

# FW-981

PoC Mobile Radio  
User Manual



# Contents

- Package contents..... 3
- Get started ..... 4
  - Radio overview and controls ..... 4
  - Status icons..... 6
- Basic operations ..... 7
  - Power on or off ..... 7
  - Transmitting and receiving..... 7
  - Volume controls..... 8
- Advanced features..... 8
  - AI Noise Cancellation ..... 8
  - Connect to Wireless Finger PTT via BLE..... 8
  - Connect to Wi-Fi..... 9
  - Talk Back..... 9
  - Quick Call ..... 9
  - Selective Call ..... 10
  - Missed Call Alert..... 10
  - Acquire APRS..... 10
  - Wireless Audio..... 11
- Menu reference..... 11

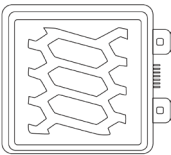
**Note:** Feature availability may vary by model and change with future updates.

# Package contents

Carefully unpack your radio and check the items listed below before disposing of the packaging. If any items are missing or damaged, please contact your carrier immediately.



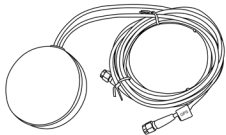
FW-981



Smart Companion  
(optional)



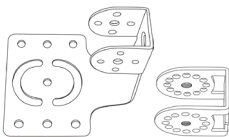
Wireless Finger PTT  
(optional)



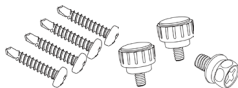
GPS and LTE 2-in-1 Antenna (1.8 m)



3-Conductor Power Cable (2 m)



Mounting Brackets



Screws

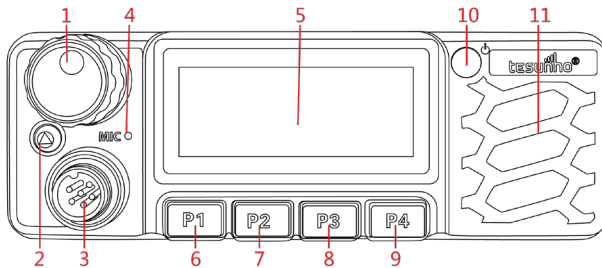


Fuse

| Item                               | Quantity |
|------------------------------------|----------|
| FW-981                             | 1        |
| GPS and LTE 2-in-1 Antenna (1.8 m) | 1        |
| 3-Conductor Power Cable (2 m)      | 1        |
| Mounting Brackets                  | 2        |
| Screws                             | 7        |
| Fuse                               | 1        |
| Smart Companion (optional)         | 1        |
| BLE PTT Button (optional)          | 1        |

# Get started

## Radio overview and controls



### 1. Rotary Push-Button Encoder (menu/navigate/confirm & volume control)

Enter menu: From the standby or menu screen, press the encoder.

Navigate menu: From the menu screen, rotate the encoder clockwise to scroll down, or counterclockwise to scroll up to the desired item.

Confirm: From the options screen, press the encoder.

Adjust volume: From the standby screen, rotate the encoder.

### 2. SOS Button

Send an SOS: Press and hold the SOS button to send an SOS alert to your current group (SOS mode must be enabled).

Play previous PTT record: Press the SOS button to play back the previous PTT record (PTT Records must be enabled).

### 3. Handheld Microphone/Programming 6-Pin DIN Connector

### 4. Microphone

### 5. 2.2-inch TFT LCD

### 6. P1 Button

Enter Choose Group: From the standby screen, press/press and hold the P1 button.

Monitor groups: From the Choose Group, press the P1 button.

Delete PTT records: From the PTT Records, press and hold the P1 button.

Refresh the menu and synchronize data: From the menu, press and hold the P1 button or the # key on your handheld microphone.

Enable or disable volume operations: From the volume control screen, press the P1 button to enable or disable.

### 7. P2 Button

Enter Friend List: From the standby screen, press/press and hold the P2 button.

### 8. P3 Button

Enter User List: From the standby screen, press/press and hold the P3 button.

### 9. P4 Button

Acquire APRS: From the standby screen, User List, or Friend List, press/press and hold the P4 button.

Remote upgrade: From the Remote Upgrade, press the P4 button.

### 10. Illuminated Push-Button Switch (power/back button & status indicator)

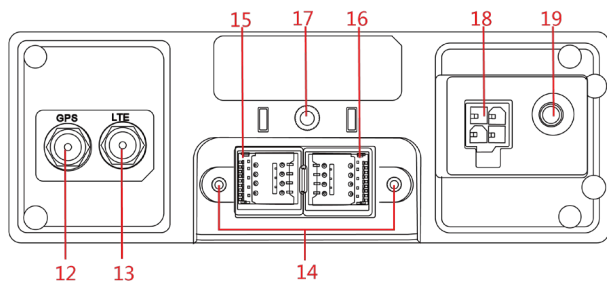
Lights up red during transmission, lights up blue during reception.

Back: From the menu, press the switch.

Power on or off: Press and hold the switch (requires the power-on or power-off mode to be set to button).

Enter PTT Records: From the standby screen, press the switch (requires a PTT record).

### 11. Speaker



**12. GPS Antenna Connector**

**13. LTE Antenna Connector**

**14. SIM Card Protective Cover and Fixing Screw Holes**

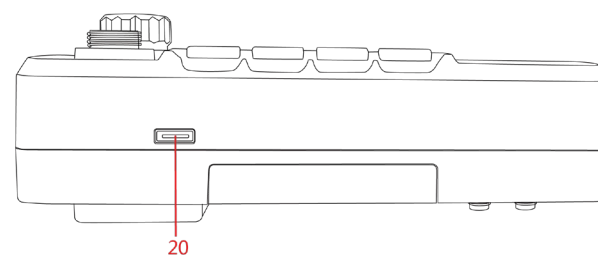
**15. Sim 1 Card Slot**

**16. Sim 2 Card Slot**

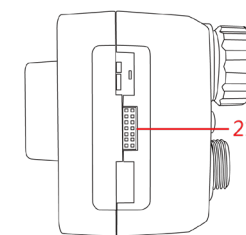
**17. Bracket Mounting Hole**

**18. 4-Pin ATX 12V Power Connector**

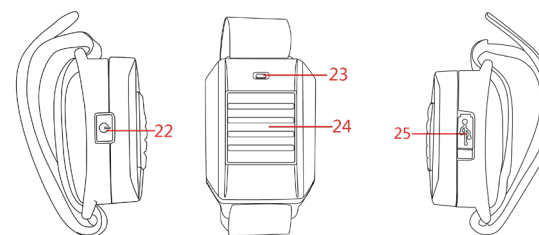
**19. 3.5 mm Audio Jack**



**20. 5V USB-C Power Port**



**21. Expansion Port**



**22. Wireless Finger PTT Power Button**




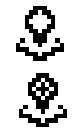






Power on or off: Press and hold the power button.

**23. Wireless Finger PPT Indicator**

**24. Wireless Finger PTT Button**

**25. Wireless Finger PTT Charging Port**

## Status icons

| Icon  | Name                | Description   |
|---|---------------------|---|
|    | Cellular Network    | The radio is connected to a cellular network. The number of bars indicates the signal strength of your cellular service.  |
|    | Wi-Fi Network       | The radio is connected to a Wi-Fi network. See <a href="#">Connect to Wi-Fi</a> on page 9.  |
|    | BLE                 | The radio is connected to a Wireless Finger PTT via BLE. See <a href="#">Connect to Wireless Finger PTT via BLE</a> on page 8.  |
|    | GPS                 | The first icon indicates that the radio is not being located.<br>The second icon indicates that the radio is being located.<br>No icon indicates that GPS is not enabled. |
|    | SOS                 | The radio is sending or receiving an SOS alert. See <a href="#">SOS Mode</a> on page 14.  |
|    | Missed Call         | No response after being selected for a call. See <a href="#">Missed Call Alert</a> on page 10.  |
|    | Dispatcher Messages | The radio has received a new dispatcher message, or a dispatcher message has not been viewed. See <a href="#">Dispatcher MSG</a> on page 11.                              |
|    | Monitor             | The group is being monitored. See <a href="#">Use Monitor</a> on page 9.  |
|    | Keyboard Lock       | The radio's keyboard is locked. See <a href="#">Auto Lock</a> on page 14.   |
|  | SIM Not Recognized  | A SIM card has been inserted but is not recognized.   |

# Basic operations

## Power on or off

### Power on.

- Power cord with ACC and Power On Mode set at ACC. Plug in the power cord to automatically power on your radio.
- Power cord with ACC and Power On Mode set at Key. Plug in the power cord and press and hold the power switch to power on your radio.
- Power cord without ACC. Plug in the power cord and press and hold the power switch to power on your radio.

### Power off.

- Power cord with ACC and Power Off Mode set at ACC. Unplug the power cord to power off your radio.
- Power cord with ACC and Power Off Mode set at Key. Press and hold the power switch to power off your radio.
- Power cord without ACC. Press and hold the power switch to power off your radio.

## Transmitting and receiving

**Transmitting.** Press and hold the PTT button on your handheld microphone or your Wireless Finger PTT to transmit. The indicator light turns red during transmission. Please maintain a distance of at least 5 cm from the microphone.

**Receiving.** The indicator light turns red during reception. And the transmitter's name is displayed on the screen.

## Volume controls

**Adjust volume.** From the standby screen, rotate the encoder to enter the volume control screen, then rotate the encoder to adjust the volume.

**Lock volume.** From the standby screen, rotate the encoder to enter the volume control screen. Press the P1 button to switch to Volume Locked, then press the encoder to confirm and lock the current volume level. Once set up, rotating the encoder will not adjust the volume.

**Unlock volume.** From the standby screen, rotate the encoder to enter the volume control screen. Press the P1 button to switch to Volume Unlocked, then press the encoder to confirm.

## Advanced features

### AI Noise Cancellation

AI noise Cancellation (Env Optimize, Environmental Optimization) has four working modes: Normal, Quiet, Noisy, and Manual. You can select the appropriate optimization direction based on your environment to effectively filter noise, background noise, and other noises.

**Enable AI Noise Cancellation.** Go to Audio Settings > Env Optimize, then select the desired mode.

- Normal/Quiet/Noisy: The parameters of MIC Gain, SPK Gain, AI Noise Cancel, and RX Noise Supp on your radio are automatically set to the corresponding preset parameters and cannot be manually modified.
- Manual: You can manually set the parameters of MIC Gain, SPK Gain, AI Noise Cancel, and RX Noise Supp on your radio according to your personal needs.

### Connect to Wireless Finger PTT via BLE

Press and hold the power button to turn on Wireless Finger PTT. When an active Wireless Finger PTT is within range, your radio automatically connects to it. If multiple Wireless Finger PTT are detected, your radio connects to another only after the current one disconnects. Once connected, press the PTT button on the Wireless Finger PTT to initiate a call.



## Connect to Wi-Fi

**Configure Wi-Fi.** You can configure Wi-Fi networks and add them to your Favorite List using the following three methods:

- Configure Wi-Fi on your radio. Go to WLAN Settings > Scan. Search and select the desired SSID. Press the P1 button to open the on-screen keyboard, then use the encoder to select and enter the password. When finished, select the checkmark ✓ to confirm and save your settings.
- Configure Wi-Fi via programming software. From the programming software, go to the WLAN Settings, then enter the corresponding SSID and password. When finished, click Write to save your settings.
- Configure Wi-Fi via RealPTT Dispatcher. From the RealPTT Dispatcher, right-click on the user of your radio and click Send Message, then send the corresponding SSID and password to your radio. The message format is SSIDPAS:account,password

**Select working mode.** Go to WLAN Settings > Work Mode, then select the desired mode.

- Off: The networks cannot be connected automatically, only manually from the Favorite List.
- WLAN-Manual: The networks in the Favorite List can only be switched manually.
- WLAN-Auto: When the current network signal is weak, your radio automatically switches to a stronger network in the favorites list.

**Choose a network.** Go to WLAN Settings > Favorite List, then use the encoder to select and connect to the desired Wi-Fi network.

## Talk Back

While monitoring multiple other groups, you can reply directly to the group that called earlier within a preset time, without switching your group.

**Use Monitor.** From the Choose Group, select the desired group, and press the P1 button to monitor. A headset icon will appear before the name of the group being monitored. Press the P1 button again to cancel monitoring.

**Use Talk Back.** From the Talk Back, set the Talk Back timer to 3/5/10/20/30 seconds. When a user in the monitored group initiates a call, you can directly reply to the monitored group by pressing the PTT button within the preset time.

## Quick Call

You can define objects on the P1 to P4 buttons for quick access. Each button can only be set for one object.

**Define objects.** From the Choose Group, Friend List, or User List, select the desired object, then press and hold the P1/P2/P3/P4 button to define it.

**Make a quick call.** From the standby screen, press the P1/P2/P3/P4 button to quickly access the defined object, and then initiate a Quick Call.

## Selective Call

**Make a single-member Selective Call.** From the Friend List or User List, select a single friend or user, press the PTT button to create a temporary group, and press and hold the PTT button to initiate a Selective Call.

**Make a multi-member Selective Call.** From the Friend List or User List, select multiple friends or users, press the PTT button to create a temporary group, and press and hold the PTT button to initiate a Selective Call.

**Create a temporary group.** A group that is temporarily formed to initiate a Selective call.

## Missed Call Alert

### Activate Missed Call Alert.

- When you initiate a Selective Call to a friend or user, and the call is not answered within 20 seconds, the radio automatically sends a Missed Call Alert to that person.
- When you initiate a Selective Call to a friend or user, you can press the SOS button to manually send a Missed Call Alert to that person.
- If someone initiates a Selective Call to you and you exit the Selective Call mode without responding, your radio receives a Missed Call Alert. You can cancel this alert by pressing any button. A Missed Call icon appears on the status bar to indicate that a Selective Call was not answered. To view the PTT Records, press the Back button from the standby screen.

### Deactivate Missed Call Alert.

- If someone initiates a Selective Call to you and you respond within 20 seconds, your radio will not receive any alert unless that person manually initiates a Missed Call Alert.
- When you receive a Missed Call Alert, press the PTT button to deactivate it.

## Wireless Audio

For detailed instructions, refer to the related documentation.

## Menu reference

| Main menu      | Submenu   | Options     | Description   |
|----------------|---|-------------|---|
| Choose Group   |   |             | Choose a group.   |
| Friend List    |   |             | Select one or more online friends for a private call.   |
| User List      |   |             | Select one or more online users for a private call.   |
| Dispatcher MSG |   |             | View the received dispatcher messages.  |
| PTT Records    |   |             | View the existing PTT records. You can press and hold the P1 button to delete all records.                              |
| WLAN Settings  | WLAN Status   |             | View the signal strength, name, IP address, and MAC address of the currently connected WLAN.                            |
|                | Work Mode   | Off         | The networks cannot be connected automatically, only manually from the Favorite List.                                   |
|                |   | WLAN-Manual | The networks in the Favorite List can only be switched manually.  |
|                |   | WLAN-Auto   | When the current network signal is weak, your radio automatically switches to a stronger network in the favorites list. |
|                | Favorite List   |             | View saved networks.  |
|                | Scan<br>Accessible only if<br>Work mode is set to<br>WLAN-Manual or<br>WLAN-Auto. |             | Find nearby networks.   |

|                |  |                          |   |
|----------------|--|--------------------------|---|
| GPS INFO       |  |                          | View the latitude and longitude for your radio's location.  |
| Audio Settings | Sound Quality  | HQ Mode                  | Enable high-quality audio for both transmission and reception.  |
|                |  | STD Mode                 | Enable standard audio for both transmission and reception.  |
|                | MIC Select   | Auto                     | Automatically select the MIC on your radio or on your handheld microphone for transmission.   |
|                |  | Ext MIC                  | Only use the MIC on your handheld microphone for transmission.  |
|                |  | Int MIC                  | Only use the MIC on your radio for transmission.  |
|                | Env Optimize   | Normal                   | Automatically set the parameters of MIC Gain, SPK Gain, AI Noise Cancel, and RX Noise Supp to suit a normal environment. And these parameters do not allow manual modification. |
|                |  | Quiet                    | Automatically set the parameters of MIC Gain, SPK Gain, AI Noise Cancel, and RX Noise Supp to suit a quiet environment. And these parameters do not allow manual modification.  |
|                |  | Noisy                    | Automatically set the parameters of MIC Gain, SPK Gain, AI Noise Cancel, and RX Noise Supp to suit a noisy environment. And these parameters do not allow manual modification.  |
|                |  | Manual                   | Allow manual modification of the parameters of MIC Gain, SPK Gain, AI Noise Cancel, and RX Noise Supp.  |
|                | MIC Gain<br>Accessible only if the Env Optimize is set to manual.        | -2/-1/Standard/<br>+1/+2 | Adjust the volume of the microphone.  |
|                | SPK Gain<br>Accessible only if the Env Optimize is set to manual.        | -2/-1/Standard/<br>+1/+2 | Adjust the volume of the speaker.   |
|                | AI Noise Cancel<br>Accessible only if the Env Optimize is set to manual. | Off                      | Disable AI noise cancellation.  |
|                |  | Weak                     | Set the AI noise cancellation level to weak.  |
|                |  | Medium                   | Set the AI noise cancellation level to medium.  |
|                |  | Strong                   | Set the AI noise cancellation level to strong.  |

|              |  |                   |   |
|--------------|--|-------------------|---|
|              | RX Noise Supp<br>Accessible only if the Env Optimize is set to manual. | Off               | Disable RX noise suppression.   |
|              |  | Weak              | Set the RX noise suppression level to weak when receiving.  |
|              |  | Medium            | Set the RX noise suppression level to medium when receiving.  |
|              |  | Strong            | Set the RX noise suppression level to strong when receiving.  |
|              | TX Audio Opt   | Off               | Disable TX audio optimization.  |
|              |  | Bass Boost        | Boost the bass of the audio when transmitting.  |
|              |  | Midrange Boost    | Boost the midrange of the audio when transmitting.  |
|              |  | Treble Boost      | Boost the treble of the audio when transmitting.  |
|              | MIC AGC-D  | Off               | Do not compress your voice when speaking into the MIC.  |
|              |  | On                | Compress your voice when speaking into the MIC from a distance, making it sound like you are speaking at close range.     |
|              | Duplex Suppression   | Off               | Disable noise suppression during duplex communication.  |
|              |  | On                | Enable noise suppression during duplex communication.   |
| ADV Settings | Network Mode   | Auto              | Automatically select a network with a better signal to log in to your radio.  |
|              |  | 3G Only           | Only use a 3G network to log in to your radio.  |
|              |  | 4G Only           | Only use a 4G network to log in to your radio.  |
|              | Dual SIM   | SIM 1             | Use SIM 1 to log in to your radio.  |
|              |  | SIM 2             | Use SIM 2 to log in to your radio.  |
|              | Talk Back  | Off               | Disable Talk Back.  |
|              |  | 3s/5s/10s/20s/30s | After receiving a call from a monitored group, you can directly reply to the monitored group within 3/5/10/20/30 seconds. |
|              | PWR On Mode  | ACC               | Your radio powers on automatically when a power cord with ACC is connected.   |
|              |  | Key               | Press and hold the power switch to power on your radio when a power cord with ACC is connected.                           |
|              | PWR Off Mode   | ACC               | Your radio powers off automatically when a power cord with ACC is disconnected.   |
|              |  | Key               | Press and hold the power switch to power off your radio.  |
|              | Rotate   | Normal            | Normal screen orientation.  |
|              |  | Inverse           | Rotate the screen orientation 180° for the inverted mounting of your radio.   |

|          |                  |  |  |
|----------|------------------|--|--|
|          | SOS Mode         | Off  | Disable SOS.   |
|          |                  | Normal   | Press and hold the SOS button to send an SOS alert to your current group.  |
|          |                  | HOT MIC  | Press and hold the SOS button to send an SOS alert to your current group and automatically initiate a call. This alert lasts for 10 seconds, repeats every 20 seconds, and repeats two calls in total.<br>Press and hold the SOS button again to cancel the SOS alert (icon disappears), and the repetition will stop. |
|          | Record Control   | Off  | Disable recording of transmitted and received content.   |
|          |                  | On   | Enable recording of transmitted and received content.  |
|          | Time Zone        | UTC-12 to UTC+14                                 | Select the desired time zone for the time on your radio.   |
|          | PoC Update       |  | Remotely upgrade your radio's PoC version.   |
| Settings | Backlit Mode     | Open   | The backlight is always on.  |
|          |                  | Auto   | When a key is pressed or when your radio is transmitting or receiving, the backlight turns on automatically.<br>The backlight turns off automatically after 10 seconds of inactivity.  |
|          |                  | Key  | When a key is pressed, not including your device transmitting or receiving, the backlight turns on automatically.  |
|          | Backlight Color  | White/Red/Blue/<br>Green/Magenta/<br>Yellow/Cyan | Set the backlight color to white/red/blue/green/magenta/yellow/cyan.   |
|          | Brightness       | 1 to 9   | Adjust the screen brightness when the backlight is on.   |
|          | Quick Definition | P1 Delete to P4 Delete                           | Delete the defined object on the P1/P2/P3/P4 button.   |
|          |                  | Numkey Delete                                    | Delete all defined objects on the numeric keys on your handheld microphone.  |
|          | Auto Lock        | Off  | Press and hold the Back button on your handheld microphone to lock/unlock the keys on your radio.  |
|          |                  | On   | The keys automatically lock after 10 seconds of inactivity.<br>In the key lock mode, only the keys on your handheld microphone except PTT and SOS buttons are locked, and the buttons of your radio are not locked.  |

|  |             |         |   |
|--|-------------|---------|---|
|  | Language    | CHS     | Set the language to Simplified Chinese.   |
|  |             | CHT     | Set the language to Traditional Chinese.  |
|  |             | English | Set the language to English.  |
|  |             | Spanish | Set the language to Spanish.  |
|  | Key Tone    | Off     | Disable the Key Tone.   |
|  |             | On      | Enable the Key Tone to indicate the completion of the operation.  |
|  | Roger Beep  | Off     | Disable the Roger Beep when pressing and releasing the PTT button.  |
|  |             | On      | Enable the Roger Beep when pressing and releasing the PTT button to indicate the start and end of a call. |
|  | Device Name |         | View the username of the account currently logged in on your radio.                                       |
|  | Version     |         | View your radio's software version, network mode, and IMEI.   |