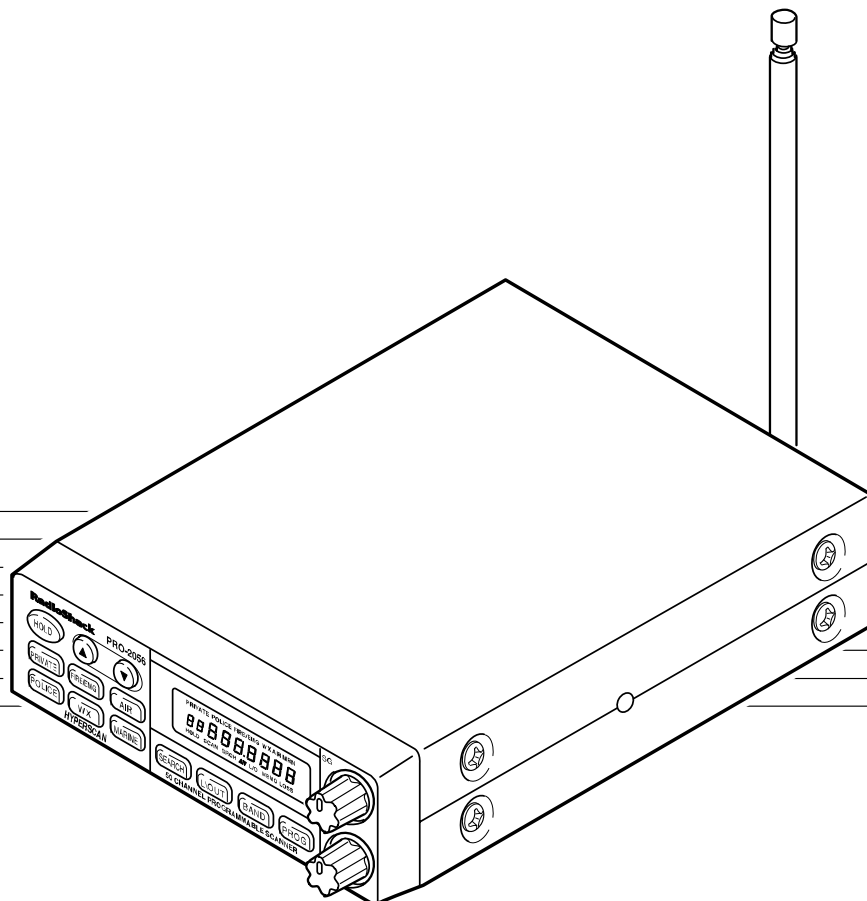Cat. No. 20-147

OWNER'S MANUAL

PRO-2056 50-Channel Home/Mobile Scanner

Please read before using this equipment.

®

RadioShack™

FEATURES

Your new RadioShack PRO-2056 50-Channel Home/Mobile Scanner lets you in on all the action. You can quickly tune to over 2,000 preprogrammed frequencies and search over 20,000 frequencies that include those used by police and fire departments, ambulance services, aircraft communications, amateur radio services, and transportation services. The secret to your scanner's ability to scan so many frequencies is its custom-designed microprocessor — a tiny, built-in computer.

Your scanner is preprogrammed for convenience. By pressing a single button, you can quickly scan those frequencies most widely used by public service and other agencies. The scanner even lets you group special or interesting frequencies into their own bank.

The scanner is compact and versatile. You can use it in your home or mount it in your vehicle.

Your scanner has these special features:

HyperScan™ and HyperSearch™ — so you can scan up to 100 channels per second and search up to 100 steps (frequency intervals) per second, providing faster scan and search speed than many other scanners.

Service Search — at the press of a button, lets you scan preset frequencies in separate police, fire/emergency, marine, and air service search banks, to make it easy to quickly identify calls. You can also add frequencies to channels in the police and fire/emergency service search banks.

Band Search — lets you search for transmissions within 11 preset frequency ranges, so you can quickly find interesting frequencies.

PRIVATE Bank — lets you store up to 20 frequencies that you find while scanning or searching, so you can group unusual or special frequencies together for fast access.

One-Touch Weather Scanning — quickly tunes to National Weather Service broadcasts, so you can keep current on important weather information.
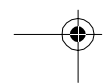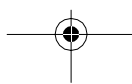
Lock-Out Function — lets you lock out specified channels, so you can skip over those channels while scanning.

Memory Backup — keeps the frequencies stored in memory for up to 5 days during a power loss.

Backlit Display — makes the display easy to read in low light conditions.

External Speaker Jack — makes it easy to connect an optional external speaker or headphones to the scanner.

Two Power Options — you can power the scanner from standard AC power with the supplied AC adapter or your vehicle's battery with the supplied DC power cord or DC cigarette-lighter power cord.

Frequency Guide — this manual lists currently known frequencies by state and local area, so you can quickly tune to local frequencies.

Your PRO-2056 scanner can receive all of these frequencies:

- 29–54 MHz (10-Meter Amateur Radio, VHF Lo, 6-Meter Amateur Radio)

- 108–136.975 MHz (Aircraft)

- 137–174 MHz (Government, 2-Meter Amateur Radio, VHF Hi)

- 406–512 MHz (70-Centimeter Amateur Radio, UHF "T" Band, Government)

In addition, your scanner is preprogrammed with these weather service frequencies:

- 162.4000 MHz
- 162.4250 MHz
- 162.4500 MHz
- 162.4750 MHz
- 162.5000 MHz
- 162.5250 MHz
- 162.5500 MHz

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

Serial Number:_____

FCC NOTICE

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

- Moving your scanner away from the TV or radio

- Connecting your scanner to an outlet that is on a different electrical circuit from the TV or radio

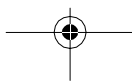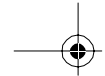- Contacting your local RadioShack store for help

SCANNING LEGALLY

Your scanner covers frequencies used by many different groups including police and fire departments, ambulance services, government agencies, private companies, amateur radio services, military operations, pager services, and wireline (telephone and telegraph) service providers. It is legal to listen to almost every transmission your scanner can receive. However, there are some transmissions you should never intentionally listen to. These include:

- Telephone conversations (either cellular, cordless, or other private means of telephone signal transmission)

- Pager transmissions

- Any scrambled or encrypted transmissions

According to the Electronic Communications Privacy Act (ECPA), you are subject to fines and possible imprisonment for intentionally listening to, using, or divulging the contents of such a transmission unless you have the consent of a party to the communication (unless such activity is otherwise illegal). We encourage responsible, legal scanner use.
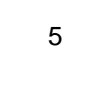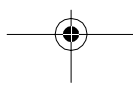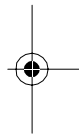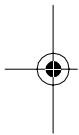
CONTENTS

PREPARATION

CONNECTING AN ANTENNA

Connecting the Telescoping Antenna

The supplied telescoping antenna helps your scanner receive strong local signals. To install this antenna, hold the antenna so it stands straight up, then gently push the antenna's plug onto the **ANT** jack on the scanner's back panel.

ANT Jack
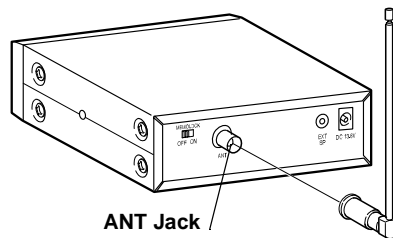
The scanner's sensitivity depends on the antenna's length and various environmental conditions. Based on the frequencies of the transmissions you want to hear, adjust the antenna's length.

Frequency (MHz)	Antenna Length
29–108	Extend fully
108–174	Extend three segments
174–512	Extend two segments

Connecting the Window-Mount Antenna

You can install the supplied window-mount antenna on the inside of your vehicle's windshield. Follow these steps to install the window-mount antenna.

Caution: Do not use the window-mount antenna on a windshield that has a plastic coating designed to protect passengers during an accident. If you use the antenna on this type of windshield, you might permanently damage the windshield's surface.

1. Select a location for the window-mount antenna. Follow these mounting guidelines when selecting a location.

   • The antenna's clear wire receives signals. Mount it vertically against the far right (passenger) side of the windshield.

   • Choose a location that does not block the driver's view of the road.

   • Some vehicles have Insta-Clear® or ElectriClear® defogging windshields, which have metal coatings that interfere with signals. General Motor's APV vans have a solar shield that keeps the vehicle cooler during the summer, which also interferes with signals. If you install a window-mount antenna in a vehicle with any of these features, the scanner probably will not detect weak signals.

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2. Clean the selected windshield area, position the antenna's clear wire on the windshield, then press firmly on both suction cups to secure it in place.
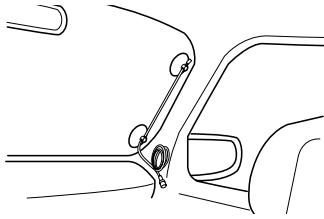
3. Route the antenna's black cable down the edge of the windshield, around the edge of the dash, and underneath it. Be sure the cable does not interfere with the vehicle's pedals or other moving parts.
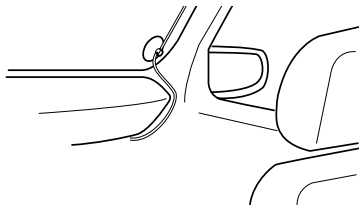
4. Align the slots around the antenna's connector with the tabs on the **ANT** jack. Then push the antenna's connector and turn it clockwise until it locks into place.
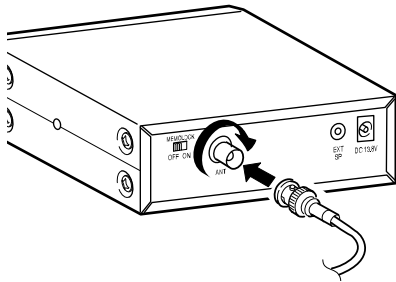
Connecting an External Antenna

The **ANT** jack on the back of the scanner makes it easy to use the scanner with a variety of antennas. Instead of one of the supplied antennas, you can attach a different one, such as an external mobile antenna or outdoor base station antenna. Your local RadioShack store sells a variety of antennas.

When deciding on an antenna and its location, consider the following:

- 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 (appliances, other radios, and so on).

- The antenna should be vertical for the best performance.

Always use 50-ohm coaxial cable, such as RG-58 or RG-8, to connect an outdoor antenna. For lengths over 50 feet, use RG-8 low-loss dielectric coaxial cable. If the coaxial cable's connector does not fit in the **ANT** jack, you might also need a PL-259-to-BNC antenna plug adapter, such as Cat. No. 278-120. Your local RadioShack store carries a wide variety of coaxial antenna cable and connectors.

Follow the installation instructions supplied with the antenna, route the antenna cable to the scanner, then connect it to the **ANT** BNC-type jack on the back of the scanner.

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Warning: Use extreme caution when installing or removing an outdoor 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.

Caution: Do not run the cable over sharp edges or objects that move.

MOUNTING THE SCANNER IN YOUR VEHICLE

The most common mounting location for this scanner is under your vehicle's dashboard. If you use this scanner in a vehicle, mount it securely to avoid damage to the scanner or vehicle, or injury to anyone in the vehicle during sudden starts or stops.

Note: Mobile use of this scanner is unlawful or requires a permit in some areas. Check the laws in your area.
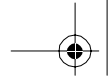
When you choose a mounting location, be sure:

- You can easily reach the scanner

- All wires and cables will reach their connection points

- Wires and cables will not interfere with vehicle's pedals or other moving parts

- The scanner is not directly in front of any heating vents

Follow these steps to mount the scanner in your vehicle.

1. Choose a mounting location, then use the mounting bracket as a template to mark the positions for the mounting screw holes.

(add corrected illus F6)

2. In the marked locations, drill holes slightly smaller than the supplied screws. Take care not to drill into or damage objects behind the mounting surface.

3. Attach the mounting bracket to the mounting location using the supplied screws and lock washers.

(add corrected illus F7)

9
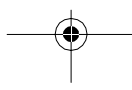
4. Attach the scanner to the mounting bracket using the supplied mounting knobs.

(add corrected illus F8)

Connecting Power from Your Vehicle's Battery

Depending on if your scanner is permanently installed in your vehicle, you can power it using either the DC power cord or the DC cigarette-lighter power cable (both supplied).

Follow these steps to connect the supplied DC power cord.

(add corrected illus F9. Add callouts 'Positive (+)' and 'Negative (-)' to respective wires)

1. Connect the power cord's 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.

2. Connect the power cord's red wire (with 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.

3. Insert the power cord's barrel plug into the **DC 13.8V** jack on the back of the scanner.

To connect the supplied DC cigarette-lighter power cord, insert its barrel plug into the **DC 13.8V** jack on the back of the scanner, then plug the power cord into your vehicle's cigarette-lighter socket.

(add corrected illus F10)

Cautions:

- Unplug the power cord from your vehicle's cigarette-lighter socket when you turn off the ignition. This prevents vehicle battery drain if you leave the scanner on when you turn off the ignition.

- Always unplug the power cord from your vehicle's cigarette-lighter socket before you unplug its barrel plug from the scanner.

Note: If the scanner does not operate when you turn it on, remove the power cord from your vehicle's cigarette-lighter socket and check the socket for debris. Also, check the fuse in the power cord you are using (see "Replacing the Fuses" on Page 35) and your vehicle's fuse block.
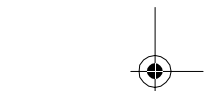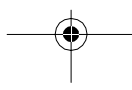
USING THE SCANNER AS A BASE STATION

You can place this scanner on a desk, shelf, or table to use it as a base station.

Your scanner's front feet fold up and down. Adjust them to give you the best view of the display.
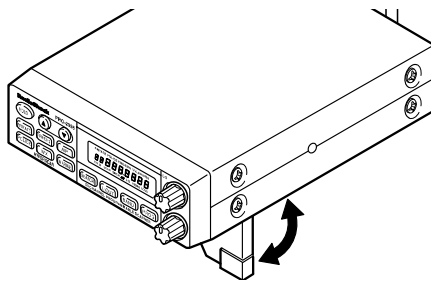
Using the Supplied AC Adapter

Cautions:

- Use only the supplied AC adapter. Using a different adapter can damage your scanner and could present a safety hazard.

- To prevent electric shock, the plug's blades are polarized and fit only one way. If the plug does not fit easily, turn it over and try again. Do not force it into the AC outlet.

- When you finish using the AC adapter, disconnect it from the AC outlet first. Then disconnect it from the scanner.

Plug the adapter's barrel plug into the scanner's **DC 13.8V** jack. Then plug the adapter's power module into a standard AC outlet.
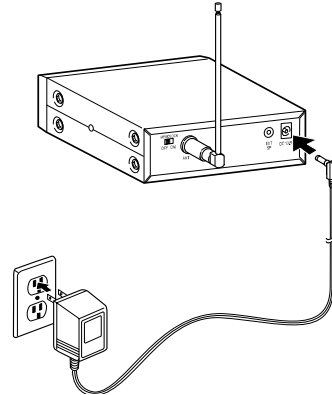
Warning: Do not use the AC adapter's polarized plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted to prevent blade exposure.

MEMORY BACKUP

When you first power the scanner, **MEMO LOSS** (memory loss) appears until you program the scanner. The memory backup circuit begins to function a few minutes after you supply power to the scanner. How long the scanner will maintain channels stored in memory depends on how long power has been supplied to the scanner.

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If power is continuously supplied to the scanner for at least 24 hours, the memory backup circuit maintains the channels stored in memory for up to 5 days. If power is disconnected and the memory backup circuit becomes too weak to save the scanner's programming, **MEMO LOSS** appears again when power is reconnected until you reprogram the scanner.

CONNECTING AN EXTERNAL SPEAKER OR HEADPHONES

In a noisy area, an extension speaker or pair of monaural headphones (Cat. No. 21-549 or 20-210) might provide more comfortable listening. Use an 8-ohm external speaker capable of handling 3 watts of power.

Plug the speaker cable's or headphones' $1/8$-inch plug into the **EXT SP** jack on the back of the scanner.

(add corrected illus F13. Add external speaker and callout EXT SP and arrow to jack)

Caution: Do not turn the scanner's volume all the way up while using headphones. The headphones could be damaged.

Note: Plugging in an external speaker or headphones disconnects the scanner's internal speaker.

Listening Safely

To protect your hearing, follow these guidelines when you use headphones.

- Do not listen at extremely high volume levels. Extended high-volume listening can lead to permanent hearing loss.

- Set the volume to the lowest setting before you begin listening. After you begin listening, adjust the volume to a comfortable level.

- Once you set the volume, do not increase it. Over time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

UNDERSTANDING YOUR SCANNER

Once you understand a few simple terms we use in this manual and familiarize yourself with your scanner's features, you can put the scanner to work for you. You simply determine the communications you want to hear, then set the scanner to scan those frequencies.

A **frequency** is the tuning location of a station (expressed in kHz or MHz). To find active frequencies, you can use the **search** function to search **search bands**, which are preset ranges of frequencies. When you find a frequency, you can store it into a permanent memory location called a **channel**, which is grouped with other channels in your scanner's **service search banks** and **PRIVATE** bank. You can then **scan** these channels. Each time the scanner finds an active frequency, it stays there until the transmission ends.

BANKS

Service Search Banks

The FCC (Federal Communications Commission) allocates frequency ranges for the exclusive use of public service agencies such as police departments, fire departments, the U.S. Coast Guard, the Federal Aviation Administration (FAA), and the National Oceanic and Atmospheric Administration (NOAA).

Many of the frequencies used by these agencies are grouped into this scanner's service search banks, so you can easily scan the frequencies typically used by a particular agency.

Your scanner has the following service search banks.

- POLICE (contains 739 preset frequencies)

- FIRE/EMG (contains 197 preset frequencies)

- MARINE (contains 90 preset frequencies)

- AIR (contains 1,160 preset frequencies)

Your scanner also has 7 preset weather frequencies.

You can scan through any service search bank simply by pressing that bank's button, or the weather frequencies by pressing **WX**. For example, if you want to scan frequencies where you are likely to hear police calls, press **POLICE**.

Notes:

- You cannot use the **SEARCH** key to search for new frequencies in the service search banks.

- You cannot change or clear any of the preset frequencies in the service search banks, but you can store frequencies into channels in the POLICE and FIRE/EMG service search banks (see "Channels" on Page 14).

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PRIVATE Bank

Your scanner has one PRIVATE bank. This bank contains 20 channels. You can store frequencies from any search band (see "Search Bands" on Page 15), service search bank, or any weather frequency into these channels, then scan the channels by pressing **PRIVATE**.

Notes:

- You cannot use the **SEARCH** key to search for new frequencies in the PRIVATE bank.

- You cannot scan the PRIVATE bank until you have stored frequencies in its channels (see "Storing Frequencies into Channels" on Page 21).

CHANNELS

The scanner has 50 empty channels where you can store frequencies you find while scanning the banks or searching through the search bands — 20 in the POLICE bank, 10 in the FIRE/EMG bank, and 20 in the PRIVATE bank.

- Frequencies you assign to POLICE channels become part of the POLICE service search bank. For example, the police department might use four temporary frequencies while providing security for a parade. If these frequen-

cies are included in any search band (or even another service search bank), you could store them in Channels 1–4 of the POLICE service search bank.

- Frequencies you assign to FIRE/EMG channels become part of the FIRE/EMG service search bank.

  For example, the fire department might use three frequencies to communicate with paramedic units only during disaster drills. If these frequencies are included in any search band (or even another service search bank), you could store them in Channels 1–3 of the FIRE/EMG service search bank.

- The MARINE and AIR service search banks contain no channels.

  You can also replace frequencies you stored in these channels with different frequencies, or you can clear stored frequencies from the channels.

Good references for active frequencies are the RadioShack *Police Call Radio Guide Including Fire and Emergency Services*, *Aeronautical Frequency Directory*, and *Maritime Frequency Directory*. We update these directories every year, so be sure to get a current copy.

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SEARCH BANDS

Your scanner has 11 preprogrammed search bands. Each band covers a specific range of frequencies which you can search for specific broadcasts by using the **SEARCH** and **BAND** keys. For example, you can search through all frequencies between 29.000 and 30.000 MHz for specific broadcasts.

This table shows the search band range displayed by the scanner and the typical usage, frequency coverage, and step rate for each search band range.

Search Band Range	Typical Usage	Frequency Coverage (MHz)	Step Rate (kHz)
29–30	10-Meter Amateur Radio	29.0000–30.0000	5.0
30–50	VHF Lo	30.0000–50.0000	5.0
50–54	6-Meter Amateur Radio	50.0000–54.0000	5.0
108–137	Aircraft	108.0000–136.9750	25.0
137–144	Government	137.0000–144.0000	5.0
144–148	2-Meter Amateur Radio	144.0000–148.0000	5.0
148–174	VHF Hi	148.0000–174.0000	5.0
406–420	Government	406.0000–420.0000	12.5
420–450	70-Centimeter Amateur Radio	420.0000–450.0000	12.5
450–470	UHF Lo	450.0000–470.0000	12.5
470–512	UHF "T" Band	470.0000–512.0000	12.5

Notes:

• Your scanner searches at the preset frequency step rate (5, 12.5, or 25 kHz) for each search band.

• You cannot change the frequency step rate.
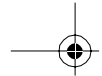
While searching through a search band, you might hear a frequency that you want to store with other frequencies of the same type, so you can scan them all together. You can store any frequency into a channel in the POLICE or FIRE/EMG service search banks or the PRIVATE bank. See "Storing Frequencies into Channels" on Page 21.

Notes:

- Some of the frequencies in the search bands are also included in the scanner's service search banks.

- When you store a frequency in a channel, that frequency also remains in the search band.

- You cannot change or clear any of the frequencies in the search bands.
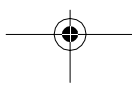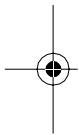
A LOOK AT THE FRONT PANEL

A quick glance at this section will help you better understand each key's function.
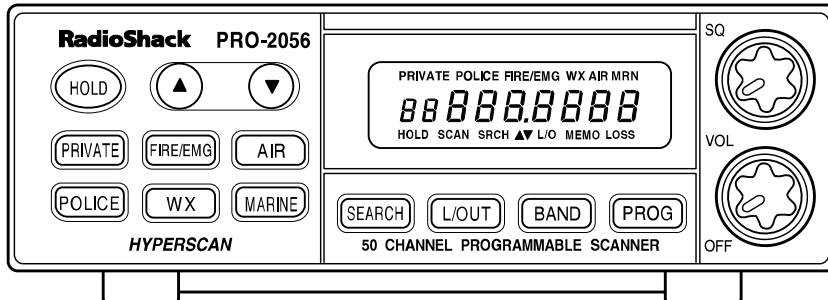
HOLD — stops scanning or searching.

s and t — moves up or down through frequencies and channels or changes the search direction.

FIRE/EMG, **AIR**, **POLICE**, **MARINE** — scans the preset frequencies in the named service search bank. See "Service Search Banks" on Page 13.

PRIVATE — scans the frequencies you stored in the PRIVATE bank's channels. See "PRIVATE Bank" on Page 14.

WX — scans through the preprogrammed weather frequencies.

SEARCH — searches for active frequencies within a selected band range, starting from the lowest frequency. See "Using Band Search" on Page 20.

L/OUT — locks out selected frequencies or channels.

BAND — selects any of the 11 search bands to search.

PROG — programs frequencies into channels.

SQ — adjusts the scanner's squelch.

OFF/VOLUME — turns the scanner on or off and adjusts the volume.

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A LOOK AT THE DISPLAY

The display has indicators that show the scanner's operating mode. A good look at the display will help you understand your scanner's operation.

PRIVATE POLICE FIRE/EMG WX AIR MRN

HOLD SCAN SRCH ▲▼ L/O MEMO LOSS

PRIVATE — appears when you scan the frequencies you stored in the PRIVATE bank's channels.

POLICE, **FIRE/EMG**, **AIR**, **MRN** — appear when you scan the preset frequencies in the named service search bank.

WX — appears when you scan the preset weather frequencies.

HOLD — appears when you press **HOLD** to stop scanning or searching.

SCAN — appears when you scan channels until a frequency appears.

SRCH s or t — appears during a search to show the search direction.

Search Band Range Numbers — appear instead of a frequency to show which of the scanner's 11 search bands you selected.

L/O — appears when you lock out a channel or frequency or manually select a locked-out channel or frequency (see "Locking Out Channels and Frequencies" on Page 23).

MEMO LOSS — appears when you first turn on the scanner until you program the scanner, and when you turn on the scanner after a power loss when the scanner's memory backup circuit is too weak to save the scanner's programming.

Error — appears when you make an incorrect entry.

Prg-Loc — appears when you try to program the scanner while **MEMOLOCK OFF/ON** is set to **ON** (see "Using Memolock" on Page 23).

CH — flashes when you program the scanner.

Channel Number — appears on the left side of the display to show which of the scan bank channels the scanner is tuned to.

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OPERATION

TURNING ON THE SCANNER/SETTING VOLUME AND SQUELCH

Note: Make sure the scanner's antenna is connected before you turn it on.

1. Turn **SQ** fully clockwise.
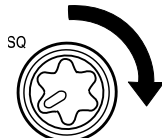
2. Turn **OFF/VOLUME** clockwise until it clicks and you hear a hissing sound.
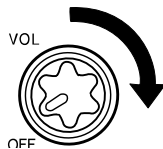
3. Turn **SQ** counterclockwise until the hissing sound stops.

Notes:

- If the scanner picks up unwanted, partial, or very weak transmissions, turn **SQ** counterclockwise to decrease the scanner's sensitivity to these signals. If you want to listen to a weak or distant station, turn **SQ** clockwise.

- If **SQ** is adjusted so you always hear a hissing sound, the scanner does not scan properly.

- **OFF/VOLUME** adjusts both the broadcast volume and the volume of the beep you hear when you press the scanner's keys.

USING SERVICE SEARCH

To scan a service search bank, press any of these buttons:

- **POLICE**
- **FIRE/EMG**
- **AIR**
- **MARINE**

To scan the PRIVATE bank, press **PRIVATE**.

Note: You cannot scan the PRIVATE bank until you have stored frequencies in it. See "Storing Frequencies into Channels" on Page 21.

The scanner scans through all non-locked channels (see "Locking Out Channels and Frequencies" on Page 23) in the bank you selected, SCAN scrolls, and the bank's name appears at the top of the display.

The scanner scans the channels within the bank from the lowest to the highest channel number. If the scanner detects a broadcast, it stops on the channel. When the broadcast ends, the scanner continues to scan higher channels in the bank. When the scanner finishes scanning all channels in the bank, it returns to the lowest channel in the bank and starts scanning again.

USING BAND SEARCH

Follow these steps to search for transmissions within any of the scanner's 11 search bands.

1. Be sure **MEMOLOCK OFF/ON** is set to **OFF** (see "Using Memolock" on Page 23).

2. Press **SEARCH**.

3. Repeatedly press **BAND** until you see the search band you want to search.

   SRCH and the range for each search band appears. Then, after about 3 seconds, **SRCH** s or **SRCH** t appears, and the scanner starts to automatically search the frequencies in the band. When the scanner finds a transmission, it stops on that frequency and the frequency's number appears until the transmission stops, then the scanner starts searching again.

You can change the direction of either an automatic or manual search by pressing the opposite arrow key (s or t) once.

To manually search the search band, press **HOLD** after the scanner starts automatically searching the frequencies. **HOLD**, **SRCH** s or **SRCH** t, and a frequency within the band you selected appear.

Repeatedly press s to search from the lower to the upper range, or t to search from the upper to the lower range. Hold down s or t to quickly step through the frequencies. Press **SEARCH** to return to automatic search.

MONITORING A FREQUENCY

When the scanner displays a specific frequency while scanning the banks or searching the search bands, you can continuously monitor that frequency. This is useful if you hear an emergency broadcast on a frequency and do not want to miss any details (even though there might be periods of silence).

To monitor a frequency while it appears during scanning or searching, press **HOLD** until **HOLD** appears. The scanner stays on the frequency.

To continue scanning a bank, press a service search bank button, **WX,** or **PRIVATE**. To continue automatically searching a search band, press **SEARCH**. To continue manually searching a search band, press s or t.

STORING FREQUENCIES INTO CHANNELS

1. When the scanner displays a frequency you want to store while scanning the banks or searching the search bands, press **PROG**. **CH** flashes, and **HOLD** and the frequency number appear.

$$\boxed{\text{CH } 150.0000}$$

2. Press **PRIVATE**, **POLICE**, or **FIRE/EMG** to store the frequency into a channel. For example, if you want to store the frequency in one of the channels in the POLICE service search bank, press **POLICE**.

   If the search bank you selected has an empty channel, the frequency number flashes alternately with the lowest empty channel number and **000.0000**. If the search bank you selected has no empty channels, the frequency number flashes alternately with the channel number of the last channel where you stored a frequency.

   Note: If you press a service search bank key other than **PRIVATE**, **POLICE**, or **FIRE/EMG**, the scanner beeps several times and **Error** appears. If you are scanning the banks, press **PRIVATE**, **POLICE**, or **FIRE/EMG**, then start again from Step 1. If you are searching the search bands,

press **SEARCH** then start again from Step 1.

3. Press **PROG** to store the frequency in the displayed channel. Or, repeatedly press s or t, select a channel number, then press **PROG**. The scanner displays the channel number where you stored the frequency.

   Note: If you select a channel with a frequency already stored in it, the scanner replaces the frequency with the new one.

   To cancel storing the frequency, press **BAND**.

4. Repeat Steps 1–3 to store more frequencies into channels.

5. When you finish storing frequencies, set **MEMOLOCK OFF/ON** to **ON** to prevent accidentally changing them (see "Using Memolock" on Page 23).

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CLEARING FREQUENCIES FROM CHANNELS

You can clear a frequency from a channel by storing an empty frequency in its place.

Notes:

• You cannot clear or change any of the frequencies in the scanner's search bands, any of the scanner's preset weather frequencies, or the preset frequencies in the service search banks.

• When you clear a channel, the scanner automatically locks out the channel (see "Locking Out Channels and Frequencies" on Page 23).

1. Be sure **MEMOLOCK OFF/ON** is set to **OFF** (see "Using Memolock" on Page 23).

2. Press **SEARCH**, then repeatedly press **BAND** to select a search band. **SRCH** and the search band range for each band appear.

3. Press **HOLD** when the scanner starts automatically searching that band. **HOLD** appears.

4. Press **PROG**. **CH** flashes.

5. Press s or t until **000.0000** appears.

6. Press **PRIVATE**, **POLICE**, or **FIRE/EMG** to select the bank that contains the channel you want to clear.

   HOLD and **PRIVATE**, **POLICE**, or **FIRE/EMG** appears, and a channel number flashes.

7. Repeatedly press s or t until the scanner displays the channel you want to clear. **000.0000** flashes alternately with the channel number and the frequency number.

8. Press **PROG** to store the empty frequency. The channel number and **000.0000** appear.

   To cancel clearing the channel, press **BAND**.

9. Repeat Steps 2–8 to clear more channels.

10. When you finish clearing channels, set **MEMOLOCK OFF/ON** to **ON** to prevent accidentally changing them (see "Using Memolock" on Page 23).
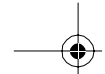
SPECIAL FEATURES

USING MEMOLOCK

(add corrected illus F25 showing antenna cable connected to ANT jack. Please make sure vendor places illus properly)

To keep from accidentally changing the scanner's programming, you can lock the scanner's memory by setting the **MEMOLOCK OFF/ON** switch on the back of the scanner to **ON**. If you try to change the scanner's programming, `Prg-Loc` appears, and the programming does not change.

Set **MEMOLOCK OFF/ON** to **OFF** to add or change information in the scanner's channels.

DELAY

Many agencies use a two-way radio system that might have a pause of several seconds between a query and a reply.

When the scanner tunes to an active frequency or channel, the scanner automatically waits for 2 seconds after the completion of each transmission on that frequency or channel before it resumes searching or scanning.

LOCKING OUT CHANNELS AND FREQUENCIES

You can scan banks faster by locking out frequencies or channels that have a continuous transmission or static. However, you cannot lock out any weather frequencies or any frequencies within the AIR or MRN service search banks.

To lock out a frequency or channel while scanning, press **L/O** when the scanner displays the frequency or channel number.

To remove the lockout, manually select the frequency or channel, then press **L/O** when the frequency or channel number appears. `L/O` disappears.

Notes:

- The scanner automatically locks out empty channels.

- You can lock out all frequencies and channels in a bank. However, if all frequencies and channels within a bank are locked out, the scanner beeps three times when you press that bank key and does not scan the bank.

- You can manually select locked out channels.

23
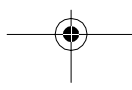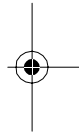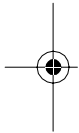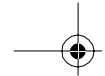
Removing a Lockout from All Channels and Frequencies within a Bank

1. Press the bank key to select the bank containing the channels or frequencies you want to remove a lockout from.

2. Press **HOLD**.

3. Hold down **L/O** until the scanner beeps softly three times. The scanner removes the lockout from all channels and frequencies within the selected bank.

Note: When you store a frequency in an empty channel, the scanner automatically removes the lockout.

LISTENING TO WEATHER BROADCASTS

The FCC (Federal Communications Commission) has allocated frequencies for use by the National Oceanic and Atmospheric Administration (NOAA). Regulatory agencies in other countries have also allocated frequencies for use by their weather reporting authorities.

Your local weather reporting authority broadcasts your local forecast and regional weather information on one or more of these frequencies. If your scanner is within a weather reporting authority's broadcast range, you can scan these frequencies.

Your scanner has these weather frequencies preprogrammed:

- 162.4000 MHz
- 162.4250 MHz
- 162.4500 MHz
- 162.4750 MHz
- 162.5000 MHz
- 162.5250 MHz
- 162.5500 MHz

To hear your local forecast and regional weather information, simply press WX. Your scanner scans through the weather frequencies. Your scanner should stop within a few seconds on your local weather broadcast.

Follow these steps to manually tune to a specific preprogrammed weather frequency.

1. Press **WX**.

2. Press **HOLD**.

3. Repeatedly press s or t to move forward or backward through the frequencies.
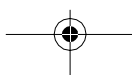
A GENERAL GUIDE TO SCANNING

Reception of the frequencies covered by your scanner is mainly "line-of-sight." That means you usually cannot hear stations that are beyond the horizon.

GUIDE TO FREQUENCIES

US Weather Frequencies

162.400	162.425	162.450	162.475
162.500	162.525	162.550	

Other Weather Frequencies

161.650	161.775	162.440	163.275

Ham Radio Frequencies

Ham radio operators often transmit emergency information when other means of communication break down. The following chart shows the frequencies the scanner receives that Ham radio operators normally use.

Wavelength (meters)	Frequencies (MHz)
10-Meter	29.000–29.700
6-Meter	50.000–54.000
2-Meter	144.000–148.000
70-cm	420.000–450.000
33-cm	902.000–928.000

Birdie Frequencies

Every scanner has birdie frequencies. Birdies are signals created inside the scanner's receiver. These operating frequencies might interfere with broadcasts on the same frequencies. If you program one of these frequencies, you hear only noise on that frequency. If the interference is not severe, you might be able to turn **SQ** counterclockwise to cut out the birdie.
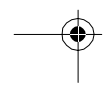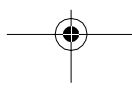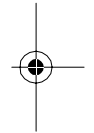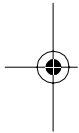
The birdie frequencies to watch for on this unit are:

31.2000	161.8950	446.3000
41.6000	162.2950	508.7000
52.0000	168.3250	511.4000
114.4000	169.5300	511.4125
155.8700	173.1450	

To find the birdies in your scanner, begin by disconnecting the antenna and moving it away from the scanner. Make sure that no other nearby radio or TV sets are turned on near the scanner. Use the search function and scan every frequency range from its lowest frequency to the highest. Occasionally, the searching will stop as if it had found a signal, often without any sound. That is a birdie. Make a list of all the birdies in your scanner for future reference.

GUIDE TO THE ACTION BANDS

United States Broadcast Bands

In the United States, there are several broadcast bands. The standard AM and FM bands are probably the most well known. There are also four television audio broadcast bands — the lower three transmit on the VHF band and the fourth transmits on the UHF band.

Typical Band Usage

VHF Band	
Low Range	29.00–50.00 MHz
6-Meter Amateur	50.00–54.00 MHz
U.S. Government	137.00–144.00 MHz
2-Meter Amateur	144.00–148.00 MHz
High Range	148.00–174.00 MHz
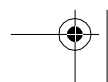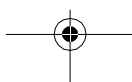
UHF Band

Military Aircraft	380.00–384.00 MHz
U.S. Government	406.00–420.00 MHz
70-cm Amateur	420.00–450.00 MHz
Low Range	450.00–470.00 MHz
FM-TV Audio Broadcast, Wide Band	470.00–512.00 MHz

Primary Usage

As a general rule, most of the radio activity is concentrated on the following frequencies:

VHF Band

Activities	Frequencies
Government, Police, and Fire	153.785–155.980 MHz
Emergency Services	158.730–159.460 MHz
Railroad	160.000–161.900 MHz

UHF Band

Activities	Frequencies
Land-Mobile "Paired" Frequencies	450.000–470.000 MHz
Base Stations	451.025–454.950 MHz
Mobile Units	456.025–459.950 MHz
Repeater Units	460.025–464.975 MHz
Control Stations	465.025–469.975 MHz

Note: Remote control stations and mobile units operate at 5 MHz higher than their associated base stations and relay repeater units.

SPECIFIED INTERVALS

Frequencies in different bands are accessible only at specific intervals. For example:

Frequency Range(s)	Specified Interval
29–54 and 137–174 MHz	5.0 kHz steps
380–512 MHz	12.5 kHz steps

BAND ALLOCATION

To help decide which frequency ranges to scan, use the following listing of the typical services that use the frequencies your scanner receives. These frequencies are subject to change, and might vary from area to area. For a more complete listing, refer to the *Police Call Radio Guide including Fire and Emergency Services*, available at your local RadioShack store.

Abbreviations	Services
AIR	Aircraft
BIFC	Boise (ID) Interagency Fire Cache
BUS	Business
CAP	Civil Air Patrol
CB	Citizens Band
CCA	Common Carrier
CSB	Conventional Systems
CTSB	Conventional/Trunked Systems
FIRE	Fire Department
HAM	Amateur (Ham) Radio
GOVT	Federal Government
GMR	General Mobile Radio
GTR	General Trunked
IND	Industrial Services (Manufacturing, Construction, Farming, Forest Products)
MAR	Military Amateur Radio
MARI	Maritime Limited Coast (Coast Guard, Marine Telephone, Shipboard Radio, Private Stations)
MARS	Military Affiliate Radio System
MED	Emergency/Medical Services
MIL	U.S. Military
MOV	Motion Picture/Video Industry
NEW	New Mobile Narrow
NEWS	Relay Press (Newspaper Reporters)
OIL	Oil/Petroleum Industry

POL . . . . .Police Department
PUB . . . . Public Services
 . . . . (Public Safety, Local Government, Forestry Conservation)
PSB . . . . .Public Safety
PTR . . . . .Private Trunked
ROAD . . . . Road & Highway Maintenance
RTV . . . . .Radio/TV Remote Broadcast Pickup
TAXI . . . . .Taxi Services
TELB. . . . . Mobile Telephone
 . . . .(Aircraft, Radio Common Carrier, Landline Companies)
TELC . . . . .Cordless Phones
TELM . . . . Telephone Maintenance
TOW . . . . Tow Trucks
TRAN . . . . Transportation Services
 . . . .(Trucks, Tow Trucks, Buses, Railroad, Other)
TSB. . . . . Trunked Systems
TVn. . . . . FM-TV Audio Broadcast
USXX . . . . Government Classified
UTIL . . . . Power & Water Utilities
WTHR. . . . . .Weather

VERY HIGH FREQUENCY (VHF)

VHF Low Band—(in 5 kHz steps)

29.900–30.550 . . . . GOVT, MIL
30.580–31.980 . . . . .IND, PUB
32.000–32.990 . . . . GOVT, MIL
33.020–33.980 . . . . .BUS, IND, PUB
34.010–34.990 . . . . GOVT, MIL
35.020–35.980 . . . . BUS, PUB, IND, TELM
36.000–36.230 . . . . GOVT, MIL
36.250. . . . . Oil Spill Cleanup
36.270–36.990 . . . . GOVT, MIL
37.020–37.980 . . . . .PUB, IND
38.000–39.000 . . . . GOVT, MIL
39.020–39.980 . . . . .PUB
40.000–42.000 . . . . .GOVT, MIL, MARI
42.020–42.940 . . . . .POL
42.960–43.180 . . . . IND
43.220–43.680 . . . . .TELM, IND, PUB
43.700–44.600 . . . . TRAN
44.620–46.580 . . . . POL, PUB
46.600–46.990 . . . . .GOVT, TELC
47.020–47.400 . . . . .PUB
47.420. . . . . .American Red Cross
47.440–49.580 . . . . .IND, PUB
49.610–49.990 . . . . .MIL, TELC

6-Meter Amateur Band

50.00–54.00 . . . . HAM

U.S. Government Band

137.000–144.000 . . . . GOVT, MIL

2-Meter Amateur Band

144.000–148.000 . . . . HAM

VHF High Band

148.050–150.345 . . . . .CAP, MAR, MIL
150.775–150.790 . . . . MED
150.815–150.980 . . . . .TOW, Oil Spill Cleanup
150.995–151.475 . . . . ROAD, POL
151.490–151.955 . . . . IND, BUS
151.985 . . . . TELM
152.0075 . . . . .MED
152.030–152.240 . . . . .TELB
152.270–152.480 . . . . IND, TAXI, BUS
152.510–152.840 . . . . .TELB
152.870–153.020 . . . . IND, MOV
153.035–153.725 . . . . IND, OIL, UTIL
153.740–154.445 . . . . PUB, FIRE
154.490–154.570 . . . . IND, BUS
154.585 . . . . .Oil Spill Cleanup
154.600–154.625 . . . . BUS
154.655–156.240 . . . . .MED, ROAD, POL, PUB
156.255–157.425 . . . . .OIL, MARI
157.450 . . . . MED
157.470–157.515 . . . . .TOW
157.530–157.725 . . . . IND, TAXI
157.740 . . . . BUS
157.770–158.100 . . . . .TELB
158.130–158.460 . . . . .BUS, IND, OIL, TELM, UTIL
158.490–158.700 . . . . .TELB
158.730–159.465 . . . . .POL, PUB, ROAD
159.480 . . . . OIL
159.495–161.565 . . . . TRAN
161.580–162.000 . . . . OIL, MARI, RTV
162.0125–162.35 . . . . GOVT, MIL, USXX
162.400–162.550 . . . . .WTHR
162.5625–162.6375 . . . . GOVT, MIL, USXX
162.6625 . . . . MED
162.6875–163.225 . . . . GOVT, MIL, USXX
163.250 . . . . MED
163.275–166.225 . . . . GOVT, MIL, USXX
166.250 . . . . .GOVT, RTV, FIRE

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166.275–169.400 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GOVT, BIFC
169.445–169.505 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Wireless Mikes, GOVT
169.55–169.9875 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .GOVT, MIL, USXX
170.000–170.150 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .BIFC, GOVT, RTV, FIRE
170.175–170.225 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GOVT
170.245–170.305 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Wireless Mikes
170.350–170.400 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GOVT, MIL
170.425–170.450 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . BIFC
170.475. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .PUB
170.4875–173.175 . . . . . . . . . . . . . . . . . . . . . . . . . . .GOVT, PUB, Wireless Mikes
173.225–173.5375 . . . . . . . . . . . . . . . . . . . . . . . . . . . . MOV, NEWS, UTIL, MIL
173.5625–173.5875 . . . . . . . . . . . . . . . . . . . . . . . . . . .MIL Medical/Crash Crews
173.60–173.9875 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GOVT
```

ULTRA HIGH FREQUENCY (UHF)

U. S. Government Band

```
406.125–419.975 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .GOVT, USXX
```

70-cm Amateur Band

```
420.000–450.000 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . HAM
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Low Band

```
450.050–450.925 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .RTV
451.025–452.025 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .IND, OIL, TELM, UTIL
452.0375–453.00 . . . . . . . . . . . . . . . . . . . . . . . . IND, TAXI, TRAN TOW, NEWS
453.0125–454.000 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .PUB, OIL
454.025–454.975 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .TELB
455.050–455.925 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .RTV
457.525–457.600 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .BUS
458.025–458.175 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . MED
460.0125–460.6375 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . FIRE, POL, PUB
460.650–462.175 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .BUS
462.1875–462.450 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .BUS, IND
462.4625–462.525 . . . . . . . . . . . . . . . . . . . . . . . . . . .IND, OIL, TELM, UTIL
462.550–462.925 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GMR, BUS
462.9375–463.1875 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . MED
463.200–467.925 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .BUS
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FM-TV Audio Broadcast, UHF Wide Band
(Channels 14 through 69 in 6 MHz steps)

```
475.750. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Channel 14
481.750. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Channel 15
487.750. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Channel 16
...                                                                                            ...
511.750. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Channel 20
```

Note: Some cities use the 470–512 MHz band for land/mobile service.

FREQUENCY CONVERSION

The tuning location of a station can be expressed in frequency (kHz or MHz) or in wavelength (meters). The following information can help you make the necessary conversions.

1 MHz (million) = 1,000 kHz (thousand)

To convert MHz to kHz, multiply the number of megahertz by 1,000:

30.62 (MHz) ¥ 1000 = 30,620 kHz
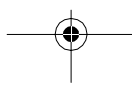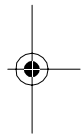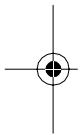
To convert from kHz to MHz, divide the number of kilohertz by 1,000:

127,800 (kHz) ÷ 1000 = 127.8 MHz

To convert MHz to meters, divide 300 by the number of megahertz:

300 ÷ 50 MHz = 6 meters

TROUBLESHOOTING

If your scanner is not working as it should, these suggestions might help you eliminate the problem. If the scanner still does not operate properly, take it to your local RadioShack store for assistance.

Problem	Possible Causes	Remedies
The scanner does not work at all.	The AC adapter is not properly connected.	Be sure the AC adapter is plugged into a working AC outlet.
	The DC power cord or DC cigarette-lighter power cord is not connected.	Be sure the power cord is fully inserted into the **DC 13.8V** jack. Be sure the power cord's red wire is connected correctly to a voltage source and the black wire is connected correctly to ground.
Poor or no reception.	Improperly connected antenna.	Be sure the antenna is properly connected.
Scanner is on but does not scan.	**SQ** is not correctly adjusted.	Adjust **SQ** counterclockwise (see "Turning On the Scanner/Setting Volume and Squelch" on Page 19).
In the scan mode, the scanner locks on frequencies that have an unclear transmission.	Birdies.	Avoid programming frequencies listed under "Birdie Frequencies" on Page 25 or only listen to them manually.

CARE AND MAINTENANCE

Your RadioShack PRO-2056 50-Channel Home/Mobile Scanner is an example of superior design and craftsmanship. The following suggestions will help you care for your scanner so you can enjoy it for years.

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

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

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

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

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

REPLACING THE FUSES

The fuses in the scanner's DC power cord and DC cigarette-lighter power cord help protect your scanner from power surges and short circuits. If the fuse in the DC power cord has blown, replace it with a 1-amp, fast-acting glass fuse (such as RadioShack Cat. No. 270-1005). For the fuse in the DC cigarette-lighter power cord, replace it with a 2-amp, fast-acting glass fuse (such as RadioShack Cat. No. 270-1007).

Warnings:

- Before you begin, turn off the scanner and your vehicle's ignition.

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

## Replacing the Fuse in the DC Power Cord

1. Turn off the scanner and your vehicle's ignition.

2. To open the fuse holder, push the fuse holder ends together, then turn either end counterclockwise and release it.

(add corrected illus F26, deleting curved arrow)

3. If the fuse is blown, replace it.

4. To close the fuse holder, push the fuse holder ends together, then turn either end clockwise.

Replacing the Fuse in the DC Cigarette-Lighter Power Cord

1. Turn off the scanner and your vehicle's ignition.

2. To open the cigarette-lighter plug, turn the cap counterclockwise and remove it.
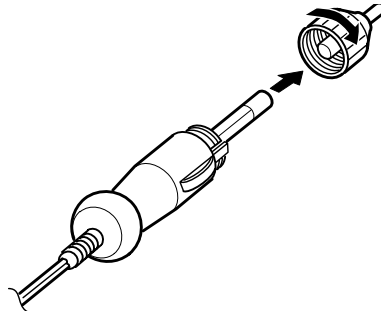
3. If the fuse is blown, replace it.

4. Replace the cap.

SPECIFICATIONS

Frequency Coverage:
    Ham . . . . 29–29.7 MHz (in 5 kHz steps)
    VHF Lo . . . . 29.7–50 MHz (in 5 kHz steps)
    Ham . . . . 50–54 MHz (in 5 kHz steps)
    Aircraft . . . . 108–136.975 MHz (in 25 kHz steps)
    Government . . . . 137–144 MHz (in 5 kHz steps)
    Ham . . . . 144–148 MHz (in 5 kHz steps)
    VHF Hi . . . . 148–174 MHz (in 5 kHz steps)
    Ham/Government . . . . 406–450 MHz (in 12.5 kHz steps)
    UHF Lo . . . . 450–470 MHz (in 12.5 kHz steps)
    UHF T . . . . 470–512 MHz (in 12.5 kHz steps)

Programmable Channels:
    POLICE Service Search Bank 20
    FIRE/EMG Service Search Bank 10
    PRIVATE Bank 20

Sensitivity (20 dB S/N with 60% modulation for AM, 3 kHz deviation for FM):
    29–54 MHz . . . . 0.4 μV
    108–136.975 MHz . . . . 1.7 μV
    137–174 MHz . . . . 0.8 μV
    406–512 MHz . . . . 0.6 μV

Scanning Rate . . . . Up to 100 frequencies or channels/second

Search Rate . . . . Up to 100 steps/second

Delay Time . . . . 2 seconds

Intermediate Frequencies (IF):
    1st . . . . 10.85 MHz
    2nd . . . . 450 kHz

Squelch Sensitivity:
    Threshold . . . . 0.4 μV
    Tight . . . . (S+N)/N 25 dB

Antenna Impedance . . . . 50 Ohms

Audio Power:
    Maximum . . . . 1.8 W
    Normal . . . . 1.5 W

Current Drain:
    Squelched . . . . 130 mA
    Unsquelched, full volume . . . . 400 mA

Built-in Speaker . . . . 3 Inch (77 mm)
8-ohm, Dynamic Type

Power Requirements . . . . AC 120V, 60 Hz, 14 Watts
+13.8V DC

Dimensions (HWD) . . . . 2 ¥ 5$^1/_8$ ¥ 6$^{15}/_{16}$ Inch-
es

(50 ¥ 130 ¥ 175 mm)
(with feet folded up)

Weight . . . . 1.11 lbs
(755 g)

Supplied Accessories . . . . DC Power Cord
DC Cigarette-Lighter Power Cord
AC Adapter
Telescoping Antenna
Window-Mount Antenna
Vehicle Mounting Hardware

Specifications are typical; Individual units might vary. Specifications are subject to change and improvement without notice.
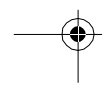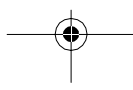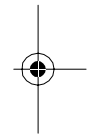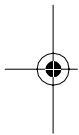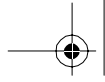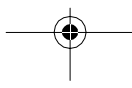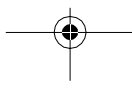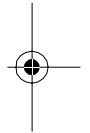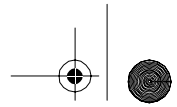
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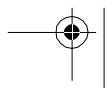
Limited One-Year Warranty

This product is warranted by RadioShack against manufacturing defects in material and workman-ship under normal use for one (1) year from the date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. 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.

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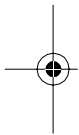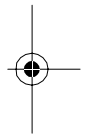
RadioShack
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