

# **PSR-282**

## **200-Channel VHF/Air/UHF Handheld Scanner**

### **Owner's Manual**



Add photograph



# INTRODUCTION

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

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

Your scanner also has these special features:

**Liquid-Crystal Display**—makes it easy to view and change programming information. The display backlight also makes the scanner easy to read in low-light situations.

**One-Touch Search Banks**—let you search preset frequencies in separate band 1–4, and ham bands, to make it easy to locate specific types of calls.

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

**Tune**—lets you tune for new and unlisted frequencies starting from a specified frequency.

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

**High Speed Search and High Speed Scan**—lets you set the scanner to search at up to 50 steps per second (in frequency bands with 5 kHz steps) and scan at up to 25 channels per second, to help you quickly find interesting broadcasts.

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

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

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

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

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

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

Your PSR-282 scanner can receive these bands:

66–88 MHz                      118–136.9916 MHz  
137–174 MHz                  380–512 MHz

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## PREPARATION

You can power your scanner from any of three sources:

**Note:** Connecting an AC or DC adapter to the scanner disconnects internal batteries when you use the supplied non-rechargeable battery holder (black), but it does not disconnect internal batteries when you use the supplied rechargeable battery holder (yellow).

- internal non-rechargeable batteries or rechargeable batteries (not supplied—see “Installing Batteries”).
- standard AC power (with an optional AC adapter—see “Using AC Power” on Page 6).
- Vehicle power (with an optional DC adapter—see “Using Vehicle Battery Power” on Page 6).

### Installing Batteries

Your scanner uses four AA batteries (not supplied) for power. You can use either the supplied non-rechargeable battery holder (black), or the supplied rechargeable battery holder (yellow) to install the batteries.

**Warning:** Never install non-rechargeable batteries in the rechargeable yellow battery holder. Non-rechargeable batteries can get hot or explode if you try to recharge them.

If you install the rechargeable battery holder, you can operate the scanner and recharge the rechargeable batteries at the same time. See “Charging Rechargeable Batteries” on Page 5.

#### **Warning:**

- The battery holder fits only one way. Do not force it.
- Use only fresh batteries of the required size and recommended type.
- Do not mix old and new batteries, different types of batteries (standard, alkaline, or rechargeable), or rechargeable batteries of different capacities.

Follow these steps to install batteries.

1. Press in on the battery compartment cover on the back of the scanner and slide the cover down to remove it.
2. Pull the battery holder out of the battery compartment.

3. If you are using non-rechargeable batteries, place them into the black holder, as indicated by the polarity symbols (+ and -) marked on the holder. Or, if you are using rechargeable batteries, place them into the yellow holder, as indicated by the polarity symbols (+ and -) marked on the holder.
4. Place the battery holder into the battery compartment.
5. Replace the cover.

When **B** appears and the scanner beeps or the scanner stops operating properly, replace or recharge the batteries.

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

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

If the scanner stops working properly after connecting it to power, try resetting it. See “Resetting the Scanner” on Page 23.

**Note:** You must charge rechargeable batteries before you use them the first time. See “Charging Rechargeable Batteries.”

## Charging Rechargeable Batteries

Your scanner has a built-in charging circuit that lets you charge nickel-metal hydride (Ni-MH) or nickel cadmium (Ni-CD) rechargeable batteries (not supplied) while they are in the scanner. To charge rechargeable batteries, you need to use a 9V AC adapter or 10V DC adapter with 4.7mm outer/1.7mm inner plug.

### Cautions:

- You must use an adapter that supplies 9V DC and delivers at least 300mA. Its center tip must be set to positive and its plug must fit the scanner’s **PWR DC 9V** jack. Using an adapter that does not meet these specifications could damage the scanner or the adapter.
- Always connect the AC adapter to the scanner before you connect it to AC power. When you finish, disconnect the adapter from AC power before you disconnect it from the scanner.

**Note:** It takes about 15 hours to recharge fully discharged 1500mAh Ni-MH rechargeable batteries. You can operate the scanner while recharging the rechargeable batteries, but charging takes longer.

Connect 4.7mm outer/1.7mm inner plug to the scanner's **PWR DC 9V** jack.

**Note:** When you charge Ni-CD batteries, pay attention not to over charge. Overcharging shortens battery life.

The scanner can also charge Ni-Cd batteries. 600mAh batteries require 6 hours and 850 mAh batteries require 8 hours to charge.

Rechargeable batteries last longer and deliver more power if you let them fully discharge once a month. To do this, use the scanner until B appears. Then fully charge the rechargeable batteries.

## Using AC Power

You can power the scanner using a 9V, 300mA AC adapter with 4.7mm outer/1.7mm inner plug.

### Cautions:

- You must use an adapter that supplies 9V DC and delivers at least 300 mA. Its center tip must be set to positive and its plug must fit the scanner's **PWR DC 9V** jack. Using an adapter that does not meet these specifications could damage the scanner or the adapter.
- Always connect the AC adapter to the scanner before you connect it to AC power. When you finish, disconnect the adapter from AC power before you disconnect it from the scanner.

To power the scanner using an AC adapter, insert the plug (4.7mm outer/1.7mm inner plug) into the scanner's **PWR DC 9V** jack. Then connect the other end of the adapter to a standard AC outlet.

## Using Vehicle Battery Power

You can also power the scanner from a vehicle's 12V power source (such as a cigarette-lighter socket) using a 9V, 300mA adapter with 4.7mm outer/1.7mm inner plug.

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

To power the scanner using a DC adapter, set the adapter's voltage switch to 9V. Next, insert the plug (4.7mm outer/1.7mm inner plug) into the scanner's **PWR DC 9V** jack. Plug the other end of the DC adapter into your vehicle's cigarette-lighter socket.

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

## Connecting the Supplied Antenna

To attach the supplied flexible antenna to the **ANT** jack on top of your scanner, align the slots around the antenna's connector with the tabs on the **ANT** jack. Press the antenna down over the jack and turn the antenna's base clockwise until it locks into place.

## Connecting an Outdoor Antenna

The antenna connector on your scanner makes it easy to use the scanner with a variety of antennas, such as an external mobile antenna or outdoor base station antenna.

Always use 50 Ohm coaxial cable, such as RG-58 or RG-8, to connect an outdoor antenna. For lengths over 50 feet, use RG-8 low-loss dielectric coaxial cable. If the antenna cable's connector does not have a BNC connector, you will also need a BNC adapter.

Follow the installation instructions supplied with the antenna, route the antenna cable to the scanner, then connect it to the **ANT** jack.

## Connecting an Earphone/Headphones

For private listening, you can plug a 3.5 mm mini-plug earphone or headphones (not supplied), into the  jack on the top of the 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/headphones let you hear some outside sounds when listening at normal volume levels, they still can present a traffic hazard.

## Connecting an Extension Speaker

In a noisy area, an amplified extension speaker (not supplied), might provide more comfortable listening. Plug the speaker cable's 3.5 mm mini-plug into  jack.

**Note:** You must use an amplified speaker with this scanner. Non-amplified speakers do not provide sufficient volume for comfortable listening.

## Using the Belt Clip

You can use the belt clip attached to the back of the scanner for hands-free carrying when you are on the go. Slide the belt clip over your belt or waistband.

## ABOUT YOUR SCANNER

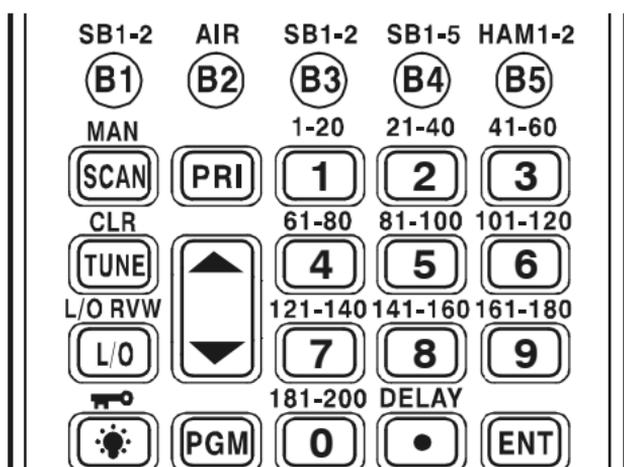
Once you understand a few simple terms used in this manual and familiarize yourself with your scanner's features, you can put the scanner to work for you. You simply determine the type of communications you want to receive, then set the scanner to scan them.

A frequency is the receiving signal location (expressed in kHz or MHz). To find active frequencies, you can use the search function.

You can also search the One Touch Search Banks, which are preset groups of frequencies categorized by type of service.

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

### A LOOK AT THE KEYPAD



**B1/SB1-2**—Lets you search the scanner's preprogrammed search band 1.

**B2**—Lets you search the scanner's preprogrammed search band 2.

**B3/SB1-2**—Lets you search the scanner's preprogrammed search band 3.

**B4/SB1-5**—Lets you search the scanner's preprogrammed search band 4.

**B5/HAM**—Lets you search the scanner's preprogrammed amateur radio band.

**SCAN/MAN**— Scans any preprogrammed channels; stops scanning and lets you directly enter a channel number.

**PRI**—Turns the priority feature on and off.

**TUNE/CLR**—Lets you tune a frequency along with ▲ or ▼, clears an incorrect entry.

**L/O RVW/L/O**—Reviews locked-out frequencies; lets you lock out selected channels or frequencies.

▲ or ▼—Searches up or down for active frequencies or selects the direction when scanning channels.

🔑/🔑 —Locks (and unlocks) the keypad to prevent accidental entries; turns the backlight on and off.

**PGM**—Programs frequencies into channels.

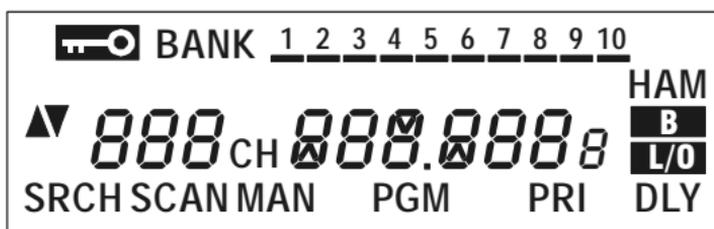
**Number Keys**—Each key has a single digit (0 to 9) and a range of numbers. Use the range of numbers above the key (21-40 for example) to select the channel in a channel-storage bank. See “Understanding Banks” on Page XX.

**DELAY/●**—Programs a 2-second delay for the selected channel; enters a decimal point.

**ENT (enter)**—Enters frequencies into channels.

## A LOOK AT THE DISPLAY

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



🔑 —Appears when you lock the keypad.

**BANK**—Appears with numbers (1-10) to indicate the scan bank. Bank numbers with a bar under them show which banks are turned on for scanning (see “Understanding Banks” on Page 12).

**b-1 to b-4**—Indicates that the scanner is searching the bank 1, 2, 3, or 4.

**HAM**—Indicates that the scanner is searching the amateur radio bank.

▲ or ▼—Indicates the search or scan direction.

**CH**—Appears with digits (1-200) or P to show which channel the scanner is turned to.

**SRCH**—Appears during searches.

**MAN**—Appears when you manually select a channel.

**B**—Appears when the batteries are low.

**L/O (lockout)**—Appears when you manually select a channel that was previously locked out during scanning or when you review a locked-out frequency.

**SCAN**—Appears when the scanner scans channels.

**PGM**—Appears when you program frequencies into the scanner's channels.

**PRI**—Appears when the priority feature is turned on.

**DLY**—Appears when you program a 2-second delay.

**Ch-FULL**—Appears when you try to enter a frequency during a search when all channels are full.

**-dUPL-** —Appears when you try to store a frequency that is already stored in another channel.

**DEFAULT**—Appears when you remove all the lock-outs from the each search bands frequencies.

**Error**—Appears when you make an entry error.

**FLo ALL-CL**—Appears when you remove all the locked-out frequencies during a search.

**FLo-FULL**—Appears when you try to lock out a frequency during a tune when 50 frequencies are already locked out.

**F L-out**—Appears when you start a tune from a locked-out frequency.

**L-r**—Appears when you review locked-out frequencies.

**oFF tonE**—Appears when you turn the key tone off.

**on tonE**—Appears when you turn the key tone on.

**P**—Appears when the scanner is tuned to the priority channel.

**-t-** —Appears when the scanner is turning frequencies.

# UNDERSTANDING BANKS

## Channel Storage Banks

A bank is a storage area for a group of channels. Channels are storage areas for frequencies. Whereas a channel can only contain one frequency, a bank can hold numerous channels.

To make it easier to identify and select the channels you want to listen to, your scanner divides the channels into 10 banks (1 to 10) of 20 channels each, a total of 200 channels. You can use each channel-storage bank to group frequencies.

## One Touch Banks

The scanner is preprogrammed with the frequencies. This is handy for quickly finding active frequencies instead of searching through an entire bank (see “Searching the One Touch Banks” on Page 12).

**Note:** The frequencies in the scanner’s one touch banks are preset. You cannot change them.

<b>BAND</b>	<b>Sub-Bank</b>	<b>Frequency Range</b>
BAND 1	Bank 1	66–77.995 MHz
	Bank 2	78–88 MHz
BAND 2	-----	118–137 MHz
BAND 3	Bank 1	137–144 MHz
	Bank 2	146–174 MHz
BAND 4	Bank 1	380–405.9875 MHz
	Bank 2	406–429.9875 MHz
	Bank 3	440.0125–449.9875 MHz
	Bank 4	450–469.9875 MHz
	Bank 5	470–512 MHz
HAM	Bank 1	144–146 MHz
	Bank 2	430–440 MHz

# OPERATION

## Turning On the Scanner/Setting Volume and Squelch

1. Turn **SQUELCH** until the indicator points to **MIN** before you turn on the scanner.
2. To turn on the scanner, turn **VOLUME** clockwise until you hear a hissing sound.
3. Turn **SQUELCH** clockwise, just until the hissing sound stops.

### Notes:

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

## Storing Known Frequencies Into Channels

Follow these steps to store frequencies into channels.

1. Press **PGM**. **PGM** appears. Then enter the channel number (1–200) where you want to store a frequency, then press **PGM** again.
2. Use the number keys and **DELAY/●** to enter the frequency (including the decimal point) you want to store.
3. Press **ENT** to store the frequency into the channel.

### Notes:

- If you made a mistake in Step 2, **Error** appears and the scanner beeps three times when you press **ENT**. Simply start again from Step 2.
- If you entered a frequency that is already stored in another channel, the scanner beeps three times while displaying the lowest channel number where the frequency is already stored, the **-dUPL-** then the frequency you entered flash on the display. To store the frequency anyway, press **ENT** again. Press **TUNE/CLR** to clear the frequency.

Your scanner automatically rounds the entered frequency down to the closest valid frequency. For example, if you enter a frequency of 151.473, your scanner accepts it as 151.470.

Press **DELAY** if you want the scanner to pause 2 seconds on this channel before it proceeds to the next channel after a transmission ends (see “Delay” on Page 19). The scanner also stores this setting in the channel.

To program the next channel in sequence, press **PGM** and repeat Steps 2 and 3.

## SEARCHING THE ONE TOUCH BANKS

Your scanner contains groups of preset frequencies called One Touch Banks. Each one touch bank is associated with a specific activity (see “One Touch Banks” on Page 12).

**Note:** You can use the scanner’s delay feature while searching the banks (see “Delay” on Page 19).

1. Press **B1**, **B2**, **B3**, **B4**, or **B5** (HAM). The scanner displays search range for about 2 seconds. Then, the scanner starts searching.

### Notes:

- To reverse the search direction at any time, hold down ▲ or ▼ for about 1 second.
  - To search up or down the band in small increments, repeatedly press ▲ or ▼. (See “One Touch Banks” on Page 12 for frequency steps).
  - To pause the search while receiving a signal, press ▲ or ▼. To resume searching, hold down ▲ or ▼.
  - To quickly move up or down through the frequencies, hold down ▲ or ▼. The scanner tunes through the frequencies until you release ▲ or ▼.
  - If necessary, you can select search groups using the number keys.
2. When the scanner finds an active frequency, it stops searching and displays the frequency’s number.
  3. To search for another active frequency in the selected band, hold down ▲ or ▼ for about 1 second. To select a different band and search for another active frequency, repeat Steps 1 and 2.

Once you find interesting frequencies during the search, you can store them into the scanner's channel-storage banks.

1. To store the displayed frequency in the lowest available channel, press **ENT** when you find a frequency. The channel number flashes.
2. Press **ENT** again to store the frequency. The channel and frequency flash twice. If you want to cancel the operation, press **TUNE/CLR** instead of **ENT**.

**Note:** If you entered a frequency that is already stored in another channel, **-dUPL-** (duplicate) and the lowest-numbered channel containing the duplicate frequency flash for about 3 seconds. If you want to store the frequency anyway, press **ENT** again. You can then delete the frequency later. See "Clearing a Stored Channel" on Page 18.

If there is no empty channel, **Ch-FULL** appears after you press **ENT**. To store more frequencies, you must clear some channels. See "Clearing a Stored Channel" on Page 18. To continue searching after **Ch-FULL** appears, press **TUNE/CLR**.

## Using Tune

You can set the scanner to search through all receivable frequencies from a specified frequency. You can use the scanner's delay feature while using tune.

### Notes:

To reverse the tuning direction at any time, hold down **▲** or **▼** for about 1 second.

To tune up or down the selected band in small increments (5, 8.333 or 12.5 kHz steps), repeatedly press **▲** or **▼**.

1. Repeatedly press **SCAN/MAN** until **MAN** appears.
2. Enter the desired channel number you want to use as a starting point for the tune. Then press **SCAN/MAN** again.
3. Press **TUNE/CLR** to start tune. **-t-** appears.
4. Hold down **▲** or **▼** for about 1 second to tune up or down. **▲** or **▼** appear and the scanner searches the frequencies.

## Notes:

- To pause tuning, press ▲ or ▼. To resume tuning, hold down ▲ or ▼ for about 1 second.
  - To quickly move up or down through the frequencies, hold down ▲ or ▼. The scanner tunes through the frequencies until you release ▲ or ▼.
5. When the scanner finds an active frequency, it stops searching and displays the frequency's number.
  6. To search for another active frequency, hold down ▲ or ▼ for about 1 second.

Once you find a frequency you want during the search, you can store it in the scanner's channel.

1. To store the displayed frequency in the lowest available channel, press **ENT**. The channel number flashes.
2. Press **ENT** again to store the frequency. The channel and frequency flash twice. If you want to cancel the operation, press **TUNE/CLR** instead of **ENT**. After storing the frequency, the scanner continues to search for frequencies.

## Notes:

If there is no empty channel, **Ch-FULL** appears after you press **ENT**. To store more frequencies, you must clear some channels. See "Clearing a Stored Channel" on Page 18. To continue tuning after **Ch-FULL** appears, press **TUNE/CLR**.

If you entered a frequency that is already stored in another channel, **-dUPL-** (duplicate) and the lowest-numbered channel containing the duplicate frequency flash for about 3 seconds. If you want to store the frequency anyway, press **ENT** again. You can then delete the frequency later. See "Clearing a Stored Channel" on Page 18.

## Scanning the Stored Channels

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

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

## Notes:

- To reverse the scanning direction, press  or .
- To set the scanner to remain on the current channel for 2 seconds after the transmission ends, see “Delay” on Page 19.
- To set the scanner to remain on the current channel, even after the transmission stops, press **SCAN/MAN** at any time during the transmission. **MAN** appears and **SCAN** disappears (see “Monitoring a Stored Channel”).
- To lock out channels so the scanner does not stop for a transmission on those channels, see “Locking Out Channels or Frequencies” on Page 19.

## Turning Channel-Storage Banks Off and On

Channel-storage banks (1-10) are on when they have a bar underneath them and off when no bar appears underneath them. To turn off a channel-storage bank, press the bank’s number key during scanning. The bar under the bank’s number disappears.

To turn on a channel-storage bank (1-10) during scanning, press the bank’s number key. A bar appears under the bank’s number.

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

You cannot turn off all banks. There must be at least one active bank.

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

When you turn on a bank during scanning, the scanner moves to the selected bank and scans it.

If no transmission is found, the scanner continues to scan through all selected banks.

## Monitoring a Stored Channel

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

Follow these steps to manually select a channel.

1. Repeatedly press **SCAN/MAN** until **MAN** appears.
2. Enter the channel number (1–200).
3. Press **SCAN/MAN** again.

## **Clearing a Stored Channel**

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

1. Press **SCAN/MAN** to stop scanning.
2. Use the number keys to enter the channel number (1–200) you want to clear.
3. Press **PGM**. **PGM** appears.
4. Press **0** then **ENT**. The frequency number changes to **000.0000** to indicate the channel is cleared.

# SPECIAL FEATURES

## Delay

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

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

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

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

## Locking Out Channels or Frequencies

You can increase the effective scanning or search speed by locking out individual channels or frequencies that have a continuous transmission.

To lock out a channel while scanning or a frequency during one-touch search or while tuning, press **L/O/L/O RVW** when the scanner stops on the channel or frequency. If you locked out a frequency, the scanner locks it out then continues searching.

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

To remove the lockout from a channel, manually select that channel again, then press **L/O/L/O RVW** until **L/O** disappears. See “Removing Lockouts From All Frequencies in a One Touch Search Bank” on Page 20 and “Removing Lockouts From All Frequencies” on Page 20 for more information about removing lockout from frequencies.

## Notes:

- Your scanner automatically locks out empty channels.
- You can still manually select locked-out channels
- You can lock out as many as 50 frequencies during a search. If you try to lock out more, **FLo-FULL** appears (see “Reviewing Locked-Out Frequencies” and “Removing Lockouts From All Frequencies”).

## Reviewing Locked-Out Frequencies

To review the frequencies you locked out, hold down **L/O/L/O RVW** for about 2 seconds during a search, then repeatedly press **▲** or **▼**. The scanner beeps if there are no locked-out frequencies, or **L-r** appears and the scanner displays all locked out frequencies as you press **▲** or **▼**. When you reach the highest locked-out frequency, the scanner beeps twice and returns to the lowest locked-out frequency.

## Removing Lockouts From All Frequencies in a One Touch Search Bank

1. Hold down **L/O/L/O RVW** for about 2 seconds during a search or while tuning. **L-r** appears.

**Note:** If you locked out frequencies which are within the range of any of the one touch search banks during tune, the scanner also removes those locked-out frequencies when you use these steps. For example, if you locked out 68.000 MHz while tuning, the scanner removes it since 68.000 MHz is one of the frequencies in the search band 1.

2. While holding down **TUNE/CLR**, press the one-touch search key where you locked out frequencies. **DEFAULT** appears.
3. Press **ENT**. The scanner clears any lockouts from all frequencies in a one touch bank. Or, if you do not want to clear the lockouts, press **TUNE/CLR**.

## Removing Lockouts From All Frequencies

1. Hold down **L/O/L/O RVW** for about 2 second during a search or tune. **L-r** appears.
2. While holding down **TUNE/CLR**, press **L/O/L/O RVW**. **FLo ALL-CL** appears.

3. Press **ENT**. The scanner clears any lockouts from all frequencies. Or, if you do not want to clear the lockouts, press **TUNE/CLR**.

## Using Priority

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

1. Press **PGM**, then press **PRI**. **PCH** and **000.0000** or the previously-stored frequency appear.
2. Enter the frequency you want to enter into the priority channel, then press **ENT**. The display flashes twice.

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

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

## Using the Display Backlight

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

Press both **PGM** and  /  to turn on the display's backlight for an extended period of time. To turn it off, press both **PGM** and  / , or press  / .

## Turning the Key Tone On and Off

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

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

## Using the Key Lock

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

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

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

## Avoiding Image Frequencies

You might hear one of your regular stations on another frequency that is not listed. For example, you might find a service that regularly uses a frequency of 453.275 also on 474.675 MHz. Do the following to determine if you are listening to an image frequency:

Note the new frequency	474.675
Double the intermediate frequency of 10.7 MHz	(21.400)
and subtract it from the new frequency	-21.400
If the answer is the regular frequency then you have tuned to an image.	453.275

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

## Resetting/Initializing the Scanner

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

**Important:** If you have problems, first try to reset the scanner (see "Resetting the Scanner" on Page 23). If that does not work, you can initialize the scanner (see "Initializing the Scanner" on Page 23); however, this clears all information stored in your scanner's memory.

## Resetting the Scanner

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

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

## Initializing the Scanner

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

1. Turn off the scanner, then turn it on again.
2. Hold down **TUNE/CLR**.
3. While holding down **TUNE/CLR**, insert a pointed object (such as a straightened paper clip) into the reset opening on the side of the scanner, then gently press the reset button inside the opening. The display should turn off.
4. When the display turns on again, release **TUNE/CLR**.

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

# GENERAL HINTS

## Birdies

Every scanner has birdie frequencies. Birdies are signals created inside the scanner's receiver. These operating frequencies might interfere with transmissions on the same frequencies. If you program one of these frequencies, you hear only noise on that frequency. If the interference is not severe, you might be able to turn **SQUELCH** clockwise to cut out the birdie. This scanner's birdie frequencies (in MHz) are:

71.940 MHz	76.800 MHz	79.930 MHz
112.0625	120.025	128.025
136.025	139.995	140.800
144.030	152.090	160.100
165.430	168.035	173.485
392.250	400.0875	424.250
432.0125	440.250	445.6375
448.0875	453.650	456.0875
461.650	464.100	472.0125
480.100	485.400	488.0125
493.3875	496.0125	501.400
504.100		

## **CARE**

Keep the scanner dry; if it gets wet, wipe it dry immediately. Use and store the scanner only in normal temperature environments. Handle the scanner carefully; do not drop it. Keep the scanner away from dust and dirt, and wipe it with a damp cloth occasionally to keep it looking new.

## **IN CASE OF FAULT**

Where a fault arises, contact your supplier. However, before you do so check that the fault was not caused by an operational error. Carefully reread the relevant section in the instructions.

# SPECIFICATIONS

## Frequency Coverage

66.000–88.000 .....	5 kHz steps (FM)
118.000–136.9916 MHz .....	8.333 kHz steps (AM)
137.000–174.000 MHz .....	12.5 kHz steps (FM)
380.000–512.000 MHz .....	12.5 kHz steps (FM)

**Channels of Operation** ..... 200 channels

## Sensitivity (20 dB S/N):

66–88 MHz .....	0.5 $\mu$ V
118–136.9916 .....	1 $\mu$ V
137–174 MHz .....	0.5 $\mu$ V
380–512 MHz .....	0.7 $\mu$ V

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

## Selectivity:

+/-10 kHz .....	-6 dB
+/-18 kHz .....	-50 dB

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

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

**Delay Time** ..... 2 Seconds

## IF Frequencies:

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

**IF Interference Ratio (10.7 MHz)** ..... 70 dB at 154 MHz

## Squelch Sensitivity:

Threshold (AM/FM) .....	0.5 $\mu$ V
Tight (AM) .....	20 dB
Tight (FM) .....	25 dB

**Antenna Impedance** ..... 50 Ohms

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

**Power Requirements** ..... 6 Volts DC,  
4 AA Batteries or an adapter

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

**Dimensions (HWD)** ..... 145 x 63 x 40 mm

**Weight (without antenna)** ..... Approx. 220 g

## **NOTE**

