

Cat. No. 21-1646B

# OWNER'S MANUAL

Please read before using this equipment.

## TRC-222

### 5-Watt 40-Channel Citizen's Band Transceiver

#### RADIO SHACK LIMITED WARRANTY

This product is warranted against defects for 90 days from date of purchase from Radio Shack company-owned stores and authorized Radio Shack franchisees and dealers. Within this period, we will repair it without charge for parts and labor. Simply **bring your Radio Shack sales slip** as proof of purchase date to any Radio Shack store. Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage.

EXCEPT AS PROVIDED HEREIN, RADIO SHACK MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

*We Service What We Sell*

**RADIO SHACK**  
A Division of Tandy Corporation  
Fort Worth, Texas 76102

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Printed in Hong Kong

## FEATURES

Your Radio Shack TRC-222 5-Watt 40-Channel Citizen's Band Transceiver is a portable, easy-to-use, two-way radio that you can carry almost anywhere. It is ideal for around the house, in your car or boat, on camping trips, or at your business for security patrols or warehouse communications.

The TRC-222 has the following features:

**PLL (Phase-Locked-Loop) Frequency Synthesizer**—provides reliable and exact tuning.

**Adjustable Squelch**—eliminates background noise.

**Telescoping Antenna with Center Loading Coil**—gives excellent reception under most conditions.

**Built-In Modulation Limiter**—ensures a clear sound during transmission.

**Built-In Noise Limiter**—reduces noise caused by nearby electrical equipment such as motors or automotive ignition systems.

**Transmission Power High/Low Switch**—lets you reduce the walkie talkie's power output during short-range transmissions to save battery power.

**External Antenna Jack**—lets you connect an external antenna to improve reception for mobile or base use, or to extend the walkie talkie's range.

**Battery Test Indicator**—lights when batteries are in good condition.

**External Power Jack**—lets you power the walkie talkie from your vehicle's battery or other 12-volt DC source using an optional adapter.

**Battery Charging Jack**—lets you charge nickel-cadmium batteries without removing them from the walkie talkie.

The Federal Communications Commission (FCC) does not require you to get a CB license to operate your walkie talkie. However, you are required to know Part 95 of *FCC Rules and Regulations*. This information applies to the operation of a Class D citizen's band radio. A copy of Part 95 is enclosed with your walkie talkie.

Your walkie talkie might cause TV or radio interference even when it is operating properly. To determine whether your walkie talkie is causing the interference, turn off your walkie talkie. If the interference goes away, your walkie talkie is causing the interference. Try to eliminate the interference by:

- Moving your walkie talkie away from the receiver
- Contacting your local Radio Shack store for help

This device complies with Part 15 of the *FCC Rules*.

Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

If you cannot eliminate the interference, the FCC requires that you stop using your walkie talkie.

For your permanent records, we urge you to record the serial number of your walkie talkie in the space provided below. You'll find the serial number on the back of the walkie talkie.

Serial Number \_\_\_\_\_

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## CONNECTING POWER

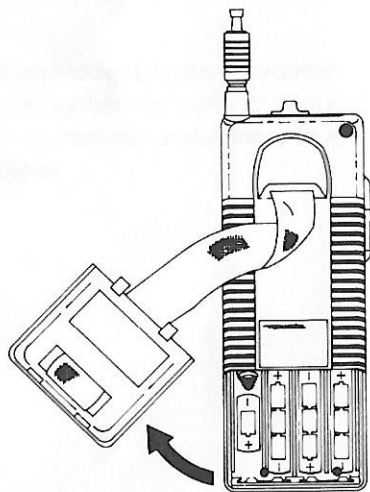
You can power the walkie talkie from any of the following sources:

- Rechargeable nickel-cadmium batteries
- Alkaline batteries
- Your vehicle's battery (using an optional 12-volt DC power cord)
- A standard AC outlet (using an optional 12-volt power supply)

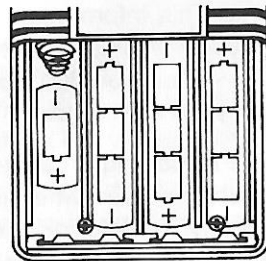
### USING INTERNAL BATTERIES

You can power the walkie talkie from ten rechargeable nickel-cadmium batteries (Cat. No. 23-125) or eight alkaline AA batteries (Cat. No. 23-552) and the two supplied dummy batteries. To install batteries, do the following:

1. Slide the battery compartment cover off the walkie talkie.



2. Install the batteries, observing proper polarity (+ and -) as shown by the illustrations in the battery compartment.



3. Replace the compartment cover.

#### Cautions:

- Always replace all the batteries. Never mix old and new batteries in the walkie talkie.
- Never mix rechargeable and non-rechargeable batteries, or alkaline and general purpose batteries.

#### Charging Nickel-Cadmium Batteries

You can recharge nickel-cadmium batteries using a nickel-cadmium battery charger (Cat. No. 21-516).

To charge nickel-cadmium batteries, first turn off the walkie talkie. Then, connect the charger's cord to the walkie talkie's CHARGING jack and a standard AC outlet.

New nickel-cadmium batteries come fully discharged. It takes about 11 hours to charge the batteries the first time. Each additional charge takes about 8 hours.

#### Cautions:

- Never try to recharge non-rechargeable batteries. They become very hot and might explode.
- Do not operate the walkie talkie while you recharge batteries.
- This walkie talkie is capable of using nickel-cadmium batteries. At the end of the batteries' useful life, they must be recycled or disposed of properly. Contact your local, county, or state hazardous waste management authorities for information on recycling or disposal programs in your area. Some options that might be available are: municipal curb-side collection, drop-off boxes at retailers, recycling collection centers, and mail-back programs.

#### Testing the Battery Power

Turn on the walkie talkie's power by rotating VOLUME clockwise until it clicks. Then, press BATT TEST. If the BATT TEST indicator lights, there is sufficient battery power.

If the indicator is dim or does not light, replace all the batteries with new ones. (If you installed nickel-cadmium batteries, recharge them as described in "Charging Nickel-Cadmium Batteries.")

#### USING STANDARD AC POWER

You can power the walkie talkie from standard AC power using an optional 12-volt DC adapter that provides 1 amp, such as Radio Shack Cat. No. 273-1653. Follow these steps to connect the adapter to the walkie talkie.

1. Connect the adapter's green-rimmed barrel plug to the adapter's cord, setting TIP to POS (positive).
2. Connect the adapter's barrel plug to the walkie talkie's POWER jack.
3. Plug the other end of the adapter into a standard AC outlet.

**Warning:** To help prevent electrical shock, unplug the adapter from the AC outlet before you unplug the adapter from the walkie talkie after you finish using the walkie talkie.

**Caution:** You must use a DC adapter that supplies 12 volts and delivers at least 400 milliamps. Its center tip must be set to positive and its plug must correctly fit the walkie talkie's POWER jack. Using adapter that does not meet these specifications could seriously damage the walkie talkie or the adapter.

#### USING VEHICLE BATTERY POWER

You can use your vehicle's battery power if the vehicle has a 12-volt battery and a negative-ground electrical system. This connection requires a 12-volt DC power cord, such as Radio Shack's Cat. No. 270-1533.

Insert the cord's barrel plug into the walkie talkie's POWER jack. Then, insert the power cord's other end into the vehicle's cigarette-lighter socket.

### Cautions:

- To prevent damage to the walkie talkie and vehicle, always unplug the power cord from the cigarette-lighter socket before you unplug it from your walkie talkie.
- You must use a DC power cord that delivers at least 400 milliamps. Its center tip must be set to positive and its plug must correctly fit the walkie talkie's POWER jack. Using a power cord that does not meet these specifications could seriously damage the walkie talkie or the power cord.

## CONNECTING AN EXTERNAL ANTENNA

You can use your walkie talkie as a mobile or base unit by connecting an external antenna with a 50-ohm impedance. This connection requires an antenna adapter (Cat. No. 278-208). Connect the antenna to the adapter. Then, plug the adapter into the walkie talkie's EXT ANTENNA jack.

**Note:** When you connect an external antenna, be sure to completely push in the telescoping antenna. Otherwise, signal interference occurs.

### WARNING

When installing or removing an external antenna, use extreme caution. If the antenna starts to fall, let it go! It could contact overhead power lines. If the antenna touches the power line, contact with the antenna, mast, cable or guy wires can cause electrocution and death! Call the power company to remove the antenna. Do not attempt to do so yourself.



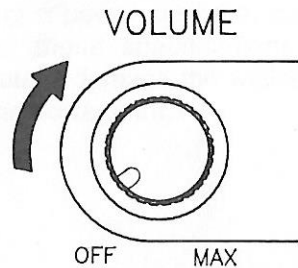
## OPERATION

For the best performance, fully extend the telescoping antenna and keep it vertical. If you do not fully extend the antenna, you reduce the walkie talkie's receiving and transmitting efficiency.

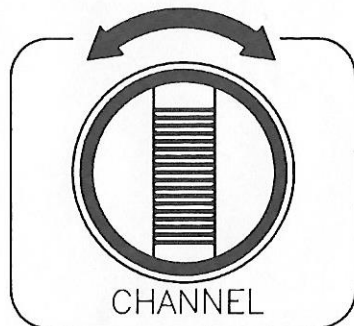
### RECEIVING

Follow these steps to receive a signal:

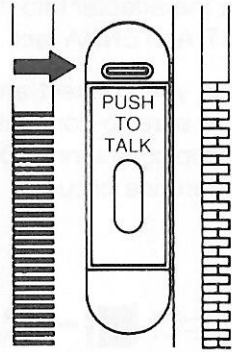
1. Turn on the walkie talkie by rotating VOLUME clockwise until it clicks.



2. Adjust VOLUME for a comfortable listening level.
3. Rotate CHANNEL clockwise or counterclockwise until the desired channel appears on the display.



**Note:** The channel number briefly appears and then fades away. This helps preserve battery power. To display the channel number for a longer time, press and hold down the channel display button.



4. Rotate SQUELCH clockwise until any hiss stops. This lets you hear transmissions without background noise.

**Note:** Be sure not to rotate SQUELCH too far clockwise. Doing so might prevent the walkie talkie from receiving transmissions.

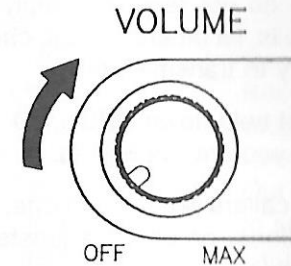
5. Set POWER HI/LO to LO for general use. This setting conserves battery power. However, if communications become noisy, set the switch to HI.
6. After you finish using the walkie talkie, turn it off by rotating VOLUME counterclockwise until it clicks.

### TRANSMITTING

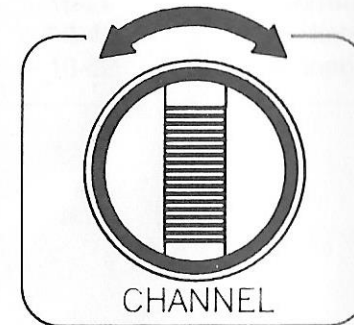
Be sure to try receiving before you begin transmitting.

Follow these steps to transmit.

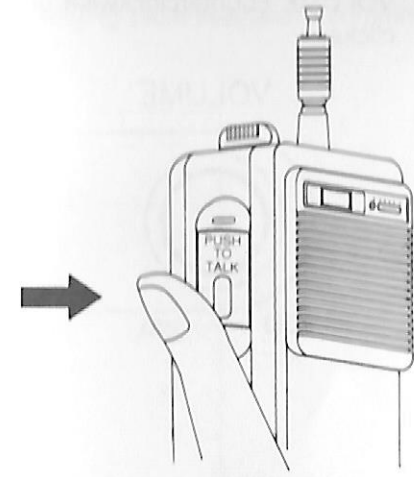
1. Turn on the walkie talkie by rotating VOLUME clockwise until it clicks.



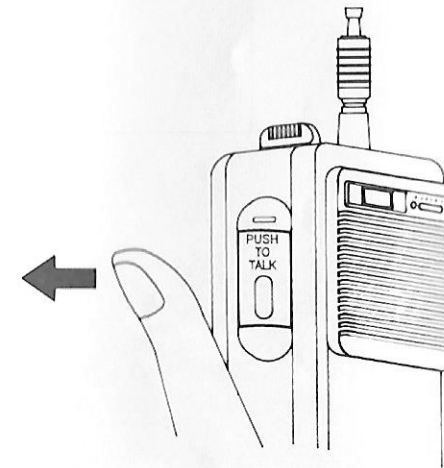
2. Rotate CHANNEL to select a channel.



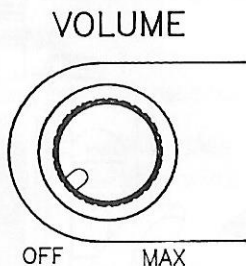
3. Press and hold down PUSH TO TALK. Then, speak at a normal volume about 3 inches from the walkie talkie's microphone.



4. To hear a reply, release PUSH TO TALK after you speak.



5. When you finish using the walkie talkie, turn it off by rotating VOLUME counterclockwise until it clicks.



### OBSERVING WALKIE TALKIE COURTESY

Remember these courtesy hints when you use the walkie talkie:

- Wait for a pause in transmission before you transmit.
- If you do not receive a reply after two calls, let others use the channel and try to transmit later.
- Do not hold down PUSH TO TALK when you are not talking.
- Help callers with directions, road conditions, or other requested information.
- If you hear an emergency transmission, stop using the walkie talkie until the transmission ends.

### USING 10-CODES

10-codes represent standard questions and answers. These codes permit faster and better communication in noisy areas. The following table lists some common codes and their meanings.

Code	Meaning
10-1	Receiving poorly
10-2	Receiving well
10-3	Stop transmitting
10-4	OK-understood
10-7	Out of service
10-8	In service
10-9	Repeat
10-10	Standing by
10-13	Advise road/weather conditions
10-20	What is your location?
10-33	Emergency traffic
10-36	Correct time
10-41	Switch to channel
10-62	Cannot understand

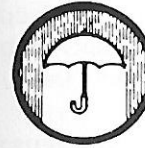
## WALKIE TALKIE RANGE

Your walkie talkie's range depends on various conditions such as the antenna type and position, terrain, and battery condition. Obstacles such as metal buildings, trees, and heavy clouds can reduce the walkie talkie's range. However, if you use the walkie talkie near a lake or the ocean, the walkie talkie's range might increase.

If you use batteries to power the walkie talkie, be sure they are fresh (or fully charged if you use rechargeable batteries). As batteries weaken, the range decreases.

## MAINTENANCE

Your Radio Shack TRC-222 5-Watt 40-Channel Citizen's Band Walkie Talkie is an example of superior design and craftsmanship. The following suggestions will help you care for the walkie talkie so you can enjoy it for years.



Keep the walkie talkie dry. If the walkie talkie gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.



Use and store the walkie talkie only in normal temperature environments. Temperature extremes can shorten the life of electronic devices, damage batteries, and distort or melt plastic parts.



Handle the walkie talkie gently and carefully. Dropping it can damage the circuit boards and can cause the walkie talkie to work improperly.



Keep the walkie talkie away from dust and dirt, which can cause premature wear of parts.



Wipe the walkie talkie with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the walkie talkie.



Use only fresh batteries of the recommended size and type. Always remove old or weak batteries. They can leak chemicals that can destroy electronic circuits.

Modifying or tampering with the walkie talkie's internal components can cause a malfunction and might invalidate its warranty and void your FCC authorization to operate it. If your walkie talkie is not performing as it should, take it to your local Radio Shack store for assistance.

## WARNING

Do not open the walkie talkie to make any internal adjustments. Any internal adjustments should be made only by, or under the direct supervision of, a person holding an FCC 1st or 2nd Class Radio Operator's license.

Unauthorized internal adjustments and/or modifications can lead to illegal operation as defined by *FCC Rules and Regulations, Part 95*. Such illegal operation can lead to very serious consequences.



## SPECIFICATIONS

### Receiver

Frequency Coverage .....	26.965 to 27.405 MHz
Sensitivity (Maximum) .....	0.5 $\mu$ V for 10dB (S+N)/N
Adjacent Channel Rejection .....	60dB
Squelch .....	Adjustable from 1 $\mu$ V to 1mV
Audio Output .....	400 Milliwatts (10% THD)
Current Drain .....	85 mA to 550 mA

### Transmitter

Frequency Coverage .....	26.965 to 27.405 MHz
Power Input (at 12V DC) High .....	5 Watts
Low .....	2 Watts
Power Output High .....	2.5 Watts
Low .....	1 Watt
Spurious Emission .....	60 dB or Better
Type of Modulation .....	A3
Frequency Tolerance .....	0.002%
Antenna (Telescopic) Impedance .....	50 Ohms
Antenna Length (Maximum) .....	47 Inches (1190mm)
Current Drain High .....	350 mA to 560 mA
Low .....	250 mA to 360 mA
Dimensions .....	7 $\frac{1}{2}$ x 2 $\frac{2}{3}$ x 2 Inches (HWD) 190 x 67 x 50.3 mm
Weight .....	14.7 oz (445 gm)