



Cat. No. 21-1586
OWNER'S MANUAL

Please read before using this equipment.

TRC-442

Full-Power 40-Channel Mobile CB Radio



RadioShack®



FEATURES

Your RadioShack TRC-442 Full-Power 40-Channel Mobile CB Radio is a high performing, water resistant CB which can be used almost anywhere. The CB is perfect for recreational, business, or emergency use. You can call for help, or call other people with CBs at home, in their vehicles, or at camp sites. You can also connect it to optional equipment, such as an optional power supply or a base station antenna.

Your CB also has these advanced features:

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

Two Ceramic Filters — provide superior channel selectivity and prevent adjacent-channel interference.

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

Automatic Noise Limiter — reduces impulse-type noises while receiving.

Adjustable Squelch — reduces noise between transmissions.

Rotary Tuning Control — for convenient channel selection.

Large, Illuminated, Digital Display — clearly shows the channel number.

Base Station Capability — lets you use the transceiver as a base station powered from a standard AC outlet (with an optional power supply and base station antenna).

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

Notes:

- To use this CB, you need a mobile or base station antenna.
- The CB radio is water resistant, not waterproof. Do not submerge it or put it where water will continually run over it.

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

Serial Number _____

© 1997, 1998 Tandy Corporation.
All Rights Reserved.

RadioShack is a registered trademark used by Tandy Corporation.

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 have provided a copy of these regulations with your CB radio.

Warning: Do not open your CB to make any internal adjustments. Any internal adjustments can be made only by an authorized service technician.

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 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. 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 cannot eliminate the interference, the FCC requires that you stop using your CB radio.

This device complies with Part 15 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.

CONTENTS

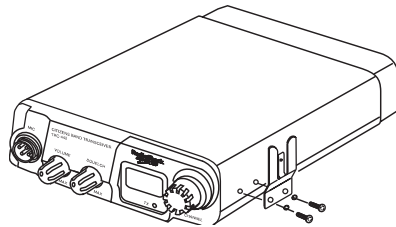
Installation	5
Attaching the Microphone Holder	5
Mounting the TRC-442	5
Connecting the Microphone	7
Installing an Antenna	7
Selecting an Antenna	7
Connecting an Antenna	7
Using Vehicle Battery Power	8
Using the CB as a Base Station	9
Operation	10
Turning On the CB and Receiving Transmissions	10
Transmitting	11
CB Operation Tips	12
Common Uses for a CB Radio	12
Business Uses	12
Personal Uses	12
CB Courtesy	12
Using Common 10-Codes	13
Maximum Range	14
Troubleshooting	15
Reducing Noise	16
Care and Maintenance	17
Replacing the Fuse	18
Specifications	19

INSTALLATION

ATTACHING THE MICROPHONE HOLDER

You can connect the microphone holder to the right side of the transceiver or to another location in your vehicle.

To attach the holder to the transceiver, secure it with the supplied mounting screws and lockwashers.

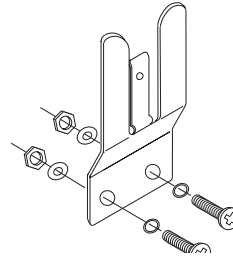


To attach the holder to another location in the vehicle, such as the dashboard, follow these steps.

1. Using the holder as a template, mark the positions for the mounting screw holes at the desired location.
2. At each marked 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 mounting screws, lockwashers, washers, and nuts.



MOUNTING THE TRC-442

The most common mounting location for this CB is under a vehicle's dashboard. However, if you use the TRC-442 as a base station, you can place it on a desk, shelf, or table. See "Using the CB as a Base Station" on Page 9.

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

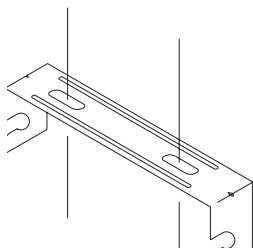
- You can easily reach the CB.
- Wires and cables are clear of the vehicle's pedals or other moving parts.
- The CB is not directly in front of heating vents.
- All wires and cables can reach their connection points.

Cautions:

- If you use the TRC-442 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.
- Do not mount the CB where it could damage or interfere with the proper operation of any passive restraint safety device (an air bag or seat belt).

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

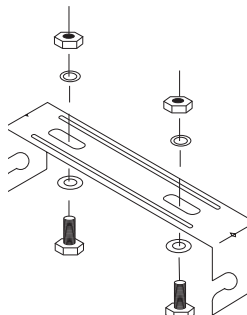
1. Using the mounting bracket as a template, mark the positions for the screw holes on the mounting surface.



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

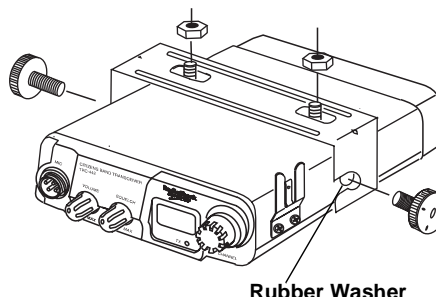
Caution: Be careful not to drill into objects behind the mounting surface.

3. Attach the bracket to the mounting surface with the supplied mounting bolts, lockwashers, washers, and nuts.



Note: If you cannot reach behind the mounting surface to attach the nuts on the bolts, use the supplied screws, lockwashers, and washers to secure the bracket.

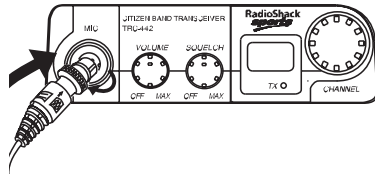
4. Attach the CB to the mounting bracket using the supplied rubber washers and mounting knobs.



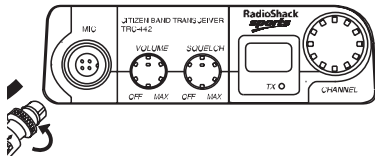
Rubber Washer

CONNECTING THE MICROPHONE

1. Align the notch on the microphone cable's plug with the ridge in the **MIC** jack, then insert the plug into the jack.



2. Tighten the microphone cable's outer ring by turning it clockwise.
3. Slide the microphone onto the microphone holder.
4. To disconnect the microphone, loosen the microphone cable's outer ring by turning it counter-clockwise, then pull out the plug.



Caution: Never pull on the microphone cable.

INSTALLING AN ANTENNA

Caution: To prevent damage to your CB, you must connect an antenna to it before you operate it.

Note: If you are using this CB as a base station, see "Using the CB as a Base Station" on Page 9.

Selecting an Antenna

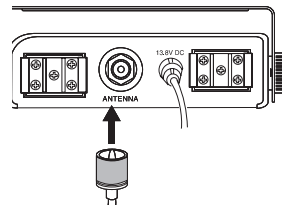
When deciding on an antenna and where to locate it, consider these points:

- The location of the antenna should be as high as possible.
- The antenna and antenna cable should be as far as possible from sources of electrical noise (ignition systems, gauges, and so on).

Your local RadioShack store sells a variety of CB antennas for both mobile and base-station use. Choose the one that best meets your needs.

Connecting an Antenna

Once you choose an antenna, follow its mounting instructions. Route the antenna's cable to the CB, then screw the cable to the **ANTENNA** jack on the back of the CB.



Cautions:

- Do not run the cable over sharp edges or moving parts that might damage it.
- Do not run the cable next to power cables or other CB antenna cables.
- Do not run the cable through a vehicle's engine compartment or other areas that produce extreme heat.

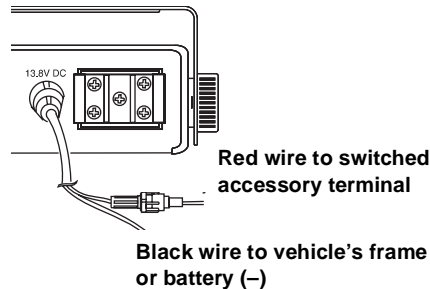
Note: To achieve your radio's maximum range, adjust the antenna's Standing Wave Ratio (SWR) using an SWR meter (not supplied).

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.

USING VEHICLE BATTERY POWER

You can power this CB from your vehicle's battery or from standard AC power with an optional DC power supply. For information on using AC power, see "Using the CB as a Base Station" on Page 9.

Follow these steps to power the CB from your vehicle's battery.



1. Connect the red wire, with the in-line fuse, to a source of voltage that turns on and off with the ignition switch, such as a spare accessory terminal in your vehicle's fuse box. This prevents the battery from being drained if you leave the CB on when you turn off the ignition.
2. Connect the black wire to your vehicle battery's negative (-) terminal or to a metal part of the vehicle's frame that is not insulated from the frame by a plastic part.

USING THE CB AS A BASE STATION

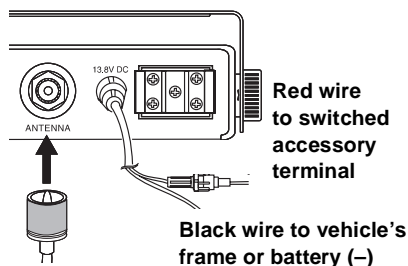
Although this CB is designed mainly for mobile use, you can also use it as a base station with an AC power source. For base station installation, you need the following items (all available at your local RadioShack store):

- 12-volt DC power supply (such as Cat. No. 22-504)

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

- Base station antenna (such as Cat. No. 21-969)
- 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 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.

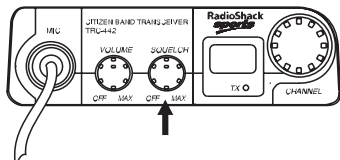
2. Route the antenna cable to the CB, then connect the antenna to the **ANTENNA** jack on the back of the CB.
3. Connect the CB's black power wire to the negative (–) terminal on the DC power supply.
4. Connect the CB's red wire, with the in-line fuse, to the positive (+) terminal on the DC power supply.
5. Connect the DC power supply to a standard AC outlet.

OPERATION

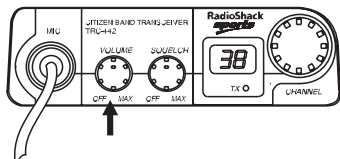
Before you use your CB radio, you should know how to use it effectively and courteously. "CB Operation Tips" on Page 12 contains information that will help you get more enjoyment from your CB radio.

TURNING ON THE CB AND RECEIVING TRANSMISSIONS

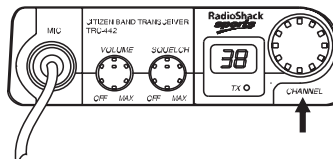
1. Turn **SQUELCH** fully counterclockwise.



2. To turn on the CB, turn **VOLUME** clockwise until it clicks and you hear a hissing sound. The CB displays the last selected channel.



3. To tune to a specific channel, rotate **CHANNEL** clockwise or counterclockwise until the display shows the desired channel.



To rapidly move up or down the channels, turn **CHANNEL** only slightly to the left or right.

4. Slowly turn **SQUELCH** clockwise until the hissing sound stops.

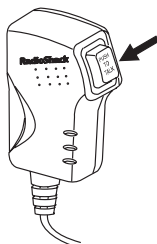
Note: If the CB picks up unwanted, partial, or very weak transmissions, turn **SQUELCH** clockwise to decrease the CB's sensitivity to these signals. Turn **SQUELCH** counterclockwise if you want to listen to a weak or distant station.

5. Adjust **VOLUME** to a comfortable listening level.
6. To turn off the CB, turn **VOLUME** counterclockwise until it clicks.

TRANSMITTING

Note: We recommend you try receiving before you transmit.

1. Follow Steps 1–5 in “Turning On the CB and Receiving Transmissions” on Page 10.
2. Hold down **PUSH TO TALK** and speak into the microphone in a normal voice from about 2–3 inches away. The orange TX indicator lights.



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

3. When you finish transmitting, release **PUSH TO TALK**. The TX indicator turns off. The TRC-442 can now receive transmissions.
4. To turn off the CB, turn **VOLUME** counterclockwise until it clicks.

CB OPERATION TIPS

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 RADIO

Business Uses

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

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 the microphone 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 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
10-1	Your signal is bad.
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 or are you 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 road/weather conditions.
10-14	Information.
10-15	Message delivered.
10-16	Reply to message.

Code	Meaning
10-17	En route.
10-18	Urgent.
10-19	Contact ____.
10-20	What is your location?
10-21	Call ____ by telephone.
10-22	Cancel last message.
10-23	Arrived at the scene.
10-24	Assignment complete.
10-25	Meet ____.
10-26	Estimated time of arrival is ____.
10-30	Use caution.
10-31	Pick up.
10-33	Emergency traffic. Clear the channel.
10-34	What time is it?
10-41	Switch to Channel ____.
10-62	Cannot understand.

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?).

MAXIMUM RANGE

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

- The type and quality of antenna used
- The height of the antenna's 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 CBs 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.

TROUBLESHOOTING

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

Symptom:	Check That:
Trouble with reception	<ul style="list-style-type: none"> • The CB is turned on. • VOLUME is turned up. • SQUELCH is turned counterclockwise. • PUSH TO TALK is not being pressed in. • The antenna cable is securely connected to both the antenna and the CB.
Trouble with transmission	<ul style="list-style-type: none"> • The CB is turned on. • VOLUME is turned up. • The microphone is securely connected to the CB. • All connectors are clean and tightened. • You are fully pressing PUSH TO TALK • The antenna cable is securely connected to both the antenna and the CB.
No channel selection	You are not pressing PUSH TO TALK . You cannot change channels when PUSH TO TALK is pressed.
CB does not work at all	<ul style="list-style-type: none"> • The power supply and in-line fuse are working (see "Replacing the Fuse" on Page 18). • The red (+) and black (–) wires are connected properly when using vehicle battery power.

REDUCING NOISE

Because your CB is exceptionally quiet, any noise you hear through the CB 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 the various output voltage points.

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

CARE AND MAINTENANCE

Your RadioShack TRC-442 Full-Power 40-Channel Mobile CB Radio 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 might contain minerals that can corrode the electronic circuits.



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



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



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 the CB's 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.

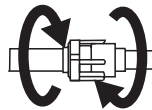
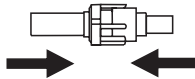
REPLACING THE FUSE

The TRC-442's 2-amp in-line fuse helps protect your CB from power surges and short circuits. If the CB loses power because the fuse has burned out, replace it using a 2-amp, slow-blow glass fuse, such as Cat. No. 270-1023.

Caution: Make sure you replace the fuse only with another fuse of the same type and rating.

Follow these steps to replace the fuse.

1. Make sure the power source and CB are both off.
2. Holding the fuse holder by both ends, push the ends together, twist one end counterclockwise, then pull them apart.



3. If the fuse is blown, replace it.
4. To close the fuse holder, align the tabs and slots at the ends, and push the fuse holder ends together. Then turn either end clockwise.

SPECIFICATIONS

RECEIVER

Frequency CoverageAll 40 CB Channels (Class D) 26.965–27.405 MHz
 Sensitivity for 10dB S/N 0.5 mV or better for 10 dB S+N/N
 Adjacent Channel Rejection–40db (at 10 kHz)
 Audio Output 1 Watt
 Cross Modulation 50 dB
 Squelch Adjustable from 0.7 mV to 1 mV

TRANSMITTER

Frequency CoverageAll 40 CB Channels (Class D) 26.965–27.405 MHz
 Frequency Tolerance 0.005%
 Output Power 4 Watts (Maximum)
 Spurious Emission –60 dB
 Type of Modulation A3
 Modulation Capability 90%
 Antenna Impedance 50 Ohm

GENERAL

Power Requirements 13.8 Volts DC, Negative Ground
 120 V AC, 60 Hz, using an optional power supply (Cat. No. 22-504)
 Dimensions (HWD) $1\frac{5}{8} \times 5\frac{1}{2} \times 6\frac{7}{8}$ inches (41.5 ¥ 140 ¥ 175 mm)
 Weight 26.4 oz (750 g)
 Included Accessories Microphone Holder, Mounting Hardware

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

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

We Service What We Sell

3/97

RadioShack
A Division of Tandy Corporation
Fort Worth, Texas 76102

6A8

811081220B
Printed in China