

# ***SAMCOM***

## **FT-28**

**Hidden Segment  
LED Display  
Portable Radio**



► ***Instruction Manual***

# INTRODUCTION

The model FT-28 is a cost-effective communication tool meant for both first time and intermediate users. This compact and lightweight radio is equipped with the necessary features to ensure reliable communication at an affordable price, ideal for business operators who need the basic and short-range communications.

## MAIN FEATURES

- Compact, lightweight but rugged design
- IP54 rating splash and dust proof
- Shatterproof hidden segmented LED display
- 1700mAh Li-ion battery and life up to 40 hours
- Auto battery saver for a maximum battery life
- Type-C USB charging port
- 99 programmable channels
- 38 CTCSS tones & 83 DCS codes in TX and RX
- High/low output power selectable
- Built-in VOX for hands-free communications
- Channels scan
- Roger beep, keypad beep
- Keypad lock-out
- Busy channel lock-out
- Built-in Bluetooth pairing function (optional)

# CONTENTS

## **01 Chapter 1: SAFETY INFORMATION**

01 Radio Care

01 Battery Care

## **03 Chapter 2: RADIO OVERVIEW**

03 Package Includes

03 At a Glance

## **06 Chapter 3: BASIC OPERATION**

06 Power the Radio ON/OFF

06 Adjusting Volume

06 Channel Selection

06 Transmission and Reception

## **07 Chapter 4: ADVANCED OPERATION**

07 Monitor

07 Scan

07 Battery Saver

08 Keypad Lock

08 Bluetooth Pairing

## **09 Chapter 5: MENU OPERATION**

09 CTCSS Tones / DCS Codes Selection

09 VOX Function

10 Roger Beep

10 Keypad Beep

## **11 Chapter 6: TROUBLESHOOTING**

## **12 Chapter 7: SPECIFICATIONS**

## **13 Chapter 8: WARRANTY INFORMATION**

# SAFETY INFORMATION

Please read this information before using your radio. Failure to do so could result in personal injury, death, and/or damage to your radio, accessories and/or other property.

## Radio Care

### Caution

- Do not disassemble or modify the radio for any reason.
- Do not transmit while touching the antenna terminal or any exposed metallic parts of the aerial as this may result in burn.
- Please check and observe regulation in your country with regards to use whilst driving.

## End of Life Disposal

When your radio reaches the end of its useful life, please ensure that the unit is disposed of in an environmentally friendly way.

## Battery Care

### Precautions

- Turn the radio OFF before charging.
- Charge the battery pack before use.
- Do not recharge the battery pack if it is already fully charged as this will use one of its charge cycles and may shorten its life. Charge the battery in accordance with the instructions enclosed with your charger.
- Do not charge the radio and battery pack if they are wet.

The battery pack includes potentially hazardous components. Please:

- Do not disassemble or reconstruct battery.

- Do not short-circuit the battery.
- Do not incinerate or apply heat to the battery.
- Do not immerse the battery in water or get it wet by other means.
- Do not charge the battery near fires or under direct sunlight.
- Use only the specified charger and observe charging requirements.
- Do not pierce the battery with any object or strike it with an instrument.
- Do not use the battery pack if it is damaged in any way.
- Do not reverse-charge or reverse-connect the battery.
- Do not touch a ruptured or leaking battery.

If liquids from the battery get on your skin or into your eyes, immediately:

- Wash your eyes out with fresh water avoiding rubbing them.
- Seek medical treatment.

**Notes:**

- If a battery is not to be used for an extended period of time (several months) remove the battery pack from the equipment and store in a cool and dry location part charged. Do not fully discharge the battery before storage.
- Each charge cycle reduces the battery's life. Minimize the number of times you charge your battery especially in hotter environments which further shorten a battery's life.

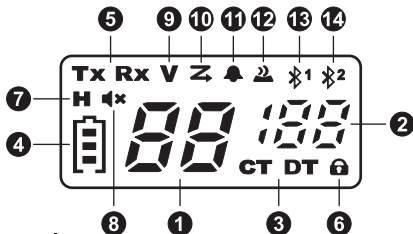
# RADIO OVERVIEW

## Package Includes

- 1pcs radio
- 1pcs rubber antenna
- 1pcs rechargeable Li-ion battery pack
- 1pcs AC adapter
- 1pcs belt clip & hand strap
- 1pcs user's manual

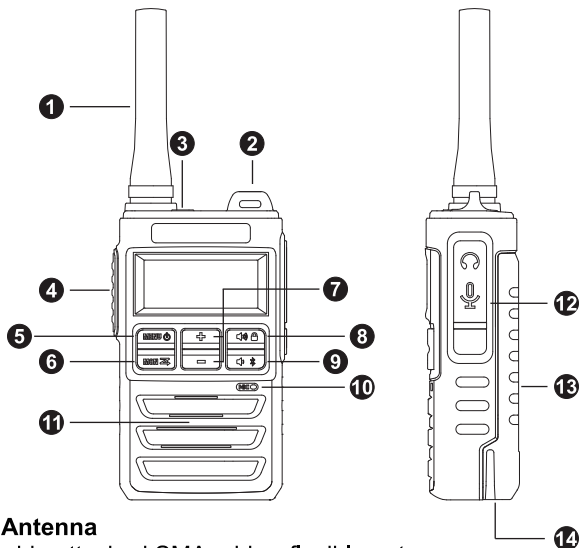
## At a Glance

### LCD Display



1. Selected channel
2. Selected privacy code of CTCSS or DCS (CTCSS: 1-38 / DCS: 1-83)
3. **CT**: CTCSS tone selected / **DT**: DCS code selected
4. Battery status indicator
5. **RX**: radio in receive mode (busy channel)  
**TX**: radio in transmission (**PTT** pressed)
6. Keypad lock activated
7. High power selection in transmission
8. Mute mode
9. VOX function activated
10. SCAN function activated
11. Roger beep activated
12. Keypad beep activated
13. 1st Bluetooth pairing activated
14. 2nd Bluetooth pairing activated

## Radio Part



### 1 - Antenna

Provide attached SMA rubber flexible antenna.

**Note:** It may cause the damage to your radio if the antenna is connected inappropriately.

### 2 – Hand Strap Eyelet

Mount the hand strap on the eyelet.

### 3 - LED Indicator

Give radio transmit, receive, battery and other status.

Radio Status	LED Indicator
Transmit (TX)	Solid red
Receive (RX) & Monitor	Solid green
Channel scanning	Green heartbeat
Low battery	Red heartbeat

#### **4 - PTT (Push-To-Talk) Button**

Press and hold down this button to transmit and talk, release it to receive and listen.

#### **5 - ON / OFF / MENU Button**

Long press this button for about 2 seconds to power the radio on or off. Short press it to enter the radio menu operation.

#### **6 - MON / SCAN Button**

Short press this button to activate monitor function that temporarily cuts off the squelch (for weak signals). Long press it for about 2 seconds to activate the channel scan function.

#### **7 - + / - Button**

Short press these two buttons to select the desired channel and settings in the menu. Long press them for about 2 seconds can change the channel and settings in the menu quickly.

#### **8 - / Button**

Short press this button to increase the radio volume. Long press it for about 2 seconds to activate the keypad lock.

#### **9 - / Button**

Short press this button to decrease the radio volume. Long press it for about 2 seconds to activate 1st Bluetooth pairing. Long press it for about 2 seconds again to activate 2nd Bluetooth pairing. Repeat it again to deactivate both Bluetooth pairing.

#### **10 - Built-in Microphone**

Speak clearly into the microphone when transmitting.

#### **11 - Built-in Speaker**



**12 - Audio Accessory Jack (Kenwood 2 Pin Connector)**

**13 - Rechargeable Li-ion Battery Pack**

**14 - USB Port** for the recharge of the battery pack

## **BASIC OPERATION**

### **Power the Radio ON / OFF**

To turn on the radio, long press the ON / OFF button for about 2 seconds, the display will light up and the radio will play power up audio. To turn off the radio, long press this button for about 2 seconds again.

### **Adjusting Volume**

Press the **+** / **-** buttons to increase or decrease the volume. The max volume is level 9. When the radio enters mute mode (volume level sets to 0), the **🔇** icon will show on the display.

**Note:** Do not hold the radio too close to the ear when the volume is high or when adjusting the volume.

### **Channel Selection**

Press the **+** / **-** buttons to scroll up or down the channels till you select the desired channel. Each channel has its own frequency, privacy code and other settings.

### **Transmission and Reception**

1. Make sure that no one else is currently talking on the selected channel.
2. Keep **PTT** button firmly pressed.
3. Speak normally in the direction of the microphone.
4. When you have finished, release the **PTT**.
5. When the radio is in reception mode (**PTT** not pressed) you will automatically receive any communication.

**Note:** during transmission and reception, as far as possible, try to keep the antenna in vertical position and to avoid obstacles towards the direction of the other party.


## **ADVANCED OPERATON**

### **Monitor**

The Monitor feature is for temporarily opening the squelch in order to listen to signals that are too weak to open the squelch. By opening the squelch you will listen the communication “chopped” by the squelch. In order to activate the Monitor function, so as to listen to all traffic on the selected channel, short press **MON** button. Short press it again to exit this function.

### **Scan All Channels**

The radio can automatically search for signals throughout the bands by scanning, i.e. selecting the channels in sequence.

Long press the **SCAN** button for about 2 seconds to start scanning, the  icon will show on the display. When a signal is detected, the scanning pauses on that channel and you can transmit by pressing **PTT**. The **+** / **-** buttons allow you to change the direction of scanning (from lower channels to higher ones or vice versa) and therefore to skip communications which are of no interest.



If you want to stop it, long press the **SCAN** key for about 2 seconds again. The radio will go back to the channel from which the scanning originally started.

### **Battery Saver**

The battery saving feature enables a reduction in the consumption of up to 50%. Battery saving comes on automatically when the radio does not receive any signal for



more than 5 seconds. When the batteries are discharged, replace the batteries or recharge the battery pack.



### **Keypad Lock**


Long press  button for about 2 seconds to activate keypad lock function and the  icon will be displayed as confirmation. Only **PTT** button remain active. Long press it again for about 2 seconds to exit this function.

### **Bluetooth Pairing**

The Bluetooth pairing feature is used for connection to a Bluetooth headset or a Bluetooth LE **PTT** button.

Long press  button for about 2 seconds to activate 1st Bluetooth pairing, the  icon will be blinking on the display, the radio moves to “Waiting to be paired” mode. This step is used for connection to a Bluetooth headset.

Long press  button for about 2 seconds again to activate 2nd Bluetooth pairing, the  icon will be blinking on the display. This step is used for connection to a Bluetooth LE **PTT** button.

Long press  button for about 2 seconds again to exit both Bluetooth pairing.

# MENU OPERATION

## CTCSS Tones / DCS Codes Selection

The radio can receive in two modes:

- Open traffic: in this case you will hear any communication transmitted on the selected channel.
- Group mode with CTCSS/DCS: CTCSS tones and DCS codes are access keys that allow you to receive only messages coming from parties using the same channel and code. The speaker will remain muted until the correct tone is received.

To activate one of different 38 CTCSS tones & 83 DCS codes in RX and TX:

1. Select the desired channel.
2. Press the **MENU** button once and the display shows "0" blinking.
3. By pushing the **+** / **-** buttons to select the desired privacy code, the display will show *CTCSS tone*(CT blinking) or *DCS code*(DT blinking), press **PTT** or wait for approx. 5 seconds to exit and confirm the selection.

## VOX Function

The radio enables hands free conversations through VOX function. You can enable it with or without accessories. The VOX sensitivity can be set in 9 different levels:

- 1 = high sensitivity (normal voice with no background noise)  
9 = low sensitivity (useful in very noisy areas or if you talk loudly)

To activate VOX function:



1. Press the **MENU** button till the **V** icon appears on the display.
2. Use the **+** / **-** buttons to select the desired level.
3. Press **PTT** to confirm the selection.

To disable the VOX function, follow the instructions above and select option “OF”.

### **Roger Beep**

When your transmission is finished (**PTT** released), the radio gives out a sound that indicates to the other party that s/he can start talking. This function is disabled by default.



To activate it:

1. Press the **MENU** button until the  icon appears on the display and “OF” blinking.
2. Use the **+** / **=** buttons to select “ON”.
3. Press **PTT** to confirm the activation and the  icon will be solid displayed.

### **Keypad Beep**

You will hear any beep at the pressure of any keys. This function is enabled by default.

To deactivate the keypad beep, follow these steps:

1. Press the **MENU** button until the  icon appears on the display and “ON” blinking.
2. Use the **+** / **=** buttons to select “OF”.
3. Press **PTT** to confirm the deactivation and the  icon will disappear.

# TROUBLESHOOTING

Problem	Possible Reasons and Potential Solutions
No Power	Recharge or replace the battery pack; Extreme operating temperatures may affect battery life.
Hearing other noises or conversation on a channel	Confirm CTCSS/DCS is set; Frequency or CTCSS/DCS may be in use; Change settings: either change frequencies or CTCSS/DCS on all radios; Make sure the radio is at the right frequency and privacy code when transmitting.
Audio quality not good enough	Radio settings might not be matching up correctly. Double check frequencies, CTCSS/DCS and bandwidths to make sure they are identical in all radios.
Limited talk range	Steel and/or concrete structures, heavy foliage, buildings or vehicles decrease range. Check for clear line of sight to improve transmission; Wearing radio close to body such as in a pocket or on a belt decreases range; Change location of radio. UHF radios provide great coverage in industrial and commercial buildings. Increasing power provides greater signal range and increases penetration through obstructions.
Can not transmitted or received	Make sure the <b>PTT</b> button is completely pressed when transmitting; Confirm that the radios have the same channel, frequency, private code and bandwidth settings; Recharge, replace and/or reposition batteries; Obstructions and operating indoors, or in vehicles, may interfere, change location; Verify that the radio is not in Scan.
Heavy static or interference	Radios are too close, they must be at least seven feet apart; Radios are too far apart or obstacles are interfering with transmission.
Low battery	Recharge or replace the battery pack; Extreme operating temperatures affect battery life.
Desktop Charger LED light does not blink	Check that the radio/battery is properly inserted and check the battery/charger contacts to ensure that they are clean and charging pin is inserted correctly.
Cannot activate VOX	VOX feature might be set to OFF; Use the programming software to ensure that the VOX sensitivity level is not set to '0'; Accessory not working or not compatible.
Battery does not charge	Check desktop charger is properly connected and correspond to a compatible AC adapter; Check the charger's LED indicators to see if the battery has a problem.

# SPECIFICATIONS

## General

Frequency Range	PMR: 446MHz FRS/GMRS: 462-467MHz
Channel Capacity	99 Channels
Channel Bandwidth	12.5 / 25kHz
Operating Voltage	3.7V DC
Dimensions (H x W x D)	98 x 55 x 31mm
Weight with battery	175g

## Transmitter

RF Power(H/L)	PMR: 500mW FRS: 500mW / GMRS: 2W
Frequency Stability	$\pm 1.5\text{ppm}$
Spurious & Harmonics	-36dBm < 1GHz -30dBm > 1GHz
FM Hum & Noise	$\geq 40\text{dB(W)} / \geq 36\text{dB(N)}$
Modulation Deviation	$\leq 5\text{kHz(W)} / \leq 2.5\text{kHz(N)}$
Adjacent Channel Power	$\geq 70\text{dBC(W)} / \geq 60\text{dBC(N)}$
Audio Frequency Response	+1 ~ -3dB
Audio Distortion	< 5%

## Receiver

Sensitivity (12 dB SINAD)	$\leq 0.2\mu\text{V(W)} / \leq 0.3\mu\text{V(N)}$
Adjacent Channel Selectivity	$\geq 70\text{dBC(W)} / \geq 60\text{dBC(N)}$
Audio Distortion	< 5%
Radiated Spurious Emissions	< -54dBm
Intermodulation Rejection	70dB
Audio Output	1W @ 8 $\Omega$

Hereby, we declare that our radio is in compliance with the essential requirements and other relevant provisions of RE Directive 2014/53/EU.

# WARRANTY INFORMATION

## Warranty Period

Radio Body: 12 months from date of purchase.

Battery Pack: 6 months from date of purchase.

**Note:** Please retain your receipt as your proof of purchase will be required to valid warranty claim.

## Warranty Exclusions




This warranty will not apply in relation to:

- Failure to provide a proof of purchase
- Product has been modified, changed or serial number has been removed
- If any damage is caused by the use of non approved accessories
- Product that has been replaced by an unauthorized person
- Product failure due to customer misuse, abuse or abnormal use
- Failure by the customer to take reasonable care
- Failure due to not using the product in accordance with instructions stated in the manufacture's user guide.
- Product failure due to recommended installation procedures not being followed as stated in the manufacture's user guide.

More warranty relative information please read our Warranty Policy on the website.



***SAMCOM***

 [www.samradios.com](http://www.samradios.com)  +86-595-86713710  [info@samradios.com](mailto:info@samradios.com)

MADE IN CHINA