

100-Channel Direct Entry
Programmable Scanner

Please read before using this equipment.

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.

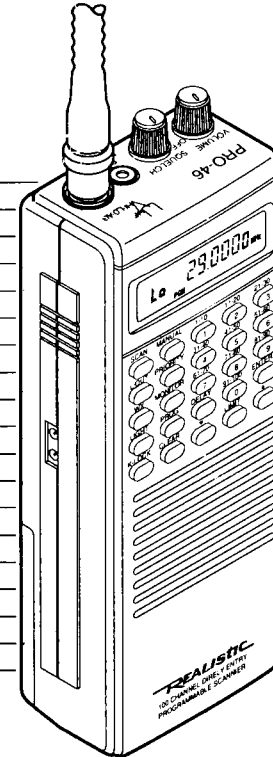
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This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

We Service What We Sell

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

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Printed in the Philippines



Cat. No. 20-305

REALISTIC®

INTRODUCTION

Your new Realistic PRO-46 100-Channel Direct Entry Programmable Scanner lets you in on all the action! This scanner gives you direct access to over 30,000 exciting frequencies that include the police department, fire department, ambulance, amateur radio, and transportation services. You can select up to 100 channels for your scanner to scan and you can change your selection at any time.

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

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

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

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

Priority Channel — checks your most important channel every 2 seconds so you don't miss important calls on a channel you specify.

Weather Band Key — scans the 7 preprogrammed weather frequencies to keep you informed of the most current weather conditions.

Ten Channel-Storage Banks — let you store 10 channels in each of 10 banks to group frequencies so you can easily identify calls.

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

Frequency Search — scans through every available frequency to find interesting broadcasts.

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Your scanner can receive all of these bands:

- 29-29.7 MHz (ham radio 10 m)
- 29.7-50 MHz (VHF Lo)
- 50-54 MHz (ham radio 6m)
- 108-136.975 MHz (aircraft)
- 137-144 MHz (government)
- 144-148 MHz (ham radio 2m)
- 148-174 MHz (VHF Hi)
- 406-450 MHz (ham radio and government)
- 450-470 MHz (UHF Lo)
- 470-512 MHz (UHF TV)
- 806-823.9375 MHz (UHF Hi)
- 851-868.9375 MHz (UHF Hi)
- 896.1125-956 MHz (UHF Hi)

For your permanent records, we urge you to record your scanner's serial number in the space provided below. You will find the serial number on the scanner's back panel.

Serial Number: _____

FCC Notice

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

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

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PREPARATION

POWER SOURCES

You can power your scanner from any of three sources:

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

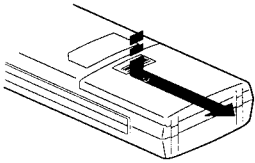
See "Using Other Power Sources" to use AC or vehicle battery power.

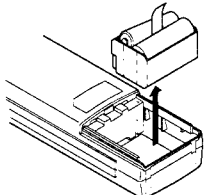
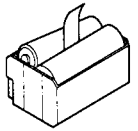
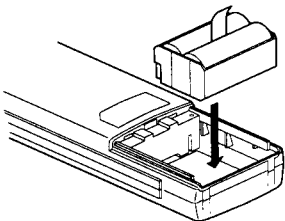
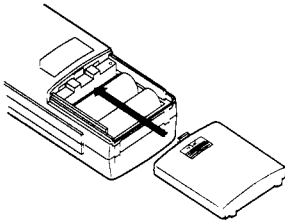
USING BATTERIES

You can operate your scanner from four AA batteries. For longest operation and best performance, we recommend alkaline batteries (Radio Shack Cat. No. 23-552). Or, you can use rechargeable nickel-cadmium batteries (Cat. No. 23-125).

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

To install batteries in your scanner, follow these steps.

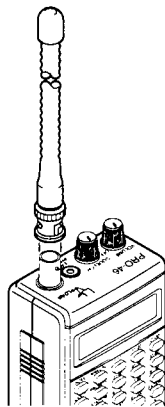
<p>1. Press down on the arrow and slide the cover in the direction of the arrow to remove the battery compartment cover.</p>	
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<p>2. Pull the ribbon to remove the battery holder from the compartment and remove any old batteries.</p>	
<p>3. Install four AA batteries, as indicated by the polarity symbols (+ and -) marked on the battery holder.</p>	
<p>4. Place the battery holder in the compartment so the holder's metal contacts line up with the metal contacts in the battery compartment.</p>	
<p>5. Replace the battery compartment cover.</p> <p>Your scanner beeps every 15 to 30 seconds when the batteries are low. When this happens, immediately replace or recharge all four batteries.</p>	

CONNECTING THE ANTENNA

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

1. Slip the slot in the antenna's connector over the protrusion on the jack.



2. Press down and rotate the antenna's base until it locks into place.

Connecting an Optional Antenna

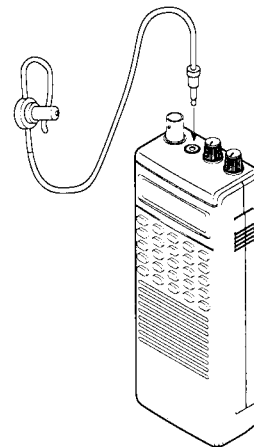
The antenna connector on your scanner makes it easy to use your scanner with a variety of antennas. You can remove the supplied antenna, if you want, and attach a different one, such as an external mobile antenna or outdoor base antenna. Your local Radio Shack store sells a variety of antennas.

Use coaxial cable to connect an outdoor antenna. Always use 50-ohm coaxial cable, such as RG-58 or RG-8. For lengths over 50 feet, use RG8 low-loss dielectric coaxial cable. You will also need a BNC connector to connect an optional antenna (Cat. No. 278-103 or 278-185).

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

CONNECTING AN EARPHONE/HEADPHONES

For private listening, plug an earphone or headphones into the **EARPHONE** jack on top of your scanner. This automatically disconnects the internal speaker. We recommend Radio Shack's earphone (Cat. No. 33-175) or mono headphones (Cat. No. 20-210).



Hearing Comfort and Your Health

To protect your hearing, follow these guidelines when you use an earphone/headphones:

- Do not listen at extremely high volume levels. Extended high-volume listening can lead to permanent hearing loss.

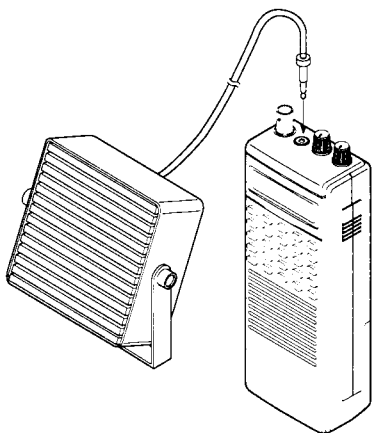
- Set the volume to the lowest setting before you begin listening. After you begin listening, adjust the volume to a comfortable level.
- Once you set the volume, do not increase it. Over time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

Traffic Safety

Do not wear headphones or an earphone while you drive a vehicle or ride a bicycle. This can create a traffic hazard and is illegal, in some areas. Even though some headphones and earphones are designed to let you hear some outside sounds when you listen at normal levels, they still present a traffic hazard.

CONNECTING AN EXTENSION SPEAKER

In a noisy area, an extension speaker, such as Radio Shack's Cat. No. 21-549, positioned in the right place, might provide more comfortable listening. Plug the speaker cable's 1/8-inch mini-plug into your scanner's **EARPHONE** jack.



RESETTING THE SCANNER

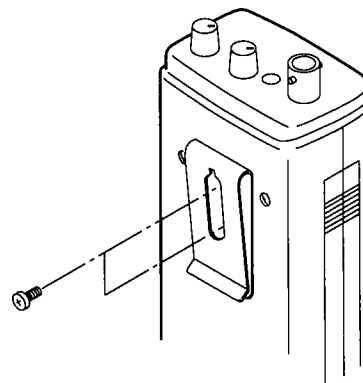
If the scanner's display locks up or does not work properly after you connect a power source, you might have to reset the scanner.

Caution: This procedure clears all the information you have programmed into the scanner. Use this procedure only when you are sure your scanner is not working properly.

1. Turn off the scanner.
2. While you press and hold down the 2 and 9 keys, turn on the scanner.

USING THE BELT CLIP

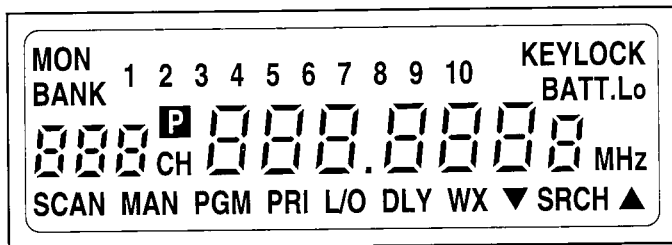
You can use the supplied belt clip to make the scanner easier to use when you are on the go. Use the two supplied screws to attach the belt clip to the scanner. Then slide the belt clip over your belt or waistband.



UNDERSTANDING YOUR SCANNER

A LOOK AT THE DISPLAY

The display has several indicators that show the scanner's current operating mode. A quick look at the display will help you understand how to operate your scanner.



MON – appears when you listen to a monitor memory.

BANK – shows which channel-storage banks are turned on for the scan mode. See “Understanding Channel-Storage Banks.”

KEYLOCK – appears when you lock the keypad.

BATT. Lo – appears when the battery is low.

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

P – appears when you listen to the priority channel.

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

SCAN – appears when you scan channels.

MAN – appears when you manually select a channel.

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

PRI – appears when you program a selected channel for priority.

L/O – appears when you manually select a locked channel.

DLY – appears when you program a channel for a two-second delay before scanning or when you listen to a channel that has been programmed with the delay feature.

WX – appears when you scan the preprogrammed weather channels.

▼ and **▲** – indicate the search direction.

SRCH – appears during a limit search. See “Searching For and Temporarily Storing Active Frequencies.”

A LOOK AT THE KEYBOARD

Your scanner's keys might seem confusing at first, but the following information should help you understand the key's functions.

SCAN	MANUAL	1-10	11-20	21-30
L/OUT	PRIORITY	31-40	41-50	51-60
WX	MONITOR	61-70	71-80	81-90
LIGHT	PROG.	DELAY	91-100	ENTER
K-LOCK	CLEAR	▼	LIMIT	▲

SCAN – scans through the programmed channels.

L/OUT – lets you lock out a selected channel.

WX – scans through the preprogrammed weather channels.

LIGHT – turns on the display light for 15 seconds. Press **LIGHT** again to turn off the light.

K-LOCK – locks/unlocks the keypad to prevent accidental entries.

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

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

MONITOR – accesses the 10 monitor memories. See “Moving a Frequency from A Monitor Memory to a Channel.”

PROG – programs frequencies into channels.

CLEAR – clears an incorrect entry.

Number Keys – each key has a single-digit label and a range of numbers printed above it. The single digits refer to the number of a channel or frequency entered. The range of numbers (21-30, for example) shows the channels that make up a memory bank. See “Understanding Channel-Storage Banks and Search Banks.”

DELAY – programs a two second delay for the selected channel.

ENTER – enters frequencies into channels.

LIMIT, ▼, and ▲ – search for active frequencies. See “Searching for Active Frequencies.”

. – enters the decimal point necessary when programming frequencies.

UNDERSTANDING CHANNEL-STORAGE BANKS

Your scanner can store up to 110 frequencies. You store each frequency in either a permanent memory, called a channel, or a temporary memory, called a monitor. This scanner has 100 channels, and 10 monitor memories.

CHANNEL-STORAGE BANKS

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

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

MONITOR MEMORIES

The scanner also has 10 temporary monitor memories. Use these memories to temporarily store frequencies while you decide whether to save them into channels. This is handy for quickly storing an active frequency when you are searching through an entire band. See “Searching For and Temporarily Storing Active Frequencies.”

When you are in the monitor mode, the 10 numbers at the top of the display indicate the 10 monitor memories. **MON** appears and the number indicates the currently active monitor memory.

OPERATION

SETTING VOLUME AND SQUELCH

Follow these steps to set **VOLUME** and **SQUELCH**.

1. Turn **VOLUME** ¼ turn clockwise and **SQUELCH** fully clockwise.
2. Slowly turn **SQUELCH** counterclockwise until you hear a hissing sound.
3. Slowly turn **SQUELCH** clockwise until the hissing stops.

Note: If you want to listen to a weak or distant station, turn **SQUELCH** counterclockwise. You might hear hissing between transmissions.

USING THE KEYLOCK

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

To turn on the keylock, press **K-LOCK** until **KEYLOCK** appears on the display. To turn it off, press **K-LOCK** until **KEYLOCK** disappears.

STORING FREQUENCIES

Follow these steps to store a frequency into a channel.

<p>1. Press MANUAL. Enter the channel number you want to program.</p>	
<p>2. Press PROG. PGM appears on the display to indicate the scanner is in the programming mode.</p>	

<p>3. Enter a frequency.</p>	
<p>4. Press ENTER to store the frequency.</p> <p>Notes:</p> <ul style="list-style-type: none"> • If you made a mistake in Step 3, Error appears on the display and the scanner sounds three beeps. To clear the display, press CLEAR. Then proceed again from Step 3. • Your scanner automatically rounds the entered frequency to the nearest valid frequency. For example, if you try to enter a frequency of 151.473, your scanner accepts it as 151.475. 	
<p>5. Repeat Steps 1 through 4 to program more channels.</p> <p>Note: If you want to program the next channel in sequence, repeat Steps 2 through 4.</p>	

SEARCHING FOR AND TEMPORARILY STORING ACTIVE FREQUENCIES


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


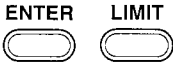

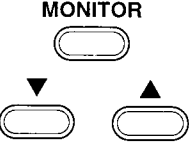
If you do not have a reference to frequencies in your area, use a Limit or direct search to find a transmission. See also "A Guide to the Action Bands" in this manual.

Note: Press **DELAY** if you want to make the scanner pause 2 seconds after a transmission ends before it proceeds to the next frequency.

Limit Search

Limit Search lets you search within a specific range of frequencies. **-L-** appears on the display during a limit search.

1. Press PROG , then LIMIT .																									
2. Enter the lower limit of the frequency range you want to search.	<table border="0"> <tr> <td>1-10</td> <td>11-20</td> <td>21-30</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>31-40</td> <td>41-50</td> <td>51-60</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td>61-70</td> <td>71-80</td> <td>81-90</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>91-100</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>	1-10	11-20	21-30				31-40	41-50	51-60				61-70	71-80	81-90					91-100				
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	91-100																								
5. Press ENTER , then LIMIT .																									
6. Press ▼ to search from the upper to the lower limit or press ▲ to search from the lower to the upper limit.																									
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 you listen to a channel, you can search up or down from the currently displayed frequency. **-d-** appears on the display during a direct search.

<p>1. Press MANUAL, the channel number and MANUAL, in sequence to select a frequency stored in a channel.</p>	
<p>2. Press ▼ or ▲ to search up or down from the selected frequency.</p>	
<p>3. When the scanner stops on a transmission, press MONITOR to store that frequency in the current monitor memory. Or press ▼ or ▲ to continue the search.</p>	

LISTENING TO MONITOR MEMORIES

You can listen to monitor memories by pressing **MANUAL**, **MONITOR**, and then the number for the monitor memory you want to listen to.

MOVING A FREQUENCY FROM A MONITOR MEMORY TO A CHANNEL

Follow these steps to move a frequency from a monitor memory to a channel.

<p>1. Press MANUAL.</p>	
<p>2. Enter the channel number you want to store the monitor frequency in; then press PROG.</p>	
<p>3. Press MONITOR and enter the monitor memory number that has the frequency you want to store.</p>	
<p>4. Press ENTER. The scanner stores the frequency in the selected channel.</p>	

SCANNING THE CHANNELS

To begin scanning, press **SCAN**. Your scanner scans through all non-locked channels in the activated banks. Set **SQUELCH** so you do not hear the hissing sound between transmissions.

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 program a delay to keep from missing a reply on a specific channel, select the channel and press **DELAY** so **DLY** appears on the display. The scanner pauses for two seconds on a channel programmed with **DELAY**.

LOCKING OUT CHANNELS

You can increase the scanning speed by locking out channels that you have not yet programmed. Manually select the empty channel and press **L/OUT** so **L/O** appears on the display. This is also handy for locking out channels that have a continuous transmission, such as a weather channel. You can manually select locked-out channels.

To remove the lock-out from a channel, manually select the channel and press **L/OUT** so **L/O** disappears from the display.

Note: There must be at least one active channel in each bank. You cannot lock out all channels.

TURNING CHANNEL-STORAGE BANKS ON AND OFF

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

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

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

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

PRIORITY

You can 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 **PROG**, the desired channel number and then **PRIORITY**. You can only select one channel as the priority channel.

To turn on the priority feature, press **PRIORITY** during scanning. The scanner now checks the priority channel every two seconds, and stays on the channel if there is activity. **PRI** appears on the display whenever the scanner is set to the priority channel.

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

MANUALLY SELECTING A CHANNEL

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

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

A GENERAL GUIDE TO SCANNING

LISTENING TO THE WEATHER BAND

The FCC (Federal Communications Commission) has allocated seven channels for use by the National Oceanic and Atmospheric Administration (NOAA). We have preprogrammed your scanner with all of the frequencies available to NOAA. To hear your local forecast and regional weather information, simply press **WX**. Your scanner begins scanning through the weather band, and **WX** appears on the display.

Your scanner should stop within a few seconds, and you hear the local weather broadcast. If the broadcast is weak, you can press **WX** again to scan through the rest of the weather band.

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, you hear only noise on that frequency.

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

Birdie Frequencies

31.05 MHz	124.20 MHz
41.40 MHz	134.55 MHz
51.75 MHz	144.90 MHz
113.85 MHz	155.25 MHz

RECEPTION NOTES

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!

A GUIDE TO THE ACTION BANDS

With a little investigation, you can find the active frequencies in your community. We can give you some general pointers on finding these frequencies and you can take it from there. Please use caution and common sense when you hear an emergency call. Never go to the scene of an emergency. It could be very dangerous.

Find out if there is a local club that monitors your community's frequencies. Perhaps a local electronics repair shop that works on equipment similar to your scanner can give you frequencies used by local services. A volunteer police department or fire department employee can also be a good source for this information.

As a general rule on VHF, most activity concentrates between 153.785 and 155.98 MHz and between 153.73 and 159.46 MHz. Here you find local government, police, fire, and most other emergency services. If you are near major railroad tracks, listen between 160.0 and 161.9 for signals.

In some larger cities, there has been a move to the UHF bands for emergency services. Here, most of the activity is between 453.025 and 453.95 MHz and between 456.025 and 459.95 MHz.

In the UHF band, mobile units operate between 456.025 and 459.95 MHz and between 465.025 and 469.975 MHz. A repeater picks up the mobile units' transmissions on one frequency, then rebroadcasts (or repeats) the transmission 5 MHz lower, but at a higher power level, than the mobile units (that is, 451.025-454.95 MHz and 460.025-464.975 MHz). This means that if you find an active frequency inside one of the mobile unit's frequency spreads, you can look 5 MHz lower to find the repeater frequency.

A system called trunked radio lets several services use the same set of frequencies in the 800 MHz band without interference. Several frequencies are allocated to two or more services (like fire, police, and water departments). As each service transmits, a separate control signal activates other radios in the same service, so that only that service hears the transmission. The frequency is selected as soon as the unit begins to transmit, and could be any one of the allocated frequencies.

One very useful service is the National Weather Service's continuous weather broadcasts. These broadcasts contain weather forecasts and data for the area around the station, plus bulletins on any threatening weather conditions. These stations use three frequencies: 162.40, 162.475, or 162.55 MHz. In most areas of the country, you can receive one of these frequencies.

TYPICAL BAND USAGE

The following is a brief listing of the services typical of the bands received by your scanner. This listing can help you decide which ranges you would like to scan.

Abbreviations

Affiliate Radio System	MARS	31.26 - 31.98	Sp. Ind., For. Cons.
Amateur	Ham		
Automobile Emergency	Auto Emer.	32.00 - 33.00	Govt.
Broadcast Remote	BC. R.	33.02 - 33.16	Hwy., Sp. Emer., Bus.
Bureau of Reclamation	Bur. Recl.	33.18 - 33.38	Pet.
Civil Air Patrol	CAP	33.42 - 33.98	F.D.
Department of Agriculture and Forestry	Agr. and For.	34.00 - 35.00	Govt.
Fire Department	F.D.	35.02 - 35.18	Bus.
Forest Products	For. Prod.	35.22 - 35.66	Mob. Tel. & Page
Forestry Conservation	Fors. Cons.	35.70 - 35.72	Bus.
Government	Govt.	35.74 - 35.98	Sp. Ind. & Bus.
Highway Maintenance	Hwy.	36.00 - 37.00	Govt.
Land Transportation	Land Tr.	37.02 - 37.44	P.D. & L. Govt.
Local Government	L. Govt.	37.46 - 37.86	Power
Manufacturers	Mfg.	37.90 - 37.98	Hwy. & Sp. Emer.
Military	MIL	38.00 - 39.00	Govt.
Mobile Telephone	Mob. Tel.	39.02 - 39.98	P.D., L. Govt.
Motion Picture	Mot. P.	40.00 - 42.00	Govt.
Motor Carrier	Buses. Trucks	42.02 - 42.94	St. P.D.
National Parks	Nat. Park	42.96 - 43.18	Sp. Ind. & Bus.
Petroleum	Pet.	43.22 - 43.68	Mob. Tel. Page
Police	P.D.	43.70 - 44.60	Trucks. Bus.
Power Utilities	Power	44.62 - 45.06	St. P.D., For. Cons.
Radio Paging	Page	45.08 - 45.66	P.D.
Railroad	R.R.	45.68 - 46.04	P.D. Hwy., Sp. Emer.
Relay Press	Press	46.06 - 46.50	F.D.
State Police	St. P.D.	46.52 - 46.58	L. Govt.
Special Emergency	Sp. Emer	46.60 - 47.00	Govt.
Special Industry	Sp. Ind.	47.02 - 47.40	St. Hwy.
Taxicab Radio	Taxi	47.42	Red Cross
Telephone Maintenance	Tel. Maint.	47.44 - 47.68	Sp. Ind. Sp. Emer.
U.S. Coastal and Geodetic Survey	U.S.C.G.S.	47.70 - 48.54	Power
U.S. Navy	USN	48.56 - 49.58	For. Prod., Pet.
U.S. Weather Bureau	U.S.W.B.	49.60 - 50.00	Govt.
		50.00 - 54.00	6 Meter Amateur (Ham) Band

29 - 54 MHz BAND

29.00 - 29.70	10HAM
29.70 - 29.80	For. Prod.
29.80 - 30.00	Aero.
30.01 - 30.56	Govt.
30.56 - 30.62	Sp. Ind.
30.66 - 31.24	Ind. (Pet., For. Cons., Bus., For. Prod.)

108 - 136.975 MHz BAND

108.000 - 118.000	Air Navigation
118.000 - 136.975	Aircraft

137 - 174 MHz BAND

137.000 - 144.000	Govt.
144.000 - 148.000	HAM
148.010	MARS
148.155 - 148.250	MIL
148.290 - 150.750	USN
150.815 - 150.995	Bus.
151.010 - 151.130	HWY
151.145 - 151.475	For. Cons.
151.505 - 151.595	Sp. Ind.
151.625 - 151.955	Bus.
151.985 - 152.240	Mob. Tel. (RCC)
152.270 - 152.450	Taxi
152.480 - 152.840	Mob. Tel. Page
152.870 - 153.020	Sp. Ind. Mo. P.
153.050 - 153.440	Pet., For. Prod.
153.470 - 153.710	Power
153.740 - 154.115	L. Govt.
154.450 - 154.600	Sp. Ind., Pet. Bus.
154.655 - 155.145	P.D., L. Govt., St. P.D.
155.160 - 155.400	Sp. Emer., P.D.
155.415 - 156.030	P.D., L. Govt.
156.045 - 156.240	Hwy., P.D.
156.275 - 157.425	Marine
157.456 - 157.500	Auto Emer.
157.530 - 157.710	Taxi
157.740 - 158.100	Mob. Tel., Page
158.130 - 158.460	Power, For. Prod., Pet.
158.490 - 158.700	Mob. Tel. (RCC)
158.730 - 158.970	P.D., L. Govt.
158.985 - 159.210	P.D. Hwy.
159.225 - 159.465	For. Cons.
159.510 - 160.200	Trucks
160.215 - 161.565	R.R.
161.600 - 162.000	Marine
162.026 - 162.175	Bur. Recl.
162.400	U.S.W.B.
162.550	U.S.W.B.
163.125	Indian Affairs
163.175	Bur. Recl.
163.275	U.S.W.B.
163.388 - 163.538	MIL
163.825 - 163.975	Govt.
164.025 - 164.075	U.S.C.G.S.
164.175 - 165.188	Bur. Recl. Nat. Pk. Govt., Agr. & For.
169.300	F.A.A.
169.450 - 169.725	Ind., Data
170.150	F.D., BC. R.
170.200 - 170.220	U.S.C.G.S.
170.225 - 170.325	Ind., Land Tr.
170.425 - 170.575	For. Cons.
170.975 - 171.250	Govt. Ind., Land Tr.

171.388 - 172.725	Bur. Recl., For. Cons., Ind., Dept. Ag. & For., Govt.
172.775	Nat. Pk.
173.025	U.S.W.B.
173.075	U.S.C.G.S.
173.204	Mot. P., Pet., Bur. Recl. Press Relay.

406 - 512 MHz BAND

406.000 - 420.000	Govt.
420.000 - 450.000	HAM
450.050 - 450.950	Remote Br.
451.000 - 451.150	Util.
451.175 - 451.750	For. Prod., Pet., Power., Tel. Maint.
451.775 - 451.975	Sp. Ind.
452.000 - 452.500	Taxi, Mot. Carrier, R.R.
452.525 - 452.600	Auto Club
452.625 - 452.975	Motor Carr., R.R.
453.000 - 453.975	L. Govt., P.D., F.D.
454.000 - 454.975	Mob. Tel.
455.000 - 455.975	Remote Br.
456.000 - 458.975	P.D., F.D., Ind., Lan. Tr.
459.000 - 459.975	Domestic Public
460.000 - 460.625	P.D., F.D.
460.650 - 462.175	Bus.
462.200 - 462.450	Taxi
462.750 - 462.975	Bus.
463.000 - 463.175	Medical
463.200 - 464.975	Bus.
465.000 - 467.500	P.D., F.D., Ind., Land Tr.
467.750 - 467.925	Bus.
467.7375 - 469.975	Pub. Safety, Ind., Land Tr.

TV Bands for Special Communications

470 - 476 T.V. Channel 14
476 - 482 T.V. Channel 15
482 - 488 T.V. Channel 16
488 - 494 T.V. Channel 17
494 - 500 T.V. Channel 18
500 - 506 T.V. Channel 19
506 - 512 T.V. Channel 20

6 MHz Segment is allocated for Channel 14

470.0125 - 470.2875	Domestic Public, (Base, Mob.)	473.3125 - 474.1375	Public Safety
471.1625 - 471.2875	Reserve Pool A	474.1625 - 474.2875	Reserve Pool A
471.3125 - 471.1375	Public Safety	474.3125 - 474.4125	Pwr., Tel. Maint.
471.1625 - 471.2875	Reserve Pool A	474.4375 - 474.6375	Spec. Ind. (Mobile)
471.3125 - 471.4125	Pwr., Tel. Maint.	474.6625 - 474.7875	Reserve Pool B
471.4375 - 471.6375	Sp. Ind.	474.8125 - 475.3375	Bus.
471.6625 - 471.7875	Reserve Pool B	475.3625 - 475.4375	Taxi
471.8125 - 472.3375	Bus.	475.4625 - 475.7875	R.R., Motor Carrier, Auto Emer.
472.3625 - 472.4375	Taxi	475.8125 - 475.9875	Pet., For. Prod. Mfg.
472.4675 - 472.7875	R.R., Motor Carrier, Auto Emer.		
472.8125 - 472.9875	Pet., For. Prod., Mfg.		
473.0125 - 473.2875	Domestic Public		

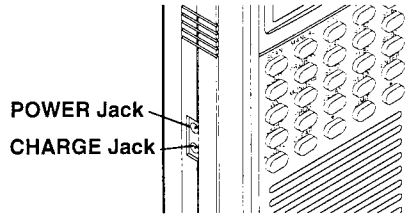
These frequencies are subject to change and might vary some from area to area. For a more complete listing, refer to the Radio Shack "Police Call Radio Guide Including Fire and Emergency Services" available at your local Radio Shack store.

You might discover one of your regular stations on a frequency that is not listed. This could be what is known as an image. For example, if you suddenly find you hear the same broadcasts on 453.2750 as you hear on 474.9750, do a little math to see if it is an image. Take this unit's intermediate frequency of 10.7 MHz and double it. Then, subtract it from the new frequency. If the answer is the regular frequency, you have tuned to an image. Occasionally, you might get interference on a weak or distant channel from a strong broadcast 21.7 MHz (10.85 MHz x 2) below the tuned frequency. This is rare, and the image signal is usually cleared whenever a broadcast on the actual frequency is in progress.

USING OTHER POWER SOURCES

IMPORTANT INFORMATION ABOUT THE EXTERNAL POWER JACKS

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



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

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

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

USING AN AC POWER SOURCE

To power the scanner from AC power, you need Radio Shack's AC adapter, Cat. No. 20-188. Plug the adapter's barrel plug into the scanner's **POWER** jack. Then plug the adapter's power module into a standard AC outlet.

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

Note: If you have installed rechargeable nickel-cadmium batteries in the scanner, you can connect the AC adapter to the **CHARGE** jack. This powers the scanner and recharges the batteries at the same time. See "Charging Nickel-Cadmium Batteries."

USING A DC ADAPTER

Note: Mobile use of a scanner may be unlawful or require a permit in some areas. Check the laws in your area.

You can power the scanner from your vehicle's battery power, provided the vehicle has a 12-volt, negative ground electrical system. To do so, you need Radio Shack's DC Universal Adapter, Cat. No. 270-1560A.

1. Connect the adapter's orange barrel-plug to the adapter's cable with the tip set to – (negative).
2. Set the adapter's voltage switch to 9V.
3. Insert the barrel plug into the scanner's **POWER** jack.
4. Plug the other end of the adapter into your vehicle's cigarette-lighter socket.

When you finish using the DC adapter, disconnect it from the cigarette lighter first. Then disconnect it from the scanner.

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

CHARGING NICKEL-CADMIUM BATTERIES

The scanner has a built-in charging circuit that lets you recharge nickel-cadmium batteries (Cat. No. 23-125) while they are in the scanner. To charge the batteries, simply connect an AC adapter (Cat. No. 20-188) or a DC Universal Adapter (270-1560) to the scanner's **CHARGE** jack.

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

It takes about 10 to 18 hours to recharge batteries that are fully discharged. You can operate the scanner while recharging nickel-cadmium batteries, but the charging time is lengthened.

Charging Tips

Nickel-cadmium batteries last longer and deliver more power if you occasionally let them fully discharge. To do this, simply use the scanner until the low battery indicator appears on the display. Then fully charge the batteries.

TROUBLESHOOTING

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

PROBLEM	POSSIBLE CAUSE	REMEDY
Scanner is totally inoperative.	No power.	Check to see that you plugged the scanner into a working AC outlet.
Scanner is on but will not scan.	The SQUELCH control is not correctly adjusted.	Adjust the SQUELCH control clockwise.
In the scan mode, the scanner locks on frequencies that have an unclear transmission.	"Birdies"	Avoid programming frequencies listed on Page 25, or only listen to them manually.

If none of these suggested remedies solves the problem, contact your local Radio Shack store for assistance.

CARE AND MAINTENANCE

Your Realistic PRO-46 100-Channel Direct Entry Programmable Scanner is an example of superior design and craftsmanship. The following suggestions will help you care for the PRO-46 so you can enjoy it for years.



Keep the scanner dry. If it does get 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 product 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 the 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:

Ham	29 - 29.7 MHz (in 5 kHz steps)
VHF-Lo	29.7 - 50 MHz (in 5 kHz steps)
Ham	50 - 54 MHz (in 5 kHz steps)
Aircraft	108 - 136.975 MHz (in 12.5 kHz steps)
Government	137 - 144 MHz (in 5 kHz steps)
Ham	144 - 148 MHz (in 5 kHz steps)
VHF-Hi	148 - 174 MHz (in 5 kHz steps)
Government	406 - 420 MHz (in 12.5 kHz steps)
Ham	420 - 450 MHz (in 12.5 kHz steps)
UHF-Lo	450 - 470 MHz (in 12.5 kHz steps)
UHF-TV	470 - 512 MHz (in 12.5 kHz steps)
UHF-H	806.0000 - 823.9375 MHz (in 12.5 kHz steps)
	851.0000 - 868.9375 MHz (in 12.5 kHz steps)
	896.1125 - 956 MHz (in 12.5 kHz steps)

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

Sensitivity (20 dB S/N with 60% modulation for AM: 3 kHz deviation for FM):

29 - 54 MHz	0.5 μ V
108 - 136.975 MHz	1.6 μ V
137 - 174 MHz	0.7 μ V
406 - 512 MHz	0.7 μ V
806 - 956 MHz	0.8 μ V

Limit Search Speed/Band Search Speed 19 Steps/Sec.

Scan Speed 14 Channels/Sec.

Priority Sampling 2 Seconds

Delay Time 2 Seconds

IF Frequencies 10.8 MHz and 450 kHz

Audio Power 220 mW Maximum

Built-in Speaker 1-7/16-inch (36mm) 8-Ohm, Dynamic Type

Power Requirement +6 VDC, 4 AA batteries, or a suitable

9-volt adapter (negative ground only)

Dimensions 5 7/8 x 2 5/8 x 1 1/2 Inches (HWD)

(151mm x 66mm x 37mm)

Weight 7.76 oz (220 g)