

855-5757

PRO-58

OWNER'S MANUAL Programmable Scanner

Please read before using this equipment

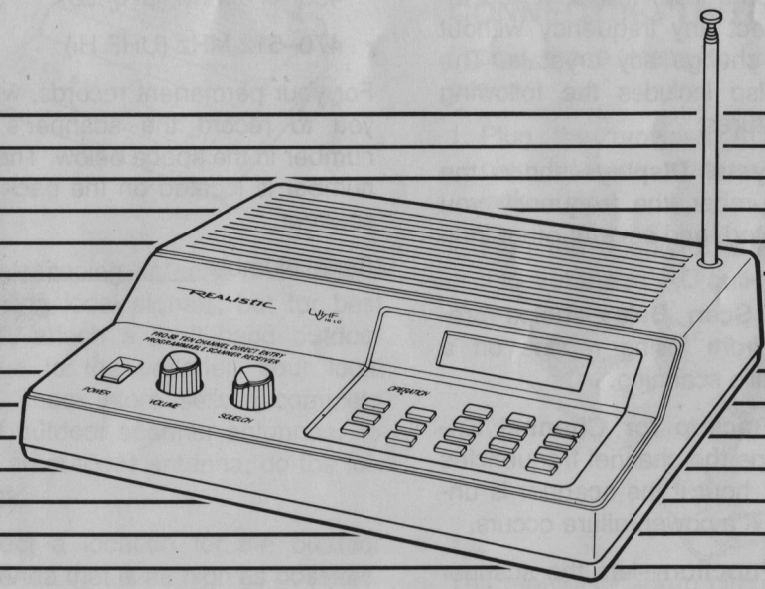
RADIO SHACK LIMITED WARRANTY

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.

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



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

Cat No. 20-400

REALISTIC®

INTRODUCTION

Your new Realistic PRO-58 Programmable Scanner lets you in on all the action! The PRO-58 gives you direct access to over 22,000 frequencies in eight action-packed radio bands including police, fire, ambulance, ham radio, and transportation services. You select up to ten channels for your PRO-58 to scan through, and you can change your selection at any time.

The secret of the PRO-58 is a custom-designed microprocessor (a computer-on-a-chip) that lets you instantly select any frequency without having to change any crystals. The scanner also includes the following special features:

Liquid Crystal Display—shows the channel number, the frequency you have selected, and several other indicators.

2-Second Scan Delay—helps prevent you from losing replies on a channel while scanning.

Memory Backup for Channel Entries—keeps the channel frequencies for up to 1 hour if the scanner is unplugged or if a power failure occurs.

Lockout Function—lets the scanner skip over specified channels.

The PRO-58 covers all of these bands:

- 30–50 MHz (VHF Lo)
- 50–54 MHz (ham radio 6m)
- 138–144 MHz (government)
- 144–148 MHz (ham radio 2m)
- 148–174 MHz (VHF Hi)
- 380–450 MHz (ham radio and government)
- 450–470 MHz (UHF Lo)
- 470–512 MHz (UHF Hi)

For your permanent records, we urge you to record the scanner's serial number in the space below. The serial number is located on the back of the scanner.

Serial Number _____

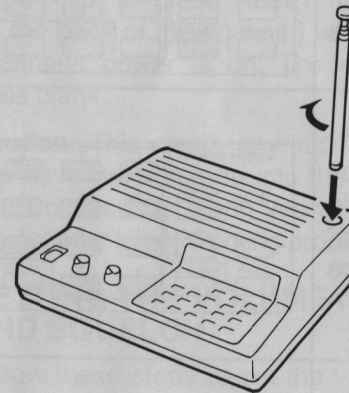
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PREPARATION

CONNECTING THE ANTENNA

To attach the supplied telescoping antenna, screw it into the hole on top of the scanner.



The telescoping antenna is adequate for strong local signals, but for best results, attach a multi-band outdoor antenna to the scanner. Your local Radio Shack store sells a complete line of outdoor scanner antennas. To install an outdoor antenna, do the following:

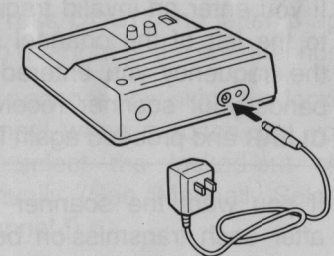
1. Select a location for the outdoor antenna that is as high as possible.
2. Mount the antenna, following the instructions that came with the antenna and its mounting hardware.
3. Connect the antenna to the scanner's ANT jack using 52-ohm coaxial cable. For lengths over 50 feet, use RG8 low-loss, coaxial cable.

WARNING! When installing or removing a base station 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, 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 THE POWER

Follow these steps to connect the power.

1. Plug the provided AC adapter's plug into the scanner's DC 12V jack.
2. Plug the adapter's power module into a standard AC outlet.



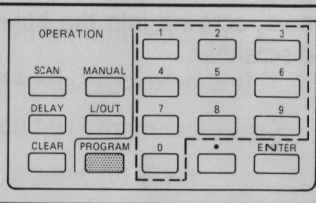
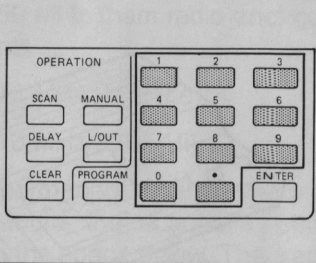
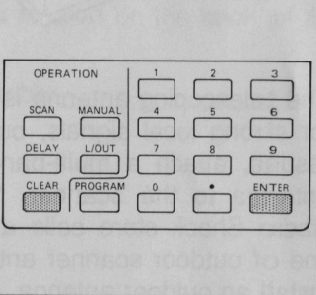
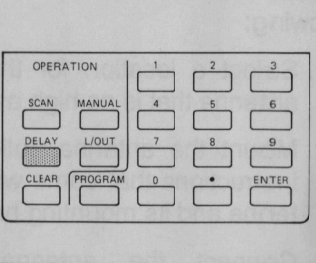
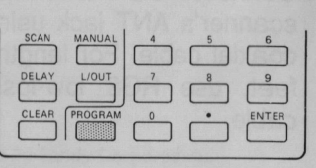
The memory backup circuit functions after a few minutes. If a power failure occurs or if the power cord is disconnected, the circuit holds memory information for about 1 hour.

Caution: Use only the AC adapter that came with your scanner. Using a different adapter can damage your scanner and could present a safety hazard.

OPERATION

PROGRAMMING THE SCANNER

Follow these steps to program your scanner.

1	Select a channel by pressing PROGRAM . Repeatedly press PROGRAM until the number of the channel you want to program appears on the display. A dash (—) appears next to the channel number.	
2	Enter a frequency that is active in your area. An excellent reference for active frequencies is Radio Shack's "Police Call Radio Guide including Fire and Emergency Services." The directory is updated every year, so be sure to get a current one. Also, refer to "A General Guide to Scanning" in this manual.	
3	Press ENTER to store the frequency you entered in Step 2. If you enter an invalid frequency, E appears to the left of the channel number. Be sure the frequency you entered is in one of the bands your scanner receives. Then, press CLEAR and proceed again from Step 2.	
4	If you want the scanner to pause slightly after each transmission before it continues to scan the current channel, press DELAY so that a dot appears after the channel number. If you do not want the scanner to pause, press DELAY so that the dot disappears from the display.	
5	Press PROGRAM to program the next channel. Repeat Steps 2-4 to store additional frequencies (up to 10).	

USING THE RESET BUTTON

The scanner's display might lock up the first time you connect power to it, or if a power failure lasts for more than 1 hour. If this occurs, use a pointed object, such as a straightened paper clip, to press **RESET** (located on the back of the scanner) while the scanner's power is on. The display goes blank.

Caution: This clears any information you have programmed into the scanner. Do this only when you are sure the scanner is not working properly.

SETTING THE VOLUME AND SQUELCH

Follow these steps to set the volume and squelch.

1. Set **VOLUME** to about 1 and turn **SQUELCH** all the way to the right.
2. Slowly turn **SQUELCH** counterclockwise until you hear a hissing sound.
3. Adjust **VOLUME** for a comfortable sound level.
4. Slowly rotate **SQUELCH** clockwise until the hissing stops.

If the scanner picks up unwanted, partial, or very weak transmissions, rotate **SQUELCH** clockwise to decrease the scanner's sensitivity to these signals.

SCANNING THE CHANNELS

After you store frequencies, the scanner can scan the channels to search for a transmission. Press **SCAN**. The scanner quickly scans the channels until it finds a transmission. When the transmission ends, the scanner resumes scanning.

Note: If you hear hissing between transmissions, the scanner does not scan. Adjust **SQUELCH**.

LOCKING OUT A CHANNEL

You can lock out channels you do not want to monitor, such as a continuously transmitted weather channel. To do so, follow these steps.

1. Press **MANUAL**. An **M** appears to the left of the channel number.
2. Enter the desired channel number.
3. Press **L/OUT**. The letter **L** appears to the right of the channel number.

The scanner now skips the locked-out channel when it scans, but you can still select the locked-out channel manually. (See "Manually Selecting a Channel.")

To unlock a channel, select the channel and press **L/OUT** so that the letter **L** disappears.

MANUALLY SELECTING A CHANNEL

If you want to listen to a single channel without scanning, press **MANUAL**. Then, press the channel number you want to listen to.

A GENERAL GUIDE TO SCANNING

BIRDIES

Birdies are caused by internally generated signals that make some frequencies difficult or impossible to receive. 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 rotate **SQUELCH** clockwise to cut out the birdie. The most common birdies to watch for are listed below.

BIRDIE FREQUENCIES

30.730 MHz	143.430 MHz
to	to
30.740 MHz	143.440 MHz
32.080 MHz	153.595 MHz
to	to
32.105 MHz	153.605 MHz
38.390 MHz	153.675 MHz
to	to
38.410 MHz	153.685 MHz
40.975 MHz	163.920 MHz
to	to
40.990 MHz	163.935 MHz
44.795 MHz	166.395 MHz
to	to
44.805 MHz	166.405 MHz
51.195 MHz	384.000 MHz
to	396.800 MHz
51.235 MHz	
140.795 MHz	409.600 MHz
to	422.400 MHz
140.805 MHz	435.200 MHz

RECEPTION NOTES

Most frequencies your scanner covers are *line of sight*. That means you usually cannot hear stations that are located beyond the horizon.

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

One useful service is the National Weather Service's continuous weather broadcasts. These broadcasts contain weather forecasts and weather information 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 usually receive one of these frequencies.

GUIDE TO THE ACTION BANDS

If you program the right frequencies into your scanner, you can monitor exciting events. The following information explains various frequency ranges and the services commonly found within those ranges.

The sources listed below are good places to find information about active frequencies in your community:

- A local club that monitors your community's frequencies
- A local electronics repair shop that works on equipment similar to your scanner
- A volunteer police or fire employee

VHF Band

In the VHF band, most activity is between 153.785 and 155.98 MHz and again between 158.73 and 159.46 MHz. Within these ranges, you can find local government, police, fire, and most emergency services. If you are near a railroad yard or major railroad tracks, you can sometimes find activity between 160.0 and 161.9 MHz.

Frequencies in this band are 5 kHz apart. If you try to enter an invalid frequency, the scanner rounds down the frequency to the nearest valid frequency. For example, the scanner rounds down 151.473 to 151.470.

UHF Band

In the UHF band, most activity is between 453.025 and 453.95 MHz and again between 456.025 and 459.95 MHz. In some larger cities, many emergency services have moved to the UHF band.

Frequencies in this band are 12.5 kHz apart. As in the VHF band, if you enter an invalid frequency, the scanner rounds down the invalid frequency to the nearest valid frequency.

In the UHF band, the frequency ranges of 456.025 to 459.95 MHz and 465.025 to 469.975 MHz are used by mobile units and control stations associated with base and repeater units that operate at 5 MHz lower (that is, from 451.025 to 454.95 MHz and again from 460.025 to 464.975 MHz). This means that if you find an active channel within one of these ranges, you can look 5 MHz lower (or higher) to find the major base station/repeater for that radio service.

TYPICAL BAND USAGE

The following is a brief listing of the typical services that use the bands your scanner can receive. This listing helps you decide which ranges you would like to scan.

Abbreviations:

BA	..... Remote Broadcast (Radio & TV)
CA	..... General Mobile (Radio)
CAP	..... Civil Air Patrol
IB	..... Business
IF	..... Forest Products
IM	..... Motion Picture Industry
IP	..... Petroleum Industry
IS	..... Special Industrial (Construction, farming, etc.)
IT	..... Telephone Maintenance
IW	..... Power and Water Utilities
IX	..... Manufacturers
IY	..... Relay Press (newspaper reporters)
LA	..... Automotive Emergency (tow trucks)
LJ	..... Motor Carrier, Trucks
LR	..... Railroad
LU	..... Motor Carrier, Buses
LX	..... Taxi
MC	..... Maritime Limited Coast (private stations)
MG	..... Maritime Government (Coast Guard)
MP	..... Maritime Public Coast (marine telephone)
MS	..... Maritime Shipboard
PF	..... Fire
PH	..... Highway Maintenance
PL	..... Local Government
PM	..... Medical Services
PO	..... Forestry Conservation
PP	..... Police
PS	..... Special Emergency
RA	..... Mobile Telephone (aircraft)
RC	..... Mobile Telephone (radio common carrier)
RT	..... Mobile Telephone (landline companies)
BIFC	..... Boise Interagency Fire Cache

Government Agencies:

UAF	..... Air Force
UAR	..... Army
UBW	..... International Boundary & Water Commission
UCE	..... Environmental Research Laboratories
UCF	..... Maritime Fisheries Service
UCG	..... Coast Guard

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," at your local Radio Shack store.

UCM	..... Maritime Administration
UCO	..... Ocean Survey
UCP	..... National Capitol Police
UCW	..... National Weather Service
UCX	..... Department of Commerce
UEP	..... Environmental Protection Agency
UER	..... Department of Energy
UFA	..... Federal Aviation Administration
UFC	..... Federal Communications Commission
UGC	..... Soil Conservation Service
UGF	..... Forest Service
UGS	..... General Services Administration
UGX	..... Department of Agriculture
UHW	..... Dept. of Health and Human Services
UIB	..... Bonneville Power Administration
UIF	..... Bureau of Sport Fisheries and Wildlife
UIG	..... Geological Survey
UII	..... Bureau of Indian Affairs
UIL	..... Bureau of Land Management
UIM	..... Bureau of Mines
UIP	..... National Park Service
UIR	..... Bureau of Reclamation
UIS	..... Southwestern Power Administration
UIX	..... Department of the Interior
UNO	..... United Nations
UNS	..... NASA
UPO	..... Postal Service
USA	..... Federal Govt. Misc.
USD	..... State Department
USN	..... Navy
UTC	..... Bureau of Customs
UTM	..... Bureau of the Mint
UTR	..... Department of Transportation
UTV	..... Tennessee Valley Authority
UTX	..... Treasury Department
UVA	..... Veterans Administration
UXX	..... Classified

Abbreviations used by permission of the publishers of Police Call Radio Guide, copyright Hollins Radio Data.

Band Usage:

30-50 MHz:

30.00-30.55	..... USA,UAR,USN,UCG,UAF
30.58-31.98	..... IS,IP,IB,LU,PO
32.00-32.99	..... USA,UAR,USN,UCG,UGX, UAF,UIR
33.02-33.98	..... PS,PH,IS,IB,IP,PF
34.01-34.99	..... UCG,UER,USA,UAR,UAF, USN,UGX,UIP,UIF
35.02-35.98	..... IB,IT,RC,RT,IS,PS
36.01-36.99	..... UIX,UER,USA,UAR,USN,UTR, UCO,IP,UHW,UGF,UGX,UAF
37.02-37.98	..... PP,PL,IW,PH,PS
38.27-38.99	..... USA,USN,UGX,UGF,UAR, UAF,UIX,UTV,UVA
39.02-39.98	..... PP,PL
40.01-41.99	..... UIA,UAR,UIP,UAF,USA,UVA, UER,USN,UIF,UIR,UTV,UIM, IP,UIX,UEP,UCG,UIL,BIFC, UHW,UTX
42.02-42.94	..... PP
42.96-43.68	..... IB,IS,IT,RC,RT,PS
43.70-44.60	..... LU,LJ
44.62-46.58	..... PP,PO,PL,PH,PF,PS
46.61-46.99	..... USA,UIL,BIFC,UAF,UAR, UGX,UGF
47.02-49.58	..... PH,PS,IS,IW,IF,IP
49.61-49.99	..... UIL,UAR,UGC,UAF,UAR, UGX,UGF,USA

150-173 MHz:

150.775-151.985	..... PM,LA,IF,PH,PO,IS,IB
152.0075-152.84	..... PM,RC,LX,IF,IB,RT
152.87-153.725	..... IM,IS,IP,IX,IF,IW
153.74-156.24	..... PL,PF,IS,IB,PP,PM,PH
156.255-157.45	..... IP,MC,MS,MG,MP,PM
157.47-158.70	..... LA,LX,IF,IS,IB,RT,IW,IP,IX, IT,RC
158.73-159.48	..... PP,PL,PH,PO,IP
159.495-161.565	..... LR,LJ
161.58-162.00	..... IP,MC,BA,MP
162.025-173.9875	..... Misc. Govt. Agencies

406-512 MHz:

406.125-419.975	..... Misc. Govt. Agencies
450.05-450.925	..... BA
451.00-451.70	..... IW,IF,IP,IT,IX
451.725-452.175	..... IS,IF,IP,LX
452.20-452.95	..... LX,LJ,LR,LA
452.975-453.975	..... IY,PL,PH,PF,PO,PP
454.00-457.60	..... IP,RC,RT,RA,BA,IB
458.025-467.925	..... PM,PP,IB,IX,IF,IP,IT,IW,GM
482.00-508.9875	..... Mixed Public Safety

You might discover some of your regular stations on frequencies that are not listed. These might be what are known as *images*. For example, a service you normally hear on 453.2750 might also be heard on 474.6750. To find out if you tuned to an image, double the intermediate frequency of 10.7 MHz and subtract that number (21.4) from the *new* frequency. If the answer is the regular frequency, you tuned to an image.

Note: If you listen to a weak or distant broadcast, you might occasionally get interference from a strong broadcast 21.4 MHz below the tuned frequency. This is rare, and the signal usually clears when the broadcast on the actual frequency is in progress.

TROUBLESHOOTING

We hope you don't have any problems with your scanner, but if you do, the following suggestions might help.

Problem	Cause and Solution
The scanner does not function.	Check to see that the scanner is plugged into a working AC outlet.
No reception or poor reception.	<ul style="list-style-type: none"> • The antenna is not properly installed—check the connector. • The area is not suitable for the scanner—relocate the scanner and try again. • Frequencies are not properly programmed—check and reprogram.
E appears on the display.	Programming error—check the frequency and reprogram if necessary.
Frequency is not accepted.	If no error is displayed, you entered a frequency between the steps. Your scanner rounds invalid frequencies down to the nearest valid frequency. Enter a correct frequency.

If none of these suggested solutions solves the problem, take the scanner to your local Radio Shack store so that our personnel can assist you.

FCC NOTICE

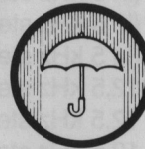
Your scanner might cause TV or radio interference even when it is operating properly. To determine whether your scanner is causing the interference, turn off the scanner. If the interference goes away, your scanner is causing the interference. Try to eliminate the interference by:

- 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.

CARE AND MAINTENANCE

Your PRO-58 Programmable Scanner is an example of superior design and craftsmanship. The following suggestions will help you care for the scanner so that you can enjoy it for years.



Keep the scanner dry. If it does get wet, wipe it dry immediately. Liquids can contain minerals that destroy electronic circuits.



Handle the scanner gently and carefully. Dropping it can damage its circuit board and case 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 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 dampened 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 performing as it should, take it to your local Radio Shack store. Our personnel can assist you and arrange for service if needed.

SPECIFICATIONS

Frequency Coverage:

VHF-Lo	30-50 MHz (in 5 kHz steps)
Ham	50-54 MHz (in 5 kHz steps)
Government	138-144 MHz (in 5 kHz steps)
Ham	144-148 MHz (in 5 kHz steps)
VHF-Hi	148-174 MHz (in 5 kHz steps)
Ham/Gov't	380-450 MHz (in 12.5 kHz steps)
UHF-Lo	450-470 MHz (in 12.5 kHz steps)
UHF-Hi (TV)	470-512 MHz (in 12.5 kHz steps)

Sensitivity (20 dB S/N at 3 kHz Deviation):

30-54 MHz	1.0 μ V
138-174 MHz	1.0 μ V
380-512 MHz	1.0 μ V

Spurious Rejection:

30-54 MHz	50 dB at 40 MHz
138-174 MHz	50 dB at 154 MHz
380-512 MHz	Not specified

Selectivity \pm 10 kHz, -6 dB
 \pm 20 kHz, -50 dB

IF Rejection 10.7 MHz - 50 dB at 154 MHz

Scanning Rate 8 channels/sec.

Delay Time 2 seconds

Modulation Acceptance \pm 8 kHz

IF Frequencies 10.7 MHz and 455 kHz

Filters One crystal, one ceramic

Squelch Sensitivity:

Threshold	Less than 1.0 μ V
Tight	(S+N)/N 25 dB

Antenna Impedance 50 ohms

Audio Power 1.0W maximum

Power Requirements AC 120 volts 60 Hz, 8 watts

Dimensions (HxWxD) 2 x 8 1/4 x 7 inches
(52 x 210 x 175 mm)

Weight 24 oz. (650 g)

U.S. PATENT NOS.

3,794,925 4,092,594
3,961,261 4,123,715
3,962,644 4,245,348
4,027,251

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Frequency Coverage:	
VHF-Lp	30-54 MHz (in 5 kHz steps)
Ham	50-54 MHz (in 5 kHz steps)
Government	138-144 MHz (in 5 kHz steps)
Ham	144-148 MHz (in 5 kHz steps)
VHF-Hi	148-174 MHz (in 5 kHz steps)
Ham/Govt	380-450 MHz (in 12.5 kHz steps)
UHF-Lp	450-470 MHz (in 12.5 kHz steps)
UHF-Hi (TV)	470-512 MHz (in 12.5 kHz steps)
Sensitivity (20 dB S/N at 5 kHz \pm 2 Deviation):	
30-54 MHz	1.0 μ V
88-174 MHz	1.0 μ V
380-512 MHz	1.0 μ V
Spurious Rejection:	
30-54 MHz	50 dB at 40 MHz
138-174 MHz	50 dB at 154 MHz
380-512 MHz	No spurious
Selectivity	\pm 10 kHz, -6 dB
	\pm 20 kHz, -50 dB
IF Rejection	10.7 MHz - 50 dB at 154 MHz
Scanning Rate	3 channels/sec
Delay Time	2 seconds
Modulation Acceptance	8 kHz
IF Frequencies	10.7 MHz and 455 kHz
Filters	One crystal one ceramic
Squelch Sensitivity:	
Threshold	Less than 1.0 μ V
Tight	(S+N) 25 dB
Antenna Impedance	50 ohms
Audio Power	1.0W maximum
Power Requirements	AC 120 volts 60 Hz, 8 watts
Dimensions (HxWxD)	2 x 3 1/4 x 7 inches
	52 x 210 x 175 mm
Weight	24 oz. (680 g)

U.S. PATENT NOS.

3,794,825 4,092,594
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 3,952,644 4,245,346
 4,027,231

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