: After selecting a good channel, press and hold the [PTT] key to place a call to the current channel. Speak into the microphone with normal tone. When the call is initiated, the red LED is always on. • Receive a call: After releasing the [PTT] key, you can answer it without any action. When receiving a call, the green LED is always on.

Optional Features

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

Function Name	Description
*Scrambling function	Scrambling the terminal on the current transmit channel voice encryption and then, after the receiver in order to obtain the decrypted speech, the same frequency to prevent eavesdropping
*Voice compression	<p>After the expansion is performed, the background noise of the receiving horn will become smaller, and the background noise of the receiving horn will become normal after being turned off.</p> <p>This feature ensures that users can talk clearly in a variety of noisy environments. Set by the dealer on a fixed channel.</p>
* Setting the Squelch Level	<p>The squelch level refers to the squelch threshold required for the radio's speaker to be turned on.</p> <p>Generally, a higher squelch level requires higher signal strength. The squelch level includes 0-9. The default value is 3.</p>
* 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 preset 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

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	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. Selected intercom channel 16, 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.
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.
Adjust the power level	Select Power Level, and then select one of the following as required: High Power: Enables communication with distant radios but consumes more battery power. Low Power: Enables communication with close radios and saves battery power.
Monitor Feature	The Monitor feature allows the radio to receive weak signals.
Channel broadcast	Used to prompt the sequence of the current channel.
*Voice Operated Transmit (VOX)	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. You can set the sensitivity of the microphone voice emitted by voice gain. The higher the voice-activated gain level, the lower the sensitivity and the louder the volume of voice required for the terminal to transmit. Please set the gain level correctly according to the current environment and the volume of the speech, etc., so as to avoid frequent accidental triggering of voice control (high sensitivity) or difficulty in triggering voice control (low sensitivity).

General:

Frequency range	FRS 462.5500 - 462.7250 MHz	(RX/TX)
Memory channels	16 Groups	
Operation voltage	DC3.7V	
Frequency stability	±2.5ppm	
Operation temperature	-20℃~+50℃	
Mode of operation	Simplex	
Antenna impedance	50Ω	

Transmitter:

RF Power	≤2W
Spurious emission	≤7.5uW
Adjacent channel power	≤-65dB/≤-60dB
SNR	≥-40dB
QT/DQT	0.4±0.1KHz
Modulation sensitivity	8—12mV
Transmission current	≤1.3A

Receiver:

Sensitivity	-122dBm (12dB SINAD)
Audio power	0.4W (8R Load)
Audio distortion	≤10%
Intermodulation	≥60dB
Adjacent channel selectivity	≥60dB
Clutter suppression	≥65dB
Receiver current	≤380mA

FRS Frequency List:

No.	Frequency List	No.	Frequency List
1	462.5625	9	462.5750
2	462.5875	10	462.6000
3	462.6125	11	462.6250
4	462.6375	12	462.6500
5	462.6625	13	462.6750
6	462.6875	14	462.7000
7	462.7125	15	462.7250
8	462.5500	16	-

Important Information



WARNING

Our Quanzhou Wanneton Electronic&Technology Co.,Ltd radio generators RF electromagnetic energy during transmit mode.This radio is designed for and classified as“general population use only”,meaning it must be used only during the course of employment by individuals aware of the hazards,and the ways To Minimize Such hazards.

This radio is intended for use by the “General Population” in an uncontrolled environment. This radio has been tested and complies with the FCC RF exposure limits for“general population Use Only”.

In addition, our Quanzhou Wanneton Electronic&Technology Co.,Ltd radio complies with the following Standards and Guidelines with regard to RF energy and electromagnetic energy levels and evaluation of such levels for exposure to humans:

---IEEE Std. 1528:2013 and KDB447498, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.

---American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

---American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields RF and Microwave.



CAUTION

The information listed above provides the user with the information needed to make him or her aware of RF exposure, and what to do to as-sure that this radio operates with the FCC RF exposure limits of this radio.

Electromagnetic Interference/Compatibility. During transmissions, Quanzhou Wanneton Electronic&Technology Co.,Ltd radio generates RF energy that can possibly cause interference with other devices or systems. To avoid such interference, turn off the radio in areas where signs are posted to do so. DO NOT operate the transmitter in areas that are sensitive to electromagnetic radiation such as hospitals, aircraft,and blasting sites.

Attention:

This radio complieswith IEEE and ICNIRP exposure limits for general population/uncontrolled RF exposure environment at operating duty factors of up to 50% and is authorized by the FCC for general population use only. In order to comply with RF exposure requirements, a minimum distance of 2.5cm must be maintained when held-to-face,and body-worn operations are restricted to the approved original accessories (belt clip),a minimum distance of 0 cm. Do not use this device when antenna shows obvious damages.

This product is compliance to FCC RF Exposure requirements and refers to FCC website:

<https://apps.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> search for FCC ID: 2AUMTWT-F21 to gain further information include SAR Values.

According to Section 95.393(b) as follow:

- (1) Warnings concerning any adjustment that could result in a violation of FCC rules or that is recommended to be performed only by or under the immediate supervision and responsibility of a person certified as technically qualified to perform transmitter maintenance and repair duties in the relevant radio service by an organization or committee representative of users of that service;
- (2) Warnings concerning the replacement of any transmitter component (crystal, semiconductor, etc.) that could result in a violation of FCC rules;