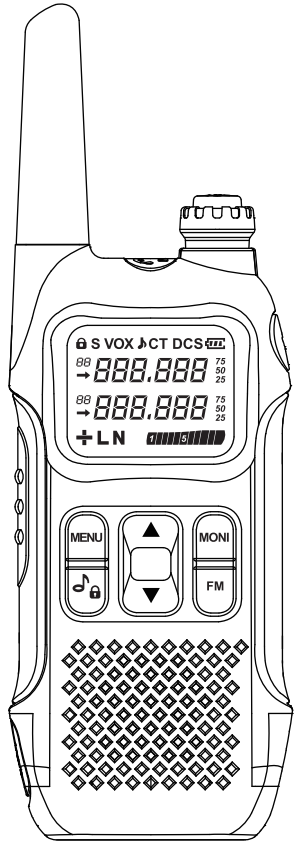
Radioddity
A Better Store

User Manual



FRS/PMR radio

FS-T1/PR-T1

www.radioddity.com

About Radioddity

“You, our friend and customer, are at the forefront of what we do.”
Nothing is more important than your time, and your money. When buying radios online, you face a dilemma: Save time and purchase from a reputable website at a high price, or try to save money by purchasing from an unreputable dealer at the cost of your time spent dealing with quality and service issues. At Radioddity.com, you don’t have to choose between low prices and a safe shopping experience. Whether you’re a first time buyer or a seasoned HAM, we hope you’ll find our products, prices, content and resources to be just what you need.

In the past several years, Radioddity has been better serving the needs of two-way radio buyers by creating a safe shopping experience. We do this by providing the highest quality products, at an affordable price, and backing that up with superior quality service. It sounds simple to us

That is our promise: to improve your buying experience.
Through strong partnerships which allow us to bring you the latest technology from our own brand Radioddity and on behalf of our caring and responsive Customer Support team, we strive to fulfill that promise and better meet your needs every day.

Along with this promise, we hope to give you more value. Be that by offering you the latest and greatest in DMR and analog radios, accessories and related products, by providing superior technical support, or by working with thought leaders in the Amateur Radio Industry to develop enriching content to entertain and assist you in your buying process including our Blog, FAQ, and Newsletter. Your concerns are our concerns.

We do all of this to help you find the highest quality of radios, for low prices, with as little headache to the consumer as possible. If we are failing you in this promise in any way, let us know via email:
support@radioddity.com

Table of Contents

Chapter 1. Initial setup ---- 04
- Safety Information ---- 04
- Features and functions ---- 05
- What’s in the box ---- 06

Chapter 2. Getting to know your radio ---- 09
- Radio Overview ---- 10
- [FM] key ---- 10
- [LAMP] key ---- 10
- [MONI] key ---- 11
- [🔒] key ---- 11
- Key combination operation ---- 11
- The main display ---- 12

Chapter 3. Basic operation ---- 13
- RX code ---- 13
- TX code ---- 14

SQUELCH LEVEL ---- 14
LIGHT ---- 15
BEEP ---- 15
VOX ---- 16
POWER ---- 17
TDR ---- 17
SAVE ---- 18
TOT ---- 18
BCLO ---- 19
RING ---- 20
WEATHER FORECAST ---- 20
VOICE PROMPT ---- 21
Chapter 4.Computer Programming ---- 22
Appendix A. Troubleshooting ---- 22
Appendix B. Technical specifications ---- 23
Appendix C. PMR/FRS frequency table ---- 25

Chapter 1 - Initial Setup

• Safety Information

Please read the following brief instructions, non-compliance with these rules may cause danger or violate the law.

1. Refer to local government regulations before using this radio, improper use may violate the law.
2. Turn off the radio before getting close to flammable or explosive areas.
3. Turn off the radio before you get near explosive or ignition zones.
4. Do not use a radio with a damaged antenna, contact with a damaged antenna will cause burns
5. Do not attempt to open the radio; the maintenance work should be done by technical expert only.
6. To avoid troubles caused by electromagnetic interference or electromagnetic compatibility, please turn off the radio in places that advise against wireless transmissions, example "Do not use wireless equipment", such as hospitals or other healthcare facilities.
7. In vehicles equipped with airbags, do not put the radio within the scope of the airbag deployment.
8. Do not store the radio in direct sunlight or in hot areas.
9. When transmitting maintain 5cm of distance from the antenna.
10. If the radio has an odor of smoke, please shut off its power immediately, remove the battery and contact your local dealer.

11. Limit transmissions to no longer than necessary to prevent possible heat build up. When transmitting with a portable radio, hold the radio in a vertical position with the microphone 3 to 4 centimeters away from your mouth; also make sure the antenna stays at least 5 centimeters away from your body when transmitting.

• Features and Functions

50 CTCSS tones and 104 DCS codes.
Transmission time-out timer
VOX (voice activated transmit).
Backlight on/off/key
Battery saving function.
Dual channel standby
Keypad tone
Keypad Lock
Broadcast FM radio receiver 87-108MHz
LED flashlight
USB charging function
PC programmable
Weather forecast function
Ten calling tones, selectable

• What's in the box

Thanks for choosing Radioddity two way radio. We recommend you to check the items listed in the following table before discarding the package box.

2 PCS FS-T1/PR-T1 Radio Body
2 PCS 1500mAh Battery Pack
2 PCS Belt Clip
2 PCS Earpiece
1 PCS USB Charging Cable
1 PCS USB Adaptor
1 PCS English manual

Note: The Radio is compatible with other accessories which are available on: https://www.radioddity.com/

Belt clip

The belt clip is located on the back of the radio. To install, align the back clip with the slot and then push down firmly on the top of the clip.

Battery

Fully charge the battery before initial use. Optimum battery efficiency will be achieved after the three full battery charge and discharge cycles.

Charging and battery maintenance

- Charging

Battery should be fully charged before initial use. Optimum battery efficiency will be achieved after three times of battery fully charged and discharge cycles.

How to hook up and use the charger correctly:

1. Plug the USB cable into the power adapter.
2. Plug the AC adapter of the power adapter into the main AC outlet.
3. The other end of the USB is connected to the USB port of the radio.

Note: Radio should be turned OFF during charging.

- Battery Maintenance

The battery for your radio comes uncharged from the factory; please let it charge for at least four to five hours before using your radio.

- Use only batteries approved by the original manufacturer.
- Never attempt to disassemble your battery pack.
- Do not expose your batteries to fire or intense heat
- Dispose of batteries in accordance with local recycling regulations. Batteries do not belong in your trashcan!

- Prolonging your battery's life

- Only charging batteries in normal room temperatures.
- When charging a battery attached to the radio, power off the radio for a faster charge.
- Do not unplug the charger or remote control until charging is complete.

- Never charge or use a wet battery.
- Batteries wear out over time. When the radio is operated in a shorter time, please consider purchasing a new battery to replace.
- Battery's performance will be reduced in temperatures below zero. When working in cold environments, it is suggested to prepare a spare battery. Preferably inside your jacket or in a similar location in order to keep the battery warm.
- Dust may interfere with the connection between the battery and the radio. Wipe the contacts with a clean cloth if necessary to ensure proper contact with the radio and charger.

Note: If your battery has become wet, take it down from the radio, wipe it dry with a towel or soft tissue, and put it in a plastic bag with a handful of dry rice. Tie the bag up and leave there overnight.

The rice will absorb any remaining moisture in the battery.

This method is only effective against minor splashes (light rain for instance). A soaked radio may possibly be defective to use.

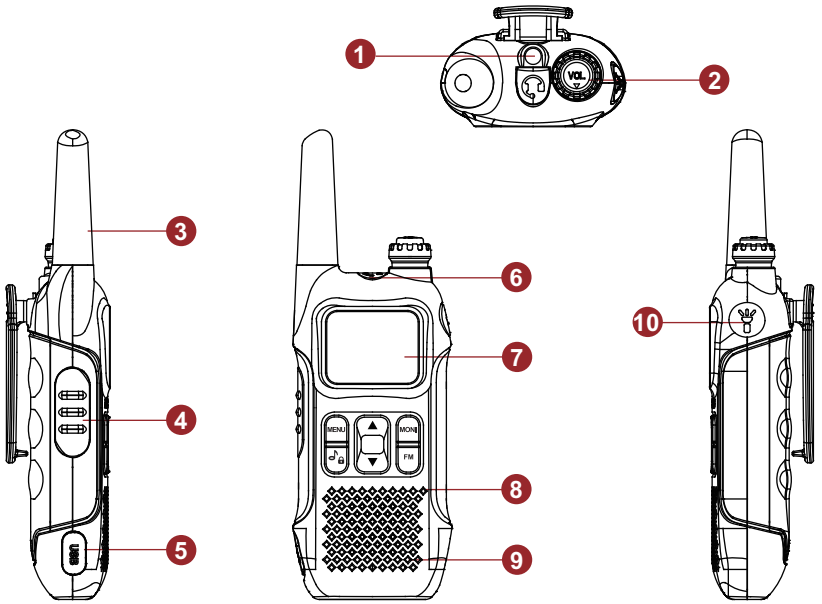
- Storage

In order to prevent damaging from over discharge, the battery must be left with partial power. This radio uses a lithium-based battery and a 40% charge is recommended. This level minimizes age-related capacity loss while keeping the battery in operating condition and allowing self-discharge.

To avoid severe capacity degradation of your battery while in long-term storage, please charge the battery at least every six (6) months.

Store your batteries in a cool and dry place, never above normal room temperatures.

Chapter 2 - Getting to know your radio



- **Figure 2.1 Radioddity FS-T1/PM-T1,overview**

1. LED flashlight
2. Power/Volume knob
3. Antenna
4. PTT Key
5. USB jack
6. Headphone jack
7. LCD
8. Microphone
9. Speaker
10. LED switch

- **[FM] Key**

Short press [FM] to start the broadcast FM receiver. Another short press turns the broadcast FM receiver off.

- **[LAMP] Key**

Short press [LAMP] to turn on the LED flashlight. Short press again will flash the LED. Another short press turns the flashlight off.

• [MONI] Key

Press and hold [M] to monitor the signal. This will open up the squelch so you can listen to the unfiltered signal. In addition, after entering the operation menu, short press this button to exit

• [♪🔒] Key

The Radioddity FS-T1/PR-T1 has ringtone calling function, there are ten kinds of calling sounds for you to choose; short press this button for ringing call

The Radioddity FS-T1/PR-T1 features a keypad lock that locks out all keys except for the function key and PTT key.

To enable or disable the keypad lock, press and hold the key for about two seconds.

• Key combination operation

Audio call: PTT key and [MONI] key: 1750Hz

PTT key and [FM] key: 1450Hz

PTT key and key: 2100Hz

• The main display

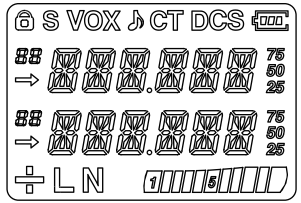


Table 2.1. LCD icon summary

Icon	Description	Icon	Description
	Battery level indicator	S	Dual watch enabled
	Channel indication (01-99)	N	Narrowband enabled
CT	CTCSS enabled	VOX	VOX enabled
DCS	DCS enabled	L	Transmit power level indicator
	Keypad lock		Receive: signal strength; transmit: low power display the first five grids; high power display full grid

Chapter 3 - Basic operation

Quick Start Guide

1. Carefully open the box and remove radio body, battery.
2. Install battery in radio body until it clicks (be gentle!)
3. Turn on power knob by twisting gently counter clockwise. The radio will respond with "Open the radio".
4. Select your desired channel, Press the PTT and talk!

• RX code

CTCSS (Continuous Tone Coded Squelch System)/ (Digital Coded Squelch) you may sometimes want to hear calls from only specific persons or groups. In this case, use the selective call which allows you to ignore unwanted calls from other persons who are using the same frequency.

CTCSS or DCS is a sub-audible tone and is selectable from among the 50 or 104 tone frequency listed.

Procedure 3.1 setting RX code

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-01:RXCODE
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: OFF/67.0-754N(754I)
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• TX code

Procedure 3.2 setting TX code

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-02:TXCODE
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: OFF/67.0-754N (754I)
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

Note:

CTCSS and DCS will not cause your conversation to become private and confusing. It only saves you from listening to unwanted conversations.

• SQUELCH LEVEL

The purpose of squelch is to mute the speaker when no signals are present (Squelch OFF). With the squelch level correctly set, you will hear sound only while actually receiving signals (Squelch ON).

Procedure 3.3 setting squelch level

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-03: SQL
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: 0-9

5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• LIGHT

Procedure 3.4 setting light

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-04:LIGHT
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select:ON/OFF/KEY
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

Note:

ON: the backlight is long bright;

OFF: the backlight is off.

KEY: the backlight is turned on by the button, and the button will automatically turn off for a while.

• BEEP

Allows audible confirmation of a key press, if you want to turn off the beep tone via following the steps.

Procedure 3.5 setting BEEP

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-05: BEEP
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: ON/OFF
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• VOX (Voice Operated Transmission)

VOX eliminates the need to manually switch to transmission mode each time you want to transmit. When the VOX circuit detects that you have started speaking into the microphone, the transceiver automatically switches to transmission mode.

1. When operating the VOX function, be sure to set the VOX gain level which allows the transceiver to recognize the sound levels.
2. If the microphone is too sensitive, the transceiver will begin transmitting when there is noise in the background.

If it is not sensitive enough, it will not pick up your voice when you begin speaking. Be sure to adjust the VOX gain level to an appropriate sensitivity to allow smooth transmission.

Procedure 3.6 setting VOX

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-06: VOX

3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: 0/1/2/3/4/5
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• HIGH/LOW POWER (This feature is only available in the US version)

Procedure 3.7 setting transmission power

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-07:PWR
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: HIGH/LOW
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• TDR

Simultaneously monitor A and B. The display with the most recent activity (A or B) becomes the selected display TDR.

Procedure 3.8 setting TDR

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-08:TDR
3. Press the [MENU] key to select.

4. Use the △ and ▽ keys to select: OFF/ON.
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• SAVE

In the power saving mode, the communication range will be reduced, but the cruising ability will be extended by 2-3 times. In the non-power saving mode, the communication range can reach the maximum, but the cruising ability will be reduced.

Procedure 3.9 setting SAVE

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-10:SAVE.
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: ON/OFF
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• TOT

This feature provides a safety switch, which limits transmission time to the programmed value. This will promote battery conservation by not allowing you to make excessively long transmissions, and in the event of a struck PTT switch, it can prevent interference to other users as well as battery depletion.

Procedure 3.10 setting TOT

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-11:TOT.
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: OFF/30S/60S/90S/120S/150S/180S.
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• BCLO

Disable the [PTT] button on the channel you are already using. If you press the [PTT] button while using the channel, the transceiver will beep and will not be sent.

Procedure 3.11 setting BCLO

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-12:BCLO.
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: ON/OFF
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• RING (Incoming call tone)

There are ten types of incoming call tones on the radio. You can select the call tone by short press button.

Procedure 3.12 setting transmission power

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-13:RING.
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: 1/2/3/4/5/6/7/8/9/10.
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

• WEATHER FORECAST
This feature is only available in the US version

1. This feature sets the weather switch selection for you.

Procedure 3.13 setting WEATHER FORECAST

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-14:WEATHER
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: ON/OFF.
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit. If the menu option is ON, enter the weather forecast mode, otherwise return to normal operation mode

2. Weather forecast channel setting mode

In the weather forecast receiving mode, press the △ and ▽ keys to select weather forecast channel: CH1-CH10

CH1:162.550MHz	CH2:162.400MHz	CH2:162.475MHz	CH4:162.425MHz	CH5:162.450MHz
CH6:162.550MHz	CH7:162.525MHz	CH8:161.650MHz	CH9:161.775MHz	CH10:163.275MHz

• VOICE PROMPTS

This function sets the voice prompt switch

Procedure 3.14 setting VOICE PROMPTS

1. Press the [MENU] key to enter the menu.
2. Use the △ and ▽ keys to enter menu-15:VOICE PROMPTS
3. Press the [MENU] key to select.
4. Use the △ and ▽ keys to select: OFF/CHI/ENG.
5. Press the [MENU] key to confirm and save.
6. Press the [MONI] key to exit.

Chapter 4 - Computer Programming

If you have computer programming needs, download programming software at https://www.radioddity.com/support/.

• Appendix A. Troubleshooting

symptom	possible	solution
The radio doesn't start	The battery is too low. The battery isn't correctly installed.	Change or recharge the battery. Remove the battery and reinstall it.
The battery dies quickly	The battery is dead. The battery isn't fully charged.	Purchase a new battery. Recharge the battery.
The LED indicates reception, but the speaker is silent.	Volume is too low. CTCSS or DCS enabled	Turn up the volume. Change your CTCSS or DCS to match those you're trying to communicate with. Turn CTCSS or DCS off.
Others can't hear my transmission.	Their CTCSS or DCS settings don't match yours. You're too far apart.	Change your CTCSS or DCS Setting to match your peers. Move in closer.
The radio transmits without touching the PTT.	The VOX is enabled. VOX sensitivity is too high.	Turn VOX off. Turn down VOX sensitivity.

• Appendix B. Technical specifications

General

General specifications

Specification	
Model	FS-T1/PR-T1
Frequency Range (MHz)	US: FRS; EU: PMR
Memory channels	99
Frequency stability	2.5ppm
Antenna impedance	50 Ohm
Operating temperature	-10℃ to +50℃
Mode of operation	same frequency simplex
Dimensions (mm)	170X50X28
Weight (g)	120g

Transmitter

Transmitter specifications

Specification	
RF power (W)	US: 0.5/2W ; EU: 0.5W
Type of modulation	FM
Maximum deviation(kHz)	≤±5.0
Spurious emissions (dB)	<-60dB
Emission current（mA）	≤1000

Receiver

Receiver specifications

Specification	
Receiver sensitivity	<0.16μV (12dB SINAD)
Intermodulation	≥65dB
Audio Output	≥380mW
Squelch sensitivity	<0.2μV
Receiver Current	≤380mA

• Appendix C. PMR/FRS frequency table

FRS					
Channel No.	Frequency	Channel No.	Frequency	Channel No.	Frequency
1	462.5625	9	467.5875	17	462.6000
2	462.5875	10	467.6125	18	462.6250
3	462.6125	11	467.6375	19	462.6500
4	462.6375	12	467.6625	20	462.6750
5	462.6625	13	467.6875	21	462.7000
6	462.6875	14	467.7125	22	462.7250
7	462.7125	15	462.5500		
8	467.5625	16	462.5750		

PMR			
Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
1	446.00625	9	446.10625
2	446.01875	10	446.11875
3	446.03125	11	446.13125
4	446.04275	12	446.14375
5	446.05625	13	446.15625
6	446.08125	14	446.16875
7	446.08125	15	446.18125
8	446.09375	16	446.19375