

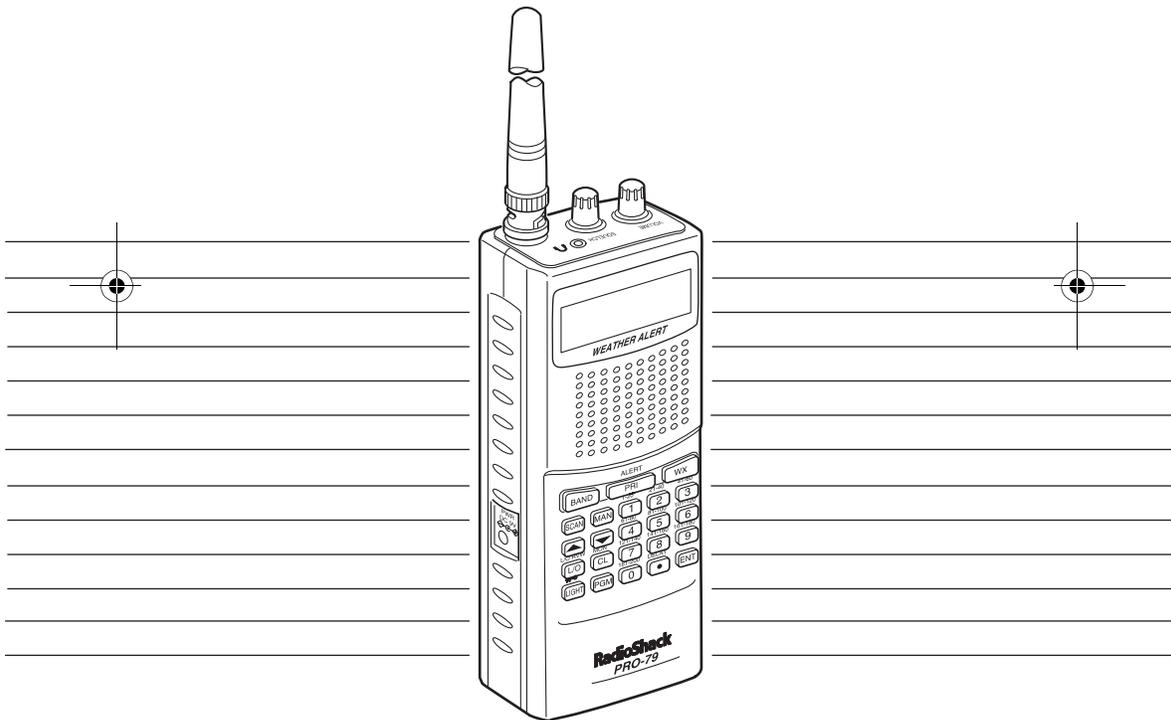


Owner's Manual

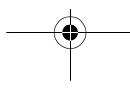
Cat. No. 20-314

# PRO-79 200-Channel VHF/Air/UHF Handheld Scanner

Please read before using this equipment.



**RadioShack®**



## FEATURES

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Your new RadioShack PRO-79 200 Channel VHF/Air/UHF Handheld Scanner lets you scan conventional transmissions, and is preprogrammed with search banks for convenience. By pressing a single button, you can quickly search those frequencies most commonly used by public service and other agencies without tedious and complicated programming.

This scanner gives you direct access to over 25,000 exciting frequencies, including those used by police and fire departments, ambulance services, and amateur radio services, and you can change your selection at any time.

Your scanner also has these special features:

**Four Service Banks** — let you search preset frequencies in separate ham radio, police/fire/emergency, aircraft, and marine banks, to make it easy to locate specific types of calls.

**Display Backlight** — makes the scanner easy to read in low-light situations.

**Duplicate Channel Alert** — warns you when the frequency you are storing already exists in memory.

**Lockout Function** — lets you set your scanner to skip over specified channels or frequencies when scanning or searching.

**Memory Backup** — keeps the channel frequencies stored in memory for about an hour in the event of a power loss.

**Ten Channel-Storage Banks** — you can store 20 channels in each bank (200 total channels), letting you group channels so you can more easily identify calls.

**20 Monitor Memories** — let you temporarily save up to 20 frequencies you locate during a search, so you can move selected frequencies to channel storage later.

**Direct Search** — lets you search for new and unlisted frequencies starting from a specified frequency.

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**Weather Alert** — the scanner automatically sounds an alert when it receives a weather emergency signal, providing more complete information about weather conditions in your immediate area.

**Weather Band Key** — scans seven preprogrammed weather frequencies to keep you informed about current weather conditions.

**Wired Programming** — you can connect your scanner to a personal computer and program frequencies into the scanner from the computer using an optional cable and software.

**Note:** The necessary cable and software, and additional information about using your personal computer to program your scanner, are available at your local RadioShack store.

**Scan Delay** — delays scanning for about 2 seconds before moving to another channel, so you can hear more replies that are transmitted on the same channel.

**Priority Channel** — lets you program a channel as the priority channel. As the scanner scans, it checks the priority channel every 2 seconds so you do not miss transmissions on that channel.

**HyperSearch™ and HyperScan™** — let you set the scanner to search at up to 50 steps per second (in frequency bands with 5 kHz steps) and scan at up to 25 channels per second, to help you quickly find interesting broadcasts.

**Manual Access** — you can directly access any stored channel by entering that channel's number.

**Key Lock** — lets you lock the scanner's keys to help prevent accidentally changing the scanner's programming.

**Liquid-Crystal Display** — makes it easy to view and change programming information.

**Supplied Flexible Antenna with BNC Connector** — provides good reception of strong local signals. You can connect an external antenna with a BNC connector to the scanner for improved reception of distant/weaker signals.

**Key Confirmation Tones** — the scanner sounds a confirmation tone when you perform an operation correctly, and an error tone if you make an error.

**Three Power Options** — you can power the scanner from internal (rechargeable or non-rechargeable batteries) or external AC or DC power (using an optional AC or DC adapter).

Your PRO-79 scanner can receive these bands:

Frequency Range (MHz)	Types of Transmissions
29–54	10-Meter Ham Band, VHF Lo, 6-Meter Ham Band
108–136.9875	Aircraft
137–174	Military Land Mobile, 2-Meter Ham Band, VHF Hi
380–512	UHF Aircraft, Federal Government, 70-cm Ham Band, UHF Standard Band, UHF “T” Band

**Note:** See “Specifications” on Page 49 for more information about the scanner’s frequency steps.

## FCC NOTICE

Your scanner might cause radio or TV 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 the following methods to eliminate the interference:

- Move your scanner away from the receiver.
- Connect your scanner to an outlet that is on a different electrical circuit from the receiver.
- Contact your local RadioShack store for help.

This equipment complies with Part 15 of the *FCC Rules*. Operation is subject to the following conditions; (1) this device must not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



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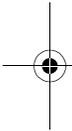
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**Note:** Mobile use of this scanner is unlawful or requires a permit in some areas. Check the laws in your area.

## 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 (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).



This scanner is designed to prevent reception of illegal transmissions, in compliance with the law which requires that scanners be manufactured in such a way as to not be easily modifiable to pick up those transmissions. Do not open your scanner's case to make any modifications that could allow it to pick up transmissions that it is not legal to listen to. Doing so could subject you to legal penalties.

We encourage responsible, legal scanner use.



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## PREPARATION

**Note:** If the scanner's display locks up or does not work properly after you connect a power source, you might need to reset or initialize the scanner.

**Important:** If you have problems, first try to reset the scanner (see "Resetting the Scanner" on Page 26). If that does not work, you can initialize the scanner (see "Initializing the Scanner" on Page 26); however, this clears all information stored in your scanner's memory.

## INSTALLING BATTERIES

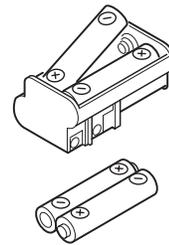
You can power your scanner with four AA batteries (not supplied). For the best performance and longest life, we recommend RadioShack alkaline batteries. Or, you can use rechargeable nickel-cadmium batteries and charge them either inside or outside the scanner. Both types of batteries are available at your local RadioShack store.

### Cautions:

- Use only fresh batteries of the required size and recommended type.
- Do not mix old and new batteries, different types of batteries (standard, alkaline, or rechargeable), or rechargeable batteries of different capacities.

Follow these steps to install batteries.

1. Slide the battery compartment cover in the direction of the arrow to remove it.
2. If you are using non-rechargeable batteries, place them into the supplied black holder, as indicated by the polarity symbols (+ and -) marked on the holder. Or, if you are using rechargeable batteries, place them into the supplied yellow holder, as indicated by the polarity symbols (+ and -) marked on the holder.
3. Place the battery holder (with batteries) into the battery compartment.
4. Replace the cover.



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When **B** appears on the display and the scanner beeps continuously, or if the scanner stops operating properly, replace the batteries.

**Warning:** Dispose of old batteries promptly and properly. Do not burn or bury them.

**Caution:** If you do not plan to use the scanner with batteries for a month or more, remove the batteries. Batteries can leak chemicals that can destroy electronic parts.

## USING AC POWER

You can power the scanner using a 9V, 300-mA AC adapter (RadioShack Cat. No. 273-1767A) and a size C Adaptaplug® adapter (neither supplied). Both are available at your local RadioShack store.

### Cautions:



You must use a Class 2 power source that supplies regulated 9V DC and delivers at least 300 mA. Its center tip must be set to positive and its plug must fit the scanner's **PWR** jack. Using an adapter that does not meet these specifications could damage the scanner or the adapter.

- Always connect the AC adapter to the scanner before you connect it to AC power. When you finish, disconnect the adapter from AC power before you disconnect it from the scanner.

To power the scanner using an AC adapter, attach the Adaptaplug adapter to the AC adapter so the tip reads positive (+), then insert the Adaptaplug adapter into the scanner's **PWR** jack. Then connect the other end of the adapter to a standard AC outlet.

## USING VEHICLE BATTERY POWER

You can power the scanner from a vehicle's 12V power source (such as a cigarette-lighter socket) using a 9V, 300-mA DC adapter and a size C Adaptaplug adapter (neither supplied). Both are available at your local RadioShack store.

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**Cautions:**

You must use a power source that supplies 9V DC and delivers at least 300 mA. Its center tip must be set to positive and its plug must fit the scanner's **PWR** jack. Using an adapter that does not meet these specifications could damage the scanner or the adapter.

- Always connect the DC adapter to the scanner before you connect it to the power source. When you finish, disconnect the adapter from the power source before you disconnect it from the scanner.

To power the scanner using a DC adapter, attach the Adapta-plug adapter to the DC adapter so the tip reads positive (+) and set the adapter's voltage switch to 9V. Next, insert the Adapta-plug adapter into the scanner's **PWR** jack, then plug the DC adapter into your vehicle's cigarette lighter socket.

**Note:** If you use a cigarette lighter power cable and your vehicle's engine is running, you might hear electrical noise from the engine while scanning. This is normal.

## CHARGING RECHARGEABLE BATTERIES

Your scanner has a built-in charging circuit that lets you charge Ni-Cd rechargeable batteries while they are in the scanner. To charge rechargeable batteries, simply connect an AC adapter to the scanner's **PWR** jack.

**Notes:**

- You must have installed Ni-Cd rechargeable batteries in the supplied yellow rechargeable battery holder in order to charge them while they are in the scanner. If you use Ni-MH or high-capacity Ni-Cd batteries in your scanner, you must use an external charger to charge them.
- You cannot use a DC adapter to recharge rechargeable batteries in the scanner due to the limitations of the scanner's charging circuit.

It takes between 14 and 16 hours to recharge rechargeable batteries that are fully discharged. You can operate the scanner while recharging the batteries, but charging takes longer.

**Note:** Ni-Cd batteries last longer and deliver more power if you occasionally let them fully discharge. To do this, simply use the scanner until **B** appears on the display. Then fully charge the batteries.



**Important:** This radio can use Ni-Cd rechargeable batteries. At the end of a Ni-Cd battery's useful life, it must be recycled or disposed of properly. Contact your local, county, or state hazardous waste management authorities for information on recycling or disposal programs in your area or call 1-800-843-7422. Some options that might be available are: municipal curbside collection, drop-off boxes at retailers such as your local RadioShack store, recycling collection centers, and mail-back programs.

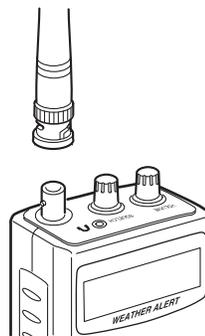
## CONNECTING AN ANTENNA

You must install an antenna before you can operate the scanner. You can use the supplied antenna, or you can connect an external one (not supplied).

### Connecting the Supplied Antenna

The supplied flexible antenna helps your scanner receive strong local signals. Follow these steps to install the antenna.

1. Align the slots around the antenna's connector with the tabs on the antenna jack.
2. Press the antenna down over the jack and turn the antenna's base clockwise until it locks into place.



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## Connecting an Outdoor Antenna

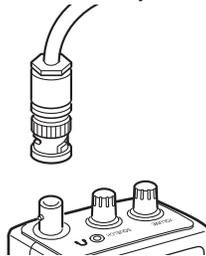
Instead of the supplied antenna, you can connect an outdoor base-station or mobile antenna (not supplied) to your scanner using a BNC connector. Your local RadioShack store sells a variety of antennas. Choose the one that best meets your needs.

When deciding on a mobile or base-station antenna and its location, consider these points:

- The antenna should be as high as possible on the vehicle or building.
- The antenna and its cable should be as far as possible from sources of electrical noise, such as appliances or other radios.
- The antenna should be vertical for the best performance.

Always use 50 Ohm coaxial cable, such as RG-58 or RG-8, to connect the base-station or mobile antenna. For lengths over 50 feet, use RG-8 low-loss dielectric coaxial cable. If the antenna cable's connector does not fit in the scanner's antenna jack, you might also need a PL-259-to-BNC antenna plug adapter. Your local RadioShack store carries a wide variety of coaxial antenna cable and connectors.

If you choose another antenna, remove the supplied antenna and follow the mounting instructions supplied with the new antenna. Route the antenna's cable to the scanner, then connect the cable to the scanner's antenna jack.



### 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 antenna cables.

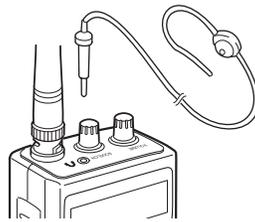
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**Warning:** Use extreme caution when you install or remove an outdoor antenna. If the antenna starts to fall, let it go! It could contact overhead power lines. If the antenna touches a power line, contact with the antenna, mast, cable, or guy wires can cause electrocution and death. Call the power company to remove the antenna. DO NOT attempt to do so yourself.

## CONNECTING AN EARPHONE/ HEADPHONES

For private listening, you can connect an earphone or headphones with a  $\frac{1}{8}$ -inch (3.5-mm) plug to the  $\Delta$  jack on the top of the scanner. (Your local RadioShack store carries a wide selection of earphones and headphones). Connecting an earphone or headphones automatically disconnects the internal speaker.



### Listening Safely

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

- Set the volume to the lowest setting before you begin listening. After you begin listening, adjust the volume to a comfortable level.
- Do not listen at extremely high volume levels. Extended high-volume listening can lead to permanent hearing loss.
- 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.

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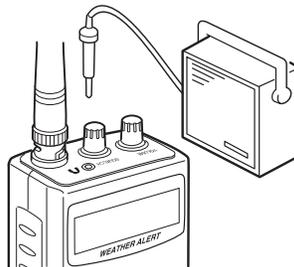
## Traffic Safety

- Do not use an earphone/headphones with your scanner when operating a motor vehicle or riding a bicycle in or near traffic. Doing so can create a traffic hazard and could be illegal in some areas.
- If you use an earphone/headphones with your scanner while riding a bicycle, be very careful. Do not listen to a continuous transmission. Even though some earphones/headphones let you hear some outside sounds when listening at normal volume levels, they still can present a traffic hazard.

## CONNECTING AN EXTENSION SPEAKER

In a noisy area, an amplified extension speaker (available at your local RadioShack store) positioned in the right place, might provide more comfortable listening.

Plug the speaker cable's 1/8-inch (3.5-mm) plug into your scanner's  jack.



**Note:** Connecting an external speaker disconnects the scanner's internal speaker.

## 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 type of communications you want to receive, then set the scanner to scan them.

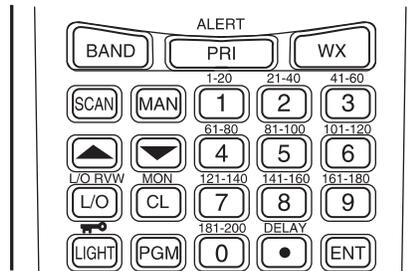
A **frequency** is the tuning location of a station (expressed in kHz or MHz). To find active frequencies, you can use the **search** function.

You can also search the **service-search banks**, which are pre-set groups of frequencies categorized by type of service.

When you find a frequency, you can store it into a programmable memory location called a **channel**, which is grouped with your other channels in a **channel-storage bank**. You can then **scan** the channel-storage banks to see if there is activity on the frequencies stored there. Each time the scanner finds an active frequency, it stays on that channel until the transmission ends.

## A LOOK AT THE KEYPAD

Your scanner's keys might seem confusing at first, but this information should help you understand each key's function.

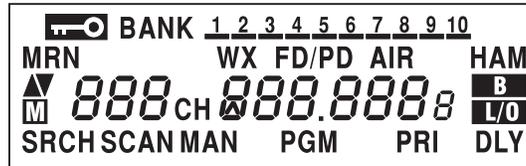


**Note:** Some of the scanner's keys perform more than one function and are marked with more than one label. The steps in this Owner's Manual show only the label on the key appropriate to the action being performed.

- 
- BAND** Lets you search the scanner's preprogrammed service-search banks.
  
  - PRI/ALERT** Turns the priority feature on and off; turns the WX alert mode on and off.
  
  - WX** Scans the seven preprogrammed weather channels.
  
  - SCAN** Scans any preprogrammed channels.
  
  - MAN** Stops scanning and lets you directly enter a channel number.
  
  - Number Keys** Each key has single-digit (0 to 9) and a range of numbers. Use the range of numbers above the key (21–40 for example) to select the channel in a channel-storage bank. See "Understanding Banks" on Page 19.
  
  - ▼ / ▲** Searches up or down for active frequencies or selects the direction when scanning channels.
  
  - L/O RVW / L/O** Reviews locked-out frequencies; lets you lock out selected channels or frequencies.
  
  - MON/CL** Lets you store a frequency in one of the 20 monitor memories; clears an incorrect entry.
  
  - ⏏ / LIGHT** Locks (and unlocks) the keypad to prevent accidental entries; turns the backlight on and off.
  
  - PGM** Programs frequencies into channels.
  
  - DELAY<sub>1</sub>** Programs a 2-second delay for the selected channel; enters a decimal point.
  
  - ENT (enter)** Enters frequencies into channels.

## A LOOK AT THE DISPLAY

The display has indicators that show the scanner's current operating status. This quick look at the display will help you understand how your scanner operates.



- ⏏**            Appears when you lock the keypad.
- ▼/▲**        Indicates the search or scan direction.
- AIR**         Indicates that the scanner is searching the air service bank.
- ALert**        Appears when the weather alert is on.
- b-**         Appears during a service bank frequency search.
- B**            Appears when the batteries are low.
- BANK**        Appears with numbers (1–10) to indicate the scan bank. Bank numbers with a bar under them show which banks are turned on for scanning (see “Understanding Banks” on Page 19).
- C-Err**        Appears when the scanner receives a checksum error during wired programming.
- CH**          Appears with digits (1–200) or **P** to show which channel the scanner is tuned to.
- Ch-FULL**     Appears when you try to enter a frequency during a search when all channels are full.
- d-**         Appears during a direct frequency search.
- dUPL-**      Appears when you try to store a frequency that is already stored in another channel.

- 
- dEFAULT**     Appears when you remove all the lock-outs from the service bank frequencies.
  
  - D-Err**        Appears when the scanner receives a data error during wired programming.
  
  - DLY**            Appears when you program a 2-second delay.
  
  - End**            Appears when the scanner has finished wired programming.
  
  - Error**         Appears when you make an entry error.
  
  - FD/PD**         Indicates that the scanner is searching the fire/police service bank.
  
  - FLo ALL-CL**    Appears when you remove all the locked-out frequencies during a service bank or direct search.
  
  - FLo-FULL**     Appears when you try to lock out a frequency during a search while 50 frequencies are already locked out.
  
  - F L-out**        Appears when you start a direct search from a locked-out frequency.
  
  - HAM**            Indicates that the scanner is searching the amateur radio service bank.
  
  - L/O (lockout)** Appears when you manually select a channel that was previously locked out during scanning or when you review a locked-out frequency.
  
  - L-r**            Appears when you review the locked-out frequencies.
  
  - M**              Flashes with a number (1-20) to show which monitor memory you are listening to.
  
  - MAN**            Appears when you manually select a channel.
  
  - MRN**            Indicates that the scanner is searching the marine service bank.
  
  - oFF tonE**      Appears when you turn the key tone off.

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<b>on tonE</b>	Appears when you turn the key tone on.
<b>P</b>	Appears when the scanner is tuned to the priority channel.
<b>PGM</b>	Appears when you program frequencies into the scanner's channels.
<b>PRI</b>	Appears when the priority feature is turned on.
<b>SCAN</b>	Appears when the scanner scans channels.
<b>SRCH</b>	Appears during service bank and direct frequency searches.
<b>StArt</b>	Appears when the scanner starts wired programming.
<b>WirEd</b>	Appears when you set the scanner to its wired programming mode to program frequencies into it.
<b>WX</b>	Indicates that the scanner is searching the weather channels.

## UNDERSTANDING BANKS

### Channel Storage Banks

To make it easier to identify and select the channels you want to listen to, channels are divided into 10 banks of 20 channels each. Use each channel-storage bank to group frequencies, such as those used by the police department, fire department, ambulance services, or aircraft (see "Guide to the Action Bands" on Page 42).

For example, the police department might use four frequencies, one for each side of town. You could program the police frequencies starting with Channel 1 (the first channel in bank 1) and program the fire department frequencies starting with Channel 21 (the first channel in bank 2).

## Service Banks

The scanner is preprogrammed with the frequencies allocated by fire/police, aircraft, ham radio, and marine services. This is handy for quickly finding active frequencies instead of searching through an entire band (see "Searching the Service Banks" on Page 28).

**Note:** The frequencies in the scanner's service banks are preset. You cannot change them.

### Fire/Police

Group	Frequency Range (MHz)	Step (kHz)
1	33.420–33.980	20
	37.020–37.420	20
	39.020–39.980	20
	42.020–42.940	20
	44.620–45.860	40
	45.880	–
	45.900	–
	45.940–46.060	40
	46.080–46.500	20
2	153.770–154.130	60
	154.145–154.445	15
	154.650–154.950	15
	155.010–155.370	60
	155.415–155.700	15
	155.730–156.210	60
	158.730–159.210	60
	166.250	–
	170.150	–

Group	Frequency Range (MHz)	Step (kHz)
3	453.0375–453.9625	12.5
	458.0375–458.9625	12.5
	460.0125–460.6375	12.5
	465.0125–465.6375	12.5

**Air**

Frequency Range (MHz)	Step (kHz)
108.000–136.9875	12.5

**Amateur Radio**

Group	Frequency Range (MHz)	Step (kHz)
1	29.000–29.700	5
2	50.000–54.000	5
3	144.000–148.000	5
4	420.000–450.000	12.5

**Marine**

Channel	Frequency (MHz)
06	156.3000
07	156.3500
08	156.4000
09	156.4500
10	156.5000
11	156.5500
12	156.6000
13	156.6500

Channel	Frequency (MHz)
14	156.7000
15	156.7500
16	156.8000
17	156.8500
18	156.9000
19	156.9500
20	157.0000/161.6000
21	157.0500
22	157.1000
23	157.1500
24	157.2000/161.8000
25	157.2500/161.8500
26	157.3000/161.9000
27	157.3500/161.9500
28	157.4000/162.0000
64	156.2250
65	156.2750
66	156.3250
67	156.3750
68	156.4250
69	156.4750
70	156.5250
71	156.5750
72	156.6250
73	156.6750
74	156.7250
77	156.8750

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Channel	Frequency (MHz)
78	156.9250
79	156.9750
80	157.0250
81	157.0750
82	157.1250
83	157.1750
84	157.2250/161.8250
85	157.2750/161.8750
86	157.3250/161.9250
87	157.3750/161.9750
88	157.4250



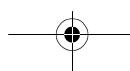
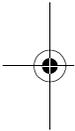
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## MONITOR MEMORIES

The scanner has 20 monitor memories that you can use to temporarily store frequencies while you decide whether to save them into channels. This is handy for quickly storing an active frequency when you are searching through an entire band. You can store a frequency into a monitor memory during a service bank, or direct search. See “Finding and Storing Active Frequencies” on Page 28.

You can select monitor memories manually, but you cannot scan them. See “Listening to a Monitor Memory” on Page 31.



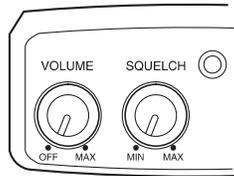
## OPERATION

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### TURNING ON THE SCANNER/SETTING VOLUME AND SQUELCH

1. Turn **SQUELCH** fully counterclockwise (until the indicator points to **MIN**) before you turn on the scanner.



2. To turn on the scanner, turn **VOLUME** clockwise until you hear a hissing sound.
3. Turn **SQUELCH** clockwise, just until the hissing sound stops.

#### Notes:

- To listen to a weak or distant station, turn **SQUELCH** counterclockwise. If reception is poor, turn **SQUELCH** clockwise to cut out weak transmissions.
  - If **SQUELCH** is adjusted so you always hear a hissing sound, the scanner will not scan or search properly.
4. To turn off the scanner when you finish, turn **VOLUME** counterclockwise to **OFF**.

### RESETTING/INITIALIZING THE SCANNER

If the scanner's display locks up or does not work properly after you connect a power source, you might need to reset or initialize the scanner.

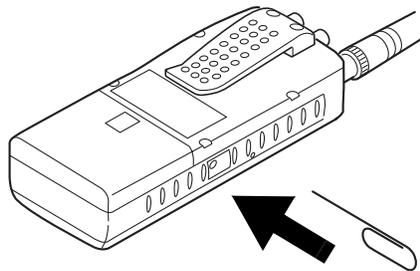
**Important:** If you have problems, first try to reset the scanner (see "Resetting the Scanner" on Page 26). If that does not work, you can initialize the scanner (see "Initializing the Scanner" on Page 26); however, this clears all information stored in your scanner's memory.

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## Resetting the Scanner

1. Turn off the scanner, then turn it on again.
2. Insert a pointed object, such as a straightened paper clip, into the reset opening on the side of the scanner (as shown). Then gently press the reset button inside the opening. Information disappears from the display as you press the reset button.



**Note:** If the scanner still does not work properly, you might need to initialize the scanner (see “Initializing the Scanner”).

## Initializing the Scanner

**Important:** This procedure clears all information you stored in the scanner’s memory. Initialize the scanner only when you are sure the scanner is not working properly.

1. Turn off the scanner, then turn it on again.
2. Hold down **MON/CL**.
3. While holding down **MON/CL**, insert a pointed object (such as a straightened paper clip) into the reset opening on the side of the scanner, then gently press the reset button inside the opening. Information disappears from the display as you press the reset button.
4. Release **MON/CL**. The display turns on.

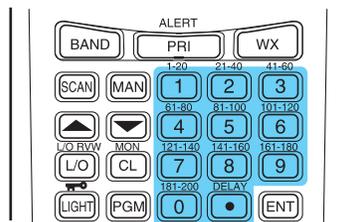
**Note:** You must release the reset button before releasing **MON/CL**; otherwise the memory might not clear.

## STORING KNOWN FREQUENCIES INTO CHANNELS

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

Follow these steps to store frequencies into channels.

1. Press **MAN**, enter the channel number (1–200) where you want to store a frequency, then press **PGM**. The channel number appears.
2. Use the number keys and **.** to enter the frequency (including the decimal point) you want to store.



3. Press **ENT** to store the frequency into the channel.

### Notes:

- If you made a mistake in Step 2, **Error** appears and the scanner beeps when you press **ENT**. Simply start again from Step 2.
- Your scanner automatically rounds the entered frequency down to the closest valid frequency. For example, if you enter a frequency of 151.473, your scanner accepts it as 151.470.
- If you entered a frequency that is already stored in another channel, the scanner beeps three times and displays the lowest channel number where the frequency is already stored, and **-DUPL-** then the frequency flashes. If you want to store the frequency anyway, press **ENT** again. Press **MON/CL** to clear the frequency.

- 
- Press **DELAY** if you want the scanner to pause 2 seconds on this channel before it proceeds to the next channel after a transmission ends (see “Delay” on Page 36). The scanner also stores this setting in the channel.
4. To program the next channel in sequence, press **PGM** and repeat Steps 2 and 3.

## FINDING AND STORING ACTIVE FREQUENCIES

### Searching the Service Banks

Your scanner contains groups of preset frequencies called service banks. Each service bank is associated with a specific activity (see “Service Banks” on Page 20). You can search for fire/police, air, ham, and marine transmissions even if you do not know the specific frequencies that are used in your area. Then you can store the frequencies you found into the scanner’s channels or monitor memories.

#### Notes:

- You can use the scanner’s delay feature while searching the service banks, see “Delay” on Page 36.
- To listen to the marine bank, see “Listening to the Marine Bank” on Page 34.

1. Press **BAND**. The last selected band name (such as **HAM**), **SRCH**, **-b-**, frequency and the group number (if any) appear.
2. To select a different band, repeatedly press **BAND** until the desired band name appears on the display. After about 2 seconds, the scanner begins searching rapidly in that band for an active frequency.

#### Notes:

- To reverse the search direction at any time, hold down **▲** or **▼** for about 1 second.
- To search up or down the band in small increments, repeatedly press **▲** or **▼**. (See “Service Banks” on Page 20 for frequency steps).

- 
- To pause the search while receiving a signal, press ▲ or ▼. To resume searching, hold down ▲ or ▼.
  - To quickly move up or down through the frequencies, hold down ▲ or ▼. The scanner tunes through the frequencies until you release ▲ or ▼.
  - If necessary, you can select search groups using the number keys.
3. When the scanner finds an active frequency, it stops searching and displays the frequency's number. To store the displayed frequency in the lowest available channel, press **PGM** then **ENT**. The channel and frequency flash twice, and the scanner stores the displayed frequency. The scanner then continues to search for frequencies.

**Notes:**

- If there is no empty channel, **Ch-FULL** appears after you press **PGM**. To store more frequencies, you must clear some channels. See "Clearing a Stored Channel" on Page 34. To continue searching after **Ch-FULL** appears, hold down ▲ or ▼.
  - If you entered a frequency that is already stored in another channel, **-dUPL-** (duplicate) and the lowest-numbered channel containing the duplicate frequency flash for about 3 seconds. If you want to store the frequency anyway, press **ENT** again. You can then delete the frequency later. See "Clearing a Stored Channel" on Page 34.
4. To store the displayed frequency in a monitor memory, press **MON/CL**. The monitor memory number, **M**, and the frequency flash twice.
5. To search for another active frequency in the selected band, hold down ▲ or ▼ for about 1 second. To select a different band and search for another active frequency, repeat Steps 2–4.

**Using Direct Search**

During a direct search, the scanner searches up or down, starting from a frequency you specify. Follow these steps to use direct search.

**Note:** You can use the scanner's delay feature while using direct search.

1. Press **MAN** then enter the frequency (including the decimal point) you want to use as a starting point for the search.

**Note:** To start from a frequency already stored in one of your scanner's channels, press **MAN** and enter the desired channel number, then press **MAN** again.

2. Hold down ▲ or ▼ for about 1 second to search up or down. -d-, **SRCH**, and ▲ or ▼ appear.



▲ -d- 149.3450  
SRCH

**Notes:**

- To reverse the search direction at any time, hold down ▲ or ▼ for about 1 second.
  - To search up or down the selected band in small increments (5, 12.5, or 25 kHz steps), repeatedly press ▲ or ▼.
  - To pause the search, press ▲ or ▼. To resume searching, hold down ▲ or ▼.
  - To quickly move up or down through the frequencies, hold down ▲ or ▼. The scanner tunes through the frequencies until you release ▲ or ▼.
3. When the scanner finds an active frequency, it stops searching and displays the frequency's number. To store the displayed frequency in the lowest available channel, press **PGM** then **ENT**. The channel and frequency flash twice, and the scanner stores the displayed frequency. The scanner continues to search for frequencies.

**Notes:**

- If there is no empty channel, **Ch-FULL** appears. To store more frequencies, you must clear some channels. See "Clearing a Stored Channel" on Page 34. To continue searching after **Ch-FULL** appears, press and hold down ▲ or ▼.

- If you entered a frequency that is already stored in another channel, **-dUPL-** (duplicate) and the lowest-numbered channel containing the duplicate frequency flash on the display for about 3 seconds. If you want to store the frequency anyway, press **ENT** again.
4. To store the displayed frequency in a monitor memory, press **MON/CL. M**, the monitor memory number, and the frequency flash twice.
  5. To search for another active frequency, hold down **▲** or **▼** for about 1 second.

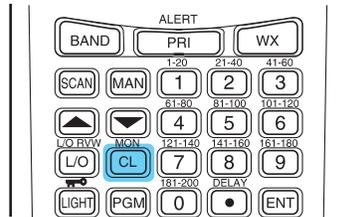
## USING MONITOR MEMORY

### Listening to a Monitor Memory

To recall a frequency stored in a monitor memory, press **MAN** then **MON/CL. M**, the monitor memory number, and **CH** flash and the stored frequency appears.

**Note:** See Step 4 under “Searching the Service Banks” on Page 28 for more information about storing a frequency in a monitor memory.

To select other monitor memories, enter the desired monitor memory’s number (1—20), then press **MON/CL** again.



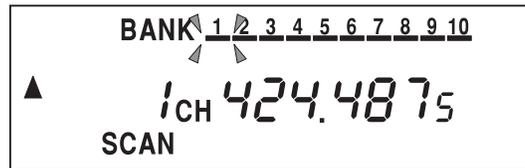
### Moving a Frequency from a Monitor Memory to a Channel

1. Press **MAN**, enter the channel number where you want to store the frequency, then press **PGM. PGM** and the selected channel number appear.

2. Press **MON/CL**, **M**, a monitor memory number, and **CH** flash, and the frequency in the selected monitor memory appears.
3. Enter the desired monitor memory's number (1–20), then press **MON/CL** again. The selected monitor memory's frequency appears.
4. Press **ENT**. The scanner stores the frequency in the selected channel.
5. To move another monitor memory frequency to the next channel, press **PGM** and repeat Steps 2–4.

## SCANNING THE STORED CHANNELS

To set the scanner to continuously scan through all channels with stored frequencies, simply press **SCAN**. **SCAN** and **▲** appear, and the scanner begins to rapidly scan until it finds an active frequency.



When the scanner finds an active frequency, it stops and displays that channel and frequency number, then it automatically begins scanning again when the transmission on that frequency ends.

### Notes:

- To reverse the scanning direction, press **▲** or **▼**.
- To set the scanner to remain on the current channel for 2 seconds after the transmission ends, see "Delay" on Page 36.
- To set the scanner to remain on the current channel, even after the transmission stops, press **MAN** at any time during the transmission so **MAN** appears and **SCAN** disappears (see "Monitoring a Stored Channel" on Page 33).
- To lock out channels so the scanner does not stop for a transmission on those channels, see "Locking Out Channels or Frequencies" on Page 36.

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## TURNING CHANNEL-STORAGE BANKS OFF AND ON

Channel-storage banks (1–10) are on when they have a bar underneath them and off when no bar appears underneath them. To turn off a channel-storage bank, press **SCAN** to see which banks are currently on, then press the bank's number key. The bar under the bank's number disappears.

**Note:** The scanner does not scan any of the channels within the banks you have turned off.

To turn on a channel-storage bank (1–10) press **SCAN**, and then press the bank's number key. A bar appears under the bank's number.

### Notes:

- You cannot turn off all banks. There must be at least one active bank.
- You can manually select any channel in a bank, even if the bank is turned off.
- When you turn on the bank during scanning, the scanner moves to the selected bank's channel and continues scanning.

## MONITORING A STORED CHANNEL

You can continuously monitor a specific channel without scanning. This is useful if you hear an emergency broadcast on a channel and do not want to miss any details — even though there might be periods of silence — or if you simply want to monitor that channel.

Follow these steps to manually select a channel.

1. Press **MAN**.
2. Enter the channel number (1–200).
3. Press **MAN** again.

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## CLEARING A STORED CHANNEL

If you no longer want a frequency stored in a channel (and you do not want to replace that frequency with a different one), follow these steps to clear the stored frequency.

1. Press **MAN** to stop scanning.
2. To select the desired channel number, use the number keys to enter that channel number (1–200).
3. Press **PGM**. **PGM** appears.
4. Press **0** then **ENT**. The frequency number changes to **000 . 0000** to indicate the channel is cleared.
5. To clear another channel, use the number keys to enter that channel number (1–200), then press **PGM** again. Or repeatedly press **PGM** until the desired channel number appears. Then repeat Step 4.

## LISTENING TO THE MARINE BANK

To listen to the marine bank, repeatedly press **BAND** until **MRN** appears.

To change the channel manually, press **▲** or **▼**.

To scan through the marine bank, hold down **▲** or **▼** for about 2 seconds. **MAN** disappears and **SCAN** appears. To change the scanning direction, press **▲** or **▼**.

To stop scanning the channels, hold down **▲** or **▼** for about 2 seconds.

You can select a marine channel directly. When the scanner stops scanning the marine bank, use the number keys to enter the two-digit channel number.

## LISTENING TO THE WEATHER BAND

To hear your local forecast and regional weather information, press **WX**. Your scanner begins to scan through the weather band.

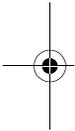


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Your scanner should stop within a few seconds on your local weather broadcast. If the broadcast is weak, you can press **WX** again to resume scanning.

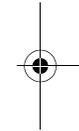
Channel	Frequency (MHz)
1	162.400
2	162.425
3	162.450
4	162.475
5	162.500
6	162.525
7	162.550



### WX Alert

Your scanner's WX alert warns you of serious weather conditions by sounding an alarm if a National Weather Service broadcaster in your area broadcasts a weather alert tone.

To set the scanner so it sounds an alarm when a weather alert tone is broadcast, press **PRI/ALERT** while you are listening to the WX channel. **ALERT** appears. If the scanner detects the weather alert, it sounds an alarm. Press any key to turn off the alarm. To cancel the weather alert operation, press **PRI/ALERT** again.



## **SPECIAL FEATURES**

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### **DELAY**

Many agencies use a two-way radio system that has a period of several seconds between a query and a reply. To avoid missing a reply, you can program a 2-second delay into any channel or set a delay for all frequencies. When your scanner stops on a channel or frequency with a programmed delay, **DLY** appears and the scanner continues to monitor that channel or frequency for 2 seconds after the transmission stops before resuming scanning or searching.

You can program a 2-second delay in any of these ways:

- If the scanner is scanning and stops on an active channel, quickly press **DELAY**, before it resumes scanning.
- If the desired channel is not selected, manually select the channel, then press **DELAY**.
- If the scanner is searching, press **DELAY**. **DLY** appears and the scanner automatically adds a 2-second delay to every transmission it stops on in that band.

To turn off the 2-second delay in a channel or for all frequencies, press **DELAY**, while the scanner is monitoring that channel or frequency. **DLY** disappears.

### **LOCKING OUT CHANNELS OR FREQUENCIES**

You can increase the effective scanning or search speed by locking out individual channels or frequencies that have a continuous transmission, such as a weather channel (see "National Weather Frequencies" on Page 41) or a birdie frequency (see "Birdie Frequencies" on Page 41).

#### **Locking Out Channels**

To lock out a channel during scanning, press **L/O / L/O RVW** when the scanner stops on the channel.

To manually lock out a channel, select the channel then hold down **L/O / L/O RVW** until **L/O** appears.

To remove the lockout from a channel, manually select that channel again, then hold down **L/O/L/O RVW** until **L/O** disappears.

**Notes:**

- Your scanner automatically locks out empty channels.
- You can still manually select locked-out channels.

### Locking Out Frequencies

To lock out a frequency during a service bank or direct search, press **L/O/L/O RVW** when the scanner stops on that frequency. The scanner locks out the frequency then continues searching. You can lock out frequencies in both direct search and service bank searches.

**Note:** You can lock out as many as 50 frequencies during a search. If you try to lock out more, **FLo -FULL** appears (see “Reviewing Locked-Out Frequencies” and “Removing Lockouts From All Frequencies”).

### Reviewing Locked-Out Frequencies

To review the frequencies you locked out, hold down **L/O / L/O RVW** for about 2 seconds during a search, then repeatedly press **▲** or **▼**. **L-r** appears and the scanner displays all locked out frequencies as you press **▲** or **▼**. When you reach the highest locked-out frequency, the scanner beeps twice and returns to the lowest locked-out frequency.

### Removing Lockouts From All Frequencies

1. Hold down **L/O/L/O RVW** for about 2 seconds during a service bank or direct search. **L-r** appears.
2. While holding down **MON/CL**, hold down **L/O / L/O RVW**. **FLo ALL-CL** appears.
3. Press **ENT**. **L-r 000.000** appears. The scanner clears any lockouts from all frequencies. Or, if you do not want to clear the lockouts, press **MON/CL**.
4. To continue searching, press **BAND**.

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## Removing Lockouts From All Frequencies in All Service Banks

### Notes:

- These steps do not clear any lockouts in the marine service bank.
- If you locked out frequencies which are within the range of any of the service banks during direct search, the scanner also removes those locked-out frequencies when you use these steps. For example, if you lockout 29.000 MHz during direct search, the scanner removes it since 29.000 MHz is one of the frequencies in the ham radio service bank.

1. Hold down **L/O / L/O RVW** for about 2 seconds during a service bank or direct search. **L-r** appears.
2. While holding down **MON/CL**, press **BAND. dEFAULT** appears.
3. Press **ENT**. The scanner clears any lockouts from all frequencies in all service banks. Or, if you do not want to clear the lockouts, press **MON/CL**.

## USING PRIORITY

The priority feature lets you scan through channels and still not miss important or interesting calls on a frequency you select. You can program one frequency into the priority channel. As the scanner scans, if the priority feature is turned on, the scanner checks the priority channel for activity every 2 seconds.

1. Press **PGM**, then press **PRI/ALERT**.
2. Enter the frequency you want to enter into the priority channel, then press **ENT**.

To turn on the priority feature, press **PRI/ALERT** during scanning. **PRI** appears. The scanner checks the priority channel every 2 seconds and stays on the channel if there is activity. **PCH** and the frequency appear whenever the scanner is set to the priority channel.

To turn off the priority feature, press **PRI/ALERT**. **PRI** disappears.



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**Note:** If you program a weather frequency into the priority channel and the scanner detects a WX alert tone on that frequency (see “WX Alert” on Page 35), the scanner sounds the alert tone and **ALert** flashes. Press any key to turn off the alarm.

## USING THE DISPLAY BACKLIGHT

You can turn on the display's backlight for easy viewing in the dark. Press **LIGHT** to turn on the light for 5 seconds. To turn off the light sooner, press **LIGHT** again.

## TURNING THE KEY TONE ON AND OFF

The scanner is preset to sound a tone each time you press one of its keys (except **LIGHT**). You can turn the key tone off or back on.

1. If the scanner is on, turn **VOLUME** counterclockwise until it clicks to turn the scanner off.
2. While you hold down **2** and **ENT**, turn on the scanner.
3. When **oFF tonE** or **on tonE** appear, release **2** and **ENT**.

## USING THE KEY LOCK

Once you program your scanner, you can protect it from accidental program changes by turning on the keylock feature. When the keypad is locked, the only controls that operate are **SCAN**, **MANUAL**, **LIGHT**, **VOLUME**, and **SQUELCH**.

**Note:** The keylock does not prevent the scanner from scanning channels or monitoring a single channel, whichever feature you last selected.






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To turn on the keylock, hold down  for about 3 seconds until the scanner beeps three times and  appears. To turn it off, hold down  for about 3 seconds until the scanner beeps three times and  disappears.

## AVOIDING IMAGE FREQUENCIES

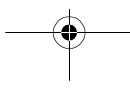
You might discover one of your regular stations on another frequency that is not listed. It might be what is known as an image frequency. For example, you might find a service that regularly uses a frequency of 453.275 also on 474.675 MHz.

To see if it is an image, do a little math.

Note the new frequency	474.675
Double the intermediate frequency of 10.7 MHz	(21.400)
and subtract it from the new frequency	-21.400
If the answer is the regular frequency	453.275

then you have tuned to an image.

Occasionally, you might get interference on a weak or distant channel from a strong transmission 21.4 MHz above or below the tuned frequency. This is rare, and the image signal is usually cleared whenever there is a transmission on the actual frequency.



# 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

### National Weather Frequencies

162.400      162.425      162.450      162.475  
 162.500      162.525      162.550

### Birdie Frequencies

Every scanner has birdie frequencies. Birdies are signals created inside the scanner's receiver. These operating frequencies might interfere with transmissions 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 **SQUELCH** clockwise to cut out the birdie. This scanner's birdie frequencies (in MHz) are:

30.075	30.735	38.400	40.000	40.980
48.025	51.200	51.225	112.675	128.575
136.725	140.800	144.655	152.995	160.965
166.400	169.010	386.375	399.375	402.475
416.0375	426.625	434.675	442.100	447.425
456.075	458.175	464.3625	466.225	474.3125
480.575	490.3375	504.625	506.4125	

To find the birdies in your individual 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 search 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

### Typical Band Usage (MHz)

#### VHF Band

Low Range	29.00–50.00
6-Meter Amateur	50.00–54.00
Aircraft	108.00–136.00
U.S. Government	137.00–144.00
2-Meter Amateur	144.00–148.00
High Range	148.00–174.00

#### UHF Band

Military Aircraft	311.00–384.00
U.S. Government	406.00–420.00
70-Centimeter Amateur	420.00–450.00
Low Range	450.00–470.00
FM-TV Audio Broadcast, Wide Band	470.00–512.00

### Primary Usage

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

#### VHF Band

Activities	Frequencies (MHz)
2-Meter Amateur Band	144.000–148.000
Government, Police, and Fire	153.785–155.980
Emergency Services	158.730–159.460
Railroad	160.000–161.900

#### UHF Band

Activities	Frequencies (MHz)
70-Centimeter Amateur Band	420.000–450.000
FM Repeaters	
Land-Mobile "Paired" Frequencies	450.000–470.000
Base Stations	451.025–454.950
Mobile Units	456.025–459.950
Repeater Units	460.025–464.975
Control Stations	465.025–469.975

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

## 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

**HIGH FREQUENCY (HF) — (3 MHz–30 MHz)**

**10-Meter Amateur Band (28.0–29.7 MHz)**

29.000–29.700 ..... HAM

**VERY HIGH FREQUENCY (VHF) — (30 MHz–300 MHz)**

**VHF Low Band (29.7–50 MHz—in 5 kHz steps)**

29.700–29.790	IND
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
36.230–36.990	Oil Spill Cleanup, 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 (50–54 MHz)**

50.00–54.00 ..... HAM

**Aircraft Band (108–136 MHz)**

108.000–121.490	AIR
121.500	AIR Emergency
121.510–136.000	AIR

**U.S. Government Band (137–144 MHz)**

137.000–144.000 ..... GOVT, MIL

**2-Meter Amateur Band (144–148 MHz)**

144.000–148.000 ..... HAM

**VHF High Band (148–174 MHz)**

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
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) — (300 MHz–3 GHz)**

**U. S. Government Band (406–420 MHz)**

406.125–419.975	.....	GOVT, USXX
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**70-Centimeter Amateur Band (420–450 MHz)**

420.000–450.000	.....	HAM
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**Low Band (450–470 MHz)**

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

**FM-TV Audio Broadcast, UHF Wide Band (470–512 MHz)  
(Channels 14 through 20 in 6 MHz steps)**

475.750	Channel 14
481.750	Channel 15
487.750	Channel 16
493.750	Channel 17
499.750	Channel 18
505.750	Channel 19
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:

$30.62 \text{ (MHz)} \times 1000 = 30,620 \text{ kHz}$

- To convert from kHz to MHz, divide the number of kilohertz by 1,000:

$127,800 \text{ (kHz)} \div 1000 = 127.8 \text{ MHz}$

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

$300 \div 50 \text{ MHz} = 6 \text{ meters}$

## **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.

<b>PROBLEM</b>	<b>POSSIBLE CAUSE</b>	<b>REMEDY</b>
Scanner is totally inoperative.	The AC or DC adapter is not connected.	Be sure the adapter's barrel plug is fully inserted into the <b>PWR</b> jack.
	The batteries are dead.	Replace the batteries with fresh ones, or recharge the rechargeable batteries.
Poor or no reception	An antenna is not connected or is connected incorrectly.	Make sure an antenna is properly connected to the scanner.
	Programmed frequencies are the same as "birdie" frequencies.	Avoid programming frequencies listed under "Birdie Frequencies" on Page 41 or only listen to them manually.
Keypad does not work.	Keylock is turned on.	Turn off the keylock.
	The scanner might need to be reset or initialized.	Turn the scanner off then on again, or reset/initialize the scanner (see "Resetting/Initializing the Scanner" on Page 25).
Scanner is on but will not scan.	<b>SQUELCH</b> is not correctly adjusted.	Adjust <b>SQUELCH</b> clockwise.
	Only one channel is (or no channels are) stored.	Store frequencies into more than one channel.
During scanning, the scanner locks on frequencies that have an unclear transmission.	Programmed frequencies are the same as "birdie" frequencies.	Avoid programming frequencies listed under "Birdie Frequencies" on Page 41, or only listen to them manually.

## **CARE AND MAINTENANCE**

Your RadioShack PRO-79 200 Channel VHF/Air/UHF Hand-held 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.



Use and store the scanner only in normal temperature environments. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.



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 its 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.

# SPECIFICATIONS

## Frequency Coverage (MHz):

10 Meter Amateur Radio .....	29–30 (in 5 kHz steps)
VHF Lo .....	30–50 (in 5 kHz steps)
6 Meter Amateur Radio .....	50–54 (in 5 kHz steps)
Aircraft .....	108–136.9875 (in 12.5 kHz steps)
Government .....	137–144 (in 5 kHz steps)
2 Meter Amateur Radio .....	144–148 (in 5 kHz steps)
VHF Hi .....	148–174 (in 5 kHz steps)
Amateur Radio/Government .....	380–450 (in 12.5 kHz steps)
UHF Standard .....	450–470 (in 12.5 kHz steps)
UHF "T" .....	470–512 (in 12.5 kHz steps)

Channels of Operation ..... 200 channels/20 monitor memories

## Sensitivity (20 dB S/N):

29–54 MHz .....	0.5 $\mu$ V
108–136.9875 MHz .....	1.0 $\mu$ V
137–174 MHz .....	0.5 $\mu$ V
380–512 MHz .....	0.7 $\mu$ V

Spurious Rejection (FM @154 MHz) ..... 50 dB

## Selectivity:

$\pm$ 10 kHz .....	-6 dB
$\pm$ 18 kHz .....	-50 dB

Search Speed ..... Up to 50 Steps/Sec

Scan Speed ..... Up to 25 Channels/Sec

Delay Time ..... 2 Seconds

## IF Frequencies:

1st IF .....	10.7 MHz
2nd IF .....	455 kHz

IF Interference Ratio (10.7 MHz) ..... 70 dB at 150 MHz

## Squelch Sensitivity:

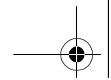
Threshold .....	Less than 0.5 $\mu$ V
Tight (FM) .....	(S + N)/N 25 dB
Tight (AM) .....	(S + N)/N 20 dB

Antenna Impedance ..... 50 Ohms

Audio Output Power (10% THD) ..... 180 mW Nominal

Built-In Speaker ..... 1<sup>3</sup>/<sub>8</sub> Inches (36 mm), 8 Ohms

Operating Temperature ..... 14° to 140°F  
(-10° to 60°C)




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Power Requirements ..... 6 Volts DC, 4 AA Batteries  
 AC Adapter (Optional)  
 DC Adapter (Optional)

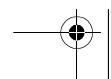
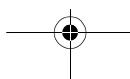
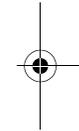
Current Drain (Squelched) ..... 45 mA

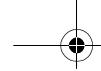
Dimensions (HWD) .....  $5^{11/16} \times 2^{3/8} \times 1^{3/8}$  Inches  
(145 × 62 × 34 mm)

Weight (without antenna and batteries) ..... 7.9 oz  
(224 g)

Supplied Accessories ..... Antenna, Battery Holder,  
Rechargeable Battery Holder

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

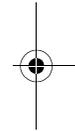
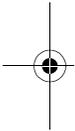




# NOTES

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### Limited One-Year Warranty

This product is warranted by RadioShack against manufacturing defects in material and workmanship under normal use for one (1) year 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, 200 Taylor Street, 6th Floor, Fort Worth, TX 76102

*We Service What We Sell*

04/99

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**Fort Worth, Texas 76102**

GE-99D-3426  
Printed in Hong Kong

12A99