Your REALISTIC® TRC-440 is a compact 2-way 40-channel radio designed for Class D CB Base Station. Though small in size, it is big in performance.
It is a quality piece of electronic equipment, skillfully constructed from the finest components. The circuitry is all solid-state, mounted on rugged printed circuit boards. It is designed for many years of reliable, trouble-free performance.
Your TRC-440 has a built-in 40 channel PLL synthesizer circuit. The Phase Lock Loop is a new technique for generating all the required frequencies with fewer crystals. The result is much tighter frequency accuracy and superior reliability.

Features
- Full 40 channels using a Phase Lock Loop system
- Three ceramic filters for superior selectivity and freedom from adjacent channel interference
- Lighted channel indicator
- SQUELCH circuit is a hysteresis type which automatically compensates for signal fading (eliminates signal “chopping” at precisely set SQUELCH levels).
- Dynamic-type communications microphone
- Built-in Automatic Noise Limiting circuit
- RF output power and signal strength meter
- External speaker jack and Headphone Jack
- Coax-type antenna connector
- Utilizes 2 ICs, 28 transistors, 2 FETs and 17 diodes

For your own protection, we urge you to record the Serial Number of this unit in the space provided. You'll find the Serial Number on the rear panel of the unit.

Serial Number

F.C.C. LICENSE (U.S.A.)

Before transmitting with your Transceiver, you must have an FCC Class D Citizens Radio Service License. If you don't have a license yet, you can fill out the Temporary Permit Form 555-B for a temporary license. Also, fill out and mail in FCC Form 505 CB License Application to:

Federal Communications Commission
P.O. BOX 1010
Gettysburg, Penn. 17326

You must also read and know Part 95 of the FCC Rules and Regulations; they apply to the operation of a Class D Citizens Band unit. We've provided a copy of this regulation (along with the forms noted above). In addition, you must fill out Form 452-C and attach it to your Transceiver. This too has been provided.
NOTE: Units manufactured for sale in the U.S.A. can not legally be used in Canada. Canadian models have been D.O.C. approved and carry a D.O.C. approval label with its approval number.

**D.O.C. LICENSE (CANADA)**

Before transmitting with your transceiver, you must obtain a Department of Communications (D.O.C.) General Radio Service License. We’ve provided such an application form with your unit — complete the form and mail with the appropriate fee to the Radio Regulations Office nearest you.

D.O.C. Approved Number: __________________________

NOTE: Units manufactured for sale and use in Canada are not identical to units type-accepted by the FCC. Canadian models have been approved by D.O.C. and are to be used only in Canada.

**SPECIFICATIONS**

**RECEIVER**
Frequency Coverage: All 40 CB Channels (Class D)
26.965 to 27.405 MHz
Sensitivity: 0.5 \( \mu \)V or better for 10 dB S/N/N
Adjacent Channel Rejection: 80 dB (for 10 kHz), greater than 100 dB for 20 kHz
Intermediate Frequency: 1st IF = 10.695 MHz
2nd IF = 455 kHz
Audio Output: 5 watts (max)
Frequency Response: 400 – 2000 Hz
Cross Modulation: 55 dB (or better)
Squelch: Adjustable from 0.8 \( \mu \)V to 400 \( \mu \)V

**TRANSMITTER**
Frequency Coverage: All 40 CB Channels (Class D)
26.965 to 27.405 MHz
Power Output: 4 watts (maximum)
Emission: 8A3
Modulation Capabilities: 90 – 100%
Spurious Radiation: Better than –65 dB
Frequency Tolerance: Better than 0.002%
Antenna Impedance: 50 ohms

**POWER REQUIREMENTS:**
120 volts, 60 Hz AC

**DIMENSIONS:**
4-3/4” x 11-13/16” x 9-3/4” (H.W.D.)
(12.1 x 30 x 24.7 cm) (H.W.D.)

**WEIGHT:**
7 lbs 2 oz (3.2 kg)
CONTROLS AND THEIR FUNCTIONS

Front Panel

MICROPHONE
High-quality dynamic microphone designed specifically for communications use. To transmit, press the button on the microphone. To Receive, release the button.

RF/S Meter — indicates relative strength of signal for either Receive or Transmit.

Channel Selector
Use to select any one of the 40 channels available.

SQUELCH
Permits you to cut out annoying background noise when no station is being received. But, when properly set, it will allow signals to come through.

Headphone Jack
Plug Headphones (optional) into the Headphone Jack for private listening. Inserting the plug into this jack automatically disconnects the built-in speaker.

VOLUME On/Off Switch
Turn clockwise to apply power to the Transceiver and then adjust for desired sound level.
Rear Panel

**EXTernal SPeaker Jack**
You can connect an external Speaker (8 ohm type) to this jack for remote listening. Use a miniature-type phone plug such as Radio Shack Catalog Number 274-288.

**ANTenna Connector**
Connect your CB Antenna to this. It accepts a PL-259 male-type coaxial connector.

**AC Line Cord**
Connect these cables to a source of 120 volts 60 Hz AC.

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**SOME HINTS TO HELP YOU ENJOY YOUR C.B.**

- Wait for a pause in transmission before asking for a Break.
- If you don’t receive an answer after a second call to another station, sign off and allow others to use the channel — wait a while, ask for a break and try again.
- Do not Dead Key (hold transmitter button in).
- Assist callers with directions, road conditions or other requested information.
- Keep harassment off the air. This is unnecessary and causes problems for everyone including you.
- Be courteous — treat others the way you wish to be treated.
USING YOUR BASE STATION

Do not Transmit without a suitable antenna or load connected to the ANTenna connector. For Installation, refer to that section.

TO RECEIVE
1. Set SQUELCH control maximum counterclockwise.
2. Turn power “on” by rotating VOLUME clockwise.
3. Set Channel Selector to the desired channel.
4. Adjust VOLUME for a suitable listening level.
5. Adjust SQUELCH to cut out annoying background noise when no signal is being received. To do this, set Channel Selector to a channel where no signals are present (or wait till signals cease on your channel). Then, rotate SQUELCH in a clockwise direction to the point where the background noise just stops. Now, when a signal is present, you will hear it, but will not be disturbed by noise on the channel in between signals.

When properly set, SQUELCH will keep the receiver “dead” until a signal comes in on that channel. Do not set SQUELCH too high, or weak signals will not be able to “open” the Squelch circuit. To receive weak signals, it is best to leave SQUELCH set to the minimum position (maximum counterclockwise).

The SQUELCH circuit in your transceiver is a special advanced development. It utilizes two extra transistors to accomplish a hysteresis action. The result is that when you set SQUELCH for a precise signal level, if that signal level fades (increase or decrease in strength), the SQUELCH circuit will follow this change. With conventional SQUELCH circuits often a signal which changes strength gets “chopped” by SQUELCH and you lose a portion of the message: with hysteresis SQUELCH you get it all.

TO TRANSMIT
1. Select the desired channel of operation.
2. Press the push-to-talk button on the Microphone and hold it at an angle about 2–3” (5 cm – 7.5 cm) from your mouth and speak in a normal voice.
3. To Receive, release the push-to-talk button.

Be sure the Mic plug is firmly connected to the jack: if the connector starts to loosen up, you may end up with squeal, feedback and many other unusual problems.
NOTE: Shouting into the Mic will not increase your power or signal. An internal circuit automatically sets the mic signal for maximum modulation, so there is no need for loud speech — as a matter of fact, shouting may result in distortion (speech distortion going into the mic).

TO GET THE MOST OUT OF YOUR TRANSCEIVER .....  
We’ve provided a few extra features that will enhance your operation. 
The RF/S Meter gives you a relative indication of RF output power when you are transmitting (the upper scale — any reading in the red area means you have full legal output). When receiving, the meter shows the relative strength of the incoming signal (on the lower scale — in “S” units). 
A Remote or External Speaker connected to the EXT. SP. jack on the back will give you added versatility. When you plug a miniature jack into this connector, the internal speaker will be disconnected. Radio Shack sells a number of fine speakers for Remote/Extension CB use.
Connect Headphone to the Headphone Jack and enjoy the advantage of avoiding annoying background noise when trying to listen to weak or distant stations. When you plug a Headphone into this jack, it automatically disconnects the internal Speaker.

ANTENNA SYSTEM
The antenna system includes the transmission line, and it is very important that you use the correct type of transmission line. The transmission line should be of the coaxial type and should have an impedance equal to the antenna impedance.
Since your transceiver is designed to operate most efficiently into a 50 ohm load, it is best to use a type of coaxial cable with an impedance of 50 ohms. We suggest type RG-58/U for short lengths and RG-8/U for long lengths.
Generally speaking, you should keep the length of the transmission line to a minimum. Remember that transmission line losses increase with frequency. Use foam-insulation coax for best results.
The above discussion is as important for reception as it is for transmission. If a mismatch exists between the antenna and the receiver, the excellent sensitivity and signal-to-noise ratio of the receiver circuitry will be defeated.
BASE STATION ANTENNAS

There are three basic types of base antennas (shown below).

GROUND PLANE  COAXIAL/COLINEAR ANTENNA  BEAM

BASE STATION ANTENNAS

A. The vertical ground plane antenna is the most popular fixed station antenna. It is omni-directional and provides good performance for contacting other fixed and mobile stations. For medium-long range communications. We suggest Radio Shack's 21-901.

B. The coaxial antenna is a high efficiency type radiator with omni-directional characteristics. It performs as well in most applications as the ground plane type. For medium-long range communications. Try either 21-902 or 21-1133.

C. The directional beam antenna provides maximum gain and maximum directivity. The directivity can be a disadvantage unless a rotor is used. Since a beam antenna is directional, it greatly reduces noise and interference from all other directions. For long range communications.

The antenna system should be adequately grounded. Always use a lightning arrester for your antenna system.

For maximum efficiency, we strongly recommend using an SWR meter to aid in the proper matching of your antenna and Transceiver.

Your Radio Shack store carries a complete line of base station CB antennas and accessories.

For more information, we recommend that you obtain a copy of REALISTIC GUIDE TO CB RADIO, at your Radio Shack store.
NOISE
You may experience some interference from automobile ignition systems, high voltage power lines, fluorescent lights, or electrical motors. There are some things you can do about it and here are few pointers to get you started:

- Provide a good ground for your transceiver and/or antenna.
- Assure good shielding connection in the antenna coax cable -- check connectors and cable, repair if necessary.
- Check routing of antenna cable -- move away from noise generating sources.
- Try relocating your transceiver or antenna (away from sources of noise).
Note: Your antenna should not be mounted near a power line or power distribution transformer.
- In some cases, an AC line interference filter added to the AC input to your transceiver can help. If a particular appliance or motor seems to be the major cause of noise, try to have that noise problem reduced or eliminated at the appliance or motor. You'll find a number of useful accessories (including AC line interference filters, cables, connectors . . . ) available at your Radio Shack store.

SERVICE AND MAINTENANCE
Your transceiver 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 it to severe shock, dirt or moisture.

If you run into problems with the unit, we recommend you check the following:

1. If trouble is experienced with receiving.
   - Check the VOLUME On/Off switch setting.
   - Be sure SQUELCH is adjusted properly. Is it over-squelched?
   - Check if the unit is switched to an operating channel.

2. If trouble is experienced with transmitting.
   - Check if the transmission line is securely connected to the ANTenna Connector.
   - Check if the antenna is fully extended for proper operation.
   - Are all transmission line connections secure and free of corrosion?
   - Make sure you are fully depressing the Push-To-Talk Button on the Handset.
   - Be sure Mic connector is firmly pressed into its jack.

3. If the transceiver is completely inoperative.
   - Check that the AC Line Cord is connected.

If these checks don’t solve the trouble, do NOT attempt repairs or adjustments yourself. The unit should be serviced only by a qualified radio technician. Whenever possible, return the unit to the store from which it was purchased.
WARNING

Do not open up the Transceiver to make any internal adjustments. Any internal adjustments can be made only by (or under the direct supervision of) a person holding an FCC 1st or 2nd Class Radio Operator’s License.

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.

TO BE SAFE AND SURE:
1. You should never open up the case of your Transceiver.
2. Never change or replace anything in your Transceiver.

TYPICAL APPLICATIONS FOR CB

Personal and family:
Keep in touch with home while driving to work, to the store or social activity. Let your family know you’re tied up in traffic or that you’ll stop by the market on the way home.

If you’re a two-car (or more) family, CB is great for communication between members of your family while they are in their cars.

Contact friends and neighbors – find out “what’s happening” or plan a get-together. You can even meet new friends this way.

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, Hunting, Fishing or other sports are made more fun with CB. Locate a buddy or find out “What’s cooking back at camp”.

Business Uses:
Call your office or coordinate field employee activities.

Sales and Service people save valuable time and cut down on missing contacts and appointments.

Doctors and Nurses can call their office or hospital to check on important calls or a particular patient.

With Security Policemen 2-way radio is more than a convenience, it’s a must for both safety and efficiency.

Truckdrivers and Deliverymen learn road and traffic conditions and obtain assistance in locating destinations. CB is also a lot of company on these “long hauls”.

In Construction Crews, CB quickly pays for itself when you’re calling for additional materials or coordinating the activities of various work crews.
10-CODES

Citizen band radio operators have largely adopted the 10-codes for standard questions and answers. Its use permits faster communication and better intelligibility in noisy areas. The following table lists some of the more common codes and their meanings.

<table>
<thead>
<tr>
<th>Code</th>
<th>Meaning</th>
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<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-1</td>
<td>Receiving poorly</td>
<td>10-10</td>
<td>Standing by</td>
</tr>
<tr>
<td>10-2</td>
<td>Receiving well</td>
<td>10-13</td>
<td>Advise road/weather conditions.</td>
</tr>
<tr>
<td>10-3</td>
<td>Stop Transmitting</td>
<td>10-20</td>
<td>What is your location?</td>
</tr>
<tr>
<td>10-4</td>
<td>OK</td>
<td>10-33</td>
<td>Emergency traffic</td>
</tr>
<tr>
<td>10-7</td>
<td>Out of Service</td>
<td>10-36</td>
<td>Correct time</td>
</tr>
<tr>
<td>10-8</td>
<td>In Service</td>
<td>10-41</td>
<td>Switch to Channel.</td>
</tr>
<tr>
<td>10-9</td>
<td>Repeat</td>
<td>10-62</td>
<td>Cannot copy you.</td>
</tr>
</tbody>
</table>

RADIO SHACK LIMITED WARRANTY

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

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

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