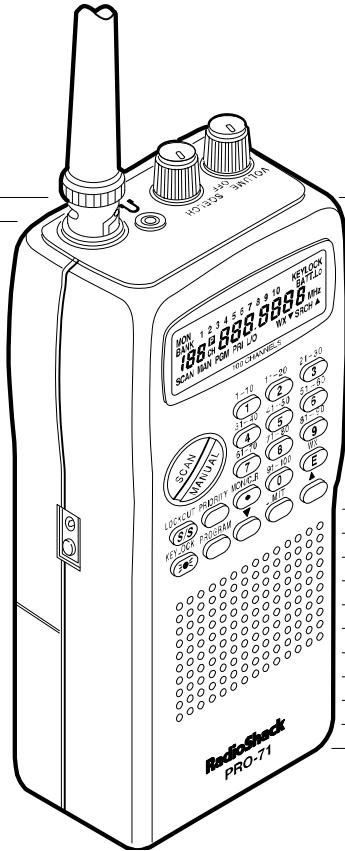# OWNER'S MANUAL

PRO-71 VHF/UHF/Air
Handheld Scanner

Please read before using this equipment.

®
RadioShack®

FEATURES

Your new RadioShack PRO-71 VHF/UHF/Air Handheld Scanner lets you in on all the action! This scanner gives you direct access to 23,000 exciting frequencies that include police department, fire department, ambulance, aircraft, amateur radio, and transportation services. You can select up to 100 channels for your scanner to scan and you can change your selection at any time.

The secret to your scanner's ability to scan so many frequencies is its custom-designed microprocessor — a tiny, built-in computer. Your scanner also has these special features:

Large Liquid-Crystal Display — lets you easily see displayed information.

Search Skip — lets you select up to 20 frequencies for the scanner to skip during a limit or direct search to avoid unwanted frequencies.

Frequency Search — scans through every available frequency.

Ten Channel-Storage Banks — let you store 10 channels in each of ten banks to group frequencies and help you identify calls.

Monitor Memories — let you temporarily save up to ten channels you locate during a frequency search.

Two-Second Automatic Scan Delay — delays scanning for 2 seconds before moving to another channel, so you can hear more replies.

Memory Backup — keeps the channel frequencies stored in memory for up to 1 hour during a power loss.

Lock-Out Function — keeps channels you select from being scanned.

Priority Channel — lets you specify your most important channel and check it every 2 seconds so you don't miss important calls.

Weather Band Key — scans seven preprogrammed weather frequencies so you can hear about current weather conditions.

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

Your scanner can receive all of these bands:

Frequency Range (MHz)	Transmission
29–29.7	10-Meter Amateur Radio
29.7–50	VHF Lo
50–54	6-Meter Amateur Radio
108–136.975	Aircraft
137–144	Government
144–148	2-Meter Amateur Radio
148–174	VHF Hi
406–420	Government
420–450	70-cm Amateur Radio
450–470	UHF Standard
470–512	UHF "T" Band

In addition, your scanner is preprogrammed with the following weather service channels:

Frequency (MHz)
162.400
162.425
162.450
162.475
162.500
162.525
162.550

This Owner's Manual also includes the section "A Guide to the Action Bands," which lets you target services in your area by giving you frequency ranges to search. You can then store any of these frequencies into memory for easy scanning.

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

- connecting your scanner to an outlet that is on a different electrical circuit from the receiver

- contacting your local RadioShack store for help

If you cannot eliminate the interference, the FCC requires that you stop using your scanner.

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).

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This scanner has been designed to prevent reception of illegal transmissions. This is done to comply with the legal requirement that scanners be manufactured so 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.

CONTENTS

PREPARATION

POWER SOURCES

You can power your scanner from any of three sources:

- internal batteries
- standard AC power (using an optional AC adapter)
- vehicle battery power (using an optional DC adapter)

INSTALLING BATTERIES

Your scanner requires 4 AA batteries (not supplied) for power. For the best performance and longest life, we recommend alkaline batteries. Or, you can use rechargeable nickel-cadmium batteries. Both types of batteries are available at your local RadioShack store.

Warning: The scanner has a built-in circuit that lets you recharge nickel-cadmium batteries inside the battery compartment. However, you must never use this circuit when you have installed non-rechargeable batteries in the scanner. Be sure to read "Important Information About the External Power Jacks" on Page 9 and "Charging Nickel-Cadmium Batteries" on Page 12.

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.

1. Press down the tab on the battery compartment cover, and lift open the compartment.
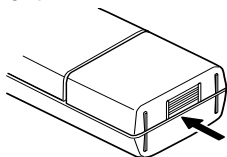
2. Install two batteries in the compartment and two in the cover as indicated by the polarity symbols (+ and –) marked inside each location.
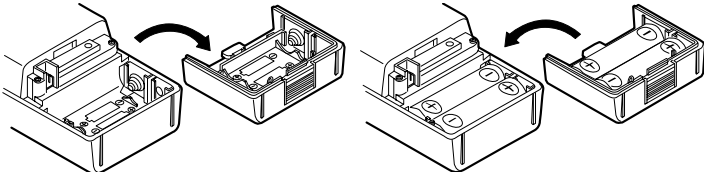
3. Replace the cover.

When **BATT.Lo** flashes and the scanner beeps every 15 seconds, immediately replace or recharge all four batteries.

Cautions:

- If you do not plan to use the scanner with batteries for a month or more, or if you plan to use only an AC or DC adapter, remove the batteries. Batteries can leak chemicals that can destroy electronic parts.

- Dispose of old batteries promptly and properly. Do not burn or bury them.

IMPORTANT INFORMATION ABOUT THE EXTERNAL POWER JACKS

POWER Jack

CHARGE Jack
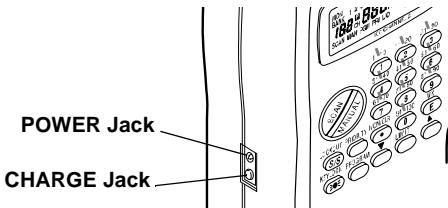
The scanner has two external power jacks — **POWER** and **CHARGE**. It is important that you understand the purpose of each jack before you connect any adapter to the scanner.

The **POWER** jack powers the scanner and disconnects the internal batteries. You can use this jack to connect an external power source (AC or DC adapter), regardless of the type of batteries you install.

The **CHARGE** jack supplies power to operate the scanner and also charges the internal batteries. Use the **CHARGE** jack only when you have installed rechargeable nickel-cadmium batteries.

Warning: Never use the **CHARGE** jack when you have installed non-rechargeable batteries. If you try to recharge non-rechargeable batteries, they become very hot and could explode.

Remove the plastic plug from the **CHARGE** jack before you use it, then replace the plug when you finish.

CHARGE Jack
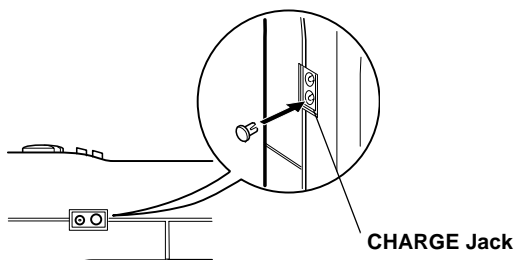
USING STANDARD AC POWER

To power the scanner from AC power, you need an AC adapter such as RadioShack Cat. No. 273-1665. Plug the adapter's 3.4 mm outer diameter/1.3 mm inner diameter barrel plug into the scanner's **POWER** jack. Then plug the adapter's power module into a standard AC outlet.
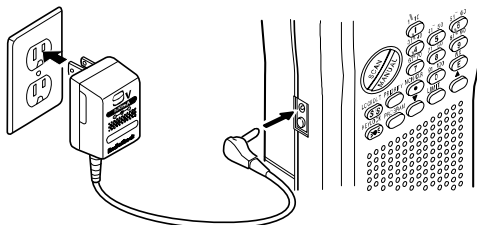
Warning: Do not use an AC adapter's polarized plug with an extension cord, receptacle, or other outlet unless the blades can be fully inserted to prevent blade exposure.

Cautions:

• You must use an AC adapter that supplies 9 volts and delivers at least 300 mA. Its center tip must be set to negative and its plug must fit the scanner's **POWER** jack. The recommended adapter meets these specifications. Using an adapter that does not meet these specifications could damage the scanner or the adapter.

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

USING VEHICLE BATTERY POWER

You can power the scanner from your vehicle's battery power using an optional DC adapter, such as Cat. No. 273-1810.

Cautions:

• You must use a DC adapter that supplies 9 volts (regulated) and delivers at least 300 mA of DC automotive power. Its center tip must be set to negative and its plug must fit the scanner's **POWER** jack. Both of the recommended adapters meet these specifications. Using an adapter that does not meet these specifications could damage the scanner or the adapter.

• To protect your vehicle's electrical system, always plug the adapter into the scanner before you plug it into your vehicle's cigarette-lighter socket. Always unplug the adapter from the vehicle's cigarette-lighter socket before you unplug it from the scanner.
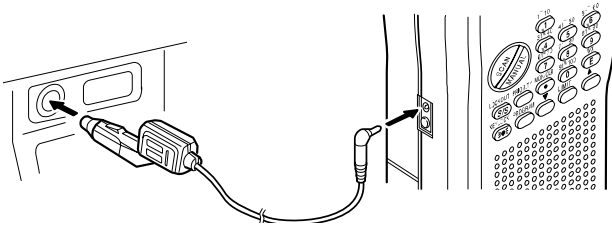
1. Connect the DC adapter's 3.4 mm outer diameter/1.3 mm inner diameter barrel-plug to the adapter's cable, with the tip set to –.

2. Set the adapter's voltage switch to 9V.

3. Insert the barrel plug into the scanner's **POWER** jack.

4. Plug the other end of the adapter into your vehicle's cigarette-lighter socket.

Note: If the scanner does not operate properly when you use a DC adapter, unplug the adapter from the cigarette-lighter socket and clean the socket to remove ashes and other debris.

CHARGING NICKEL-CADMIUM BATTERIES

The scanner has a built-in charging circuit that lets you recharge nickel-cadmium batteries while they are in the scanner. To charge the batteries, remove the plug from the scanner's **CHARGE** jack and connect an optional AC adapter or DC adapter to the jack (see "Using Standard AC Power" on Page 10 or "Using Vehicle Battery Power" on Page 11).

Warning: Do not connect an adapter to the scanner's **CHARGE** jack if you installed non-rechargeable batteries (standard, extra-life, or alkaline). Non-rechargeable batteries become hot and could explode if you try to recharge them.

It takes about 14 to 16 hours to recharge batteries that are fully discharged. You can operate the scanner while recharging the nickel-cadmium batteries, but charging takes longer.

Note: Nickel-cadmium batteries last longer and deliver more power if you occasionally let them fully discharge. To do this, simply use the scanner until it begins beeping every 15 seconds and **BATT.LO** appears. Then fully charge the batteries.

Important: At the end of a rechargeable 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. Some options that might be available are: municipal curb-side collection, drop-off boxes at retailers such as your local RadioShack store, recycling collection centers, and mail-back programs.

CONNECTING THE ANTENNA

Follow these steps to attach the supplied flexible antenna to the connector on the top of your scanner.

1. Align the slots around the antenna's connector with the tabs on the jack.

2. Press the antenna down over the jack and rotate the antenna's base clockwise until it locks into place.
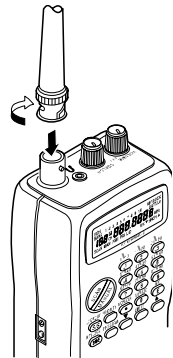
Connecting an Optional Antenna

The antenna connector on your scanner makes it easy to use the scanner with a variety of antennas. Instead of the supplied antenna, you can attach an external mobile antenna or outdoor base antenna (for example). Your local RadioShack store sells a variety of antennas.

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 your antenna's cable does not have a BNC connector, you will also need a BNC adapter (available at your local RadioShack store).

Warning: When you install an outdoor antenna, use extreme caution. If the antenna starts to fall, let it go! It could contact overhead power lines. If the antenna touches the power line, contact with the antenna, mast, cable, or guy wires can cause electrocution and death. Call the power company to remove the antenna. Do not attempt to remove it yourself!

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CONNECTING AN EARPHONE/ HEADPHONES

For private listening, you can plug an earphone or mono headphones (not supplied) with a $1/8$-inch (3.5-mm) plug (such as Cat. No. 33-177 or 20-210) into the ∩ jack on top of your scanner. This automatically disconnects the internal speaker.
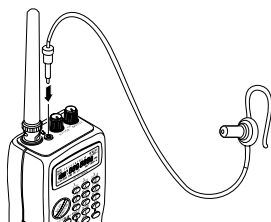
Listening Safely

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.

Traffic Safety

Do not use an earphone or 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 or headphones with your scanner while riding a bicycle, be very careful. Do not listen to a continuous broadcast. Even though some earphones or headphones let you hear some outside sounds when listening at normal volume levels, they still can present a traffic hazard.

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CONNECTING AN EXTENSION SPEAKER

In a noisy area, an optional extension speaker (such as RadioShack Cat. No. 21-549) or an amplified speaker (such as RadioShack Cat. No. 21-541), positioned in the right place, might provide more comfortable listening. Plug the speaker cable's $1/8$-inch (3.5 mm) mini-plug into your scanner's ∩ jack.
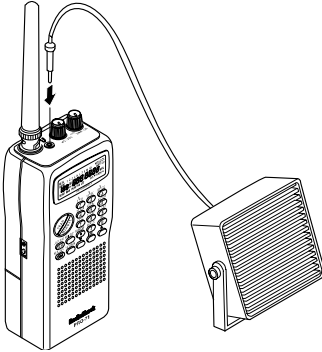
USING THE BELT CLIP

You can attach the supplied belt clip to make the scanner easier to use when you are on the go. Use a Phillips screwdriver and the two supplied screws to attach the belt clip to the scanner. Then slide the belt clip over your belt or waistband.

Belt Clip
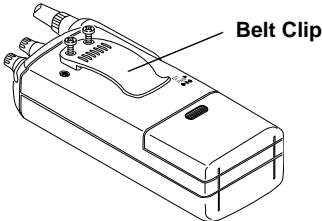
UNDERSTANDING YOUR SCANNER

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.
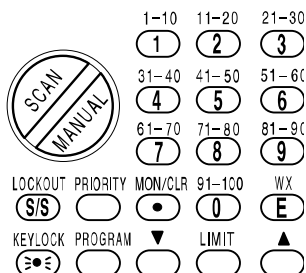
SCAN — scans through the programmed channels.

MANUAL — stops scanning and lets you directly enter a channel number.

LOCKOUT/S/S — lets you lock out a selected channel. Skips a specified frequency during limit or direct search.

PRIORITY — sets and turns on and off priority for a particular channel.

MON/CLR/• — accesses the ten monitor memories, clears an incorrect entry or enters the decimal point necessary when programming frequencies.

WX/E (enter) — scans through the preprogrammed weather channels or enters frequencies into channels.

KEYLOCK/☼●☼ — locks/unlocks the keypad to prevent accidental entries or turns on the display light for 15 seconds.

PROGRAM — programs frequencies into channels.

▼, LIMIT, and ▲ — searches for active frequencies.

Number Keys — each key has a single-digit label, and keys **0**–**9** have a range of numbers printed above them. The single digits refer to the number of a channel or frequency entered. The number range (21–30,

for example) shows the channels that make up a memory bank. In addition, the keypad has different functions in manual mode, scan mode, and program mode. See "Banks and Memories" on Page 19.

A LOOK AT THE DISPLAY

The display has several indicators that show the scanner's current operating mode. A quick look at the display will help you understand how to operate your scanner.
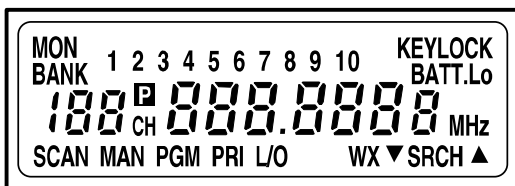
MON — appears when you listen to a monitor memory. A number (**1**–**10**) appears to the right of **MON** indicating which monitor memory you are listening to.

BANK — shows which channel-storage banks are turned on for the scan mode. See "Banks and Memories" on Page 19.

KEYLOCK — appears when you lock the keypad.

BATT.Lo — appears when the batteries are low.

CH — digits that precede this indicator show which of the 100 channels the scanner is tuned to.

P — appears when you listen to the priority channel.

MHz — digits that precede this indicator show which frequency the scanner is tuned to.

SCAN — appears when you scan channels.

MAN — appears when you manually select a channel.

PGM — appears while you program frequencies into the scanner's channels.

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PRI — appears when you select the priority feature.

L/O — appears when you manually select a locked-out channel, or during a search hold when the frequency is stored in search skip memory.

WX — appears when you scan the preprogrammed weather channels.

▼ and ▲ — indicate the search direction.

SRCH — appears during a limit search, a direct search, and a weather band search.

-L- — appears instead of the channel number during a limit search.

-d- — appears instead of the channel number during a direct search.

Hi — appears with a frequency to show the upper limit of the frequency range to search.

Lo — appears with a frequency to show the lower limit of the frequency range to search.

-H- — appears during a limit search hold.

-h- — appears during a direct search hold.

Error — appears when you make an entry error.

BANKS AND MEMORIES

Your scanner can store up to 110 frequencies. You store each frequency in either a memory called a channel, or a temporary memory called a monitor memory. This scanner has 100 channels and ten monitor memories.

CHANNEL-STORAGE BANKS

To make it easier to identify and select the channels you want to listen to, channels are divided into ten channel-storage banks of 10 channels each. Use each channel-storage bank to group frequencies, such as the police department, fire department, ambulance services, or aircraft band (see "Guide to the Action Bands" on Page 31.

For example, the police might use four frequencies, one for each area of town. You could program the police frequencies starting with Channel 1 (Bank 1) and then program the fire department frequencies starting with Channel 11 (the first channel in Bank 2).

MONITOR MEMORIES

The scanner also has ten monitor memories. Use these memories to temporarily store frequencies while you decide whether or not to save them into channels. This is handy for quickly storing an active frequency when you are searching through an entire band.

Note: To store frequencies into a monitor memory, you must first perform a limit or direct search. See "Searching For and Temporarily Storing Active Frequencies" on Page 21.

OPERATION

TURNING ON THE SCANNER AND SETTING SQUELCH

1. Make sure that **SQUELCH** is turned fully counterclockwise before you turn on the scanner.

2. Turn **VOLUME** clockwise until you hear a hissing sound.

3. Turn **SQUELCH** clockwise, just until the hissing sound stops.

Note: If you want to listen to a weak or distant station, turn **SQUELCH** counterclockwise. If reception is poor, turn **SQUELCH** clockwise.

STORING FREQUENCIES

Follow these steps to store frequencies into channels.

1. Press **MANUAL**, then enter the channel number (**1**–**100**) where you want to store a frequency.
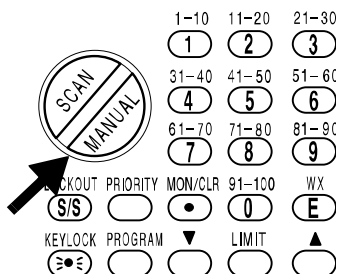
2. Press **PROGRAM**. **PGM** appears.

3. Use the number keys and ● (**MON/CLR**) to enter the frequency (including the decimal point) you want to store.
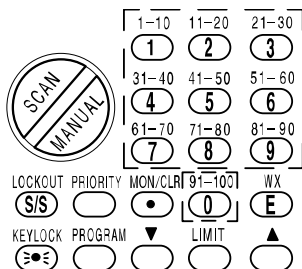
4. Press **E** (**WX**) to store the frequency.

   Notes:

   - If you entered an incorrect frequency in Step 3, **Error** appears and the scanner beeps three times. Start again from Step 3.

   - Your scanner automatically rounds the entered frequency to the nearest valid frequency. For example, if you enter a frequency of 151.473, your scanner accepts it as 151.475.

5. Repeat Steps 1–4 to program more channels. Or, if you want to program the next channel in sequence, repeat Steps 2–4.

To listen to a frequency you have stored, press **MANUAL**, the channel number, then **MANUAL** again.

SEARCHING FOR AND TEMPORARILY STORING ACTIVE FREQUENCIES

Good references for active frequencies are the RadioShack "Police Call," "Aeronautical Frequency Directory," and "Maritime Frequency Directory." We update these directories every year, so be sure to get a current copy.

If you do not have a reference to frequencies in your area, or if you want to search for unlisted frequencies, use a limit search or direct search. See also "Guide to the Action Bands" on Page 31.

Limit Search

A limit search lets you search for active frequencies between upper and lower limits that you set. **-L-** appears during a limit search.

When you are in the search mode, **MON** appears and the flashing number at the top of the display indicates the currently selected monitor memory. Once you have stored a frequency into that monitor memory, press ▼ or ▲. The scanner shifts to the next monitor memory and restarts the search mode.

1. Press **PROGRAM** then **LIMIT**. **Lo** appears.
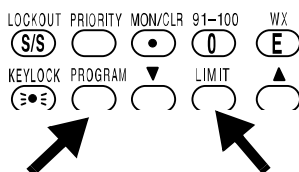
2. Enter the lower limit of the frequency range you want to search.

3. Press **E** then **LIMIT**. **Hi** appears.

   Note: If the frequency you entered is not a valid frequency, **Error** appears. Enter a different frequency then repeat Step 3.

4. Enter the upper limit of the frequency range.

5. Press **E** then press **LIMIT**. **Lo** and the lower limit frequency appear.

6. Press ▼ to search from the upper to the lower limit, or ▲ to search from the lower to the upper limit. The current monitor memory number flashes.

7. When the scanner stops on a transmission you want to save, press **MON** (**CLR**) to store the frequency in the current monitor memory. The monitor memory number stops flashing.

8. Press either ▼ or ▲ to continue the search. If you saved a frequency in a monitor memory, the monitor memory number advances by one and starts flashing again. (If the last monitor memory was 10, the scanner returns to monitor memory 1.)

9. To hold the frequency, press **LIMIT**. **-H-** appears.

   To resume the limit search, press **LIMIT** again.

Notes:

- You can press ▼ or ▲ while **-H-** appears to step through the frequencies toward the upper or lower limits.

- If you tune to a search skip frequency, **L/O** appears (see "Search Skip Memory" on Page 27)

Direct Search

When you listen to a channel, you can search up or down from the displayed frequency. **-d-** appears during a direct search.

1. To select a frequency stored in a channel, press **MANUAL**, use the number keys to enter the channel number, then press **MANUAL** again.
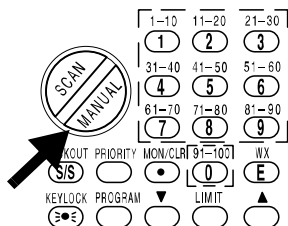
2. Press ▼ or ▲ to search up or down from the selected frequency.

3. When the scanner stops on a transmission, press **MON** to store that frequency in the current monitor memory. Or, press ▼ or ▲ to continue the search.

4. To hold the frequency, press **LIMIT**. **-h-** appears.

   To resume the direct search, press **LIMIT** again.

   Notes:

   - You can press ▼ or ▲ while **-H-** appears to step through the frequencies toward the upper or lower limits.

   - If you tune to a search skip frequency, **L/O** appears (see "Search Skip Memory" on Page 27).

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LISTENING TO MONITOR MEMORIES

Once you have stored frequencies into monitor memories using a direct or limit search, you can listen to the monitor memories by pressing **MANUAL**, **MON**, then the number for the monitor memory you want to listen to. Use the **1**–**9** number keys for memories 1–9, and **0** for memory 10.

MOVING A FREQUENCY FROM A MONITOR MEMORY TO A CHANNEL

Follow these steps to move a frequency stored in a monitor memory to a permanent channel.

1. Press **MANUAL**. MAN appears.

2. Enter the number (**1**–**100**) for the channel where you want to store the monitor frequency. The channel number appears.

```
BANK          10
100 CH         1
    MAN
```
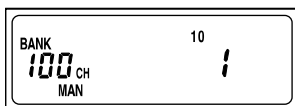
3. Press **PROGRAM**.

4. Press **MON** then the number of the monitor memory number that has the frequency you want to store. The channel number flashes.

```
MON  1
     ᴾCH  110.0000 MHz
         PGM
```
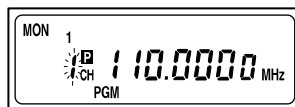
5. Press **E**. The scanner stores the frequency in the selected channel, and the channel number stops flashing.

MANUALLY SELECTING A 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 want to monitor a specific channel.

Follow these steps to manually select a channel.

1. Press **MANUAL**.

2. Enter the channel number.

3. Press **MANUAL** again.

Or, if the scanner is scanning and stops at the desired channel, press **MANUAL** once. (Pressing **MANUAL** additional times causes your scanner to step through the channels.)

To resume automatic scanning after manually selecting a channel, press **SCAN**.

SPECIAL FEATURES

USING THE KEYLOCK

Once you program your scanner, you can protect it from accidental program changes by turning on the keylock feature. In this mode, the only controls that operate are **SCAN**, **MANUAL**, **KEYLOCK** (ε●ε), **VOLUME**, and **SQUELCH**.

Note: Turning on the keylock does not prevent the scanner from scanning channels.

To turn the keylock on or off, turn on the scanner then hold down **KEYLOCK** until the scanner beeps and **KEYLOCK** appears or disappears.

LOCKING OUT CHANNELS

You can increase the effective scanning speed by locking out individual channels that have a continuous transmission, such as a weather channel. To lock out a channel, manually select the channel then press **LOCKOUT** (**S/S**). **L/O** appears.

To remove the lockout from a channel, manually select the channel then press **LOCKOUT**. **L/O** disappears.

Note: You can manually select locked-out channels.

To remove the lockout from all channels, follow these steps:

1. While scanning, turn on the memory banks you want to unlock.

2. Press **MANUAL**.

3. Hold down **LOCKOUT** for at least 3 seconds. The scanner beeps twice, and all locked out memory channels in the selected banks are unlocked.

TURNING CHANNEL-STORAGE BANKS ON AND OFF

You can turn each channel-storage bank on and off. When you turn off a bank, the scanner does not scan any of the 10 channels in that bank.

While scanning, press the number key corresponding to the bank you want to turn on or off. (Press **0** to select bank 10). If the memory bank indicator is on, the bank is turned on and the scanner scans all channels within that bank that are not locked out. If the indicator is off, the scanner does not scan any of the channels within that bank.

Memory banks 3 and 4 are turned off

```
┌─────────────────────────────┐
│ BANK 1 2   5 6 7 8 9 10      │
│  ꓘꓲ CH 000.0000 MHz          │
│ SCAN                         │
└─────────────────────────────┘
```
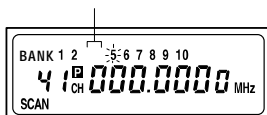
Notes:

- You can manually select any channel in a bank, even if the bank is turned off.

- You cannot turn off all banks. One bank is always active.

SEARCH SKIP MEMORY

You can skip specified frequencies during a limit or direct search. This lets you avoid unwanted frequencies or ones you have already stored in a channel. You can program up to 20 frequencies to be skipped into the scanner's memory.

To skip a frequency, press **S/S** (**LOCKOUT**) when the scanner stops on the frequency during a limit or direct search. **L/O** (lockout) appears the next time you display that frequency.

To clear a single frequency from search skip memory so the scanner can stop on it during a limit or direct search, press **LIMIT** to hold the search, press ▼ or ▲ to select the frequency (where **L/O** appears), then press **S/S**. **L/O** disappears.

To clear all the skip frequencies from search skip memory at once while searching, hold down **S/S** until the scanner beeps twice.

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Notes:

- If you program more than 20 skip frequencies, each new frequency replaces one you stored earlier, starting from the first stored frequency.

- You can select a skipped frequency by using ▼ or ▲ when the scanner is holding. **L/O** appears when you select a skipped frequency.

PRIORITY

You can scan through channels and still not miss an important call on a specific channel. When a channel is selected as the priority channel and priority is turned on, the scanner checks that channel every 2 seconds, and stays on the channel if there is activity until the activity stops. **PRI** appears whenever the scanner is set to use priority.

The scanner is preset to select Channel 1 as the priority channel. To program a different channel as the priority channel, press **PROGRAM**, the desired channel number, then **PRIORITY**. **P** appears beside the channel number.

To turn on the priority feature, press **PRIORITY** while **MAN** or **SCAN** appear. To turn off the priority feature, press **PRIORITY**. **PRI** disappears.

Notes:

- You can select only one channel at a time as the priority channel.

- You cannot select a monitor memory when priority is turned on.

USING THE DISPLAY BACKLIGHT

You can turn on the display's backlight for easy viewing in the dark. Press ⋛•⋚ to turn on the display light for 15 seconds. To turn off the light before 15 seconds elapses, press ⋛•⋚ again.

Note: The scanner locks the keypad (see "Using the Keylock" on Page 26) if you hold down ⋛•⋚ . If this happens, hold down ⋛•⋚ until the scanner beeps and **KEYLOCK** disappears.

LISTENING TO THE WEATHER BAND

The FCC (Federal Communications Commission) has allocated 11 channels for use by the National Oceanic and Atmospheric Administration (NOAA). We have preprogrammed your scanner with the seven frequencies most commonly used by NOAA.

To hear your local forecast and regional weather information, simply press **WX** (**E**). Your scanner begins scanning through the weather band, and **WX** appears.

If there is a weather broadcast in your area, your scanner stops within a few seconds and you hear the local weather broadcast. If the broadcast is weak, you can press **WX** again to scan through the rest of the weather band.

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.

During the summer months, you might be able to hear stations in the 30–50 MHz range located several hundred or even thousands of miles away. This is because of summer atmospheric conditions. This type of reception is unpredictable but often very interesting!

GUIDE TO FREQUENCIES

Weather Frequencies

*These frequencies are not preprogrammed in this scanner, but you can manually program them.

National

| 162.400 | 162.425 | 162.440* | 162.450 |
| 162.475 | 162.500 | 162.525 | 162.550 |

Canadian

| 161.650* | 161.775* | 163.275* |

Ham Radio Frequencies

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

Wavelength (meters)	Frequency (MHz)
10-meter	29.000–29.700
6-meter	50.000–54.000
2-meter	144.000–148.000
70-meter	420.000–450.000

Note: Your scanner cannot receive some types of transmissions on these bands.

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 **SQUELCH** clockwise to cut out the birdie.

The birdie frequency on this unit to watch for is 146.65 MHz.

To find the birdies on your receiver, begin by disconnecting the antenna and moving it away from the receiver. Make sure that no other nearby radio or TV sets are turned on near the receiver. 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

Typical Band Usage

HF Band (3.00–30.0 MHz)
10-Meter Amateur	29.00–29.70 MHz
High Range	29.70–29.90 MHz

VHF Band (30.00–300.0 MHz)
Low Range	30.00–50.00 MHz
6-Meter Amateur	50.00–54.00 MHz
Aircraft	108.00–136.97 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 (300.00 MHz–3.0 GHz)
U. S. Government	406.00–450.00 MHz
0.6-Meter 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:

Band Type	Specified Interval
VHF, HAM, and Government	5.0 kHz steps
Aircraft and Others	12.5 kHz steps
Aircraft	25.0 kHz steps

Note: Your scanner rounds the entered frequency to the nearest valid frequency. For example, if you try to enter 151.473, the scanner accepts this as 151.475.

BAND ALLOCATION

To help decide which frequency ranges to scan, use the following listing of the typical services that use the frequencies your scanner re-

ceives. These frequencies are subject to change, and might vary from area to area. For a more complete listing, refer to the "Police Call" 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
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High Frequency (HF) Hi — (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)

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
36.250 . . . . Oil Spill Clean up
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—(50–54 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 (138–144 MHz)

137.000–144.000 . . . . GOVT, MIL

2-Meter Amateur Band (144–148 MHz)

144.000–148.000 . . . . HAM

VHF-Hi BAND (148–174 MHz)

148.050–150.345 . . . . CAP, MAR, MIL
150.775–150.790 . . . . MED
150.815–150.965 . . . . TOW
150.980 . . . . Oil Spill Clean up
150.995–151.130 . . . . ROAD
151.145–151.475 . . . . POL
151.490–151.955 . . . . IND, BUS
151.985 . . . . TELM
152.0075 . . . . MED
152.030–152.240 . . . . TELB
152.270–152.465 . . . . IND, TAXI

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152.480 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 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 Clean-Up
154.600–154.625 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . BUS
154.655–156.240 . . . . . . . . . . . . . . . . . . . . . . . . . MED, ROAD, POL, PUB
156.255 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . OIL
156.275–157.425 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 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 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . OIL
161.600–162.000 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 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 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Wireless Mikes
169.500 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GOVT
169.505 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Wireless Mikes
169.55–169.9875 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GOVT, MIL, USXX
170.000 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . BIFC
170.025–170.150 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 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
173.225–173.375 . . . . . . . . . . . . . . . . . . . . . . . . . . . . MOV, NEWS, UTIL
173.3875–173.5375 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . MIL
173.5625–173.5875 . . . . . . . . . . . . . . . . . . . . . MIL Medical/Crash Crews
173.60–173.9875 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GOVT
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U. S. Government Band (406–450 MHz)

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

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

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450.050–450.925 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . RTV
451.025–452.025 . . . . . . . . . . . . . . . . . . . . . . . IND, OIL, TELM, UTIL
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452.0375–453.00 . . . . . . . . . . . . . . . . . . . . . . . . IND, TAXI, TRAN TOW, NEWS
453.0125–453.9875 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . PUB
454.000 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 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
462.550–462.725 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . GMR
462.750–462.925 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .BUS
462.9375–463.1875 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . MED
463.200–467.925 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .BUS
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FM-TV Audio Broadcast, UHF Wide Band (470–512 MHz)
(Channels 14 through 69 in 6 MHz steps)

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

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

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 431.875 also on 474.675.

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

Note the new frequency.	474.675
Double the intermediate frequency of 21.4 MHz	
(42.8)	
and subtract it from the new frequency.	–42.8
If the answer is the regular frequency,	431.875
then you have tuned to an image.	

Occasionally you might get interference on a weak or distant channel from a strong broadcast 42.8 MHz below the tuned frequency. This is rare, and the image signal is usually cleared whenever there is a broadcast on the actual frequency.

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.

$$1 \text{ MHz (million)} = 1,000 \text{ kHz (thousand)}$$

To convert MHz to kHz, multiply by 1,000:

$$9.62 \text{ MHz} \times 1000 = 9620 \text{ kHz}$$

To convert from kHz to MHz, divide by 1,000.

$$2780 \text{ kHz} \div 1000 = 2.780 \text{ MHz}$$

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

$$300 \div 7.1 \text{ MHz} = 42.25 \text{ meters}$$

TROUBLESHOOTING

If you have problems, here are some suggestions which might help.

PROBLEM	POSSIBLE CAUSE	REMEDY
Scanner is on but will not scan.	**SQUELCH** is not adjusted correctly.	Adjust **SQUELCH** clockwise.
	Only one channel or no channels are stored.	Store frequencies into more than one channel.
	Channels are locked out.	Remove the lockout.
Scanner is totally inoperative.	No power.	Check the batteries or make sure the AC adapter or DC adapter is connected properly.
		Recharge the rechargeable batteries or replace the non-rechargeable batteries.
	The AC adapter or DC adapter is not connected.	Be sure the adapter's barrel plug is fully plugged into the **POWER** jack.
In the scan mode, the scanner locks on frequencies that have an unclear transmission.	"Birdies."	Avoid programming frequencies listed under "Birdie Frequencies" on Page 31 or only listen to them manually.

If none of these suggestions help, take your scanner to your local RadioShack store for assistance.

RESETTING THE SCANNER

If the scanner's display does not work properly after you install batteries or connect it to power, you might have to reset the scanner.

Caution: This procedure clears all the information you have programmed into the scanner. Before you reset the scanner, try turning it off and on to see if it begins working properly.

To reset the scanner, turn it off then turn it back on while holding down the **2** and **9** keys.

CARE AND MAINTENANCE

Your RadioShack PRO-71 VHF/UHF/Air Handheld 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, damage batteries, 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.

Use only fresh batteries of the required size and recommended type. Batteries can leak chemicals that damage your scanner's electronic parts.

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:
    VHF Lo .... 29–50 MHz (in 5.0 kHz steps)
    6-Meter Ham .... 50–54 MHz (in 5.0 kHz steps)
    Aircraft .... 108–136.975 MHz (in 12.5 kHz steps)
    VHF/Government .... 137–144 MHz (in 5.0 kHz steps)
    2-Meter Ham .... 144–148 MHz (in 5.0 kHz steps)
    VHF Hi .... 148–174 MHz (in 5.0 kHz steps)
    UHF .... 406–512 MHz (in 12.5 kHz steps)

Channels of Operation .... Any 100 channels in any band
                              combinations (10 channels × 10 banks)
                                        and 10 monitor channels

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 .... 2.0 μV
    137–174 MHz .... 0.6 μV
    406–512 MHz .... 0.5 μV

Spurious Rejection:
    40.84 MHz .... 37 dB
    162.4 MHz .... 20 dB

Selectivity:
    10 kHz .... −6 dB
    17 kHz .... −50 dB

IF Rejection (at 162.4 MHz) .... 75 dB

Limit Search Speed/Direct Search Speed .... 20 Steps/Sec.

Scan Speed .... 17 Channels/Sec.

Priority Sampling .... 2 Seconds

Delay Time (Automatic) .... 2 Seconds

IF Frequencies .... 21.4 MHz and 450 kHz

Antenna Impedance .... 50 Ohms

Audio Power:
    FM .... 230 mW Maximum
    AM .... 250 mW Maximum

Built-in Speaker .... $1^7/_{16}$-inch (36-mm) 8-Ohm, Dynamic Type

Power Requirement .... +6 VDC, 4 AA batteries
                                        AC Adapter (Cat. No. 273-1665)
                                        DC Adapter (Cat. No. 273-1810)

Dimensions (HWD) .... $5^3/_4 \times 2^9/_{16} \times 1^{11}/_{16}$ Inches

$(147 \times 64.5 \times 42.5$ mm)

Weight .... 7.94 oz

(225 g)

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

NOTES

RadioShack
A Division of Tandy Corporation
Fort Worth, Texas 76102

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