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SAMCOM FT-28 Hidden Segment LED Display Portable Radio Instruction Manual

Contents

SAMCOM

SAMCOM FT-28 Hidden Segment LED Display Portable Radio

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 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)

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 my 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 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.

Safety Information for GMRS Radios

Your wireless handheld portable transceiver contains a low power transmitter. When the talk button is pushed, it sends out radio frequency (RF) signals. The device is authorized to operate at a duty factor not to exceed 50%. In August 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless devices.

FCC Warning Statement

Any 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:
- This device may not cause harmful interference, and

This device must accept any interference received, including interference that may cause undesired operation.

Note:

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
- Increase the separation between the equipment and
- 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.

SAR tests are conducted using standard operating positions accepted by the FCC/ISEDC with the device transmitting at its highest certified power level in all tested frequency bands, although the SAR is determined at the highest certified power level, the actual SAR level of the device while operating can be well below the maximum value. Before a new model is a available for sale to the public, it must be tested and certified to the FCC/ISEDC that it does not exceed the exposure limit established by the FCC/ISEDC Tests for each product are performed in positions and locations as required by the FCC/ISEDC.

For body worn operation, this device has been tested and meets the FCC/ISEDC RF exposure guidelines when used with an accessory designated for this product or when used with and accessory that contains no metal.

To maintain compliance with the FCC/ISEDC's RF exposure guidelines, hold the transmitter and antenna at least 1 inch (2.5 centimeters) from your face and speak in a normal voice, with the antenna pointed up and away from the face.

This equipment complies with FCC/ISEDC radiation exposure limits set forth for an uncontrolled environment. In order to comply with the FCC/ISEDC RF exposure requirements, the antenna installation must comply with following:

Users must be fully aware of the hazards of the exposure and able to exercise control over their RF exposure to qualify for the higher exposure limits.
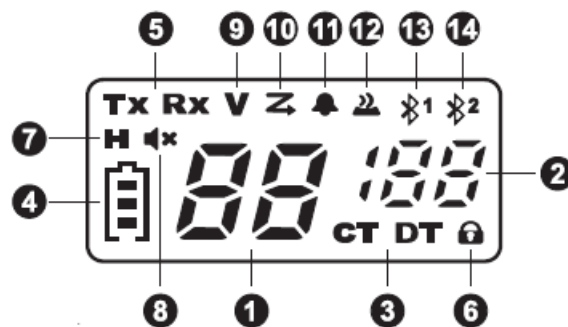
Your wireless hand-held portable transceiver contains a low power transmitter. This product sends out radio frequency (RF) signals when the Push-to-Talk (PTT) Button is pressed. The device is authorized to operate at a duty factor not to exceed 50%.
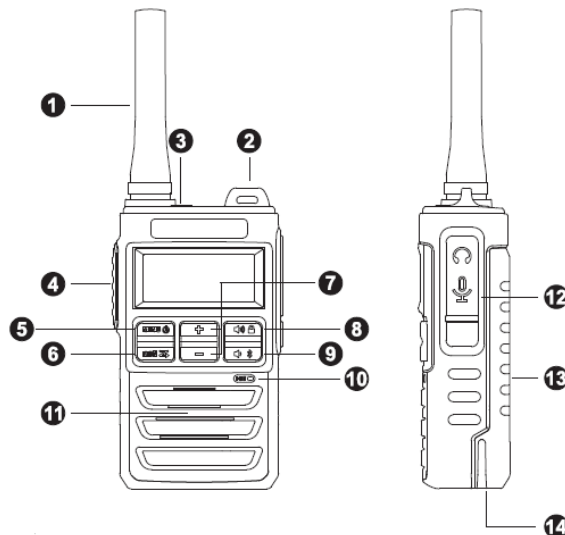
RADIO OVERVIEW

Package Includes

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

At a Glance
LCD Display

1. Selected channel 0 0 8
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 activate

Radio Part

1. **Antenna L**

   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 '4x 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 :z; 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 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 "OP".

Roger Beep
When your transmission is finished (PTT released), the radio gives out a sound that indicates to the other party thats/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 "OP' 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 -2. icon appears on the display and "ON' blinking.
2. Use the + / – buttons to select "OP'.
3. Press PTT to confirm the deactivation and the -2. icon will disappear

TROUBLESHOOTING

Problem   Possible Reasons and Potential Solutions

Extreme operating temperatures may affect battery life.

- **No Power**
    - Recharge or replace the battery pack; Extreme operating temperatures may affect batter 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 channel

        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 then are identical in all radios

Limited talk range	Steel and/or concrete structures, heavy foliage, buildings or vehicles decrease range. Check for clearing 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 **PTT** 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 'O'; Accessory not working or not compatible.
Battery does not charge		desktop charger is properly connected and to a compatible AC adapter the charger's LED indicators to see if the battery a problem.
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.

SPECIFICATIONS

GENERAL

Frequency Range	30 GMRS channels BT/BLE: 2402 – 2480MHz
Channel Capacity	30 Channels (RX&TX)
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)	462.6250MHz:32.39dBm, 462.6375MHz:32.41dBm 467.6250MHz:32.29dBm, 467.6273MHz:26.59dBm Bluetooth: 2.12dBm, BLE 1M: 5.82dBm
Frequency Stability	±1.5ppm
Spurious & Harmonics	-36dBm < 1GHz -30dBm > 1GHz
FM Hum & Noise	40dB(W) / 36dB(N)
Modulation Deviation	5kHz(W) / 2.5kHz(N)
Adjacent Channel Power	70dBC(W) / 60dBC(N)
Audio Frequency Response	+1 ~ -3dB
Audio Distortion	< 5%

Receiver

Sensitivity (12 dB SINAD)	0.2μV(W) / 0.3μV(N)
Adjacent Channel Selectivity	70dBC(W) / 60dBC(N)
Audio Distortion	< 5%
Radiated Spurious Emissions	< -54dBm
Intermodulation Rejection	70dB
Audio Output	1W @ 80

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.

GMRS Frequency Chart (MHz)

CH No.	CH Freq. (MHz)	Working Mode	Power Output
1	462 5625	Simplex	High
2	462 5875	Simplex	High
3	462 6125	Simplex	High
4	462 6375	Simplex	High
5	462 6625	Simplex	High
6	462 6875	Simplex	High
7	462 7125	Simplex	High
8	467 5625	Simplex	Low

9	467 5875	Simplex	Low
10	467 6125	Simplex	Low
11	467 6375	Simplex	Low
12	467 6625	Simplex	Low
13	467 6875	Simplex	Low
14	467 7125	Simplex	Low
15	462 5500	Simplex	High
16	462 5750	Simplex	High
17	462 6000	Simplex	High
18	462 6250	Simplex	High
19	462 6500	Simplex	High
20	462 6750	Simplex	High
21	462 7000	Simplex	High
22	462 7250	Simplex	High
23	467 5500/462 5500	Repeater	High

24	467 5750/462 5750	Repeater	High
25	467 6000/462 6000	Repeater	High
26	467 6250/462 6250	Repeater	High
27	467 6500/462 6500	Repeater	High
28	467 6750/462 6750	Repeater	High
29	467 7000/462 7000	Repeater	High
30	467 7250/462 7250	Repeater	High

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MADE IN CHINA

Documents / Resources

SAMCOM FT-28 Hidden Segment LED Display Portable Radio [pdf] Instruction Manual
GMRS1, 2AGPQ-GMRS1, 2AGPQGMRS1, FT-28, Hidden Segment LED Display Portable Radio, FT-28 Hidden Segment LED Display Portable Radio, LED Display Portable Radio, Portable Radio