

**REALISTIC<sup>®</sup>**


**MOBILE TRANSCEIVER**

Model TRC-9

**INSTRUCTION MANUAL**



CAT. NO. 21-139

CUSTOM MANUFACTURED FOR  
RADIO SHACK  A TANDY CORPORATION COMPANY

## SPECIFICATIONS

- RECEIVER ... Crystal Controlled superheterodyne with RF amplifier, 2 stage 455 KHz IF, Variable Squelch, ANL, AGC, and Push-Pull Audio.
- TRANSMITTER ... Crystal Controlled, 5 watt input to RF Power Amplifier.
- CHANNELS ... Selection of up to 3 channels in CB Band.  
Supplied with channel 9 crystals (Channel A position).
- MICROPHONE ... Dynamic Microphone with Push to Talk switch and coiled cable.
- ANTENNA ... SO-239 receptacle for 50 ohm antenna input.
- LAMP INDICATOR... Indicates operation and transmitting modulation.
- POWER SOURCE ... Requires 12.5 - 15V DC (13.8V) negative ground only.

## SEMICONDUCTOR COMPLEMENT

### Transistors

Q 1	2SC784 (R)	RF Amplifier
Q 2	2SC371 (O)	Mixer
Q 3	2SC372 (Y)	1st IF Amplifier
Q 4	2SC372 (Y)	2nd IF Amplifier
Q 5	2SC371 (R)	Local Oscillator
Q 6	2SC373	Mic. Amplifier
Q 7	2SC373	Squelch Amplifier
Q 8	2SC373	1st AF Amplifier
Q 9	2SC373	AF Driver
Q 10, 11	2SA699 (Q)	AF power output/modulator
Q 12	2SC773	Transmit Oscillator
Q 13	2SC775	Transmit Driver
Q 14	2SC1239	Transmit RF power output

### Diodes

D 1	1S1555	Switching
D 2	1N60	Protector
D 3	HV-80	Detector
D 4	1N60	ANL
D 5	MZ207	Zener Diode
D 6	SIB01-02	Modulation Limiter
D 7	AW01-33	Zener Diode
D 8, 9	1N34A	Detector for modulation indicator

### Thermistors

TH-1, 2	M-30	Temperature compensator
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## GENERAL DESCRIPTION

The REALISTIC TRC-9 is a 5 watt CB Transceiver designed for mobile 3 channel 2-way communications.

The TRC-9 is a solid state CB transceiver consisting of 14 transistors, 9 diodes, and 2 thermistors. This transceiver includes a superheterodyne receiving circuit with one stage of RF and 2 stages of IF. The transmitter RF section includes an oscillator, driver and power amplifier.

Added features incorporated in your TRC-9 include the following:

- Adjustable squelch

- Push-pull audio output

- Automatic gain control

- Automatic noise limiter

- A lamp that doubles as modulation and operation indicator.

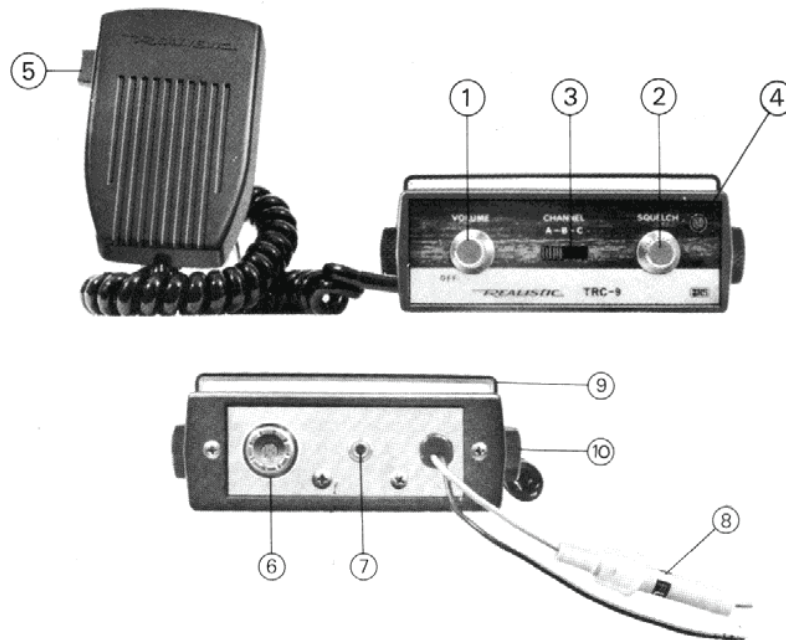
The TRC-9 is intended for use in Class D Citizens Radio Service under the conditions prescribed in Part 95 of the FCC Rules and Regulations. In order to legally operate this transceiver, you must file Application Form 505 with the Federal Communications Commission. The TRC-9 is supplied with a set of Channel 9 crystals but also may be operated on 2 additional channels by purchasing additional crystals – one for Transmit and one for Receive for any 2 channels of the other 22 available.

Your TRC-9 comes complete and ready to use on Channel 9. Channel 9 has been set aside by the Federal Communications Commission for the express purpose of providing emergency service to vehicles on our roads and highways. Since the TRC-9 is small and compact, it can be mounted in the glove compartment or even under the seat. Then, should an emergency arise while using your vehicle (at night, on vacation, a major breakdown on an interstate highway or on some lonely stretch of highway) you can turn on the TRC-9 and call for help on Channel 9. Thousands of highway service vehicles, local and state police, service stations and CBers are monitoring Channel 9 24 hours a day. Chances are, you will receive an immediate response and help will be on the way in minutes.

Of course, it is a good idea to keep your TRC-9 set to Channel 9, with power turned on and Squelch set to eliminate the background noise. Thus, you will be able to hear calls on Channel 9 and render assistance if possible.

The TRC-9 has been built in accordance with Radio Shack's exacting quality control standards. However, it should be treated with reasonable care accorded any electronic equipment. Avoid exposing this unit to severe shock, dirt or moisture conditions. Peak performance is related to the condition and type of antenna and its installation.

### FUNCTION OF CONTROLS



1. Volume control with on/off switch
2. Adjustable Squelch control
3. Channel selector switch
4. Operation/modulation indicator lamp
5. Microphone with Push-to-Talk switch
6. SO-239 Antenna jack
7. External Speaker jack
8. Power cable with in-line fuse
9. Mounting bracket
10. Bracket thumb screws

## OPERATING INSTRUCTIONS

1. Volume on-off power switch (1):  
To turn set on, rotate Volume control knob in a clockwise direction until a click is heard. Turn the volume control fully clockwise until a rushing noise is heard from the speaker.
2. Adjustable Squelch control (2):  
Turn Squelch control fully counter-clockwise. After receiving a signal, the Squelch control can be set to cut out annoying background noise between received signals. Set Volume control a bit higher than normal and adjust the Squelch control in a clockwise direction until the noise is eliminated. An incoming signal overcomes the squelch.
3. Channel Selector (3):  
Set Channel Selector switch for the desired channel of operation.  
Note: The factory installs crystals for Channel 9 in the "A" position.
4. To transmit, press "Push to Talk" button on microphone. Hold the microphone 2-3" from your mouth and speak slowly and clearly in a normal voice.

### MODULATION INDICATOR (4)

Gives visual indication of modulation when transmitting (light will flash each time you speak).

### ANTENNA CONNECTOR (6)

SO - 239 antenna receptacle accepts PL-259 male coaxial plug.

### EXTERNAL SPEAKER JACK (7)

For connecting an auxiliary speaker.

### POWER CABLE (8)

Color coded 12V DC power cable with in-line fuse.

## INSTALLATION AND MAINTENANCE

**MOUNTING** – This unit may be installed in any 12 volt DC negative ground vehicle (be sure to connect red power cable to positive (+) and black power cable to negative ground (–). It should be mounted in an upright position, or as near to upright as practical.

Plan the location of your equipment BEFORE starting installation. Mistakes that have to be corrected are time consuming and costly. A well planned installation contributes considerably to the performance and ease of maintenance of the equipment. A bracket is provided for easy mounting. Holes in the top of bracket are used for mounting to the bottom side of the dashboard. (Use either self-tapping screws or nuts and bolts to fasten the bracket to the dashboard. Drill holes the same size as those in the bracket.) Take care that you do not drill into existing wiring, trim or other parts.

**ANTENNA** – Your choice of antenna should be determined by location and conditions under which the equipment will be used.

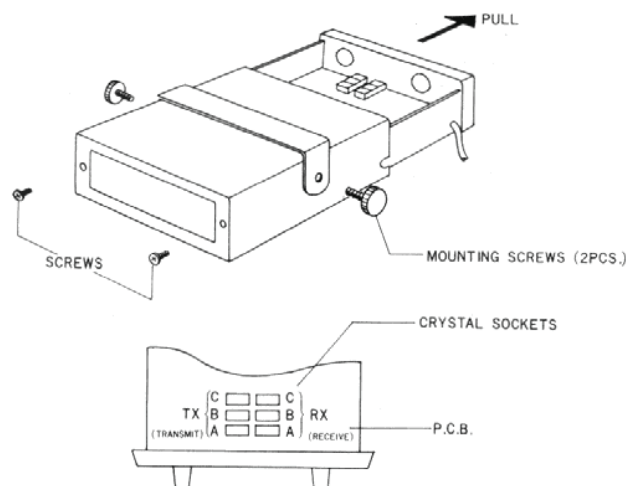
Various types of antennas are available for mobile service. A full sized 102 inch whip, mounted on the front or rear fender, will give optimum results. However, a shorter, coil-loaded antenna will, in most cases, be satisfactory. Radio Shack carries both full length and loaded whips.

**VENTILATION** – Normally you should mount the TRC-9 under the dashboard where ventilation is adequate. If you mount it elsewhere, take care to avoid areas of excessive heat which may damage components. Careful planning will contribute to efficient, trouble-free service.

## CRYSTAL INSTALLATION

You can operate on any 3 of the 23 CB channels by installing suitable crystals in each internal crystal socket. The actual channel on which the transceiver operates is determined by the frequency of the crystals in the unit. Crystal sockets are provided inside the case, on the circuit board. Remove the two screws at the back of the cabinet and pull out the chassis. Plug crystals into the sockets on the circuit board (see Figure 1). Plug Transmit (TX) crystals into TX sockets and Receive (RX) crystals into RX sockets. Do not interchange or mix RX and TX crystals. Always have a matched set in each pair of crystal sockets. Order crystals from Radio Shack, stating channel number and model number.


Radio Shack is not responsible for poor operation when crystals of another manufacturer are used.



**NOTE:** WHILE CHASSIS IS OPEN BE CAREFUL NOT TO DISTURB ANY COIL ASSEMBLIES, AS THEY MAY AFFECT CRITICAL ALIGNMENT WITHIN THE SET.

**MAINTENANCE** — Except for the adjustments described herein, your transceiver has been completely aligned and adjusted at the factory. Further adjustments are not necessary.

Your transceiver has been designed to give you efficient service. For optimum performance of your equipment, install and handle with care. The finest equipment will not perform efficiently if installed and operated improperly.

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