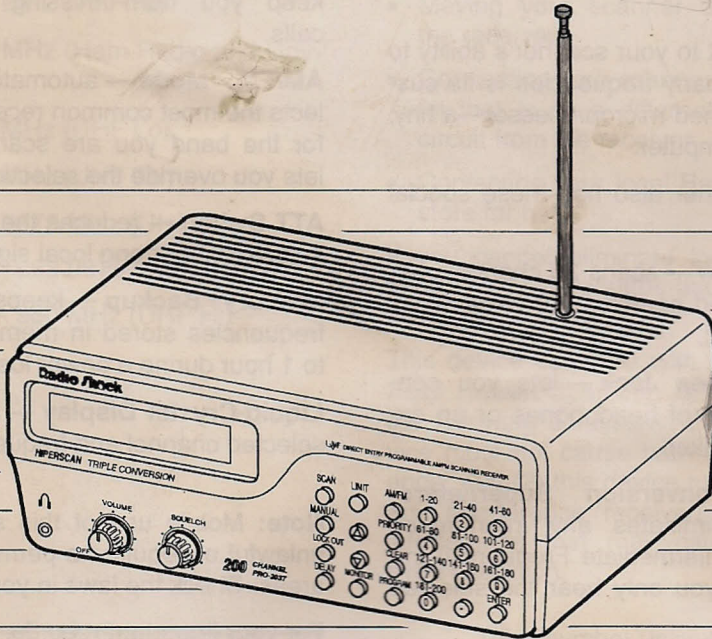


OWNER'S MANUAL

PRO-2037 Programmable Scanner

Please read before using this equipment.



Cat. No. 20-461

Radio Shack®

INTRODUCTION

Your new Radio Shack PRO-2037 Programmable Scanner lets you in on all the action! This scanner gives you direct access to more than 31,000 frequencies that include police and fire departments, aircraft communications, amateur radio, and ambulance and transportation services. You can select up to 200 channels 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:

Hyperscan — scans 25 channels per second and searches 50 frequencies per second.

Headphones Jack — lets you connect a pair of headphones or an external speaker.

Triple Conversion Superheterodyne — eliminates any interference from IF (Intermediate Frequency) images, so you only hear the selected frequency.

Ten Channel-Storage Banks — let you store 20 channels in each of ten banks to group channels so calls are easier to identify.

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

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

Lockout Function — keeps selected channels from being scanned so you can skip over them.

Priority Channel — checks a channel you select every 2 seconds to keep you from missing important calls.

AM/FM Mode — automatically selects the most common reception type for the band you are scanning, and lets you override the selection.

ATT Switch — reduces the scanner's sensitivity to strong local signals.

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

Liquid-Crystal Display — shows the selected channel and frequency.

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

For your important records, please record your scanner's serial number in the space provided. The serial number is located on the back of the scanner.

Serial Number: _____

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Your PRO-2037 covers the following bands:

- 30 – 50 MHz (VHF Lo)
- 50 – 54 MHz (6-Meter Ham Band)
- 118 – 136.975 MHz (Aircraft)
- 137 – 144 MHz (Government)
- 144 – 148 MHz (2-Meter Ham Band)
- 148 – 174 MHz (VHF Hi)
- 380 – 450 MHz (Ham Radio and Government)
- 450 – 470 MHz (UHF Lo)
- 470 – 512 MHz (UHF TV)
- 806 – 823.9875 MHz (UHF Hi)
- 849.0125 – 868.9875 MHz (UHF Hi)
- 894.0125 – 960 MHz (UHF Hi)



FCC NOTICE

Your scanner might cause radio or TV interference, even when it is operating properly. To determine whether your scanner is causing the interference, turn off your scanner. If the interference goes away, your scanner is causing the interference. 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 Radio Shack store for help

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

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

	CAUTION	
RISK OF ELECTRIC SHOCK DO NOT OPEN		
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		
Warning: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.		



This symbol is intended to alert you to the presence of dangerous voltage inside the product that presents a risk of electric shock. Do not open the product's case.



This symbol is intended to tell you that important operating and maintenance instructions are contained in this owner's manual.

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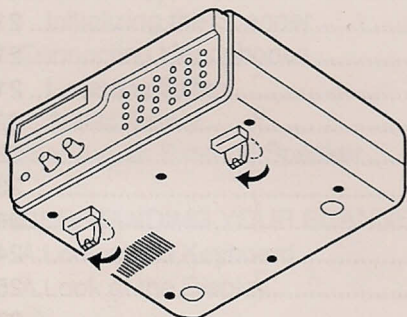
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PREPARATION

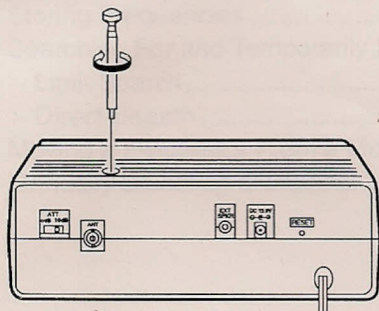
This scanner is primarily designed for use in the home as a base station. You can place it on a desk, shelf, or table.

Your scanner's front feet fold up or down. Adjust them to give you the best view of the display.



CONNECTING THE ANTENNA

To attach the supplied telescoping antenna, simply 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 length.

Frequency	Antenna Length
30 – 174 MHz	extend fully
380 – 512 MHz	extend 2 segments
806 – 960 MHz	collapse fully (1 segment only)

Connecting an Optional Antenna

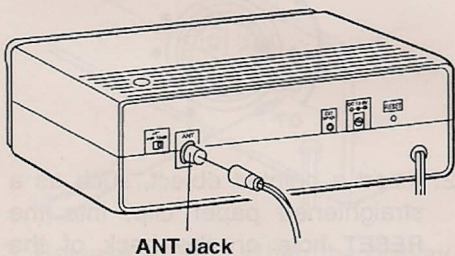
The telescoping antenna is adequate for strong local signals. But, for improved reception, you can connect a multi-band outdoor antenna (not supplied) to the scanner. Your local Radio Shack store sells a variety of antennas. Choose the one that best meets your needs.

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

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

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

Follow the mounting instructions supplied with the antenna. Then route the antenna cable to the scanner, and connect it to the **ANT** jack on the back of the scanner.



ANT Jack

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

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

CONNECTING POWER

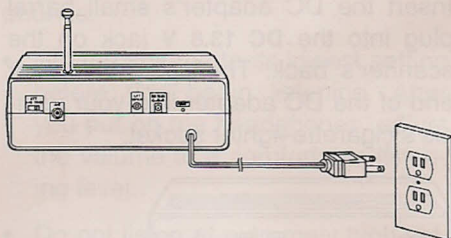
You can power your scanner from either of these sources:

- Standard AC power
- Vehicle battery power (using an optional DC adapter)

The memory backup circuit begins to function a few minutes after you connect the scanner to AC or DC power. If a power failure occurs or if the power cord is disconnected, this circuit protects information in the scanner's memory for about 1 hour.

Connecting AC Power

Plug the scanner's AC power cord into a standard AC outlet.



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

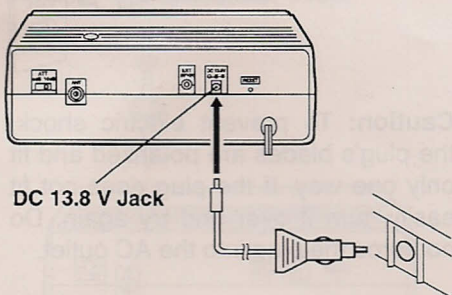
Connecting DC Power

You can power your scanner from your vehicle's cigarette-lighter socket using a DC adapter (Radio Shack Cat. No. 270-1533).

Cautions:

- The vehicle must have a 12-volt, negative ground electrical system.
- You must use a DC adapter that supplies 12 volts and delivers at least 500mA and its plug must correctly fit the **DC 13.8 V** jack on the back of the scanner. The recommended adapter meets these specifications. Using an adapter that does not meet these specifications could seriously damage the scanner or the adapter.

Insert the DC adapter's small barrel plug into the **DC 13.8 V** jack on the scanner's back. Then plug the other end of the DC adapter into your vehicle's cigarette-lighter socket.

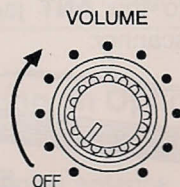


RESETTING AND INITIALIZING THE SCANNER

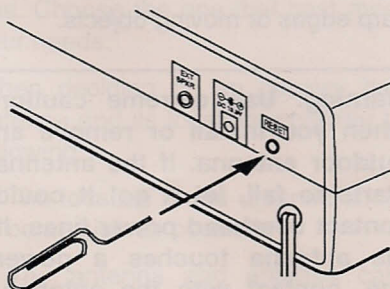
If the scanner's display locks up or the scanner does not work properly after you connect power, you might have to reset the scanner's display or initialize the scanner.

Resetting the Scanner's Display

1. Turn off the scanner, then turn it on again.



2. Insert a pointed object, such as a straightened paper clip, into the **RESET** hole on the back of the scanner.

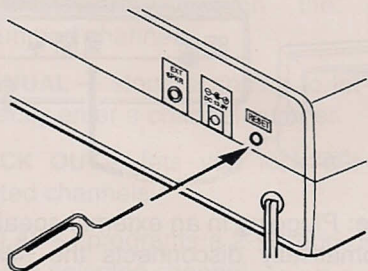


If the scanner still does not work properly, you might have to initialize the scanner.

Initializing the Scanner

Caution: This procedure clears all information you programmed 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. Press and hold down **CLEAR** and insert a pointed object, such as a straightened paper clip, into the **RESET** hole on the back of the scanner.




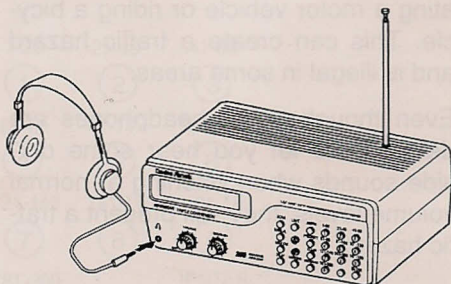
3. Release **RESET**. When the display reappears, release **CLEAR**.

Note: You must release **RESET** before releasing **CLEAR** in order to clear the memory.

CONNECTING HEADPHONES

For private listening, you can connect an optional pair of headphones with a 1/8-inch plug to the scanner. Use monaural headphones, such as Cat. No. 20-210.

Insert the headphones' plug into the  jack on the front of the scanner.



Note: Plugging in headphones automatically disconnects the internal speaker.

Listening Safely

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

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

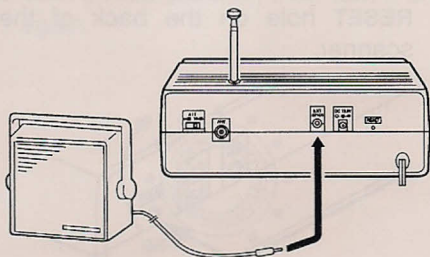
Do not wear headphones while operating a motor vehicle or riding a bicycle. This can create a traffic hazard and is illegal in some areas.

Even though some headphones are designed to let you hear some outside sounds when listening at normal volume levels, they still present a traffic hazard.

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 capable of handling over 5 watts of power, such as Cat. No. 21-549.

Insert the speaker cable's plug into the **EXT SPKR** jack on the back of the scanner.



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

UNDERSTANDING YOUR SCANNER

A LOOK AT THE KEYBOARD

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

SCAN	LIMIT	AM/FM	1-20	21-40	41-60
○	○	○	①	②	③
MANUAL	▲	PRIORITY	61-80	81-100	101-120
○	○	○	④	⑤	⑥
LOCK OUT	▼	CLEAR	121-140	141-160	161-180
○	○	○	⑦	⑧	⑨
DELAY	MONITOR	PROGRAM	181-200	•	ENTER
○	○	○	⑩	○	○

SCAN — scans through the programmed channels.

MANUAL — stops scanning to let you directly enter a channel number.

LOCK OUT — lets you lock out selected channels.

DELAY — programs a 2-second delay for the selected channel.

LIMIT — sets the frequency range you want to search.

▲ and ▼ — search up or down from the currently displayed frequency.

MONITOR — accesses the 10 monitor memories.

AM/FM — switches the scanner to the AM or FM mode.

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

CLEAR — clears an incorrect entry.

PROGRAM — programs frequencies into channels.

Number Keys — each key has a single digit label and a range of numbers above it. Use the digits on the keys to enter the numbers for a channel or a frequency. Use the range of numbers above the key (61-80, for example) to select the channels in a channel-storage bank. See "Understanding Channel-Storage Banks."

• — enters a decimal point when you enter a frequency.

ENTER — stores a frequency in a channel.

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.



MANUAL — appears when you manually select a channel.

SCAN — appears when you scan channels.

SEARCH — appears during a limit search (—L— also appears) or a direct search (—d— also appears). ▲ and ▼ also appear to indicate the search direction.

PRIORITY — appears when you turn on the priority channel feature.

P — appears when the scanner is set to the priority channel.

MONITOR — appears when you listen to a monitor memory.

BANK — bars to the right of this indicator show which memory banks are turned on for scanning.

CH — appears with a number (1-200) to show which of the scanner's 200 channels it is tuned to.

FM or **AM** — shows whether the scanner is set to the FM or AM mode. If **FM** or **AM** flashes, you manually selected the mode.

DELAY — appears when the scanner stops at a channel you programmed for a 2-second delay.

PROGRAM — appears when you program frequencies into the scanner's channels.

LOCK-OUT — appears when you lock out a channel or manually select a locked-out channel.

UNDERSTANDING MEMORY

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 200 channels and 10 monitor memories.

CHANNEL-STORAGE BANKS

To make it easier to identify and select the channels you listen to most often, channels are divided into 10 channel-storage banks (1 to 10) of 20 channels each. You can use each channel-storage bank to group frequencies, such as those used by the police department, fire department, ambulance services, or aircraft (see "Guide to the Action Bands").

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 enforcement 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 21 (the first channel in Bank 2).

MONITOR MEMORIES

The scanner also has 10 monitor memories. You can use these memories to temporarily store frequencies while you decide whether or not to save them in channels. This is handy for quickly storing an active frequency when you search through an entire band.

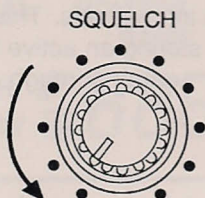
Notes:

- To store a frequency into a monitor memory, you must perform a limit or direct search. See "Searching For and Temporarily Storing Active Frequencies."
- You can select monitor memories manually, but you cannot scan them. See "Using Monitor Memories."

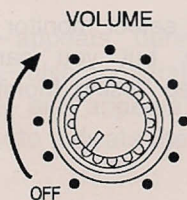
OPERATION

TURNING ON THE SCANNER/SETTING VOLUME AND SQUELCH

1. Turn **SQUELCH** fully counterclockwise.



2. Turn **VOLUME** clockwise until you hear a hissing sound. The scanner automatically scans all 10 banks.



3. Slowly turn **SQUELCH** clockwise, then leave it set to a point just after the hissing stops.

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

SCANNING THE CHANNELS

To begin scanning the channels or to start scanning again after monitoring a channel, press **SCAN**. The scanner scans either up or down through all non-locked channels in the active banks (see "Locking Out Channels"). To change the scanning direction, press **▲** or **▼**.

Note: An improper **SQUELCH** setting might keep your scanner from scanning. See "Turning on the Scanner/Setting Volume and Squelch."

TURNING CHANNEL-STORAGE BANKS ON AND OFF

When you first turn on the scanner, the scanner scans all ten channel-storage banks. As the scanner scans a bank, the bar under the bank's number flashes.

To turn off banks while scanning, press the bank's number key until the bar under the bank's number disappears. The scanner does not scan any of the stored channels within banks you have turned off.

Notes:

- You cannot turn off all banks. There must be at least one active bank.
- You can manually select any channel in a bank, even if the bank is turned off.

To turn on banks while scanning, press the bank's number key until the bar appears under the bank's number.

STORING FREQUENCIES

Good references for active frequencies are Radio Shack's "Police Call Radio Guide Including Fire and Emergency Services," "Official Aeronautical Frequency Directory," and "Maritime Frequency Directory." We update these directories every year, so be sure to get a current copy. See also "Guide to the Action Bands" in this manual.

If you do not have a reference to frequencies in your area, you can use a limit or direct search to find a transmission.

You can store up to 200 frequencies into your scanner's channels. Follow these steps to store frequencies.

1. Press **MANUAL**. Enter the channel number you want to program.



2. Press **PROGRAM**. **PROGRAM** appears on the display.



3. Using the number keys, enter the frequency you want to store in that channel.
4. Press **ENTER** to store the frequency.



If you make a mistake in Step 3, **Error** appears on the display. Press **CLEAR** and repeat Steps 3 and 4.

5. Repeat Steps 1-4 to program more channels or Steps 2-4 if you want to program the next channel in sequence.

SEARCHING FOR AND TEMPORARILY STORING ACTIVE FREQUENCIES

You can search for frequencies using either of the following methods, then temporarily store the frequencies in monitor memories.

- Limit search (within a range of frequencies you select)
- Direct search (any range of frequencies before or after a frequency you select)

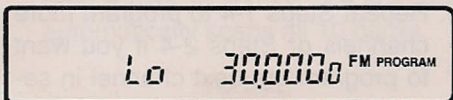
Limit Search

Limit search lets you search for active frequencies within a range you select, so you can choose which ones you want to store.

Note: You can use the scanner's delay feature while using limit search (see "Delay").

Follow these steps to search for active frequencies.

1. Press **PROGRAM**, then **LIMIT**. **Lo** appears on the display.



2. Using the number keys, enter the lower limit of the frequency range.

Notes: If you enter an invalid frequency in Step 2 or 4, **Error** appears on the display. Simply repeat the step.

3. Press **ENTER**, then **LIMIT**. **Hi** appears on the display.



4. Using the number keys, enter the upper limit of the frequency range.
5. Press **ENTER**.

6. Press **▲** to search from the lower to the upper limit, or press **▼** to search from the upper to the lower limit. **-L-**, **SEARCH**, and **▲** or **▼** appear on the display.



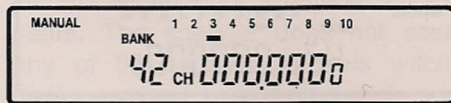
7. When the scanner stops on a transmission, press **MONITOR** to store the frequency in the current monitor memory, or press **▲** or **▼** to continue the search.

Direct Search

When the scanner is stopped on a frequency, you can search up or down from the current displayed frequency to find more frequencies you want to store.

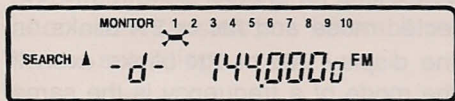
Note: You can use the scanner's delay feature while using direct search (see "Delay").

1. Press **MANUAL** or **PROGRAM**.



2. Use the number keys to enter the frequency you want to start the search from. Or, use the number keys to enter the channel number containing the starting frequency. Then press **MANUAL** or **PROGRAM**.

- Press **▲** to search up or **▼** to search down from the frequency. **-d-**, **SEARCH**, and **▲** or **▼** appear on the display.



- When the scanner finds an active frequency, it stops searching. To save the frequency into a current monitor memory, press **MONITOR**. The bar under the memory number stops flashing.
- Press **▲** or **▼** again to continue searching for more active frequencies.

MOVING A FREQUENCY FROM A MONITOR MEMORY TO A CHANNEL

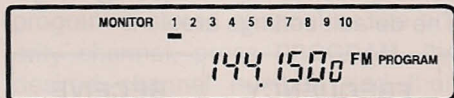
- Press **MANUAL**.



- Use the number keys to enter the channel number where you want to store the monitor frequency. Then press **PROGRAM**.



- Press **MONITOR** and the number of the monitor memory that has the frequency you want to store. **MONITOR** and the frequency appear on the display.



- Press **ENTER**. The scanner stores the frequency into the channel.

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 locked-out channel.

To select a channel, just press **MANUAL**. Enter the channel number, and press **MANUAL** again. Or, if the scanner is scanning and stops at the desired channel, just press **MANUAL** one time. Pressing **MANUAL** additional times makes the scanner step through the channels.

SPECIAL FEATURES

CHANGING THE AM/FM MODE

We designed your scanner to automatically select the most common receive mode for each frequency range. The default settings are:

FREQUENCY (MHz)	RECEIVE MODE
30.000 – 54.000	FM
118.000 – 136.975	AM
137.000 – 174.000	FM
380.000 – 512.000	FM
806.000 – 960.000	FM

Although the preset mode is correct in most cases, some ham radio and military aircraft broadcasts do not receive in the default mode. When the scanner is not set to the correct receive mode, the broadcast might sound weak or distorted.

To change the mode, press **AM/FM**. **AM** or **FM** blinks on the display when you override the default mode.



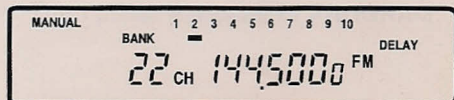
If you press **AM/FM** during a limit or direct search, the scanner no longer uses the default AM/FM mode for each frequency. The scanner keeps searching for frequencies in the selected mode and **AM** or **FM** blinks on the display. **AM** or **FM** blinks even if the mode of a frequency is the same as the default setting. To return to the default settings, press **AM/FM** while holding down **CLEAR**.



DELAY

Many agencies use a two-way radio system that might have a pause between a query and a reply. Your scanner's delay feature waits for 2 seconds after each transmission while scanning or searching.

To program a 2-second delay for any channel while scanning, manually select the channel and press **DELAY** until **DELAY** appears on the display. When your scanner stops on the channel, it waits for 2 seconds after each transmission before it resumes scanning.



To program a 2-second delay for any active frequency while searching, press **DELAY** until **DELAY** appears on the display. When your scanner stops on a frequency, it waits for 2 seconds after each transmission before it resumes searching.

To turn off the programmed delay on any active channel, press **DELAY** while the channel is still active. **DE-LAY** disappears from the display.

LOCKING OUT A CHANNEL

You can scan channels faster by locking out those that have a continuous transmission, such as a weather channel.

To lock out a channel while scanning, press **LOCK OUT** when the scanner stops on the channel. To lock out a channel manually, manually select the channel and press **LOCK OUT** until **LOCK-OUT** appears on the display.

To remove the lockout from a channel, manually select the channel and press **LOCK OUT** so **LOCK-OUT** disappears from the display.

Notes:

- You can still manually select locked-out channels.
- You cannot lock out all channels. There must be at least one active channel in a bank.

PRIORITY

The priority feature lets you scan through the programmed channels and still not miss an important or interesting call on a specific channel. To program a stored channel as the priority channel, press **PROGRAM**, the desired channel number, and then **PRIORITY**.

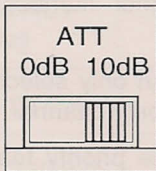
Note: You can only select one channel as the priority channel.

To turn on the priority feature, press **PRIORITY** during scanning. **PRIOR-ITY** appears on the display. The scanner checks the priority channel every 2 seconds, and stays on the channel if there is activity. **P** appears to the left of the display whenever the scanner is set to the priority channel.

To turn off the priority feature, press **PRIORITY** during scanning until **PRI-ORITY** disappears from the display.

USING THE ATT SWITCH

You can set **ATT** to **10dB** to reduce interference or noise caused by signals from a strong local broadcast, or to **0dB** to increase the reception of weak signals



Note: With the switch set to **10dB**, your scanner might not receive weak signals.

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

National Weather Frequencies

161.650 MHz	162.425 MHz	162.475 MHz	162.550 MHz
161.775 MHz	162.440 MHz	162.500 MHz	163.275 MHz
162.400 MHz	162.450 MHz	162.525 MHz	

Ham Radio Frequencies

Ham radio operators often broadcast emergency information when other means of communication break down.

The following chart shows the voice frequencies that you can monitor.

Wavelength (meters)	Voice (MHz)	
6-meter	50.100	54.000
2-meter	144.100	148.000
70-cm	420.000	450.000

BIRDIES

Birdies are frequencies your scanner uses when it operates. These operating frequencies might interfere with broadcasts on the same frequencies. If you program one of these frequencies, the scanner locks up and you hear only noise on that frequency.

If the interference is not severe, you might be able to rotate **SQUELCH** clockwise to cut out the birdie. The most common birdies to watch for are listed below.

Birdie Frequencies:

32.100 MHz	150.150 MHz	429.050 MHz	810.150 MHz
32.250 MHz	155.500 MHz	434.400 MHz	820.650 MHz
42.975 MHz	166.200 MHz	450.450 MHz	915.400 MHz
44.085 MHz	171.250 MHz	479.100 MHz	944.050 MHz
48.185 MHz	171.550 MHz	489.290 MHz	949.400 MHz
52.400 MHz	400.400 MHz	504.125 MHz	

Note: Depending on the temperature of some of the scanner's internal components, you might hear birdies on frequencies slightly above or below the frequencies listed here.

Voice (MHz)		Wavelength (meters)
30.700	307.05	8-meter
144.100	144.100	2-meter
430.000	430.000	70-cm

GUIDE TO THE ACTION BANDS

Typical Band Usage

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 – 136.00 MHz)
U.S. Government	(137.00 – 144.00 MHz)
2-Meter Amateur	(144.00 – 148.00 MHz)
High Range	(148.00 – 174.00 MHz)

UHF Band (300.00 MHz–3.0 GHz)

Military Aircraft	(380.00 – 384.00 MHz)
U. S. Government	(406.00 – 450.00 MHz)
70-Centimeter Amateur	(420.00 – 450.00 MHz)
Low Range	(450.00 – 470.00 MHz)
FM-TV Audio Broadcast, Wide Band	(470.00 – 512.00 MHz)
Public Service	(806.00 – 823.98 MHz)
Conventional Systems	(851.00 – 856.00 MHz)
Conventional/Trunked Systems	(856.00 – 861.00 MHz)
Trunked Systems	(861.00 – 866.00 MHz)
Public Safety	(866.00 – 869.00 MHz)
High Range	(894.01 – 902.00 MHz)
33-Centimeter Amateur	(902.00 – 928.00 MHz)
Private Trunked	(935.00 – 940.00 MHz)
General Trunked	(940.00 – 941.00 MHz)
Fixed Services	(941.00 – 944.00 MHz)
Studio-to-Transmitter Broadcast Links	(944.00 – 952.00 MHz)
Private Fixed Services, Paging	(952.00 – 960.00 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 Emergency Services	153.785 – 155.980 MHz 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
Relay Repeater Units	460.025 – 464.975 MHz
Remote 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
All Others	12.5 kHz steps
Aircraft	25.0 kHz steps

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

BAND ALLOCATION

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

Abbreviations

AIR.....	Aircraft		Landline companies)
BIFC	Boise (ID) Interagency Fire Cache	TELC	Cordless Phones
BUS	Business	TELM	Telephone Maintenance
CAP	Civil Air Patrol	TOW	Tow Trucks
CB.....	Citizens Band	TRAN.....	Transportation Services
CCA	Common Carrier		(Trucks, Tow Trucks, Buses, Railroad, Other)
CSB	Conventional Systems	TSB.....	Trunked Systems
CTSB	Conventional/Trunked Systems	TVn	FM-TV Audio Broadcast
FIRE	Fire Department	USXX.....	Government Classified
HAM.....	Amateur (Ham) Radio	UTIL.....	Power & Water Utilities
GOVT	Federal Government	WTHR.....	Weather
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

PFSP

Private Fixed Services/Paging

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,

Very High Frequency (VHF) - (30 MHz - 300 MHz)

Low Band (29.7-50 MHz - in 5 kHz steps)

30.550.....

GOVT, MIL

30.580-31.980.....

IND, PUB

32.000-32.990.....

GOVT, MIL

33.020-33.980.....

US, 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
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

Ultra High Frequency (UHF)—(300 MHz–3 GHz)

Military Aircraft Band (380–383.9 MHz)
381.800–383.900.....Coast Guard

U. S. Government Band (406–450 MHz)
406.125–419.975.....GOVT, USXX

70-Centimeter Amateur Band (420–450 MHz)
420.000–450.000.....HAM

Low Band (450–470 MHz)
450.050–450.925.....RTV
451.025–452.025.....IND, OIL, TELM, UTIL
452.0375–453.00.....IND, TAXI, TRAN TOW,
NEWS
453.0125–453.9875.....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

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
:	:
:	:
805.750.....	Channel 69

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

Conventional Systems Band — Locally Assigned
851.0125–855.9875..... CSB

Conventional/Trunked Systems Band — Locally Assigned
856.0125–860.9875..... CTSB

Trunked Systems Band — Locally Assigned
861.0125–865.9875..... TSB

Public Safety Band — Locally Assigned
866.0125–868.9875..... PSB

33-Centimeter Amateur Band (902–928 MHz)
902.0000–928.0000..... HAM

Private Trunked
935.0125–939.9875..... PTR

General Trunked
940.0125–940.9875..... GTR

Fixed Services
941.0000–944.0000..... GOVT

Studio-to-Transmitter Broadcast Links
944.0000–952.0000..... TVn

Private Fixed Services, Paging
952.0000–960.0000..... PFSP

FREQUENCY CONVERSION

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

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

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

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

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

$$\frac{127800 \text{ kHz}}{1000} = 127.8 \text{ MHz}$$

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

$$\frac{300}{171 \text{ MHz}} = 1.75 \text{ meters}$$

TROUBLESHOOTING

Your PRO-2037 Programmable Scanner should require very little maintenance. If you have problems, refer to this chart for possible solutions.

Problem	Probable Cause	Solution
Scanner is totally inoperative.	The AC plug is not properly connected.	Check to see that the scanner is plugged into a working AC outlet.
	The optional DC power adapter is not properly connected.	Check to be sure the adapter is fully inserted into the DC 13.8V jack.
Poor or no reception.	Improperly connected antenna.	Check to be sure the antenna is properly connected.
	Poor reception.	Move the scanner to a location with a better reception environment.
	Incorrectly programmed frequencies.	Reprogram the frequencies correctly.
	Programmed frequencies that are the same as birdie frequencies.	Avoid programming frequencies listed under "Birdie Frequencies", or only listen to them manually.
Error appears on the display.	Programming error.	Reprogram the frequencies correctly.
Keys do not work or display changes at random.	Undetermined error.	Reset the scanner (see "Resetting/Initializing the Scanner").
Scanner is on but will not scan.	The SQUELCH control is not correctly adjusted.	Adjust the SQUELCH control clockwise (see "Turning on the Scanner/Setting Volume and Squelch").
In the scan mode, the scanner locks on frequencies that have an unclear transmission.	The SQUELCH control is not correctly adjusted.	Adjust the SQUELCH control clockwise.

If you cannot solve the problem, contact your local Radio Shack store for assistance.

CARE AND MAINTENANCE

Your Radio Shack PRO-2037 Programmable 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 can contain minerals that can corrode the electronic circuits.



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



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.



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 your scanner's internal components can cause a malfunction and might invalidate the scanner's warranty and void your FCC authorization to operate it. If your scanner is not operating as it should, take it to your local Radio Shack store for assistance.

SPECIFICATIONS

Frequency Coverage	30 – 54 MHz (in 5 kHz steps)
	118.0000 – 136.9750 MHz (in 25 kHz steps)
	137.0000 – 174.0000 MHz (in 5 kHz steps)
	380.0000 – 512.0000 MHz (in 12.5 kHz steps)
	806.0000 – 823.9875 MHz (in 12.5 kHz steps)
	849.0125 – 868.9875 MHz (in 12.5 kHz steps)
	894.0125 – 960.0000 MHz (in 12.5 kHz steps)
Channels of Operation	200 Channels in any band (20 channels x 10 banks) plus 10 monitor memories
Sensitivity (FM - 20 dB (S+N)/N at 3 kHz deviation):	
30 – 54 MHz	1 μ V
118 – 136.975 MHz	1 μ V
137 – 174 MHz	1 μ V
380 – 512 MHz	1 μ V
806 – 960 MHz	2 μ V
(AM - 20 dB (S+N)/N at 60% modulation):	
30 – 54 MHz	2 μ V
118 – 136.975 MHz	2 μ V
137 – 174 MHz	2 μ V
380 – 512 MHz	2 μ V
806 – 960 MHz	4 μ V
Spurious Rejection: (FM - at 154 MHz)	40 dB
Selectivity:	
±10 kHz,	-6 dB
±20 kHz,	-50 dB
IF Interference Ratio:	
257.5 MHz at 154 MHz	50 dB
21.4 MHz at 154 MHz	100 dB
Scanning Rate	25 channels/sec.
Search Rate	50 steps/sec.
Priority Sampling	2 seconds
Delay Time	2 seconds
IF Frequencies	257.5, 21.4, and .455 MHz
Squelch Sensitivity:	
Threshold	Less than 1.0 μ V
Tight (FM)	(S+N)/N 25 dB
Tight (AM)	(S+N)/N 20 dB
Antenna Impedance	50 ohms
Audio Power (10% THD)	1 W nominal
Built-in Speaker	3" (77 mm) 8 ohm, dynamic type
Power Requirement:	
AC	120 volts, 60 Hz, 13 watts
DC	13.8 volts, 8 watts
Operating Temperature	+32°F to +109°F (0°C to +43°C)
Dimensions	3 ¹ / ₄ x 8 ⁷ / ₁₆ x 6 ¹³ / ₁₆ inches (HWD) (83 x 214 x 173 mm)
Weight (without antenna and batteries)	Approx. 38.7 oz. (1.1 kg)

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

US PATENT NUMBERS.

3,961,261	3,962,644	4,027,251
4,092,594	4,123,715	4,245,348

NOTES

RADIO SHACK LIMITED WARRANTY

The product is warranted against defects in material and workmanship for a period of one year from the date of purchase. This warranty is void if the product has been used for commercial purposes or if the product has been damaged by accident, misuse, or neglect. The warranty is limited to the repair or replacement of the defective product at the discretion of Radio Shack. This warranty does not cover accessories, batteries, or consumables. The warranty is void if the product has been repaired by anyone other than Radio Shack. For more information, please contact Radio Shack at 1-800-4-A-RADIO.

RADIO SHACK
A Division of Tandy Corporation
Fort Worth, Texas 76102

RADIO SHACK LIMITED WARRANTY

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

EXCEPT AS PROVIDED HEREIN, RADIO SHACK MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

We Service What We Sell

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