

# **FRECOM**

## **FC-300**

### Portable Two-Way Radio



# User Guide

## INTRODUCTION

Thank you for purchasing our two-way radios. Combined the latest technology along with a sturdy mechanical frame, our radios provide cost-effective communications for the people who need to stay in touch with the working team such as retail stores, restaurants, campuses and schools, construction sites, manufacturing, shows and trade fairs, property and hotel management and more, they are the perfect communication solutions for all of today's fast-paced industries.

## PRECAUTIONS

- Maintenance can only be performed by

professional technicians.

- Please use the standard battery pack and charger in order not to destroy the radio.
- Do not expose the radio to sunlight for a long time, nor put it near the heat, nor use it in a high temperature environment.
- Do not put it in extreme dust, wet or on unsteady surfaces. Keep it dry. (Rain or moisture will erode the electronic board.)

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# Unpack and Check Equipment

Carefully unpack the radio packing. We suggest that you check the following items before you throw away the packing materials.

## Standard Supplied Accessories

ITEM	QTY
Radio Transceiver	1
Li-ion Battery Pack	1
Rubber Antenna	1
Desktop Charger	1
AC Adaptor	1
Belt Clip Kit	1
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## Preparation

- **Charging the battery pack**

Battery packs are not charged yet when they are

shipped. Please charge them before use.

Initially charging the battery pack after purchase or extended storage(longer than 2 months) will not bring the battery pack to its greatest capacity or its normal charge, which can be done only after repeatedly charging and discharging for two or three times.

**Notes:**

1. After the battery is full charged, don't charge any more. If the radio still shows low power, please change a new battery pack.
- 2.Never attempt to remove the casing from the battery.

To charge the battery pack:

1. Place the desktop charger on a flat surface.
2. Insert the connector of the AC adapter into the charger port on the back of the desktop charger.
3. Plug the AC adaptor into a power outlet.
4. Insert the battery or radio with a battery into the desktop charger with the radio facing the front. Make sure the battery pack is in connected with the charging terminals.

5. Now the charger LED blinks **RED** and it is charging.
6. After about 4 hours of charging and charger LED turns to **GREEN**, remove the battery or radio from desk charger.
7. Unplug the AC adaptor from the power outlet.

## ● **Install/Uninstall the battery pack**

The average usage time of battery pack is 30 hours. Average usage time is 5% for transmitting, 5% for receiving and 90% for standby.

### **Notes:**

1. Do not short-circuit the battery terminals or throw the battery into fire.
2. Never attempt to remove the casing from the battery pack.

## ● **Install antenna**

Screw the antenna into the connector on the top of the radio by holding the antenna at its base and turning it clockwise firmly.

## ● **Install belt clip**

If desired, attach the belt clip using the two supplied screws.

Note: if the belt clip is not installed, its mounting

location may get hot during continuous transmission.

- **Install speaker/microphone cover**

If you are not using external speaker/microphone, please keep the jacks cover installed.

**Note:** To keep the transceiver water resistant, you must cover the speaker/microphone jacks with the supplied cover.

- **Install external speaker / microphone**

Plug the speaker / microphone into the sock of speaker / microphone.

**Note:** The radio water resistant will be invalid when using the speaker / microphone.

# Getting Familiar

### **1. Power/Volume Knob**

Turn the knob clockwise to power on the radio, turn it counterclockwise fully to power off, and rotate to adjust the volume.

### **2. Indicator Light**

Light shows **RED** while transmitting. Light shows **GREEN** while receiving. Lights coruscate if the battery volume is low when transmitting.

### **3. Channel Knob**

Rotate to select channel 1-16.

### **4. PTT Button**

Press this button, and then speak into the microphone to call a station, release it to receive a call.

### **5. Monitor Button**

Press and hold (squelch off) to hear the

background noise; release to return to normal operation.

## Basic Operation

Turn the power/volume knob clockwise. You will hear a beep and speech to indicate the transceiver is ON.

Turn the power/volume knob counterclockwise to shut off the transceiver. A beep sounds.

Press and hold monitor button to listen to audio level while rotating the power/volume knob. Rotate clockwise to increase and counterclockwise to decrease volume.

Turn the channel knob to select channel. While receiving a signal, the sound will be heard.

To transmit, press and hold **PTT** button, speak into the microphone in your normal tone of voice. Hold the microphone approximately 3 ~ 4cm from your lips.

Release the **PTT** button to receive.

**Note:** When the battery pack voltage becomes too low, transmit will stop and LED will blink red.

## Detail Function Description

### ● **Squelch**

Squelch allows you to mute the background noise when no signal is being received.

Not only does the Squelch system make “standby” operation more pleasant, it also significantly reduces battery current consumption.

If you select high level squelch, the weak signals may not be heard; if you select low level squelch, the background noise will be heard easily.

You can set the squelch level in the PC programming software. It has 1-9 grades. The default setting is 4.

### ● **Scan**

Scan allows you to detect if there is active signal on all channels. When it detects a signal, it will stop on current channel.

**Note:** Those channels delete scanning will not be

scanned.

The radio will keep working in that channel until the signal is disappeared. After 5 seconds, it will continue scanning.

To start the channel scan, adjust the channel knob to channel 16, the **GREEN** status LED flashes. If a signal is received on the adjusted channel, the **GREEN** status LED lights up, the radio set remains adjusted to the corresponding channel until the signal finishes. Afterwards, the scan resumes and the **GREEN** status LED flashes again.

For switching off the channel scan, adjust the channel knob to another channel (e.g. channel 1), the scan is off.

## ● **Busy Channel Lock-Out (BCLO)**

BCLO prevents you from disrupting their communications accidentally on a frequency where stations using different CTCSS or DCS codes maybe activate.

When it is turned on, it will forbid transmitting on the busy frequencies and make alarms when you

press **PTT** button. Release **PTT** button to stop alarming and return to standby state.

## ● **Time-Out Timer (TOT)**

TOT prevents any caller from using a channel for an extended period of time. If you continuously transmit for a period of time that exceeds the programmed time set by your dealer, (The setting option has OFF/1-10 minutes), the radio will stop transmitting and a beep tone will sound. To stop the tone, release the **PTT** button.

## ● **Battery Save**

Battery save feature will decrease the battery consumption when a signal is not being received and no operation are being performed (no keys are being pressed and no switches are being turned).

While the channel is not busy and no operation is performed for 10 seconds, battery saver turns on. When a signal is received or an operation is performed, battery saver turns off automatically.

## ● **Low Battery Warning**

Low battery warning feature alerts you when the

battery needs to be recharged or replaced. While operating the radio, if the battery power becomes low, an alert tone will sound and the LED indicator will blink **RED**. The transceiver will stop transmit. Replace or recharge the battery pack.

## ● **CTCSS and DCS**

The radio set is equipped with two pilot tone process (CTCSS and DCS) that permit to address specific individual radio sets or groups or to receive only calls from the latter.

**Note:** Make sure that you and your partner station(s) use the same pilot tone process and the same CTCSS tone or the same digital code!

# Specifications

## General

Frequency Range	400-470 MHz
Channel Capacity	16 Channels
Channel Bandwidth	12.5 kHz / 25 kHz
Operating Voltage	7.4 V DC
Dimensions (H x W x D)	134 x 57 x 35 mm

Weight with battery	250 g
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## Transmitter

RF Output	Max. 7 Watts
Frequency Stability	< 1.5 ppm
Spurious & Harmonics	-36 dBm for $f < 1$ GHz, -30 dBm for $f > 1$ GHz
FM Hum & Noise	36 dB / 40 dB
Modulation Deviation	$\pm 2.5$ kHz / 5 kHz
Adjacent Channel Power	60 dBc / 70 dBc
Audio Frequency Response	+1 ~ -3 dB (0.3 - 3 kHz)
Audio Distortion	< 3%

## Receiver

Sensitivity (12 dB SINAD)	0.35 $\mu$ V / 0.25 $\mu$ V
Adjacent Channel Selectivity	60 dB / 70 dB
Audio Distortion	< 5%
Radiated Spurious Emissions	< -54 dBm
Intermodulation Rejection	60dB / 70 dB
Audio Output @ < 3% Distortion	1 W @ 16 ohms

## Trouble Shooting

<b>Problem</b>	<b>Possible Reasons and Potential Solutions</b>
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,

	<p>Interference Eliminator Code and bandwidth settings;</p> <p>Recharge, replace and/or reposition batteries;</p> <p>Obstructions and operating indoors, or in vehicles, may interfere, change location;</p> <p>Verify that the radio is not in Scan.</p>
Heavy static or interference	<p>Radios are too close, they must be at least seven feet apart;</p> <p>Radios are too far apart or obstacles are interfering with transmission.</p>
Low battery	<p>Recharge or replace the battery pack;</p> <p>Extreme operating temperatures affect battery life.</p>
Desktop Charger LED light does not blink	<p>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.</p>
Battery does not charge	<p>Check desktop charger is properly connected and correspond to a compatible AC adapter;</p>

	Check the charger's LED indicators to see if the battery has a problem.
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## Warranty Information

## Warranty Period

2 years 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 [www.samradios.com](http://www.samradios.com).

# **FREECOM**

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