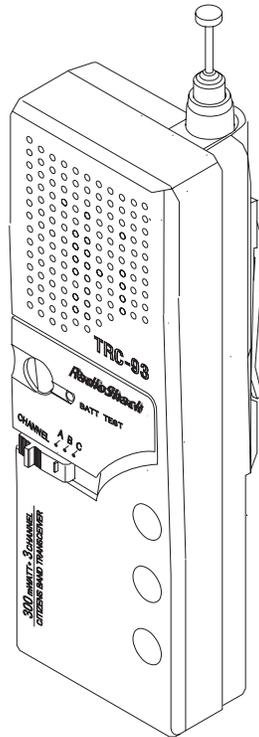


OWNER'S MANUAL      Cat. No. 21-1615

# TRC-93

## 300 mW 3-Channel Walkie-Talkie

Please read before using this equipment.



**RadioShack**<sup>®</sup>



## FEATURES

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Your RadioShack TRC-93 300 mW 3-Channel Walkie-Talkie is a portable, two-way radio you can carry almost anywhere. You can use your TRC-93 around the house, in your office, or in your car or boat. You can also use it on fishing and camping trips, or at your business for supervisory, security, or warehouse personnel.

Your TRC-93 has the following features:

**Factory-Installed Crystals** — let you immediately begin using your TRC-93 on Channel 14.

**Three-Channel Operation** — comes with Channel 14 crystals installed, but lets you install optional crystals so you can operate the TRC-93 on any two of the other 39 available CB channels. (See “Adding Crystals” on Page 15).



**Built-In Modulation Limiter Circuit** — automatically adjusts to a variety of voice levels to ensure a clear transmission.



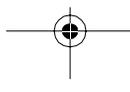
**Telescoping Antenna** — provides excellent reception and transmission.

**Battery Indicator** — shows you the batteries' condition.

**Removable Belt Clip** — lets you attach the TRC-93 to your belt for hands-free carrying wherever you go.

**Note:** You need six AA alkaline batteries (not supplied) to power your TRC-93.

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used by Tandy Corporation.



We recommend you record the TRC-93's serial number here. The serial number is located on the radio's back panel. \_\_\_\_\_

## FCC INFORMATION

The Federal Communications Commission (FCC) does not require you to have a license to operate this walkie-talkie. However, the FCC does require that you read and know Part 95 of *FCC Rules*. These rules apply to the operation of a Class D CB. We have provided a copy of these regulations with your TRC-93.

Internal adjustments and/or modifications can lead to illegal operation as defined by Part 95 of *FCC Rules*. Such illegal operation can lead to very serious consequences.

To be safe and sure:

- Never open your TRC-93's case except to install or change crystals.
- Never modify your TRC-93.

Your TRC-93 might cause TV or radio interference even when it is operating properly. To determine whether your TRC-93 is causing the interference, turn off your TRC-93. If the interference goes away, your TRC-93 is causing it. Try to eliminate the interference by:

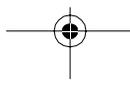
- Moving your TRC-93 away from the TV or radio
- Contacting your local RadioShack store for help

**Warning:** Do not open your TRC-93 to make any internal adjustments other than installing or changing crystals. Any internal adjustments should be made only by authorized service personnel.



# CONTENTS

- Preparation ..... 5**
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## PREPARATION

### INSTALLING BATTERIES

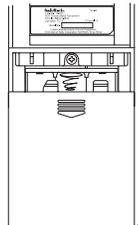
Your TRC-93 requires six AA alkaline batteries (such as RadioShack Cat. No. 23-552) for power.

**Cautions:**

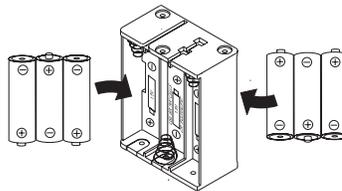
- Always use fresh batteries of the required size and type.
- Do not mix old and new batteries.
- Do not use rechargeable batteries in the TRC-93.

Follow these steps to install batteries.

1. Remove the battery compartment cover by pressing down on the cover's arrow, then sliding the cover down.



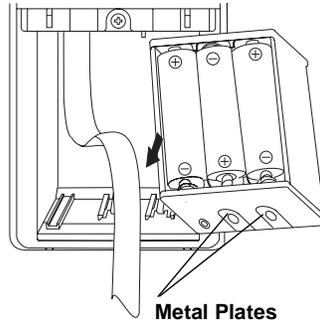
2. To help remove the battery case, pull the ribbon inside the battery compartment. Then lift out the case.
3. Insert six AA alkaline batteries into the case, as indicated by the polarity symbols (+ and -) marked inside the battery case.



4. To replace the battery case, place it on top of the ribbon.

**Notes:**

- Be sure the case's metal plates touch the two metal plates inside the battery compartment.



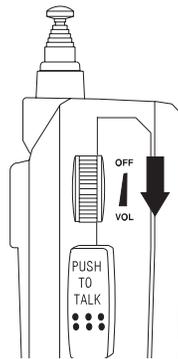
- The case fits inside the battery compartment only one way. Do not force it.

5. Replace the battery compartment cover.

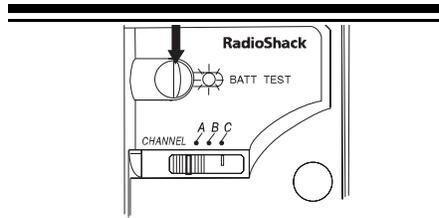
**Note:** If you will not be using the TRC-93 for several months, remove the batteries.

**Testing the Battery Power**

1. Make sure the TRC-93 is turned on by turning **OFF/VOL** down toward **VOL** until it clicks.



2. Press **BATT TEST**.

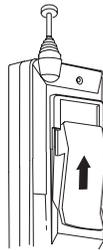


If the indicator lights, the batteries are good. If the indicator is dim or does not light, the batteries are weak or dead and need to be replaced.

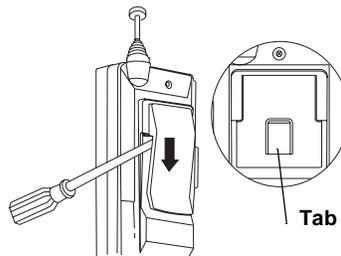
**Caution:** Dispose of old batteries promptly and properly.

## USING THE BELT CLIP

To attach the supplied belt clip to the TRC-93, press the clip's tabs into the corresponding holes on the back of the TRC-93. Then push the clip upward until it locks into place.



To remove the belt clip from the TRC-93, use a flathead screwdriver to press the tab under the clip and slide the clip down to pull it out.

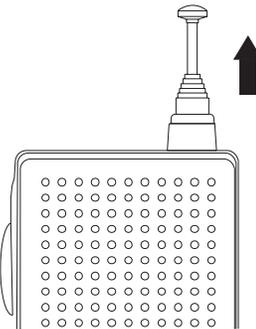


## OPERATION

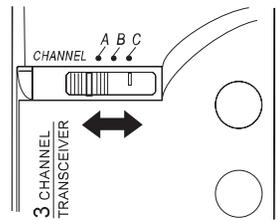
Before you use your TRC-93, we recommend you read "CB Operation Tips" on Page 11, which contains information to help you use it effectively and courteously.

### RECEIVING TRANSMISSIONS

1. Fully extend the TRC-93's telescoping antenna and hold the TRC-93 so the antenna is vertical.

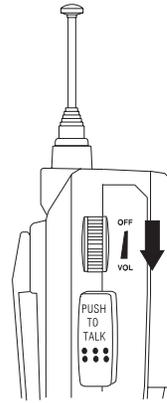


2. Set CHANNEL to A, B, or C.



**Note:** Your TRC-93 comes with Channel 14 crystals installed in channel position A. To use other channels, you must first install crystals in channel positions B and C inside the TRC-93 (see "Adding Crystals" on Page 15).

3. Turn on the TRC-93 by turning **OFF/VOL** down toward **VOL** until you hear a click and a hissing sound.

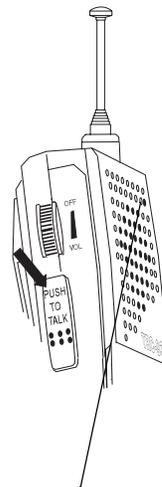


**Note:** You might not hear a hissing sound if **CHANNEL** is set to **B** or **C** and you haven't installed any crystals in channel positions B or C.

4. To turn off the TRC-93, turn **OFF/VOL** up toward **OFF** until it clicks.

## TRANSMITTING

1. Follow Steps 1–3 in "Receiving Transmissions" on Page 8.
2. Hold the TRC-93 2 to 3 inches from your mouth. Hold down **PUSH TO TALK** on the side of the TRC-93 and speak in a normal voice into the microphone.



Microphone

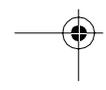
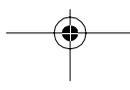


When you finish speaking, release the button.

**Note:** Do not speak too loudly when transmitting. It does not make your signal any stronger, and might distort your transmission.

**Important:** Channel 9 is reserved for motorist assistance and for reporting emergency information about accidents, hazardous road conditions, and so on. If you have installed the necessary crystals in your TRC-93 and you are using Channel 9, always give emergency messages priority.

- 3. To turn off the TRC-93, turn **OFF/VOL** up toward **OFF** until it clicks.





## **CB OPERATION TIPS**



The following tips will help you get the most enjoyment from your TRC-93.

### **COMMON USES FOR A CB RADIO**

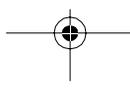
#### **Business Uses**

- Truck drivers and delivery personnel can learn road and traffic conditions and get assistance in locating destinations. A walkie-talkie is also good company on those “long hauls.”
- On construction crews, a walkie-talkie quickly pays for itself when you are calling for additional materials or coordinating the activities of different work crews.
- For security officers, a walkie-talkie is more than a convenience — it is a must for both safety and efficiency.



#### **Personal Uses**

- Keep in touch with home while driving to work, to the store, or to a social activity. Let your family know you are tied up in traffic or that you will stop by the store on the way home.
- If you are a two-car (or more) family, walkie-talkies are great for communicating with family members while they are in their cars.
- Contact friends or neighbors — find out “what’s happening” or plan a get-together.
- Ever have car trouble or run out of gas on the highway? What an assurance it is to be able to radio for assistance.



- Camping, fishing, and other sports are more fun with a walkie-talkie. Locate a friend or find out “what’s cooking” back at camp.

## USING COMMON 10-CODES

Citizen’s band operators have largely adopted the 10-codes for standard questions and answers. Their use permits faster communication and better intelligibility in noisy areas.

This table lists the codes adopted by the Associated Public Safety Communications Officers (APCO).

Code	Meaning
10-1	Cannot understand your message.
10-2	Your signal is good.
10-3	Stop transmitting.
10-4	Message received and understood.
10-5	Relay information to _____.
10-6	I am busy.
10-7	Out of service.
10-8	In service.
10-9	Repeat last message.
10-10	Negative (No).
10-11	_____ in service.
10-12	Stand by.
10-13	Report _____ conditions.
10-14	Information.

Code	Meaning
10-15	Message delivered.
10-16	Reply to message.
10-17	En route.
10-18	Urgent.
10-19	Contact _____.
10-20	My location is _____.
10-21	Call _____ by telephone.
10-22	Cancel last message.
10-23	Arrived at the scene.
10-24	Assignment complete.
10-26	Estimated time of arrival is ____.
10-30	Use caution.
10-31	Pick up.
10-33	Emergency traffic. Clear the channel.
10-34	The time is ____.

**Note:** Although this table lists the 10-codes' meanings in the form of a statement, they can also be phrased as questions (10-6: Are you busy?, 10-20: What is your location?).



---

## CB COURTESY

- Wait for a pause in someone else's transmission before you ask for a break.
- If you do not receive an answer to your call after a second attempt, sign off and wait several minutes before trying again.
- Do not hold down **PUSH TO TALK** when you are not talking. (This is called *dead keying*.)
- Assist callers with directions, information about road conditions, and any other reasonable requests.

## MAXIMUM RANGE

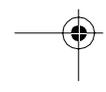
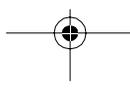


The maximum range and quality of CB transmissions vary depending on these conditions:



- Amount of power in the batteries
- The surrounding terrain—mountains and tall buildings limit the range
- Weather conditions
- The number of nearby CBs operating on the same channel

To ensure maximum range, always keep fresh alkaline batteries in your TRC-93.



## ADDING CRYSTALS

Your TRC-93 includes two crystals (transmit and receive) installed in channel position A. The crystals let you use the CB on channel 14. You can add two more crystals in channel positions B and C so you can use any two other channels of the 40 allotted to CBs. However, you must use only crystals specifically designed for the TRC-93, available from your local RadioShack store. Be sure to specify the channel you want and the TRC-93's catalog number (Cat. No. 21-1615).

**Note:** Channel A crystals are soldered in, and can be replaced only by a qualified technician.

The following chart shows the frequency pairs (in MHz) for receiving and transmitting on each CB channel.

**Note:** Receive crystals use a frequency 455 kHz lower than transmit crystals.

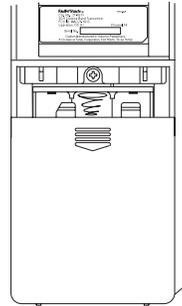
Channel	Transmit	Receive
1	26.965	26.510
2	26.975	26.520
3	26.985	26.530
4	27.005	26.550
5	27.015	26.560
6	27.025	26.570
7	27.035	26.580
8	27.055	26.600
9	27.065	26.610
10	27.075	26.620
11	27.085	26.630
12	27.105	26.650
13	27.115	26.660
14	27.125	26.670
15	27.135	26.680

Channel	Transmit	Receive
16	27.155	26.700
17	27.165	26.710
18	27.175	26.720
19	27.185	26.730
20	27.205	26.750
21	27.215	26.760
22	27.225	26.770
23	27.255	26.800
24	27.235	26.780
25	27.245	26.790
26	27.265	26.810
27	27.275	26.820
28	27.285	26.830
29	27.295	26.840
30	27.305	26.850
31	27.315	26.860
32	27.325	26.870
33	27.335	26.880
34	27.345	26.890
35	27.355	26.900
36	27.365	26.910
37	27.375	26.920
38	27.385	26.930
39	27.395	26.940
40	27.405	26.950

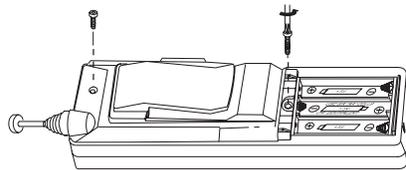
**Note:** A crystal is marked with its frequency.

Follow these steps to change or install crystals in your TRC-93.

1. Remove the battery compartment cover by pressing down on the cover's arrow, then sliding the cover down.



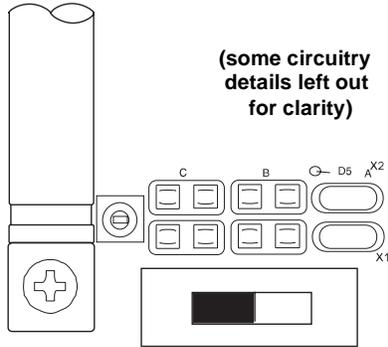
2. Remove the battery case.
3. Use a Phillips screwdriver to remove the back cover's two screws.



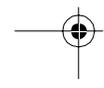
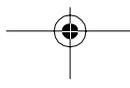
4. Firmly grasp the TRC-93's front and back cover's sides and *carefully* pull the back cover away from the front cover.
5. Insert a new matched pair of crystals (send and receive) into the sockets for Channel B or C.

The sockets for the crystals are marked next to Channel A on the circuit board with X1 (receive) and X2 (transmit). The channel's letter (A, B, or C) is marked on the circuit board above the pair of sockets used with that channel. There is also a diagram of the sockets on the inside back cover.

**Important:** Be sure you install the receive (R) and transmit (T) crystals in their correct sockets. Do not reverse the transmit and receive crystals. If you do, the TRC-93 will transmit and receive on frequencies outside the citizen's band, resulting in illegal operation.



6. When you have finished installing new crystals, carefully fit the TRC-93's front and back cover's sides together, then gently squeeze them together. Replace the back cover's two screws, replace the battery case, then replace the battery compartment cover.



## **TROUBLESHOOTING**

If your TRC-93 is not working as it should, follow these suggestions to see if you can eliminate the problem. If you cannot, take it to your local RadioShack store for assistance.

<b>Symptom</b>	<b>Suggestion</b>
Weak, bad, or no reception.	Be sure the TRC-93 is turned on.
	Be sure the volume is turned up.
	Be sure the antenna is fully extended.
	Be sure the batteries are not weak (see "Testing the Battery Power" on Page 6).
	Be sure you are not pressing <b>PUSH TO TALK</b> .
	Be sure <b>CHANNEL</b> is set to <b>A</b> if you have not installed any more crystals in the TRC-93.
Trouble with transmission	Be sure the antenna is fully extended.
	Be sure you are fully pressing <b>PUSH TO TALK</b> .
	Be sure the batteries are not weak (see "Testing the Battery Power" on Page 6).
	Be sure <b>CHANNEL</b> is set to <b>A</b> if you have not installed any more crystals in the TRC-93.

## MAINTENANCE

Your RadioShack TRC-93 300 mW 3-Channel Walkie-Talkie is an example of superior design and craftsmanship. The following suggestions will help you care for your TRC-93 so you can enjoy it for years.



Keep the TRC-93 dry. If it gets wet, wipe it dry immediately. Liquids might contain minerals that can corrode the electronic circuits.



Handle the TRC-93 gently and carefully. Dropping it can damage circuit boards and cases and can cause the TRC-93 to work improperly.



Use and store the TRC-93 only in normal temperature environments. Temperature extremes can shorten the life of electronic devices, damage batteries, and distort or melt plastic parts.



Keep the TRC-93 away from dust and dirt, which can cause premature wear of parts.



Wipe the TRC-93 with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the TRC-93.

Modifying or tampering with the TRC-93's internal components can cause a malfunction and might invalidate your TRC-93's warranty and void your FCC authorization to operate it. If your TRC-93 is not performing as it should, take it to your local RadioShack store for assistance.



# SPECIFICATIONS



## Receiver

Frequency Coverage ... 26.965 – 27.405 MHz  
(Supplied with Channel 14 (27.125 MHz)  
crystals in the Channel A position)

Sensitivity ..... 2  $\mu$ V for 10 dB (S+N)/N

Adjacent Channel Selectivity ..... 15 dB

Audio Output (10% THD) ..... 400 mW

Current Drain ..... 32 –180 mA

## Transmitter

Frequency Coverage ... 26.965 – 27.405 MHz

Power Input ..... 300 mW (Into 50 $\Omega$  Load)

Power Output at No Modulation ..... 150 mW  
(Into 50 $\Omega$  Load)

Current Drain at No Modulation ..... 100 mA

Type of Modulation ..... A3

AMC Range at 50 to 100%

Modulation ..... 35 dB

Spurious Emission ..... –67 dB

Frequency Tolerance ..... 0.005%

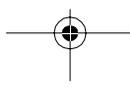
Telescoping Antenna Impedance ..... 50 $\Omega$

Antenna Length (Maximum) ..... 28<sup>3</sup>/<sub>8</sub> In.  
(721 mm)

Dimensions (HWD) ..... 8<sup>1</sup>/<sub>4</sub>  $\times$  2<sup>13</sup>/<sub>16</sub>  $\times$  1<sup>7</sup>/<sub>8</sub> In.  
(210  $\times$  71  $\times$  48 mm)

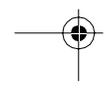
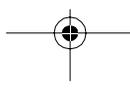
Weight ..... 8.8 oz  
(255 g)

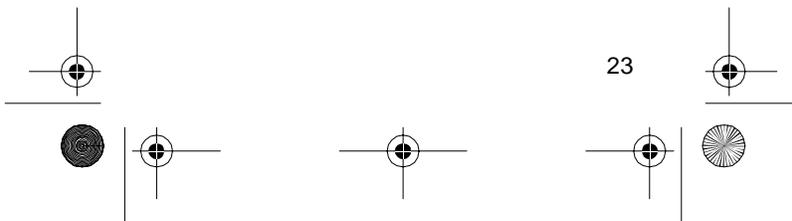
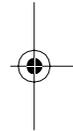
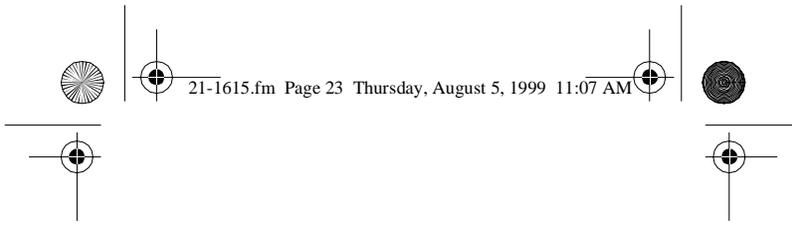
Specifications are typical; individual units  
might vary. Specifications are subject to  
change and improvement without notice.





# NOTES





### Limited Ninety-Day Warranty

This product is warranted by RadioShack against manufacturing defects in material and workmanship under normal use for ninety (90) days from the date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. EXCEPT AS PROVIDED HEREIN, RadioShack MAKES NO EXPRESS WARRANTIES AND ANY IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES CONTAINED HEREIN. EXCEPT AS PROVIDED HEREIN, RadioShack SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY USE OR PERFORMANCE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES RESULTING FROM INCONVENIENCE, LOSS OF TIME, DATA, PROPERTY, REVENUE, OR PROFIT OR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF RadioShack HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

In the event of a product defect during the warranty period, take the product and the RadioShack sales receipt as proof of purchase date to any RadioShack store. RadioShack will, at its option, unless otherwise provided by law: (a) correct the defect by product repair without charge for parts and labor; (b) replace the product with one of the same or similar design; or (c) refund the purchase price. All replaced parts and products, and products on which a refund is made, become the property of RadioShack. New or reconditioned parts and products may be used in the performance of warranty service. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This warranty does not cover: (a) damage or failure caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, lightning or other incidence of excess voltage or current; (b) any repairs other than those provided by a RadioShack Authorized Service Facility; (c) consumables such as fuses or batteries; (d) cosmetic damage; (e) transportation, shipping or insurance costs; or (f) costs of product removal, installation, set-up service adjustment or reinstallation.

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

RadioShack Customer Relations, Dept. W, 100 Throckmorton St., Suite 600, Fort Worth, TX 76102

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

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