

# User Manual

DRAFT COPY OF THE INSTRUCTION MANUAL

Cat. No. 20-415

20-419

2049

90-30-Channel Direct Entry Programmable Scanner

# OWNER'S MANUAL

Please read before using this equipment.

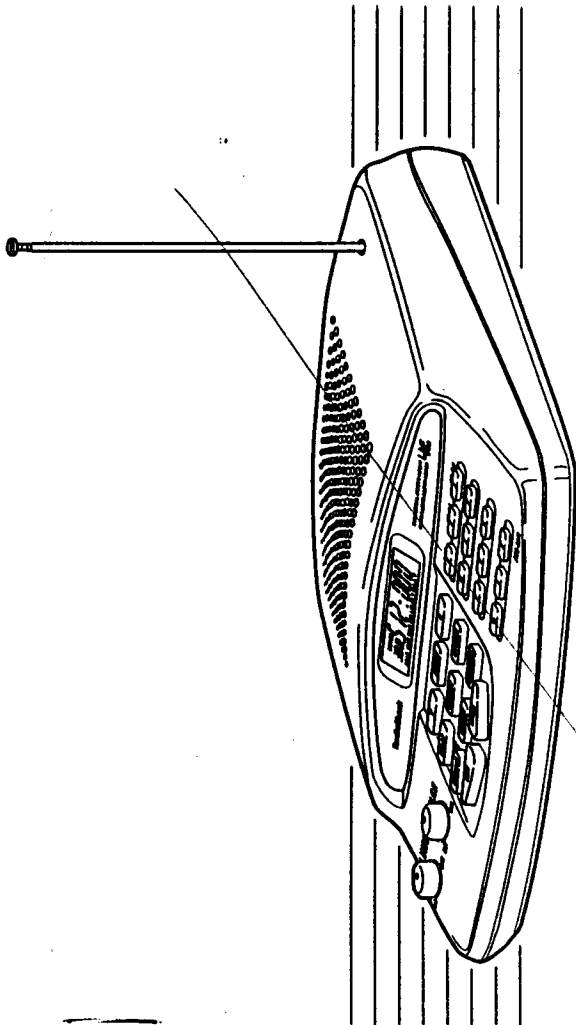
### RadioShack Limited Warranty

This product is warranted against defects for 1 year from date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. Within this period, we will repair it without charge for parts and labor. Simply bring your RadioShack sales slip as proof of purchase date to any RadioShack store. Warranty does not cover transportation costs. Nor does it cover a product subjected to misuse or accidental damage.

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# FEATURES

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Your RadioShack PRO-2043 Scanner lets you in on all the action! This scanner gives you direct access to over 20,000 frequencies, including those used by police and fire departments, ambulance and transportation services, government agencies, and amateur radio services. You can select up to 99 channels to scan and you can change selections at any time.

The scanner's frequency bands let you search specific, preset ranges of frequencies quickly and easily.

Your scanner has all these special features:

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

**Three 10-Channel Storage Banks** — let you store 10 channels in each of three banks to group channels so calls are easier to identify.

**Three Monitor Memories** — let you temporarily save three frequencies located during a frequency search, so you can decide if you want to move them to permanent channel storage.

**Priority Channels** — let you set the scanner to check up to three channels every 2 seconds so you do not miss important calls.

**Band Search** — lets you quickly and easily search preset frequency ranges, so you can find new and unlisted broadcasts.

**Direct Search** — lets you search for a transmission starting from a specified frequency.

**Search Skip** — lets you select up to 20 frequencies for the scanner to skip during a search, so you can search more efficiently.

**Two-Second Channel Scan/Search Delay** — lets you set the scanner so it delays scanning or searching for 2 seconds before moving to another channel/frequency, so you can hear more replies.

**Lock-Out** — keeps channels you select from being scanned, so you can skip over busy channels such as those with a continuous transmission.



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


**Memory Backup** — keeps channel frequencies stored in memory for 3 days or more during a power loss.


**External Speaker Jack** — lets you connect an external speaker, or an earphone or headphones for private listening.

**External Antenna Terminal** — lets you connect an external antenna (not supplied) for improved reception.

**Warning:** To prevent fire or shock hazard, do not expose this product to rain or moisture.

|  |   |   |
|--|---|---|
|   | <b>CAUTION</b><br>RISK OF ELECTRIC SHOCK.<br>DO NOT OPEN. |  |
| <b>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER OR BACK. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICE TO QUALIFIED PERSONNEL.</b> |   |   |

 This symbol is intended to alert you to the presence of uninsulated dangerous voltage within the product's enclosure that might be of sufficient magnitude to constitute a risk of electric shock. Do not open the product's case.

 This symbol is intended to inform you that important operating and maintenance instructions are included in the literature accompanying this product.

Your PRO-2043 scanner can receive all of these frequencies:

- 29-54 MHz (10-Meter Amateur Radio, VHF Lo, 6-Meter Amateur)
- 102-136 MHz (Aircraft)
- 137-174 MHz (Government, 2-Meter Amateur Radio, VHF Hi)
- 406-512 MHz (UHF Lo, 70-Centimeter Amateur Radio, Government, UHF "T" Band)

Your scanner can also receive these preprogrammed weather channel frequencies:

- 162.400 MHz
- 162.425 MHz
- 162.450 MHz
- 162.475 MHz
- 162.500 MHz
- 162.525 MHz
- 162.550 MHz

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

Serial Number \_\_\_\_\_

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## SCANNING LEGALLY

Scanning is a fun and interesting hobby. You can hear police and fire departments, ambulance services, government agencies, private companies, amateur radio services, and military operations. It is legal to listen to almost every transmission your scanner can receive. However, there are some electronic and wire communications that are illegal to intentionally intercept. These include:

- Telephone conversations (cellular, cordless, or other private means of telephone signal transmission)
- Pager transmissions
- Scrambled or encrypted transmissions

According to the Federal Electronic Communications Privacy Act (ECPA), as amended, you could be fined and possibly imprisoned for intentionally intercepting, using, or disclosing the contents of such a transmission unless you have the consent of a party to the communication (unless such activity is otherwise illegal). These laws change from time to time and there might be state or local laws that also affect legal scanner usage.

## FCC NOTICE

Your scanner might cause TV or radio interference even when it is operating properly. To determine if 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.

# PREPARATION

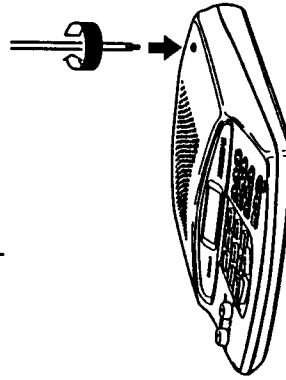
This scanner is primarily designed for use in the home as a base station. You can place it on a desk, shelf, or table.

## CONNECTING AN ANTENNA

### Connecting the Supplied Antenna

You must install an antenna before you can operate the scanner.

The supplied telescoping antenna helps your scanner receive strong local signals. To install the antenna, screw it clockwise into the hole on the scanner's top.



The scanner's sensitivity depends on the antenna's length and various environmental conditions. For the best reception of the transmissions you want to hear, adjust the antenna's length.

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| Frequency       | Antenna Length         |
|-----------------|------------------------|
| 29-54 MHz       | Extend fully           |
| 137-174 MHz     | Collapse one segment   |
| 108-136.975 MHz |                        |
| 406-512 MHz     | Collapse both segments |

### Connecting an Outdoor Antenna

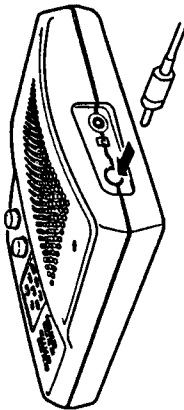
Instead of the supplied antenna, you can connect an outdoor base-station antenna (not supplied) to your scanner. Your local RadioShack store sells a variety of antennas. Choose the one that best meets your needs.

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

- The antenna should be as high as possible on the house.
- The antenna and its cable should be as far as possible from sources of electrical noise (appliances, other radios, etc.).
- The antenna should be vertical for the best performance.

To connect an optional base-station antenna, first remove the supplied antenna from the scanner. Always use 50-ohm coaxial cable, such as RG-58 or RG-8, to connect the base-station 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 ANT. jack, you might also need a Motorola-to-BNC antenna plug adapter, such as RadioShack Cat. No. 278-117. Your local RadioShack store carries a wide variety of coaxial antenna cable and connectors.

Once you choose an antenna, follow the mounting instructions supplied with the antenna. Then route the antenna's cable to the scanner and connect the cable to the ANT jack on the back of the scanner.

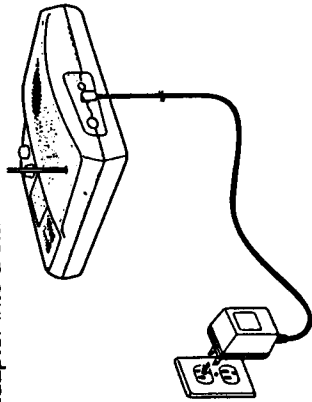


#### Cautions:

- 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.
- Follow all cautions and warnings included with your antenna.

## CONNECTING POWER

The scanner's supplied AC adapter lets you power the scanner from a standard AC outlet. To connect power to the scanner, insert the AC adapter's barrel plug into the AC 10V jack on the back of the scanner, then plug the AC adapter into a standard AC outlet.



**Warning:** Do not use the AC adapter's polarized plug with an extension cord receptacle unless the blades can be fully inserted to prevent blade exposure.

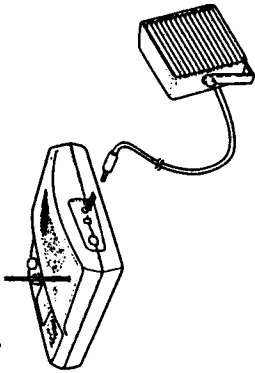
#### Cautions:

- Use only the supplied AC adapter to power your scanner. Using another adapter could damage your scanner. A replacement adapter is available by special order through your local RadioShack store.
- Be sure to connect the AC adapter to the scanner before you connect it to an AC outlet, and disconnect the AC adapter from the AC outlet before you disconnect it from the scanner.

## CONNECTING AN EXTERNAL SPEAKER

You can connect an optional external speaker with a 1/8-inch plug to the scanner. Use an 8-ohm external speaker that can handle at least 2.5 watts of power. RadioShack stores sell scanner accessories, including external speakers.

Insert the speaker's plug into the EXT. SP. jack on the back of the scanner.

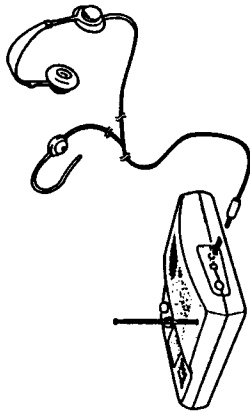


**Note:** Plugging in an external speaker disconnects the scanner's internal speaker.

## CONNECTING AN EARPHONE/HEADPHONES

You can connect an optional earphone or pair of monaural headphones with a 1/8-inch plug to the scanner. Your local RadioShack store sells a complete line of earphones and headphones.

Insert the earphone's or headphones' plug into the EXT. SP. jack on the back of the scanner.



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

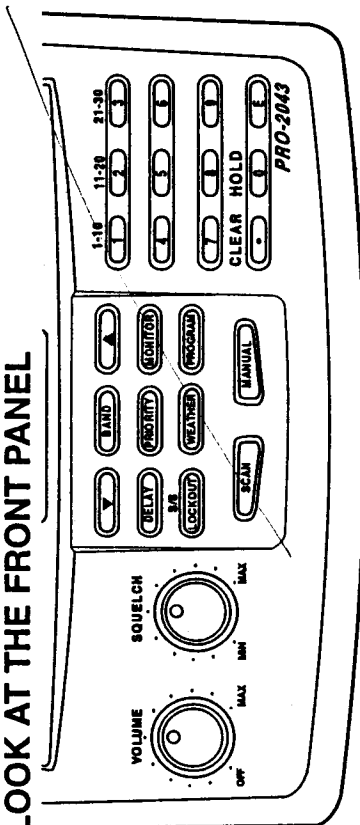
## Listening Safely

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

- Set **OFFVOLUME** to the lowest setting before you begin listening. After you put on the earphone or headphones, adjust **OFFVOLUME** 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 **OFFVOLUME**, do not increase it. Over time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

# UNDERSTANDING YOUR SCANNER

## A LOOK AT THE FRONT PANEL



A quick glance at this section should help you understand each control's function.

- VOLUME** Turns the scanner on or off and adjusts the volume.
- SQUELCH** Adjusts the scanner's squelch. See "Turning On the Scanner/Setting Volume and Squelch" on Page 16.
- ▲ / ▼** Enters the direction the scanner will search.
- MONITOR** Stores frequencies into and accesses the three monitor memories. See "Monitor Memories" on Page 14.
- S/S-LOCKOUT** (search/skip-lockout) Skips a specified frequency during a band or direct search or locks out selected channels during scanning.
- PROGRAM** Programs frequencies into channels.
- BAND** Searches a band you select. See "Frequency Bands" on Page 14.
- DELAY** Programs a 2-second delay for the selected channel.
- PRIORITY** Sets and turns on or off priority for a particular channel.

**SCAN**

Scans through the channels.

**MANUAL**

Stops scanning to let you listen to a monitor memory or directly enter a channel number.

**1-9, HOLD/0**

Each key has a single-digit label and the 1-3 keys also have a range of numbers. Use the digits on the keys to enter the numbers for a channel or a frequency. Use the range of numbers above the key (21-30, for example) to select the channels in a channel-storage bank. See "Channel-Storage Banks" on Page 14. Also, pressing HOLD during a search pauses the scanner.

61-90

**CLEAR/**

Clears an incorrect entry, or enters the decimal point when you enter a frequency.

**E**

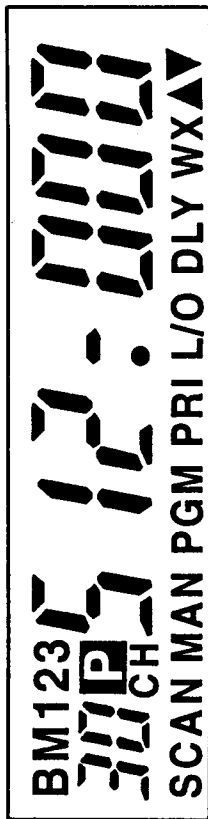
Stores frequencies into channels. See "Manually Storing Frequencies into Channels" on Page 17.

**WEATHER**

Scans the seven preprogrammed weather channels.

## A LOOK AT THE DISPLAY

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



- M** Appears with a number (1-3) to the right to show which monitor memory you are listening to.
- B** Appears with a number (1-3) to the right to show which channel-storage banks are turned on for scanning. See "Understanding Banks and Bands" on Page 14.
- P** Appears when you tune to a priority channel.
- CH** Appears with a number (1-30) to the left to show which of the scanner's 30 channels it is tuned to.
- SCAN** Appears when you scan channels.
- MAN** Appears when you manually select a channel.
- PGM** Appears when you program the scanner.
- PRI** Appears when the priority feature is turned on.

L/O (lockout)

Appears when you skip a channel or frequency, when you manually select a channel or frequency that is locked out or skipped, or when a frequency is stored in search skip memory during a direct search or band search hold.

DLX

Appears when the scanner is scanning and stops at a channel, or during a search when you have programmed a 2-second delay.

WX (weather)

Appears when the scanner is searching the weather band.

▲/▼

Indicate the search direction during a search.

b

Appears instead of the channel number during a band search.

d

Appears instead of the channel number during a direct search.

H

Appears during a band search hold.

h

Appears during a direct search hold.



## UNDERSTANDING BANKS AND BANDS

You can store frequencies into either a permanent memory location called a channel, or a temporary memory location called a monitor memory. You can store up to ~~30~~ <sup>90</sup> channels and up to 3 monitor memories.

Your scanner also has ~~seven~~ <sup>eight</sup> frequency bands, each covering a specific range of frequencies you can search.

### CHANNEL-STORAGE BANKS

To make it easier to identify and select the frequencies you want to listen to, the scanner's channels are divided into 3 channel-storage banks (1-3) of ~~10~~ <sup>30</sup> channels each. You can use each channel-storage bank to group frequencies, such as those used by the police department, fire department, ambulance services, and amateur radio operators (see "Guide to the Action Bands" on Page 28).

For example, there might be three or four police departments in your area, each using several different frequencies. Additionally, there might be other law enforcement agencies such as state police, county sheriffs, or SWAT teams that use their own frequencies. You could program all law enforce-

ment frequencies starting with Channel 1 (the first channel in Bank 1), then program the fire department, paramedic, and other public safety frequencies starting with Channel ~~4~~ <sup>3</sup> (the first channel in Bank 2).

### MONITOR MEMORIES

Monitor memories are temporary storage areas where you can store up to three frequencies during a search while you decide whether to save them into channels. You can manually select and listen to monitor memories.

### FREQUENCY BANDS

Your scanner has ~~seven~~ <sup>eight</sup> frequency bands, each covering a specific range of frequencies. You can search these bands for specific broadcasts by repeatedly pressing BAND until the scanner displays the band you want.

For example, you can search through all frequencies between 29,000 and 54,000 MHz for specific broadcasts by repeatedly pressing BAND until 29-54 appears on the display. The scanner then automatically searches the frequencies in that band.

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

| Displayed Frequency Band Range | Typical Usage   | Frequency Coverage (MHz) | Step (kHz) |
|--------------------------------|---|--------------------------|------------|
| 29-54                          | 10-Meter Amateur Radio, VHF Lo, 6-Meter Amateur Radio | 29,000 to 54,000         | 5.0        |
| 108-137                        | Aircraft  | 108,000 to 136,975       | 12.5       |
| 137-144                        | Government  | 137,000 to 144,000       | 5.0        |
| 144-148                        | 2-Meter Amateur Radio                                 | 144,000 to 148,000       | 5.0        |
| 148-174                        | VHF Hi  | 148,000 to 174,000       | 5.0        |
| 406-450                        | Government, 70-Centimeter Amateur Radio               | 406,000 to 450,000       | 12.5       |
| 450-470                        | UHF Lo  | 450,000 to 470,000       | 12.5       |
| 470-512                        | UHF "T" Band  | 470,000 to 512,000       | 12.5       |

#### Notes:

- Your scanner searches at the preset frequency step rate (5 or 12.5 kHz) for each frequency. You cannot change the frequency step rate.

Your scanner rounds its display to the nearest 1 kHz step. For example, if you tune to 406.1125, the scanner displays 406.113.

- While searching through a frequency band, you might hear a frequency you want to store. You can store any frequency into a monitor memory.
- You cannot change or delete any of the frequencies in the frequency bands.

→ 四捨五入はしない (切り捨て)

406.1125 → 406.113

表示



## SEARCHING FOR AND TEMPORARILY STORING ACTIVE FREQUENCIES

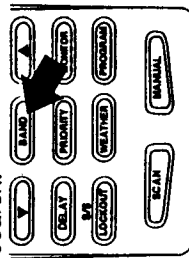
You can search for transmissions using either a band or direct search, then temporarily store the frequencies into monitor memories.

### Band Search

You can select a frequency band and search for transmissions within only that band.

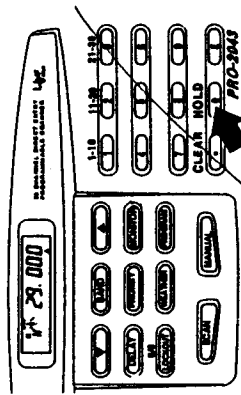
**Note:** You can use the scanner's delay feature while using band search. See "Delay" on Page 22.

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



The scanner displays **▲** or **▼**, the range for each frequency band, and the number of the current monitor memory blinks on the display. Then the scanner starts to search the frequencies in the band. When the scanner finds a transmission, it stops and displays the frequency's number until the transmission stops, then it starts searching again.

2. To manually search the band, press **HOLD** after the scanner starts automatically searching the frequencies. The scanner displays **H** (hold), **▲** or **▼**, and a frequency within the band you selected.



Repeatedly press **▲** to step from the lower to the upper range, or **▼** to step from the upper to the lower range.

Press and hold down **▲** or **▼** or press **HOLD** to return to automatic search.

3. When the scanner finds an active frequency, you can do any of the following:

- To save the frequency into the current monitor memory, press **MONITOR**.
- To continue searching, press **▲** or **▼**.
- To stop searching and listen to the frequency, press **HOLD**.

### Notes:

- You can change the direction of either an automatic or manual search by pressing **▲** or **▼** once.

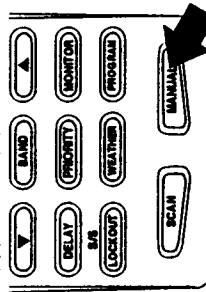
- If you manually tune to a search skip frequency, the display shows L/O (see "Skipping Frequencies/Channels" on Page 22).

### Direct Search

You can enter a frequency, then search for transmissions above or below that frequency within the frequency bands.

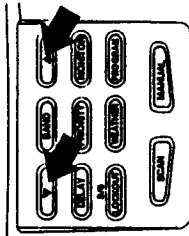
**Note:** You can use the scanner's delay feature while using direct search. See "Delay" on Page 22.

1. Press **MANUAL**.



2. Use the number keys to enter the frequency where you want to start the search. Press **\*** to enter the decimal point.

3. Press **▲** or **▼** to search up or down from the selected frequency. **d** (direct) and **▲** or **▼** appear, and the next available monitor memory number flashes.



**Note:** If you entered an invalid frequency in Step 2, the scanner displays **Error**. Press **CLEAR**, then repeat Steps 2 and 3.

4. When the scanner finds an active frequency, you can do any of the following:

- To save the frequency into the current monitor memory, press **MONITOR**.
- To continue searching or change the search direction, press **▲** or **▼**.
- To stop searching and listen to the frequency, press **HOLD**.

**H** (hold) appears on the display. To manually step through frequencies one at a time after you stop a search, repeatedly press **▲** or **▼**. To continue searching, either press **HOLD** or press and hold down **▲** or **▼** for about 1 second.

**Note:** If you manually tune to a search skip frequency, the scanner displays L/O (see "Skipping Frequencies/Channels" on Page 22).

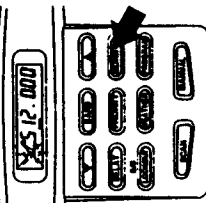
## LISTENING TO MONITOR MEMORIES

After you store frequencies into the scanner's monitor memories, you can listen to them by pressing **MANUAL**, **MONITOR**, then the number for the desired monitor memory.

**Note:** To listen to the monitor memories, the priority channel feature must be turned off (see "Priority" on Page 23).

## MOVING A FREQUENCY FROM A MONITOR MEMORY TO A CHANNEL

1. If the scanner is scanning, press **MANUAL**.
2. Use the number keys to enter the channel number where you want to store the monitor frequency, then press **PROGRAM**. **PGM** appears on the display.
3. Press **MONITOR**. The channel number flashes. Then use the number keys to enter the monitor memory number that has the frequency you want to store into the channel. The frequency appears.

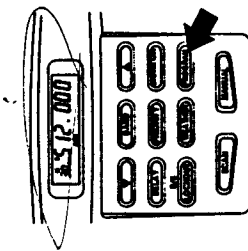


4. Press **E**. The scanner stores the frequency in the selected channel number.

## DELETING A FREQUENCY FROM A CHANNEL

1. If the scanner is scanning, press **MANUAL**.
2. Using the number keys, enter the channel number containing the frequency you want to delete.

3. Press **PROGRAM**.



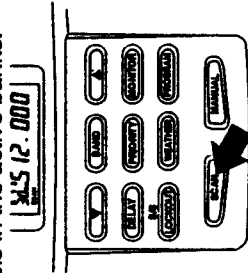
4. Press **0**, then **E**. The frequency is deleted from the channel.

To delete a frequency from a monitor memory, store a new frequency in that monitor memory.

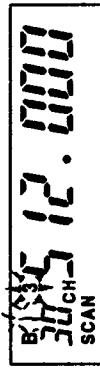
## SCANNING CHANNELS

**Note:** You cannot scan channels until you have stored frequencies in them.

To scan channels stored in the channel-storage banks, press **SCAN**. The scanner scans through all non-locked channels in the active banks.



To select one or more channel-storage banks while scanning, select each bank you want to scan by pressing its number key until the bank's number appears on the display.



To turn off channel-storage banks, press the number key for the bank(s) until the bank's number disappears. The scanner does not scan any of the stored channels within banks you have turned off.

**Notes:**

- You can manually select any channel in a bank, even if the bank is turned off.
- You cannot turn off all three banks.

## 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 want to hear all the details (even though there might be periods of silence) or if you want to monitor only a specific channel or a locked-out channel.

Follow these steps to manually select a channel.

1. Press **MANUAL**.
2. Use the number keys to enter the channel number you want to hear, then press **MANUAL** again.

**Notes:**

- If your scanner is scanning and stops at the channel you want, simply press **MANUAL** to manually select the channel.
- If you repeatedly press **MANUAL**, the scanner steps through the channels.

17/22

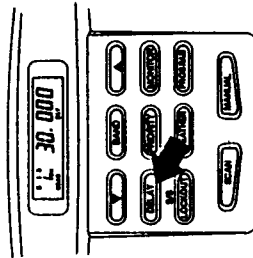
## SPECIAL FEATURES

### DELAY

Many agencies use a two-way radio system that might have a pause of several seconds between a query and a reply. To avoid missing a reply, you can program a 2-second delay into any of your scanner's channels or frequencies. Then, when the scanner stops on the channel or frequency, DLY appears on the display and the scanner continues to monitor the channel/frequency for 2 seconds after the transmission stops before it resumes scanning or searching.

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

- If the scanner is scanning and stops on an active channel, quickly press **DELAY** before it starts to scan again.



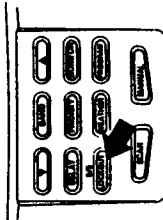
- If the desired channel is not selected, manually select the channel then press **DELAY**.
- If the scanner is searching, press **DELAY** during the search. **DLY** appears on the display and the scanner automatically adds a 2-second delay to every transmission it stops on.

To turn off delay on any channel or frequency, press **DELAY** when the channel or frequency appears on the display. **DLY** disappears.

### SKIPPING FREQUENCIES/CHANNELS

You can scan channels and search for frequencies faster by skipping ones that have a continuous transmission, such as a weather channel. You can skip up to all 30 channels while scanning or up to 20 frequencies during a band or direct search.

To skip a channel/frequency while scanning or searching, press **S/S-LOCKOUT** when the scanner stops on it.



#### Notes:

- If you skip more than 20 search frequencies, each new frequency replaces earlier ones, starting from the first stored frequency.
- You can manually select skipped frequencies after you press **HOLD** to stop a search. The scanner displays **L/O** when you select a skipped frequency.

### Removing Skip from Frequencies

To remove the skip from a frequency while searching, press **HOLD** to stop the search, press **▲** or **▼** to select the skipped frequency, then press **S/S** until **L/O** disappears.

To remove the skip from all frequencies at once while searching, press and hold down **S/S-LOCKOUT** until the scanner beeps twice.

### Removing Skip from Channels

To remove the skip from a channel while scanning, press **MANUAL** to stop the scan, use the number keys to enter the channel number and press **MANUAL** again, then press **LOCKOUT** until **L/O** disappears.

To remove skip from all channels while scanning, select the banks containing the skipped channels, press **MANUAL**, then press and hold down **LOCKOUT** until the scanner beeps twice.

### PRIORITY

The priority feature lets you scan through programmed channels and still not miss important or interesting calls on specific channels. You can program one stored channel in each bank as a priority channel (up to 3 stored channels). As the scanner scans, it checks the priority channels

in each selected bank every 2 seconds for activity.

#### Notes:

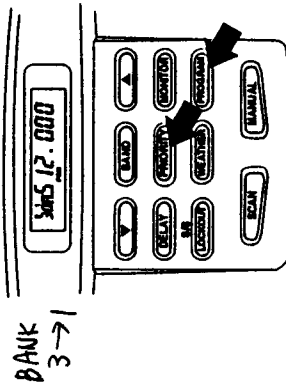
- You can skip priority channels. If you skip all priority channels, the scanner displays **CH LOC OUT** when you turn on the priority feature. See "Skipping Frequencies/Channels" on Page 22.
- The priority feature must be turned off to listen to monitor memories.

The scanner automatically designates the first channel in each bank as that bank's priority channel.

Follow these steps to program a different channel as the priority channel.

#### 1. Press PROGRAM.

- Use the number keys to enter the channel number you want to program as the priority channel, then press **PRIORITY**. **P** appears to the right of the channel number.



- Repeat Steps 1-2 for each channel you want to program as a priority channel.

4. To confirm priority channel numbers for all banks, press **PROGRAM** then repeatedly press **PRIORITY**.

To turn on priority, press **PRIORITY** during scanning. **PRI** appears, and the scanner checks the priority channel in each selected bank every 2 seconds. It stays on the channel if there is activity, and **P** appears.

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

**Note:** If you are scanning more than one bank in which a priority channel has been programmed, the scanner stops on the lowest-numbered priority channel first while scanning.

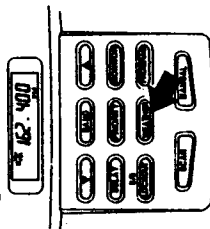
## LISTENING TO THE WEATHER BAND

There are 11 channels used by the National Oceanic and Atmospheric Administration (NOAA). NOAA broadcasts local forecasts and regional weather information on these channels. We have preprogrammed your scanner with seven of these frequencies.

**Note:** For a list of all 11 national weather frequencies, see "National Weather Frequencies" on Page 26.

To scan the preprogrammed weather channels, press **WEATHER**. **WX** appears, and the scanner searches the

weather channels and stops on an active broadcast. If a broadcast is weak, press **WEATHER** again to continue to search through the weather channels.



## BAND MODE AND FREQUENCY STEP

The scanner receives only NFM (narrowband frequency modulation) transmissions. This is the type of transmission used by most users of the aircraft bands such as police, fire, ambulance, Amateur Radio, etc.

This table shows the preset frequency steps your scanner uses for each frequency range.

| Freq. Range (MHz) | Freq. Step (kHz) |
|-------------------|------------------|
| 29.000-54.000     | 5                |
| 137.000-144.000   | 5                |
| 144.000-148.000   | 5                |
| 148.000-174.000   | 5                |
| 406.000-450.000   | 12.5             |
| 450.000-470.000   | 12.5             |
| 470.000-512.000   | 12.5             |

**Note:** The frequency steps are preset. You cannot change them.

## TURNING THE KEY TONE ON OR OFF

When the key tone is turned on, each time you press any of the scanner's keys, the scanner sounds a tone.

Follow these steps to turn the scanner's key tone on or off.

1. If the scanner is turned on, turn **VOLUME** counterclockwise until it clicks to turn it off.
2. Press and hold **S/S-LOCKOUT** while you turn on the scanner. **no BEEP** (if the key tone is off) or **On BEEP** (if the key tone is on) appears for about 3 seconds.

108.000 - 136.975 12.5

15/22