

# OWNER'S MANUAL

## FRS RADIO

### 21-1860

## INTRODUCTION

Your RadioShack FRS radio is a portable, easy-to-use, two-way radio that you can carry almost anywhere. Use it at shopping malls, amusement parks, sports events, or at the beach to contact family and friends, or for vital communications in a neighborhood watch.

Your radio has 14 channels and 38 different quiet codes. If someone else is using the channel you selected and you do not want to hear that person, select another channel or use the quiet feature. You can talk with a person who has a FRS radio if both radios are tuned to the same channel and quiet code.

Your radio also has one touch access key for 3 pre-programmed or user preferable FRS channel. The radio can auto dual watch between the operation channel and user preset channel.

Your radio has auto-squelch, which means you will not hear anything on a channel unless someone is transmitting nearby on the same channel. You can turn off auto-squelch to hear weaker, distant transmissions.

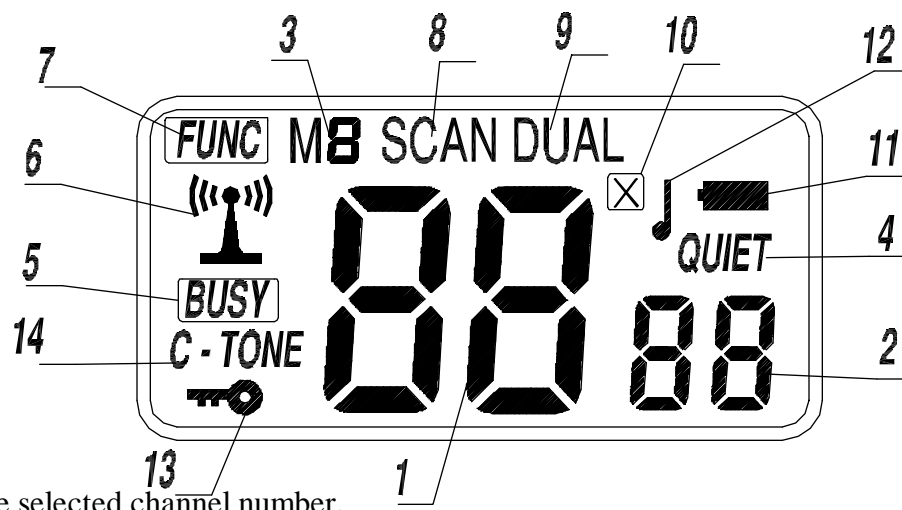
Also, if the radio is idle for 2 hours, it automatically shuts off. It turns on again when you press any key.

You can connect an optional speaker/microphone and earphone, charger (not supplied) to the radio. And, the belt clip lets you take your radio almost anywhere.






## USING THE RADIO

### A. DISPLAY

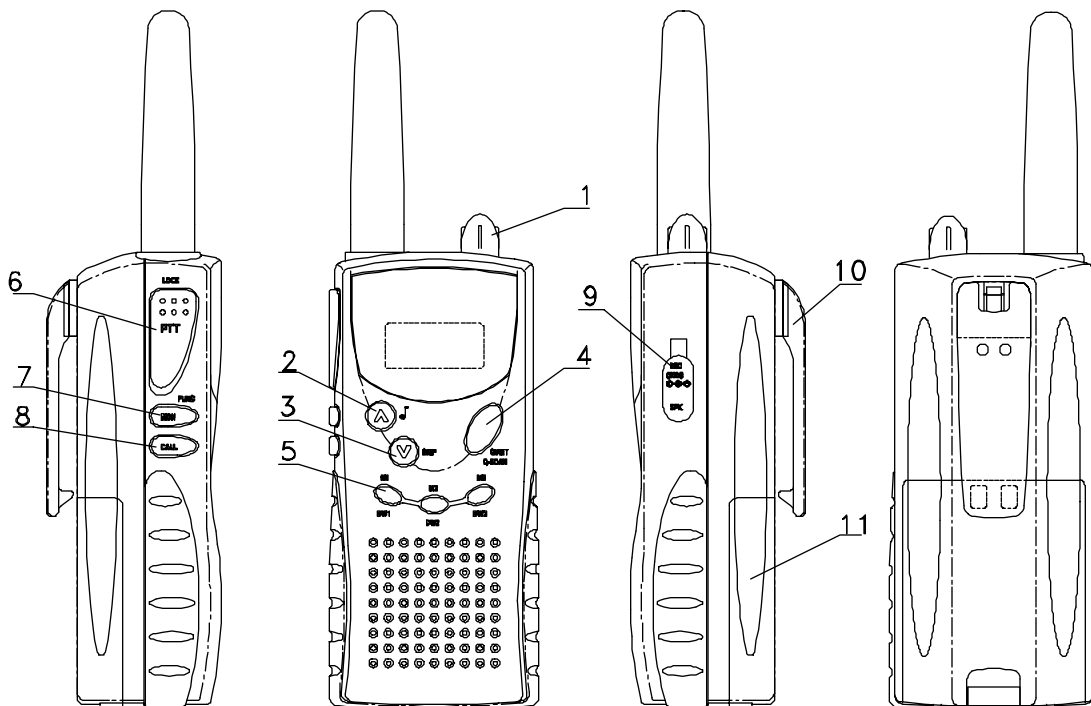
Your radio comes with a multifunction backlit display. By pressing any button except the CALL and PTT, the backlight will illuminate for 7 seconds.



1. Shows the selected channel number.

2. Shows the selected privacy code number.
3. Shows the selected memory channel number.
4. **“QUIET”**: Displays when the QUIET mode is enabled.
5. **“BUSY”** : Displays when a call is being received.
6. “ ” : Displays when your radio is transmitting or the CALL button is pressed.
7. **“FUNC”** : Displays when the secondary function is enabled.
8. **“SCAN”** : Displays when the scan mode is activated.
9. **“DUAL”** : Displays when the dual-watch function is activated.
10. “ ”: Displays when the working channel is set to be skipped.
11. “ ”: Indicates the batteries are low. Replace the batteries when it appears.
12. “ ”: Displays when the key tone function is activated.
13. “ ”: Displays when the keypad lock is activated.
14. **“C-TONE”**: Display when the over-tone function is activated.

## B. FUNCTION AND LOCATION OF THE CONTROLS




### 1. “ON/OFF” Volume Control.

In “OFF” position, your transceiver is off. Rotate this control clockwise to turn on your radio and adjust the volume, until you get a comfortable listening level.

## 2. CH ▲ /Key Tone Button


Press CH ▲ to move one channel higher. Press and hold CH ▲ for more than 1.5sec to enter into the scan upwardly mode. Press CH ▼ will change the scanning direction.

Press FUNC key and hold for less than 1.5 sec, then press CH ▲ key to activate or deactivate the Key Tone function. Icon “” will be shown if activated.

## 3. CH ▼ / Skip / Automatic Shut Off Button

Press CH ▼ to move one channel down. Press and hold CH ▼ for more than 1.5sec to enter into the scan downwardly mode. Press CH ▲ will change the scanning direction.

### Skip

User can choose a desired channel from being scanned. Press CH ▲ or ▼ to go to the desired channel. Press FUNC key and hold for less than 1.5 sec, then press CH ▼ key to skip this channel from scanning. Icon “” is on to indicate this working channel is set to be skipped.

### Automatic Shut Off Button

Press and hold the CH ▼ while turning on the radio will enable or disable the automatic shut off timer. The display will show “AP ON” when the timer is activated, or “AP OF” when deactivated. The timer automatically turns off the unit when it is idle for 2 hours.

## 4. QUIET /QUIET Scan Button

Press QUIET button to enable or disable the QUIET privacy mode operation.

- Hold down QUIET button for 2 seconds until QUIET is displayed and the quiet code flashes.
- Repeatedly press (or hold down) CH ▲ or CH ▼ until you see the code number you want to use.
- Press QUIET button to store the code.

To turn on the quiet feature, press QUIET. QUIET appears. To turn off the feature, press QUIET until QUIET disappears.

**Note:** We recommend that you select a quiet code from the range 7-30. If you select a code below or above that range, you must wait 1 to 2 seconds after holding down PUSH-TO-TALK before you start talking.

### QUIET Scanning

Press FUNC key for less than 1.5 sec, and follow by QUIET key to enter into the QUIET Scan mode, and icons of “SCAN” and “QUIET” will be lightened on LCD. When received the same QUIET code, the scanning stops and will keep scanning after the signal disappears. Press any key will exit and return to the normal working channel.


## 5. M1 (M2 or M3)/ Dual Watch

Press M1 (M2 or M3) to switch the unit to the channel stored at this location.

### Dual Watch

It can be activated or deactivated by pressing the FUNC key for less than 1.5sec and follow by M1 (M2 or M3). ‘DUAL’ icon will be shown on the LCD if activate. During Dual-Watching, upon receiving a signal from the normal working channel or M1 (M2 or M3) channel, the unit will stop at that channel. If the signal is gone, the unit will resume Dual-Watch.

## 6. Push-To-Talk button / Keylock /C-Tone

To talk, hold down the **Push-To-Talk**. Speak into the microphone in a normal tone of voice when the  icons is displayed. When you finish speaking, release the **Push-To-Talk** button.

You can also lock your radio setting to avoid accidental pressing of keys by activating the keypad lock. Press and hold the **FUNC** button, then press the **PTT** button to activate or deactivate the keypad lock.

Press and hold the **Push-To-Talk** while turning on the radio will enable or disable the courtesy tone (C-Tone) function.

## 7. MON/FUNC Button

To hear everything happening on a channel, including weak transmission, hold down **MON/FUNC** button for more than 1.5 sec. Release the **MON/FUNC** button to turn the auto-squelch back on.

## 8. CALL/MCU Reset Button

You can cause a ringer sound on all radios tuned to the same FRS channel and/or the privacy code as your radio. To send a page, press and hold down the **CALL** button.

Holding the **CALL** button while turning on the radio will resume your radio’s MCU and the quiet code will be reset to number 12, CTCSS privacy mode operation is deactivated, the automatic shut off timer disabled, keypad lock disabled, backlight switched off and channel setting will go to number 1.

When the unit is reset, memory channel M1, M2, M3 will go to CH1, CH2, CH3 without QUIET code.

## 9. External Mic/Spk Jack

Connect an optional speaker/microphone or earphone in this jack.

### **Charger Jack (shared with the Mic jack)**

You can recharge Ni-Cd batteries using an optional battery charger (not supplied). Plug the charger's barrel plug into the CHRG jack on the side of the unit, then connect the charger to a standard AC outlet.

## **10. Belt Clip**

To attach the belt clip, place it over the locking pin and align the screw hole. Tighten the screw.

## **11. Battery Compartment**

Press and push back the battery door to release.

### **Ni-Cd/Alkaline Switch (inside the battery compartment)**

When you use Ni-Cd batteries and begin to recharge your batteries, the switch on the battery compartment should be set to the position of Ni-Cd. Open the battery door, and you will find this switch as shown as following:



**Warning:** Do not put the switch to the position of Ni-Cd when Alkaline batteries are used. It may cause the radio to burst and cause personal injury when you recharge the batteries.

## **C. OPERATION**

1. Your radio uses four AA batteries for power. We recommend alkaline batteries. However, you can use rechargeable batteries in the radio.
2. To start using your radio, insert four AA batteries into the battery compartment, noting the polarities.
3. Rotate **ON/OFF** volume control to turn on the radio and adjust the volume.
4. Select the desired channel and/or quiet code.
5. Press the **Push-To-Talk** button to transmit and the **CALL** button to cause a ringer.
6. To receive, simply release the **Push-To-Talk** button.

**Note:** You can only communicate with another radio that is using the same channel and/or the same quiet code as your radio.

## **D. SAFETY INFORMATION**

Your radio contains a low power transmitter. When the Push-to-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 hand-held wireless devices.

#### **Cautions:**

- To maintain compliance with the FCC's RF exposure guidelines, hold the transmitter and antenna at least 2 inches (5 cm) away from your face, and speak in a normal voice. Point the antenna up and away from your face.
- If you were the handset on your body while using the headset accessory, use only the supplied belt clip for this product and when transmitting, take it out of the belt to ensure that the antenna is at least 1 inch (2.5 cm) from the body.
- Use only the supplied antenna. Unauthorized antennas, modifications, or attachments could damage the transmitter and may violate FCC regulations.

#### **TECHNICAL SPECIFICATIONS**

RX Frequency.....	<b>462-467 MHz</b>
Channels.....	<b>14</b>
Modulation type.....	<b>FM</b>
Antenna impedance.....	<b>50 Ohm</b>
Microphone.....	<b>condenser type</b>
Power supply.....	<b>4× AA Alkaline</b>
Sensitivity at 12dB Sinad.....	<b>0.5μV</b>
Adjacent Channel Rejection.....	<b>45dB</b>
Audio Squelch .....	<b>Auto</b>
Audio output power.....	<b>250mW @ 8 Ohm</b>
Audio Distortion .....	<b>5%</b>
RF Output Power.....	<b>500 mW ERP @6V DC</b>
Harmonic Emissions.....	<b>more than 50dB</b>
Dimensions(HWD).....	<b>121.5×55.0×38.0mm</b>
Weight(without batteries).....	<b>145g</b>

#### **CHANNEL FREQUENCIES**

**Frequency: MHz**

1=462.5625	5=462.6625	9=467.5875	13=467.6875
2=462.5875	6=462.6875	10=467.6125	14=467.7125
3=462.6125	7=462.7125	11=467.6375	
4=462.6375	8=467.5625	12=467.6625	

#### **CTCSS PRIVACY CODES**

**Frequency: Hz**

1: 67.0	11: 97.4	21: 136.5	31: 192.8
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2: 71.9	12: 100.0	22: 141.3	32: 203.5
3: 74.4	13: 103.5	23: 146.2	33: 210.7
4: 77.0	14: 107.2	24: 151.4	34: 218.1
5: 79.7	15: 110.9	25: 156.7	35: 225.7
6: 82.5	16: 114.8	26: 162.2	36: 233.6
7: 85.4	17: 118.8	27: 167.9	37: 241.8
8: 88.5	18: 123.0	28: 173.8	38: 250.3
9: 91.5	19: 127.3	29: 179.9	
10: 94.8	20: 131.8	30: 186.2	