

INTERTEK TESTING SERVICES

**EXHIBIT 11
INSTRUCTION MANUAL**

INTERTEK TESTING SERVICES

11.0 Instruction Manual

Attached is a preliminary copy of the Instruction Manual.

Please note that the required FCC Information to the User can be found at the front of this manual.

This manual will be provided to the end-user with each unit sold/leased in the United States.

Instruction Manual

Cat No. 21-1704

Please read before using this equipment
40-Channel CB Mobile Transceiver

Features

Your RadioShack TRC-XXX 40-Channel CB Mobile Transceiver is a breakthrough in CB design technology.

Your CB also has these advanced features:

Phase-Locked Loop (PLL) Frequency Synthesizer - provides highly accurate and stable tuning.

Two Built-in Ceramic Filters - ensure superior channel selectivity and freedom from adjacent channel interference.

Automatic Modulation Control - prevents the transmitter signal from over-modulating and distorting.

Automatic Noise Limiter - reduces impulse-type noise while receiving.

Emergency Channel Switch - lets you quickly switch to Channel 9 and Channel 19 so you can monitor or report emergency situations.

Built-in PA (Public Address) Amplifier - lets you use your CB as a public address system when you add an optional PA speaker.

RF Gain Control - lets you adjust the receiver gain to match the strength of received signal.

External Speaker Jack - lets you connect your CB to an external speaker.

Light Panel - lets you use your CB in the evening conveniently.

Universal Mounting Bracket - lets you mount your CB securely in your vehicle or on a table or shelf in your home.

Note: To use this CB, you must connect a mobile or base station antenna. Your local RadioShack store has a wide variety of antennas. For more information, see "Connecting an antenna".

We recommend you record your CB's serial number here. The number is on the CB's back panel.

FCC INFORMATION

The Federal Communications Commission (FCC) does not require you to have a license to operate this CB radio. However, you must know part 95 of FCC Rules. It explains the proper operation of a Class D citizen's band transceiver. We enclosed a copy of Part 95 with your CB radio.

Warning: Do not open the CB radio to make any internal adjustments. A CB radio is set up to transmit a regulated signal on an assigned frequency. It is against the law to alter or adjust the setting inside the unit to exceed these limitations.

Any adjustments to a CB radio must be made by a qualified technician using the proper test equipment.

To be safe and sure:

- . Never open your CB radio's case.
- . Never change or replace anything in your CB radio.

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

- . Moving your CB radio away from the receiver
- . Contacting your local RadioShack store for help

If you can not eliminate the interference, the FCC requires that you stop using your CB radio.

This device complies with Part 95 of FCC Rules. Operation is subject to the following two conditions: 1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Installation

Attaching the Microphone Holder

You can connect the microphone holder to either side of the transceiver or to another location in your Vehicle. To attach the holder to either side of the transceiver, secure the holder to the side using the supplied screws and lock washers. To attach the holder to another location in the vehicle, such as the dashboard, follow these steps:

1. Using the holder as a template, mark the positions for the mounting screw holes at the

desired location.

2. At each mark position, drill a hole slightly smaller than the supplied mounting screws.

Caution: Be careful not to drill into anything behind the mounting surface.

3. Attach the holder at the mounting location using the supplied 3 mm machine screws, spring washers, plain washers and nuts.

Note: If you can not reach behind the mounting surface to attach the nuts on the machine screws, use the supplied 3mm plain washers and self-tapping screws.

Mounting the transceiver

The most common mounting location for this CB is under a vehicle's dashboard. However, if you use the TRC-XXX as a base station, you can place it on a desk, shelf, or table. (see "using the Transceiver as a Base Station")

If you are mounting the CB in a vehicle , choose a location where:

- . You can easily reach the CB
- . Wires and cables are clear of the vehicle's pedals or other moving parts.
- . The CB is not directly in front of heating vents.
- . All wires and cables can reach their connection point.

Caution: If you use the CB in a vehicle, mount it securely to avoid damage to the CB or vehicle or injury to anyone in the vehicle during sudden starts or stops.

Follow these steps to mount the CB using the supplied hardware.

1. Using the mounting bracket as a template, mark the positions for the screw holes on the mounting surface.

2. In each marked location , drill a hole slightly smaller than the supplied mounting screws.

Caution: Be careful not to drill into objects behind the mounting surface.

3. Mount the bracket to the mounting surface with the supplied 6mm bolt, spring washers, plain washers, and nuts.

Note: If you cannot reach behind the mounting surface to attach the nuts on the bolts, use the supplied 6mm self-tapping screws and plain washers to secure the bracket.

4. Attach the CB to the mounting bracket using the supplied rubber washers and mounting knobs.

Connecting an antenna

There are many different types of CB antennas for mobile CBs. Each type has its own benefits, so choose the one that best meets your needs. Your local RadioShack store sells a wide variety of antennas.

Note: If you are using this CB as a base station, see " Using the Transceiver as a Base Station".

When you choose an antenna, keep in mind that, for the best performance, you should mount the antenna:

- . As high as possible on the vehicle
- . As far as possible from sources of electrical noise
- . Vertically

Once you choose an antenna , follow its mounting instructions. Then route the cable to the transceiver and connect the cable to the ANT jack on the back of the transceiver.

Cautions:

- . Avoid routing the cable next to sharp edges or moving parts, which might damage the cable.
- . Do not run the cable next to power cables to other radio antenna cables.
- . Do not run the cable through the engine compartment or other areas that produce extreme heat.

To achieve your radio's maximum range, adjust the antenna's Standing Wave Ratio (SWR) using an SWR meter (not supplied).

Follow the instructions supplied with the SWR meter and antenna to adjust your antenna's SWR to the lowest possible value. SWR values of 2.0 : 1 are generally acceptable, with readings of 1.5:1 or lower being more desirable.

Connecting the microphone

1. Press the tab on the side of the supplied microphone's plug and insert the plug into the

microphone jack on the side of the transceiver. Be sure the tab is aligned with the jack's notch.

2. Slide the microphone onto the microphone holder.

Caution: To disconnect the microphone from the transceiver, press the tab on the side of the plug. Then pull out the plug. Never pull on the microphone cable.

Connecting Optional Speaker

You can connect your transceiver to an external CB speaker and/or a PA (public address) speaker.

Note: When you connect an external speaker, the CB's internal speaker disconnects.

Using an External CB Speaker

The external speaker you use with the transceiver should have an impedance of 8 ohms and be able to handle 3 to 10watts of power. The speaker cable must have a 1/8-inch plug.

To connect the external speaker to the transceiver, insert the speaker cable's plug into the **EXT SPKR** jack on the back of the CB.

Connecting a PA Speaker

The PA speaker should have an impedance of 8 ohms and be able to handle at least 5 watts of power. The speaker cable must have a 1/8-inch plug.

If your PA speaker does not already have a 1/8-inch plug, we recommend connecting the PA speaker with a phono plug-to-wire cable, available at your local Radio Shack store.

To connect the PA speaker to the transceiver, insert the speaker cable's plug into the **PA SPKR** jack on the back of the CB.

Note: The speaker should be at least 6 feet from the CB.

Using Vehicle Battery Power

Follow these steps to connect the transceiver to vehicle battery power.

1. Connect the red wire (with the inline fuse holder) on the back of the transceiver to a point in your vehicle's fuse block that has power only when the ignition is in the ACC (accessory) or ON position.
2. Connect the black wire to a metal part of the vehicle's frame (chassis ground).

Caution: Do not connect the black wire to a non-metallic part, or to any part insulated from the vehicle's chassis by a non-metallic part.

Using the Transceiver as a Base Station

Although this transceiver is designed mainly for mobile use, you can also use it as a base station with an AC power source.

For base station installation, you need these items:

- . 12-volt DC power supply that can supply at least 2 amps.

Caution: Most 12-volt DC power supplies plug into a standard AC outlet to produce DC power. Before connecting your CB to a 12-V DC power supply, read and follow the instructions included with the power supply.

- . Base station antenna
- . Coaxial antenna cable and connectors

Note: Your local Radio Shack store carries coaxial antenna cable and connectors.

Follow these steps to install the CB as a base station.

1. Mount the base station antenna as described in its owner's manual.

Warning: Use extreme caution when you install or remove a base station CB antenna. If the antenna starts to fall, let it go. It could contact overhead power lines. If the antenna touches a 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.

2. Connect the antenna to the ANT jack on the back of the CB.
3. Connect the transceiver's black power wire to the negative (-) terminal on the DC power supply.
4. Connect the transceiver's red wire to the position(+) terminal on the DC power supply.
5. Connect the DC power supply to a standard AC outlet.

Operation

Caution: To prevent damage to the CB, be sure you connect an antenna and the microphone before you use the CB. Before you use your CB, you should know how to use it effectively and courteously. "Operational Hints" contains information that will help you get more enjoyment from your CB.

Receiving Transmissions and Adjusting Squelch

1. Set **CB/MON/PA** to **CB**.
2. Turn **SQUELCH** fully counterclockwise.
3. Turn **RF GAIN** fully clockwise.
4. Turn on the transceiver by turning **VOLUME** clockwise until it clicks. The channel display lights and the channel appears. The **RX** indicator lights.
5. Set **OUT/CH9/CH19** to **OUT** to select a channel other than Channel 9 (emergency channel).
6. Rotate the channel selector or press the up/down key on the microphone until the display shows the desired channel.
7. Adjust **VOLUME** to a comfortable listening level.
8. To cut out background noise between transmissions, wait until there is no signal, then slowly turn **SQUELCH** clockwise until the background noise stops.

Note: To receive very weak signals, turn **SQUELCH** counterclockwise, you hear noise between transmissions, but you also hear weak transmissions.

9. To turn off the CB, turn **VOLUME** counterclockwise until you hear it click. The display and indicators turn off.

Transmitting

Note: We recommend you try receiving before you transmit.

1. Follow 1-7 steps in "Receiving Transmissions and Adjusting Squelch"
2. To transmit, press the talk button on the microphone. Hold the microphone 2-3 inches from your mouth and speak in a normal tone of voice, then release the talk button. The **TX** indicator lights.
3. To turn off the CB, turn **VOLUME** counterclockwise until you hear it click. The display and indicators turn off.

Selecting the Emergency Channel

Important: Channel 9 and Channel 19 is reserved for motorist assistance and for reporting emergency information about accidents, hazardous road conditions, and so on. Always give emergency messages priority on channel 9 or Channel 19.

To select the emergency channel 9 or channel 19, set **OUT/CH9/CH19** to **CH9** or **CH19**, **9** or **19** will flashes on the display, and the transceiver stays on channel 9 or 19.

Note: you can also select Channel 9 or 19 using the rotary selector or UP/DOWN on microphone when **OUT/CH9/CH19** is set to **OUT**. **9** or **19** will appears on the display, but it does not flash.

To select another channel, set the **OUT/CH9/CH19** to **OUT**. The previously selected channel number appears on the display.

Using the PA Amplifier

Your CB has a built-in PA (public address) amplifier. With an optional PA speaker, you can turn your radio into a mobile public address system.

Follow these steps to use the PA amplifier after you connect an external PA speaker (see "Connecting a PA Speaker").

1. Turn on the transceiver. Then set **CB/MON/PA** to **PA**. PA appears on the display.
2. To transmit, press the talk button on the microphone. Hold the microphone 2-3 inches from your mouth and speak in a normal tone of voice.
3. turn **VOLUME** for the desired volume level. If you here a high pitched squeal, adjust **VOLUME** until the squeal stops.

Note: The speaker should be at least 6 feet from the CB.

4. To end PA operation, turn the transceiver off. Or, set **CB/MON/PA** to **CB** for CB communication.

Using the MON Feature

In the MON mode, with an optional PA speaker, you can use your CB as a receiver or a mobile public address system.

Follow these steps to use the MON feature after you connect an external PA speaker (see "Connecting a PA Speaker")

1. Turn on the transceiver. Then set the **CB/MON/PA** to **MON**. The channel display lights and the channel appears. Follow steps 2-8 in "Receiving Transmission and adjusting Squelch" to receive transmission. The transmission will sound from the external PA speaker.
2. Using as a mobile public address, follow steps 2-3 in "Using the PA Amplifier"

Note: In MON mode, your CB can not transmit and the sound is only from the external PA speaker.

Operational Hints

Like most activities, CB radio has its customs and courtesies. The following tips will help you get the most enjoyment from your CB.

Common Uses for a CB

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, CB radios 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 CB radio. Locate a buddy or find out "what's cooking" back at camp.

Business Uses

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

Maximum Range

The maximum range and quality of CB radio transmissions vary depending on the following conditions:

- . The type and quality of antenna used
- . The height of the antenna' mounting location -- the higher the antenna, the better the signal's range
- . The surrounding terrain -- mountains and tall buildings limit the range
- . Weather conditions
- . The number of nearby radios operating on the same channel
- . Standing wave ratio (SWR) between the antenna and the CB

Note: Your CB radio's transmission range is generally line-of-sight.

Transmission Courtesy

Please follow these guidelines of radio courtesy when using your CB.

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

Using Common 10-Codes

Citizen's band operators and CB radio users have largely adopted the 10-codes for standard questions and answers. These codes permit faster communication and better intelligibility in noisy areas.

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

Code	Meaning	Code	Meaning
10-1	Your signal is bad.	10-17	En route.
10-2	Your signal is good.	10-18	Urgent.
10-3	Stop transmitting.	10-19	Contact _____.
10-4	Message received and understood.	10-20	What is your location?
10-5	Relay information to _____.	10-21	Call _____ by telephone.
10-6	I am busy or are you busy?	10-22	Cancel last message.
10-7	Out of service.	10-23	Arrived at the scene.
10-8	In service.	10-24	Assignment complete.
10-9	Repeat last message.	10-25	Meet _____.
10-10	Negative (NO).	10-26	Estimated time of arrival is _____.
10-11	_____ in service.	10-30	Use caution.
10-12	Stand by.	10-31	Pick up.
10-13	Report road/weather conditions.	10-33	Emergency traffic. Clear the channel.
10-14	Information.	10-34	What time is it?
10-15	Message delivered.	10-41	Switch to channel xx.
10-16	Reply to message.	10-62	Cannot understand.

Troubleshooting

If at any time you suspect that your CB is not working as it should, refer to the following chart to see if you can eliminate the problem. If these solutions do not solve the problem, do not attempt repairs or adjustment yourself. The CB should be serviced only by a qualified radio technician. If you still have problems, take your CB to a local RadioShack store for assistance.

Symptom	Solution
	Turn transceiver power on.
	Microphone connected? Secure connections.
	Antenna connected? Secure connections.
CB has trouble receiving.	Too much squelch? Adjust as needed.
	Radio not on operating channel? Switch to active channel.
	Set CB/MON/PA to CB or MON .
	Adjust VOLUME .
	Adjust RF GAIN .
	Turn transceiver power on.
	Antenna connected? Secure connections.
CB has trouble transmitting.	All connections free of corrosion? Clean and tighten.
	Microphone connector loose? Firmly press in jack.
	Set CB/MON/PA to CB .
	Radio not on operating channel? Switch to an active channel.
	Talk button fully pressed in? Press completed.
	Power connected? Secure connections.
Radio does not work at all	Microphone connected? Secure connections.
	Fuse needs replacing? Replace with identical fuse. See "Replacing the Fuse"
	Set CB/MON/PA to CB .
Cannot select a channel	Set OUT/CH9/CH19 to OUT .
	Talk button fully released? Release completely.
	Connect a PA speaker. Secure connections.
PA does not work	Set CB/MON/PA to MON or PA .
	Adjust VOLUME .
Sound is distorted	Adjust RF GAIN .
	Adjust VOLUME .

Reducing Noise

Because your CB is exceptionally quiet, any noise you hear is probably from an external source in your vehicle such as the alternator, another radio or spark plugs.

The transceiver uses an ANL (Automatic Noise Limiter) circuit to reduce noise. However, if possible, try to eliminate the noise by finding its source.

You can determine the noise's source by turning off the engine and operating the CB with your vehicle's ignition set to ACC. If the noise is reduced, the problem is in your vehicle's ignition or electrical system.

Here are a few hints to help you reduce or eliminate such noise:

- Make all CB power and antenna wires as short as possible.

- . Route the power wires away from the antenna wires.
- . Be sure that the chassis ground connection is secure.
- . Replace old ignition wires with new, high-voltage, noise suppression wires.
- . Install noise suppressors on your spark plugs, or install new spark plugs that have built-in noise suppressors
- . If problems persist, check your alternator/generator and regulator gauges. You can reduce the noise from these sources by using bypass capacitors at various output voltage points.

Your local RadioShack store has a wide selection of noise suppression accessories.

Care and Maintenance

Your RadioShack TRC-XXX 40-Channel CB Mobile Transceiver is an example of superior design and craftsmanship. The following suggestions will help you care for your CB so you can enjoy it for years.

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

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

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

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

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

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

Replacing the Fuse

The TRC-XXX's 2-amp in-line fuse helps protect your CB from power surges and short circuits. When replacement is required, use a 2-amp, slow-blow glass fuse.

Follow these steps to replace the fuse.

1. Make sure the power source and CB are both off.
2. Hold the fuse holder by both ends, push the ends together, twist one end counterclockwise, then pull them apart.
3. Remove the old fuse and inspect its condition. If it is blown and requires replacement, insert a new one of the same type and rating. If it is not blown, reinsert it.
4. Push the fuse holder ends together and twist one end clockwise.

Specifications

Receiver

Frequency Coverage	All 40 CB Channels (Class D) 26.965-27.405 MHz
Sensitivity for 10dB S/N	0.6 uV
Squelch Sensitivity at Tight	1000 uV
Overall Audio Fidelity for 450-2500 Hz.....	-6 dB
Maximum Audio Output Power	6 Watts
Cross modulation	50 dB
RF Gain Control Range (at 10 dB S/N Input)	45 dB

Transmitter

Frequency coverage	All 40 CB Channels (Class D) 26.965-27.405 MHz
Frequency tolerance	300 Hz
Carrier Power at No Modulation	3.7 Watts
Spurious Emission	-67 dB
Current Drain at NO Modulation	1100mA
Modulation Frequency Response for 450-2500Hz	-6 dB

Microphone Sensitivity for 50% Modulation1 mV

Public Address Amplifier

Maximum Output Power.....6 Watts

Microphone Sensitivity for 4 Watts Output Power 3 mV

Frequency Response for 450-2500Hz-6 dB

Current Drain at Maximum Output Power1000 mA

General

Power Requirements12 Volts DC, Negative Ground/120 V DC, 60Hz

Dimension (HWD)XXX x XXX x XXX inches (XXX x XXX x XXX mm)

WeightX lb X oz (XX kg)

Included AccessoriesMicrophone Hanger, Mounting Bracket

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