PSR-120

300 Channel VHF/Air/UHF FM/AM/WFM Handheld Scanner

Owner's Manual (Draft as Proof)

CONTENTS

FEATURES

Your new PSR-120 300 Channel VHF/Air/UHF FM/AM/WFM Handheld Scanner lets you scan conventional transmissions, and is preprogrammed with search banks for convenience. You can quickly search frequencies most commonly used by public service and other agencies without tedious and complicated programming if you pressing **SRCH** key.

Your scanner also has these special features:

Spectrum Sweeper – a powerful new tool for you to rapidly detect, monitor and store frequencies for nearby radio transmissions.

Service Search Banks — let you search preset frequencies in separate marine, fire/police, aircraft, and amateur bands, to make it easy to locate specific types of calls.

Display Backlight — makes the scanner easy to read in low-light situations.

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

Ten Channel-Storage Banks — you can store 30 channels in each bank (300 total channels), letting you group channels so you can more easily identify calls.

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

SAME/FIPS Weather Alert — displays the weather event for the specific cities or counties you choose so you can hear the alert tone.

CTCSS and DCS – Subaudible squelch coding is processed by the CPU.

Memory Backup — keeps the frequencies stored in memory for an extended time even without internal batteries.

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

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

Data Cloning — lets you transfer the programmed data to another PSR-120 scanner.

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

Large Liquid-Crystal Display — makes it easy to view and change programming information.

Supplied Flexible Antenna with BNC Connector — provides good reception of strong local signals. You can connect an external antenna with a BNC connector to the scanner for improved reception of distant/weaker signals.

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

Your PSR-120 scanner can receive these bands:

Frequency Range (MHz)	Types of Transmissions
25–54	10-Meter Ham Band, VHF Lo, 6-Meter Ham Band
88-107.9	FM Broadcast
108–136.99166	Aircraft
137–174	Military Land Mobile, 2-Meter Ham Band, VHF Hi
380–512	UHF Aircraft, Federal Government, 70-cm Ham Band, UHF Standard Band, UHF "T" Band
806-960	UHF Hi, 33cm Ham Band
1240-1300	23cm Ham Band

Note: See "Specifications" on Page XX for more information about the scanner's frequency steps.

THE FCC WANTS YOU TO KNOW

This equipment has been tested and found to comply with the limits for a scanning receiver, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

SCANNING LEGALLY

Your scanner covers frequencies used by many different groups including police and fire departments, ambulance services, government agencies, private companies, amateur radio services, military operations, pager services, and wireline (telephone and telegraph) service providers. It is legal to listen to almost every transmission your scanner can receive. However, there are some transmissions you should never intentionally listen to. These include:

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

According to the Electronic Communications Privacy Act (ECPA), you are subject to fines and possible imprisonment for intentionally listening to, using, or divulging the contents of such a transmission unless you have the consent of a party to the communication (unless such activity is otherwise illegal).

This scanner has been designed to prevent reception of illegal transmissions. This is done to comply with the legal requirement that scanners be manufactured so as to not be easily modifiable to pick up those transmissions. Do not open your scanner's case to make any modifications that could allow it to pick up transmissions that are illegal to monitor. Doing so could subject you to legal penalties.

In some areas, mobile use of this scanner is unlawful or requires a permit. Check the laws in your area. It is also illegal in many areas to interfere with the duties of public safety officials by traveling to the scene of an incident without authorization.

We encourage responsible, safe and legal scanner use.

PREPARATION

Powering The Scanner

Installing Batteries

1. Remove the battery compartment cover.
2. Set the Battery Type Selector switch to **ALK** for non-rechargeable alkaline batteries or **Ni-MH** for rechargeable Ni-MH batteries.

3. Insert three AA batteries, matching the polarity symbols (+ and —) marked inside.
4. Replace the battery compartment cover.

Warning: Never install alkaline batteries with the Battery Type Selector switch set to Ni-MH. Alkaline batteries can get hot or explode if you try to recharge them.

Battery Notes:

- A low battery warning sounds every 15 seconds when the batteries are nearly depleted.
- Dispose of batteries promptly and properly. Do not burn or bury them.
- Use only fresh batteries of the required size and type.
- Do not mix old and new batteries, different types of batteries (standard, alkaline, or rechargeable), or rechargeable batteries of different capacities.
- Discontinue use of any battery that exhibits leakage, swelling, or abnormal generation of heat.
- If you do not plan to use the PSR-120 for a month or longer, remove the batteries. Batteries can leak chemicals that can damage electronic parts.

Using AC Power

1. Plug the power cord's barrel plug into the scanner's **PWR DC 6V** jack.

2. Plug the AC adaptor into your wall outlet.

Note: You must use a supplied AC adaptor.

Warning: To prevent electric shock, do not use the AC adaptor's polarized plug with an extension cord, receptacle, or other outlet unless you can fully insert the blades to prevent blade exposure.

Caution: The correct orientation for the enclosed power adaptor is in a vertical or floor-mount position.

Using Vehicle Power

To power your scanner from a 12V power source in your vehicle, such as cigarette-lighter socket, you need a 12V to 6V at least 500mA DC cigarette-lighter adaptor, with 4 mm outer/1.7mm inner plug (not supplied).

1. Insert the adaptor's barrel plug into the scanner's **PWR DC 6V** jack.
2. Plug the adaptor's other end into your vehicle's cigarette lighter or power socket.

Notes:

- You must use a power source that supplies 6V DC and delivers at least 500mA. Its center tip must be set to positive and its plug must fit the scanner's **PWR DC 6V** jack. Using a DC adaptor that does not meet these specifications could damage the scanner or the adaptor.
- When you use a cigarette-lighter adaptor, you might hear electrical noise from your engine while scanning. This is normal.

Charging Rechargeable Batteries

Charge method of this unit is the simple charge method.

Your scanner can charge nickel-metal hydride (Ni-MH) rechargeable batteries (not supplied) while they are in the scanner. Make sure Ni-MH batteries are installed and the Battery Type Selector switch is set to Ni-MH. To charge rechargeable batteries, you need to use a supplied AC adaptor.

It takes about 16 hours to recharge fully discharged 1600mAh Ni-MH rechargeable batteries.

Notes:

- Do not over charge them. Overcharging shortens battery life.
- Rechargeable batteries last longer and deliver more power if you let them fully discharge once a month. To do this, use the scanner until B appears. Then fully charge the rechargeable batteries.

WARNING:

Make a battery selector switch (in a battery place) Ni-MH so that you use rechargeable batteries.

Never attempt to recharge non-rechargeable batteries. Non-rechargeable batteries can get hot and can even burst if you try to recharge them.

Since continuing charging continuously for many days is dangerous, please avoid.

CONNECTING THE SUPPLIED ANTENNA

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

Connecting an Outdoor Antenna

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

Always use 50 Ohm coaxial cable, such as RG-58, RG-8X or RG-8, to connect an outdoor antenna. For lengths between 50 and 100 feet, use RG-8X low-loss dielectric coaxial cable. For lengths over 100 feet, use RG-8. If the antenna cable's connector does not have a BNC connector, you will also need a BNC adapter.

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

Warning: Use extreme caution when you installing or removing 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 AN EARPHONE/HEADPHONES

For private listening, you can plug an 1/8 -inch (3.5-mm) mini-plug earphone or headphones (not supplied), into the jack on the top of the scanner. This automatically disconnects the internal speaker.

Listening Safely

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

- Set the volume to the lowest setting before you begin listening. After you begin listening, adjust the volume to a comfortable level.
- Do not listen at extremely high volume levels. Extended high-volume listening can lead to permanent hearing loss.
- Once you set the volume, do not increase it. Over time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

Traffic Safety

Do not wear an earphone or headphones with your scanner when operating a motor vehicle or riding a bicycle in or near traffic. Doing so can create a traffic hazard and could be illegal in some areas.

If you use an earphone or headphones with your scanner while riding a bicycle, be very careful. Do not listen to a continuous broadcast. Even though some earphones and headphones let you hear some outside sounds when you listen at normal levels, they still can present a traffic hazard.

CONNECTING AN EXTENSION SPEAKER

In a noisy area, an amplified extension speaker (not supplied), might provide more comfortable listening. Plug the speaker cable's 1/8 inch (3.5 mm) mini-plug into your scanner's (headphone symbol mark) jack.

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

USING THE BELT CLIP

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

ABOUT YOUR SCANNER

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

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

When you find a frequency, you can store it into a programmable memory location called a channel, which is grouped with other channels in a channel-storage bank. You can then scan the channel-storage banks to see if there is activity on the frequencies stored there. Each time the scanner finds an active frequency, it stays on that channel until the transmission ends. This scanner has separate channel location between scanner mode (total 300 channel) and FM radio mode (total 20 channel).

ABOUT THE KEYPAD

Here is a brief overview of your scanner's keys and their functions.

Scanner Return to scanner mode from FM radio mode.

FM radio listen to FM broadcast.

TUNE/PRI Lets you tune a frequency along with ▲ or ▼; turns on and off the priority feature with FUNC key.

▶⎍ Activates the Spectrum Sweeper function.

WX/ Lets you search the scanner's preprogrammed 7 weather channels, or jumps to a Skywarn channel you programmed (channel 300) with **FUNC** key.

FUNC Lets you use various functions by pressing this key in combination with other keys.

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

1/Air Enters a 1 or turns on/off the bank 1; lets you search the scanner's preprogrammed aircraft band with FUNC key.

2/PD/FD Enters a 2 or turns on/off the bank 2; lets you search the scanner's preprogrammed Police/Fire band with **FUNC** key.

3/MAR Enters a 3 or turns on/off the bank 3; lets you search the scanner's preprogrammed marine band with **FUNC** key.

CT/DC Lets you search/detect the CTCSS/DCS code.

PSE/CLEAR Stops or restarts search or tune; clears an incorrect entry.

4/HAM Enters a 4 or turns on/off the bank 4; lets you search the scanner's preprogrammed amateur band with FUNC key.

5/LIMIT Enters a 5 or turns on/off the bank 5; lets you search the limit search band with **FUNC** key.

6/ATT Enters a 6 or turns on/off the bank 6; toggles attenuator on and off with **FUNC** key.

L/O RVW/L/O Reviews locked-out frequencies; lets you lock out selected channels or frequencies with FUNC key.

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

7 Enters a 7 or turns on/off the bank 7.

8 Enters an 8 or turns on/off the bank 8.

9 Enters a 9 or turns on/off the bank 9.

/LIT Turns the backlight on and off; locks (and unlocks) the keypad to prevent accidental entries with **FUNC** key.

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

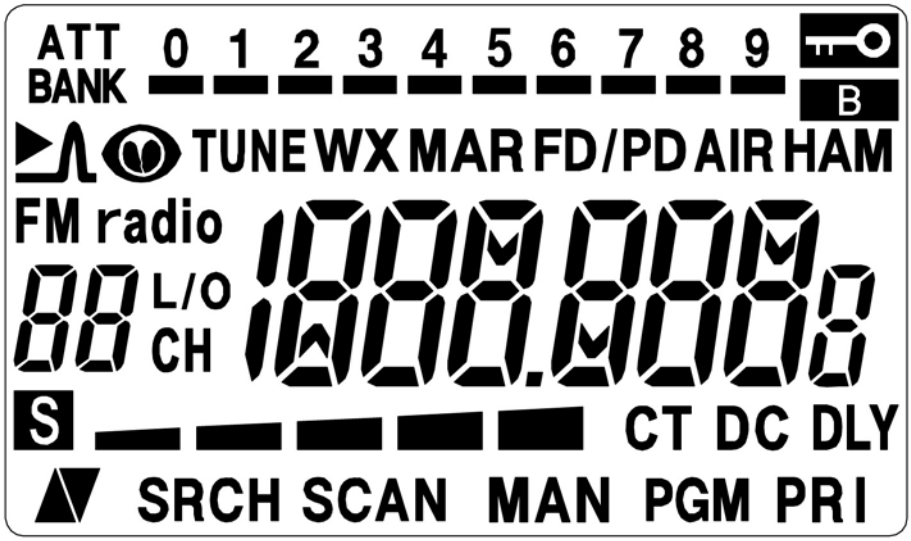
0/CLONE Enters a 0 or turns on/off the bank 10; lets you start clone feature wit **FUNC** key.

•/DLY Enters a decimal point (necessary when programming frequencies); programs delay time for the selected channel or search band.

ENT/PGM Enters frequencies into channels; programs frequencies into channels with **FUNC** key.

A LOOK AT THE DISPLAY

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



ATT — Appears when the scanner functions 20 dB attenuator.

BANK — Appears with numbers (0–9) to indicate the scan bank. Bank numbers with a bar under them show which banks are turned on for scanning (see "Understanding Banks" on Page XX).

Appears when you lock the keypad.

B — Appears when the batteries are low.

Appears when the scanner sweeps the frequencies to rapidly detect, monitor and store it for nearby radio transmissions.

Appears when you hear the skywarn channel.

TUNE — Appears when you tune the frequencies.

WX — Indicates that the scanner is searching/watching the weather channels.

MAR — Indicates that the scanner is searching the marine bank.

FD/PD — Indicates that the scanner is searching the fire/police bank.

AIR — Indicates that the scanner is searching the aircraft bank.

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

FM radio — Indicates that the scanner is FM radio mode.

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

88CH	Appears with digits (1–30) or P to show which channel the scanner is tuned to.
1888.8888	Indicates receiving frequency/status massage, etc.
CT	Appears when the scanner searches CTCSS code
DC	Appears when the scanner searches DCS code.
DLY	Appears when you program a 2-second delay.
▲ ▼	Indicates the search or scan direction.
SRCH	Appears during service bank searches.
SCAN	Appears when the scanner scans channels.
MAN	Appears when you manually select a channel.
PGM	Appears when you program frequencies into the scanner's channels.
PRI	Appears when the priority feature is turned on.

This scanner displays various information in 7-segment indication part.

AL Ch-FULL	Appears when you try to enter a frequency during a search/tune when all channels are full.
AL L-out	Appears when you lock out the all marine channel.
CLOnE	Appears when the scanner stays in the clone mode.
ChAnnEL	Appears when you enter the received frequency into channel memory while tune/search.
-dUPL-	Appears when you try to store a frequency that is already stored in another channel.
Error	Appears when you make an entry error.
Lo ALL-CL	Appears when you remove all the locked-out frequencies during a FD/PD, AIR, HAM , Limit band, Tune, or spectrum sweeper.
Lr	Appears when you review the locked-out frequencies.
Lo FULL	Appears when you try to lock out a frequency during a FD/PD, AIR, HAM, or spectrum sweeper when 200 frequencies are already locked out.
oFF tonE	Appears when you turn the key tone off.
On tonE	Appears when you turn the key tone on.
Pu	Appears when the scanner stops searching/scanning.
StAndby	Appears when the scanner enters SAME standby mode.
MAr	Appears about 2 seconds when you press MAR key.

FIrE	Appears about 2 seconds when you press FD/PD key.
POLICE	Appears about 2 seconds when you press FD/PD key.
AIr	Appears about 2 seconds when you press AIR key.
HAM	Appears about 2 seconds when you press HAM key.
WEAthEr	Appears about 2 seconds when you press WX key.
Lo VHF	Appears when you turn on the low VHF sub-bank while fire/police bank searching.
Hi VHF	Appears when you turn on the high VHF sub-bank while fire/police bank searching.
Lo UHF	Appears when you turn on the low UHF sub-bank while fire/police bank searching.
Hi UHF	Appears when you turn on the high UHF sub-bank while fire/police searching.
10 M	Appears when you turn on the 10m sub-bank while HAM bank searching.
6 M	Appears when you turn on the 6m sub-bank while HAM bank searching.
2 M	Appears when you turn on the 2m sub-bank while HAM bank searching.
70CM	Appears when you turn on the 70cm sub-bank while HAM bank searching.
33CM	Appears when you turn on the 33cm sub-bank while HAM bank searching.
23CM	Appears when you turn on the 23cm sub-bank while HAM bank searching.

Channel Storage Banks

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

To make it easier to identify and select the channels you want to listen to, your scanner divides the channels into 10 banks (0 to 9) of 30 channels each, a total of 300 channels. You can use each channel-storage bank to group frequencies, such as those used by the police department, fire department, ambulance services, or aircraft.

For example, a police department might use four frequencies, one for each side of town. You could program the police frequencies starting with Channel 001 (the first channel in bank 0) and program the fire department frequencies starting with Channel 101 (the first channel in bank 1).

FM Radio Channels

This scanner has another channel memory location, called FM radio channel. THese channels are able to use only FM Radio mode. You can program 20 broadcast stations into FM Radio channel.

Service Search Bands

The scanner is preprogrammed with the frequencies allocated by marine, fire/police, aircraft, ham radio, and weather services. This is handy for quickly finding active frequencies instead of searching through an entire band (see “Searching the Service Search Bands” on Page XX).

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

Air

Group	Frequency Range (MHz)	Step (kHz)
0	108.000–118.000	8.33
1	118.0083–136.9916	8.33

Fire/Police

Group	Frequency Range (MHz)	Step (kHz)
0	30.86	
	30.9-31.98	10
	33.02-33.1	10
	33.42-33.98	10
	35.02	–
	35.64–35.68	10
	37.02–37.42	10
	37.90–37.98	10
	39.02-39.98	10
	42.02-42.94	10
	43.64–43.68	10
	44.62–46.58	10
	47.02-47.66	10
1	150.775–150.7875	12.5
	150.800–150.805	5
	150.995–151.4975	7.5
	152.0075	–
	153.740–154.4525	7.5
	154.650–155.4975	7.5
	155.505–156.240	7.5
	157.450	–
	158.7225-159.4725	7.5
	163.250	–
	166.250	–
	170.150	–
	170.425-170.475	12.5
	170.575	–
	171.425-171.475	12.5

	171.575	–
	172.225-172.275	12.5
	172.375	–
	173.075	–
	173.2375-173.3625	12.5

If you select Canada frequency mode, there are as follows:

1	150.775–150.805	5
	150.995–151.495	5
	152.005	–
	153.740–154.450	5
	154.650–156.240	5
	157.450	–
	158.720-159.470	5
	163.250	–
	166.250	–
	170.150	–
	170.425-170.475	5
	170.575	–
	171.425-171.475	5
	171.575	–
	172.225-172.275	5
	172.375	–
	173.075	–
	173.235-173.360	5
2	453.0125–453.99375	6.25
	458.0125–458.99375	6.25
	460.0125–460.6375	6.25
	462.9375-463.19375	6.25
	465.0125–465.64375	6.25
	467.9375-468.19375	6.25

If you select Canada frequency mode, there are as follows:

2	453.0125–453.9875	12.5
	458.0125–458.9875	12.5
	460.0125–460.6375	12.5
	462.9375-463.1875	12.5
	465.0125–465.650	12.5
	467.9375-468.1875	12.5
3	851.0125-860.9875	12.5
	866.0125-868.9875	12.5

Marine

Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	156.0500	63	156.1750
02	156.2500	64	156.2250/160.8250
06	156.3000	65	156.2750
07	156.3500	66	156.3250
08	156.4000	67	156.3750
09	156.4500	68	156.4250
10	156.5000	69	156.4750
11	156.5500	70	156.5250
12	156.6000	71	156.5750
13	156.6500	72	156.6250
14	156.7000	73	156.6750
15	156.7500	74	156.7250
16	156.8000	77	156.8750
17	156.8500	78	156.9250
18	156.9000	79	156.9750
19	156.9500	80	157.0250
20	157.0000/161.6000	81	157.0750
21	157.0500	82	157.1250
22	157.1000	83	157.1750
23	157.1500	84	157.2250/161.8250
24	157.2000/161.8000	85	157.2750/161.8750
25	157.2500/161.8500	86	157.3250/161.9250
26	157.3000/161.9000	87	157.3750/161.9750
27	157.3500/161.9500	88	157.4250
28	157.4000/162.0000		

Note*:* Both frequencies (transmission and reception) are shown for marine channels used for duplex transmission.

Amateur Radio

Group	Frequency Range (MHz)	Step (kHz)
0	28.000–29.700	5
1	50.000–54.000	5
2	144.000–148.000	5
3	420.000–450.000	5

If you select Canada frequency mode, there are as follows:

3	420.000–450.000	12.5
4	902.000-928.000	12.5
5	1240.000-1300.000	6.25

OPERATION

TURNING ON THE SCANNER/SETTING VOLUME AND SQUELCH

1. To turn on the scanner, turn **VOLUME** clockwise. WELCOME message appears. After about 3 seconds, you might hear a hissing sound. Then adjust **VOLUME** to a comfortable listening level.

2. Press **SQ ON/OFF** switch. S appears when the scanner's squelch is turn on. Select SQ HI or SQ LO if possible.

Notes:

- To listen to a weak or distant station, switch to SQ LO. If reception is poor, set SQ HI/LO to SQ HI to cut out weak transmissions.
- If **SQ** is turn off so you always hear a hissing sound, the scanner will not scan or search properly.

3. To turn off the scanner when you finish, turn **VOLUME** counterclockwise to **OFF**.

Radio Mode

This scanner has 2 different mode such as Scanner mode and FM radio mode. If you press Scanner, the scanner turns Scanner mode. If you press FM radio, the scanner turns FM radio mode.

Following table shows each mode's functions:

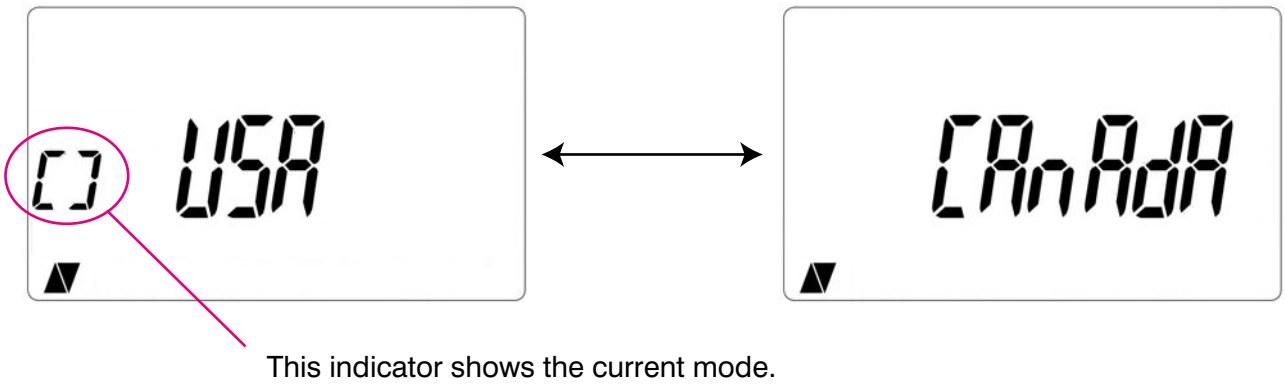
	Scanner mode	FM radio mode
Channel	30ch x 10 banks	20 ch
Tune	Yes (All band without FM radio band)	Yes (FM radio band)
Service Search	Yes	None
Priority	Yes	None
Scan/Manual	Yes	Yes
CTCSS/DCS	Yes	None
Delay	Yes	Yes
Lockout	Yes	Yes

Reshuffling of the Frequency with USA and Canada

Please perform the reshuffling of the frequency step, if necessary.

The default setting is USA.

1. Turn off the scanner, then turn it on again.
2. Press 4 while Welcome Message appears. USA or CAnAdA appears on the display.



This indicator shows the current mode.

3. Press ▲ or v to switches USA and CAnAdA. Yes-Ent or No-CLr appears alternately.
4. Press **ENT** to select the new band setting. The scanner initializes.

Caution: If you reshuffle the band plan, the scanner ***initialize*** and ***all memories are cleared***. Backup the scanner's memory to PC using third party's PC application, if necessary.

STORING KNOWN FREQUENCIES INTO CHANNELS

Follow these steps to store frequencies into channels.

1. Press **MAN**/**SCAN** while MAN appears. Enter bank and channel number (001-930) where you want to store a frequency then press **MAN**/**SCAN**. Press **FUNC** then press **ENT** (**PGM**) to enter program mode. Or, press **FUNC** then **ENT** (**PGM**) to enter program mode and press ▲ or ▼ to move the channel where you want to store a frequency.

2. Use the number keys (**1**-**9** and **0**) and • to enter the frequency (including the decimal point) you want to store.

3. Press **ENT** to store the frequency into the channel.

Notes:

- If you made a mistake in Step 2, Error appears and the scanner beeps three times when you press **ENT**. Simply start again from Step 2.
- Your scanner automatically rounds the entered frequency down to the closest valid frequency. For example, if you enter a frequency of 151.473, your scanner accepts it as 151.470.
- If you entered a frequency that is already stored in another channel, the scanner beeps three times and displays the lowest channel number where the frequency is already stored, and –dUPL– then the frequency flashes. If you want to store the frequency anyway, press **ENT** again. Press **TUNE**/**CLEAR** to clear the frequency.
- Press **DLY** if you want the scanner to pause 2 seconds on this channel before it proceeds to the next channel after a transmission ends (see “Delay” on Page XX). The scanner also stores this setting in the channel.

4. To program the next channel in sequence, press **FUNC** then **ENT**/**PGM** and repeat Steps 2 and 3.

FINDING AND STORING ACTIVE FREQUENCIES

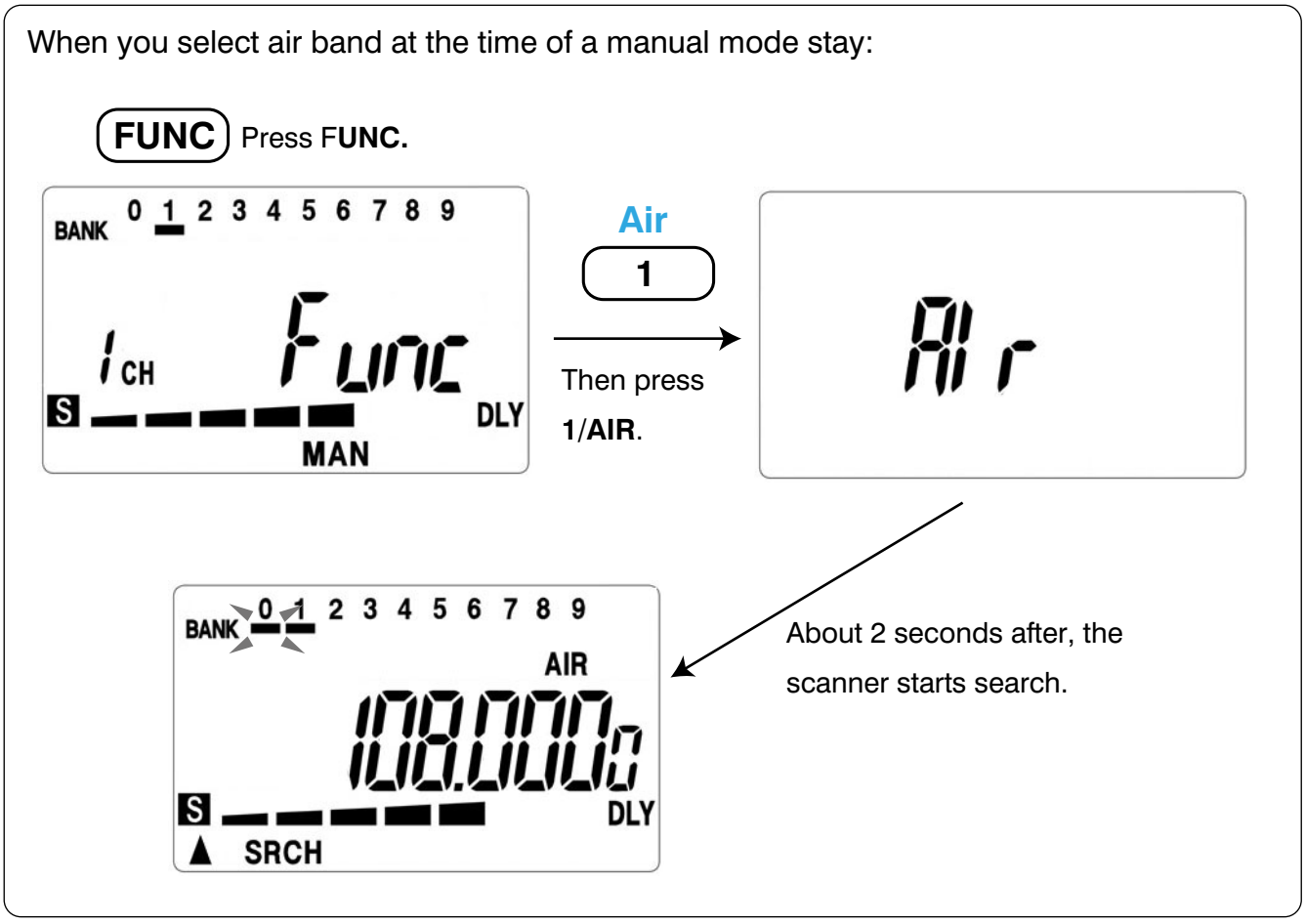
Searching the Service Search Bands

Your scanner contains groups of preset frequencies called Service Search Bands. Each Service Search band is associated with a specific activity. You can search for marine, fire/police, air, ham, and weather transmissions even if you do not know the specific frequencies that are used in your area. Then you can store the frequencies you found into the scanner's channels (except weather and marine bands).

Notes:

- You can use the scanner's delay feature while searching the bands, see "Delay" on Page XX.
- To listen to the marine bank, see "Listening to the Marine Band" on Page XX.
- To listen to the weather bank, see "Listening to the Weather Band" on Page XX.

1. Press **FUNC** then press **1**/**AIR** or **2**/**FD**/**PD** or **4**/**HAM**. FirE POLICE or Air or HAM appears. After about 2 seconds, the scanner starts search.



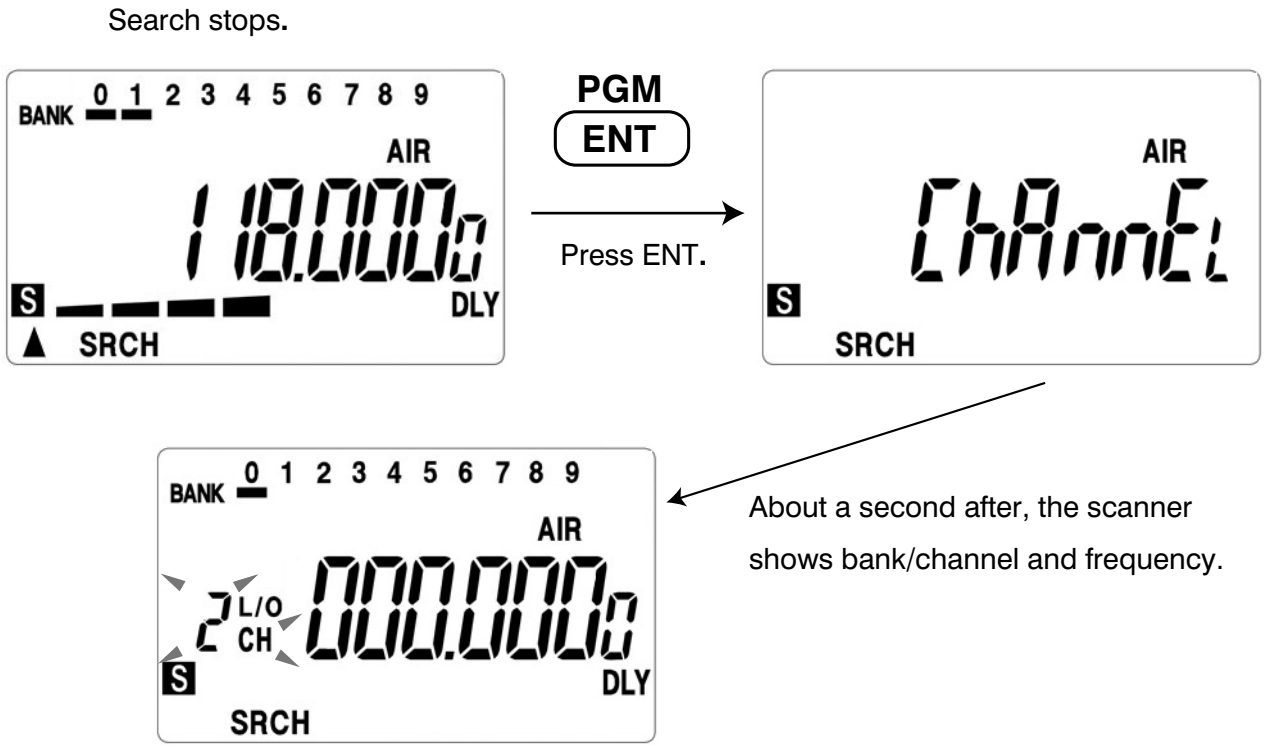
Notes:

- To reverse the search direction at any time, press ▲ or ▼.
- To pause the search while receiving a signal, press **PSE**. To resume searching, press **PSE** again.
- If necessary, you can select search groups using the number keys.

2. To search for another active frequency in the selected band, press ▲ or ▼. To select a different band and search for another active frequency, repeat Steps 1.

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

1. To store the displayed frequency in the channel, press ENT when you find a frequency. The ChAnnEL appears a second, then the bank indicator/channel number appears, and frequency (or 000.0000 if it is vacant channel) flashes.



2. If you desired to store the other bank/channel, press 3-digit number then press **ENT**. Or use ▲/▼ key to move channel.

3. Press **ENT** to store the frequency. The channel and (old) frequency flash twice. If you want to cancel the operation, press **PSE**/**CLEAR** instead of **ENT**.

Note: If you entered a frequency that is already stored in another channel, -dUPL- (duplicate) and the lowest numbered channel containing the duplicate frequency appears. If you want to store the frequency anyway, press channel number then **ENT** to select channel then **ENT** again. You can then delete the frequency later. See “Clearing a Stored Channel” on Page XX.

If there is no empty channel in the bank, Ch-FULL appears after you press **ENT**. To store more frequencies, you must clear some channels or you may program the other bank. See “Clearing a Stored Channel” on Page XX. To continue searching after Ch-FULL appears, press **PSE**/**CLEAR**.

Searching the Limit Search Band

You can search a specific range of frequencies by programming LIMIT search band with lower and upper frequency limits.

1. Press **FUNC** then press **5**/**LIMIT** to enter limit search.
2. Press **FUNC** then press **ENT**/**PGM**. The scanner enters limit search program mode. Lo and lower limit search frequency appears.

3. Use the number keys and •/**DLY** to enter the desired lower limit frequency (including the decimal point).
4. Press **ENT** to set the lower limit frequency. If the entered frequency is incorrect, Error appears and error beep sounds 3 times. Repeat from step 3.
5. Press ▲ to move to upper limit search frequency field. Hi and upper limit search frequency appears.

6. Use the number keys and •/**DLY** to enter the desired upper limit frequency (including the decimal point).
7. Press **ENT**.
8. Press **FUNC** then press **5**/**LIMIT** to start limit search.

Using Tune

During a tune, the scanner tunes up or down, starting from a frequency you specify. Follow these steps to use tune.

Note: You can use the scanner's delay feature while using tune.

1. Press **TUNE**. Pu, TUNE and start frequency appears.

2. If desired you can change the start frequency. To change the start frequency, enter frequency with numeral keys, then press **ENT**.
3. Press **PSE** to start tune. Pu disappears.
4. To change the tuning direction, press ▲ or ▼. The scanner displays ▲ or ▼ and start tune.

Note: To pause the tune, press **PSE**. To resume tune, press **PSE** again.

5. To tune for another active frequency, press ▲ or ▼.

Once you find interesting frequencies during the tune, you can store them into the scanner's channel memories.

1. To store the displayed frequency in the channel, press **ENT** when you find a frequency. The ChAnnEL appears a second, then the bank indicator/channel number appears, and frequency (or 000.0000 if it is vacant channel) flashes.
2. If you desired to store the other bank, press number key. Or use ▲/▼ key to move channel.
3. Press **ENT** to store the frequency. The channel and (old) frequency flash twice. If you want to cancel the operation, press **PSE**/**CLEAR** instead of **ENT**.

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

If there is no empty channel in the bank, Ch-FULL appears after you press **ENT**. To store more frequencies, you must clear some channels or you may program the other bank. See "Clearing a Stored Channel" on Page XX. To continue searching after Ch-FULL appears, press **PSE**/**CLEAR**.

SCANNING THE STORED CHANNELS

To set the scanner to continuously scan through all channels with stored frequencies, simply pressing **SCAN**/**MAN** until SCAN and ▲ appear, then the scanner begins to rapidly scan until it finds an active frequency.

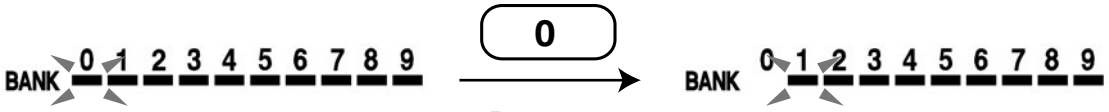
If the scanner finds an active frequency, it stops and displays that channel and frequency number, then it automatically begins scanning again when the transmission on that frequency ends.

Notes:

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

TURNING CHANNEL-STORAGE BANKS OFF AND ON

Channel-storage banks (0–9) are on when they have a bar underneath them and off when no bar appears underneath them. To turn off a channel-storage bank, press the bank's number key during scanning. The bar under the bank's number disappears.



The current bank bar is flashes.

The bar under 0 disappears.
Then next bank bar is flashes (if this bank enters freqquency).

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

To turn on a channel-storage bank (0–9) during scanning, press the bank's number key. A bar appears under the bank's number.

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

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

MONITORING A STORED CHANNEL

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

Follow these steps to manually select a channel.

1. Pressing **SCAN**/**MAN** until MAN appears.
2. Enter the channel number (001–930).
3. Press **SCAN**/**MAN** again.

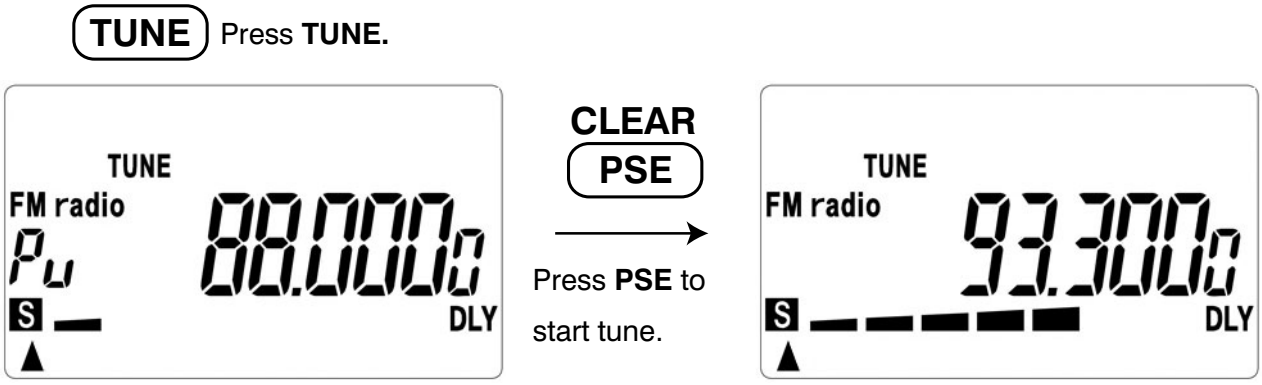
CLEARING A STORED CHANNEL

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

1. Pressing **SCAN**/**MAN** to stop scanning.
2. To select the desired channel number, use the number keys to enter that channel number (001–930).
3. Press **FUNC** then **ENT**/**PGM**. PGM appears.
4. Press **FUNC** then **PSE**/**CLEAR**. The frequency number changes to 000.0000 to indicate the channel is cleared.
5. To clear another channel, use the number keys to enter that channel number (001–930), then press **FUNC**, **ENT**/**PGM** again. Or, repeatedly press ▲ or ▼ until the desired channel number appears. Then repeat Step 4.

FM Radio Operation

1. Press **FM radio** to enter FM Radio mode. FM radio, channel number, and frequency (or 000.0000) appears.
2. Press **TUNE** to enter the FM radio band tune mode. If the scanner displays Pu at left side, the scanner pauses the tune. Press PSE/CLEAR to start tune.



The scanner stops tune if the scanner find the broadcasting station.

3. If the scanner find FM broadcast, the scanner stops tune.
3. Press **ENT** to store the frequency into FM radio channel.
4. To continue the tune, press ▲ or ▼.
5. Press **SCAN**/**MAN** to scan (or manually select operation) the FM radio channels. If MAN appears on the display, the scanner enters manual mode. If SCAN appears on the display the scanner enters scan mode.

Note: If AL CH L-out appears on the display, the scanner does not scan so the all FM channel is empty. Program FM station's frequency into FM radio channel(s).

6. Press ▲ or ▼ to advance (or return) the next channel (manual mode), or to continue scan (scan mode).

LISTENING TO THE MARINE BAND

To listen to the marine band, press **FUNC** then press **3**/**MAR**. MAr appears about 2 seconds, then the scanner starts searching from marine channel 16.

To stop searching the channels, press **PSE**. SRCH disappears and MAN appears.

To change the channel manually, press ▲ or ▼.

To search through the marine bank again, press **PSE**. MAN disappears and SRCH appears To change the searching direction, press ▲ or ▼.

You can select a marine channel directly. When the scanner stops scanning the marine bank, use the number keys to enter the two-digit channel number.

Note: While Marine band search, lock out functions. See “Locking Out Marine and WX Channels” on Page XX.

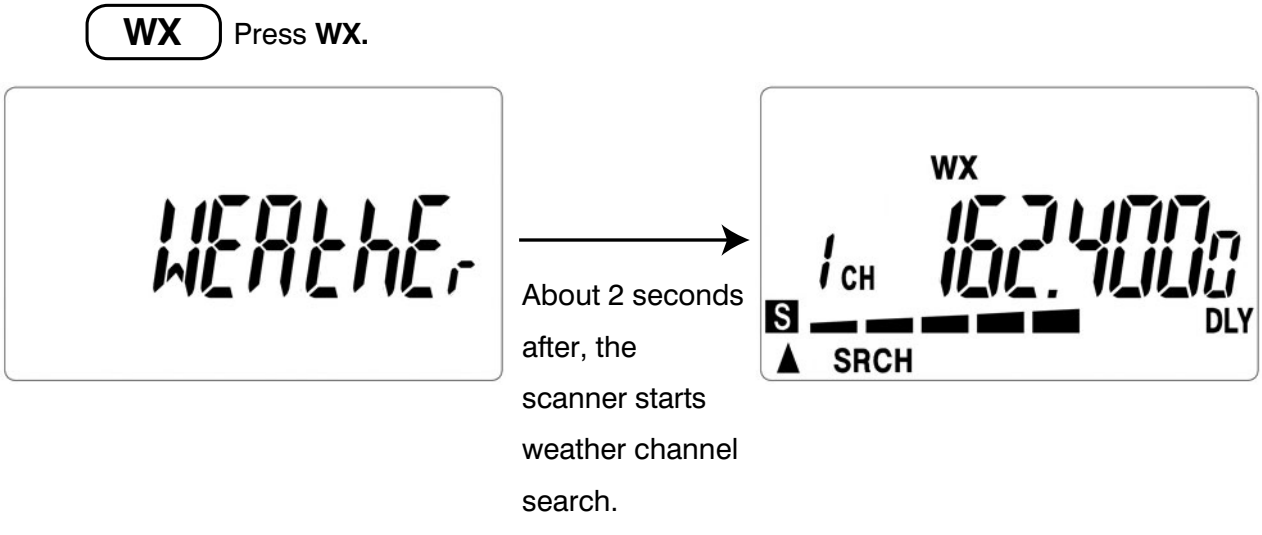
LISTENING TO THE WEATHER BAND

The FCC (Federal Communications Commission) has allocated channels for use by the National Oceanic and Atmospheric Administration (NOAA). Regulatory agencies in other countries have also allocated channels for use by their weather reporting authorities.

NOAA and your local weather reporting authority broadcast your local forecast and regional weather information on one or more of these channels.

Listening to a Weather Channel

To hear your local forecast and regional weather information, press WX. WEAthEr appears for about 2 seconds, then the scanner starts searching the weather bank.



To stop searching the channels, press **PSE**. SRCH disappears and MAN appears.

To change the channel manually, press ▲ or ▼.

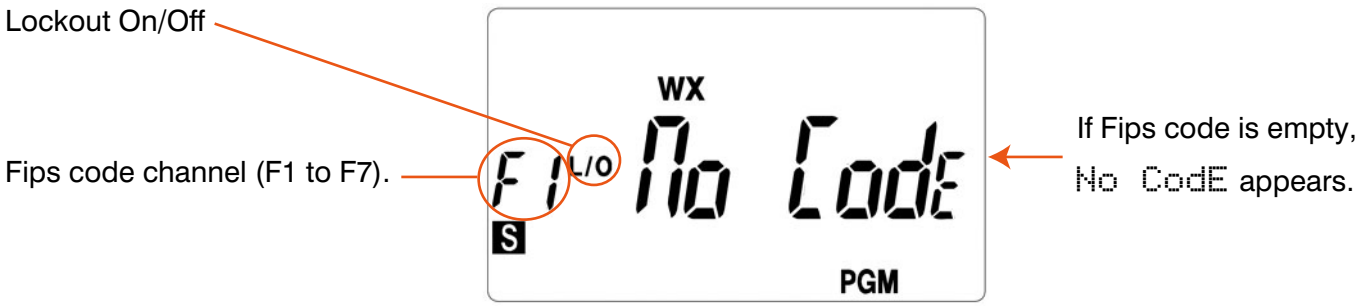
To search through the weather bank again, press **PSE**. MAN disappears and SRCH appears. To change the searching direction, press ▲ or ▼.

SAME Standby Mode

The National Weather Service precedes each weather alert with a digitally encoded SAME (Specific Area Message Encoding) signal, then a 1050 Hz tone. The SAME signal includes a FIPS (Federal Information Processing Standard) area code, and an event code that corresponds with the type of alert being sent. You can configure your scanner to operate in SAME Standby mode, where it monitors a selected weather radio station for SAME alerts for areas you specify. You can program your scanner with up to 7 FIPS codes for the areas you desire. The National Weather Service maintains a current list of FIPS codes at http://www.nws.noaa.gov/nwr/.

To configure your scanner for SAME Standby mode, follow these steps:

1. Press **WX**.
2. Press **FUNC** then **ENT**/**PGM** to access the FIPS code entry table.



3. Use ▲ or ▼ keys to select the desired FIPS code storage location.
4. Use the number keys to enter the desired FIPS code, and then press **ENT** to store the code. Repeat this process for all the FIPS codes that you wish to store.
5. Press **L**/**OUT** to lock out or enable specific FIPS entries.
6. Press **WX** to exit the FIPS code entry table.

Notes:

- Your scanner can also detect the 1050 Hz weather alert tone when a weather channel is set as the priority channel and weather priority operation is enabled (see “Priority”). In this mode all alerts are received. FIPS settings are ignored.
- The scanner sounds an alert or beep when it receives the SAME code. If you do not stop the alert (or beep) for five minutes, the alert stops and the scanner beeps every ten seconds. If the scanner receives a new message after five minutes, it sounds the alert or beep. To stop the sound and ready the scanner to receive a new alert signal before the five minute time out, press any key except **LIT**.
- If F appears at the left of channel number, the scanner memories FIPS code.

7. Press **FUNC** then **WX** while WX scan stops to initiate SAME standby. The scanner will monitor displayed weather channel station for alerts with FIPS codes that match the codes you entered in the FIPS entry table. To exit SAME standby, press **FUNC** then **WX** again.

Skywarn

Many areas of the country have amateur radio repeaters that have been designated as “Skywarn” repeaters. During times of severe weather, these repeaters are used to relay reports of severe weather directly to meteorologists at a local National Weather Service (NWS) forecast office. Using the Skywarn feature in your scanner, you can easily jump to Skywarn repeater frequencies and monitor these reports, in many cases hearing about severe weather in your area instantly as it occurs.

This function lets you quickly move to the skywarn channels (Bank 9, Channel 30) from any mode by pressing and holding **WX** about 2 seconds. The scanner displays .

Note: To activate this function, you must program your desired Skywarn frequency into the Skywarn channel.

Spectrum Sweeper

Your scanner's Spectrum Sweeper feature provides a powerful new tool for you to rapidly detect, monitor and store frequencies for nearby radio transmissions. The Spectrum Sweeper feature is similar in functionality to portable frequency counters that cost much more than your scanner, but provides many advantages over typical portable frequency counters. For example:

The Spectrum Sweeper allows you to sweep the entire range of your scanner's design frequencies, or you can specify those frequency ranges that you wish to sweep and exclude ranges that you do not want to sweep. This allows you to omit frequency ranges with constant strong frequency activity, such as those with paging or broadcast transmitters. Many portable frequency counters will remain locked to a nearby constant signal, such as a paging or broadcast transmitter, and will not function properly until you have left the vicinity of the transmitter.

The Spectrum Sweeper feature is more sensitive than portable frequency counters and will detect transmissions at a greater distance. You can activate the Attenuator to reduce the sensitivity if desired.

Once an active frequency is found, the transmission is played through your scanner's speaker, and you can quickly store it in any of your scanner's memory locations.

Using Spectrum Sweeper

The Spectrum Sweeper can be set to watch for activity on all band, Police/Fire, Aircraft, or Ham frequencies. When the scanner is in manual, scan or tune mode, press ▶⎍ to watch for activity on all band. When the scanner is in Police/Fire search band, press ▶⎍ to watch for activity on Police/Fire band. When the scanner is in Aircraft band, press ▶⎍ to watch for activity on Aircraft band. When the scanner is in Ham band, press ▶⎍ to watch for activity on Ham band.

You can also turn on/off frequency sub-bands using the corresponding number keys while Spectrum Sweeper is active.

Note: Priority mode is not available while using the Spectrum Sweeper.

SPECIAL FEATURES

Using CTCSS and DCS

CTCSS and DCS allow you to program frequencies into your scanner that are used by more than one group in your area and listen only to the group that is of interest to you by specifying the group's specific CTCSS or DCS code. CTCSS and DCS can also help reduce instances where interfering signals cause your scanner to stop on one channel.

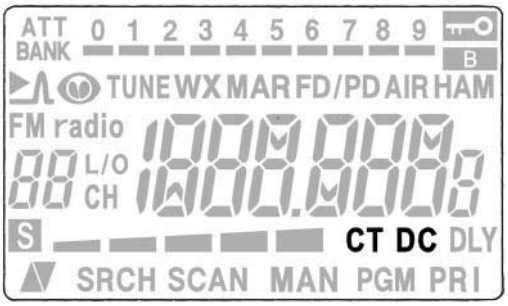
Note: AM mode's frequency range (ex. 108-139.99166, Air band; 138-147.9875 MHz, etc.), this function cannot be used.

Searching CTCSS/DCS code

Press **CD**/**DC** to search CTCSS or DCS code.

CTCSS and DCS icon as follows:

Icon	CT	DC
Searching both codes	flash	flash
Searching CTCSS code	flash	none
Searching DCS code	none	flash
Decode the CTCSS	displays	none
Decode the DCS	none	deiplays



Press **CT**/**DC** again, the scanner search the CTCSS code. CT flushes while search the code.

Press **CT**/**DC** 3 times, the scanner search the DCS code. DC flashes while search the code.

Press **CT**/**DC** 4 times, the scanner returns normal operation. DC disappears.

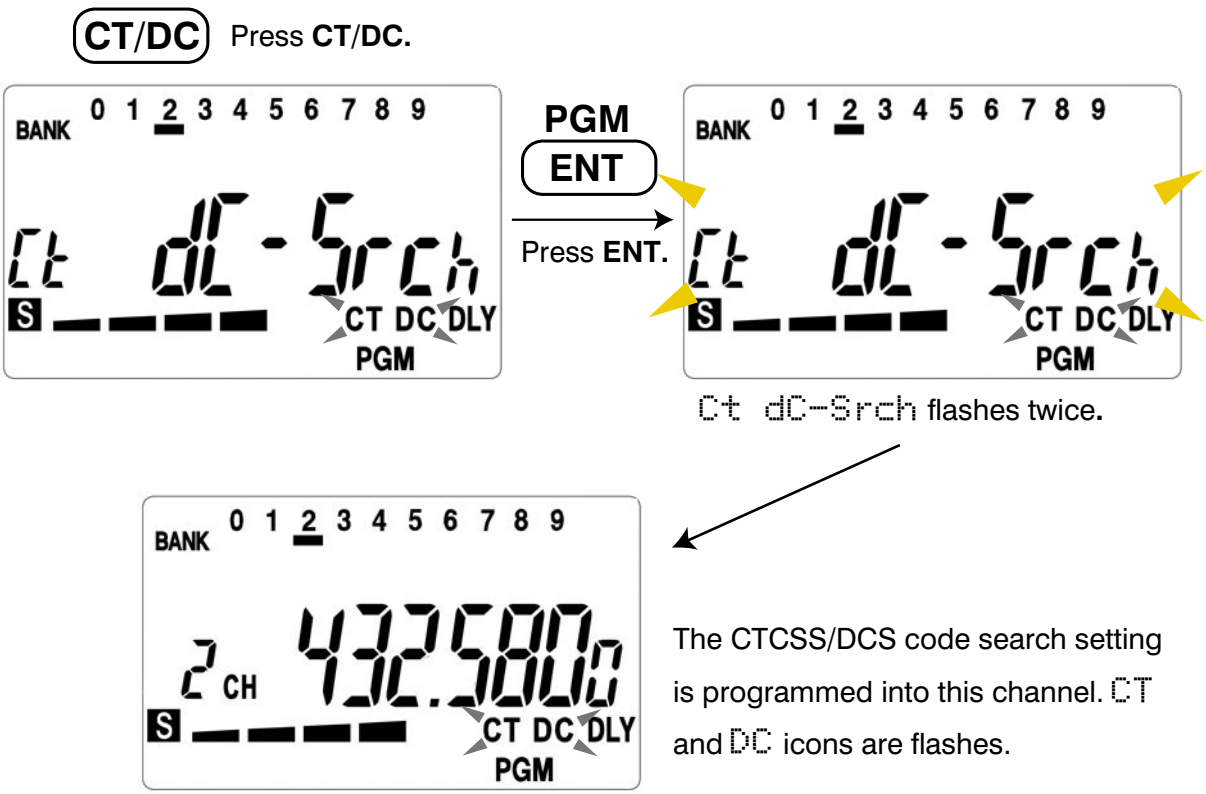
If you want to confirm the decoded CTCSS/DCS code, press **FUNC** then **CT**/**DC**. Press **PSE**/**CLEAR** to cancel the confirmation and back to CTCSS/DCS search.

Note: If you search/tune the frequencies covering the AM mode, CTCSS/DCS setting is turned off.

Programming CTCSS/DCS Code Search Setting into Channel Memory

1. Manually select the channel when you program the code, then press **FUNC**, **ENT/PGM**.

2. Press **CT/DC**. Ct dC-Srch appears and CT/DC flashes. Press **ENT** to store CTCSS/DCS code search setting into this channel.



3. Press **CT/DC** again. Ct-Srch appears and CT flashes. Press **ENT** to store CTCSS code search setting into this channel.

4. Press **CT/DC** 3 times. dC-Srch appears and DC flashes. Press **ENT** to store DCS code search setting into this channel.

5. Press **CT/DC** 4 times. Ct dC-OFF appears. Press **ENT** to clear the CTCSS/DCS code search setting.

If the scanner decode the code, press **FUNC** then press **CT/DC** to show the decoded code number. If you program this code, press **FUNC** then press **ENT**. The code displays with -S, the code does not entered CTCSS/DCS memory. The code displays without -S, the code entered CTCSS/DCS memory.

Note: This scanner can store only one code to one channel.

Programming CTCSS/DCS Code into Channel Memory

1. Manually select the channel when you program the code, then press **FUNC**, **ENT**/**PGM**.
2. Press **CT**/**DC** two times. Ct-Srch appears and CT flashes. Press ▲ or ▼ to select CTCSS code then press **ENT** to store CTCSS code into this channel.
3. Press **CT**/**DC** three times. dC-Srch appears and DC flashes. Press ▲ or ▼ to select DCS code then press **ENT** to store DCS code into this channel.
4. Press **CT**/**DC** 4 times. Ct dC-OFF appears. Press **ENT** to clear the CTCSS/DCS setting.

Note: This scanner can store only one code to one channel.

DELAY

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

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

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

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

LOCKING OUT CHANNELS OR FREQUENCIES

You can increase the effective scanning or search speed by locking out individual channels or frequencies that have a continuous transmission, such as a weather channel (see “National Weather Frequencies” on Page XX) or a birdie frequency (see “Birdie Frequencies” on Page XX).

Locking Out Channels

To lock out a channel during scanning, press **L**/**O**/**L**/**O RVW** when the scanner stops on the channel.

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

To remove the lockout from a channel, manually select that channel again, then press **L**/**O**/**L**/**O RVW** until L/O disappears.

Notes:

- Your scanner automatically locks out empty channels.
- You can still manually select locked-out channels.

Locking Out Marine and WX Channels

To lock out a Marine or WX channel during searching, press **L**/**O** when the scanner stops on the channel.

To manually lock out a Marine or WX channel, select the channel then press **L**/**O**.

To remove the lockout from a Marine or WX channel, manually select that channel again, then press **L**/**O** until L/O disappears.

Locking Out Frequencies

To lock out a frequency during a service search (Aircraft, Police/Fire, Amateur, or Limit band), tune or spectrum sweeper, press **L**/**O**/**L**/**O RVW** when the scanner stops on that frequency. The scanner locks out the frequency then continues searching/sweeping.

Notes:

- You can lock out as many as 200 frequencies during a search/tune/spectrum sweep (in FM radio mode, you can lock out as many as 50 frequencies). If you try to lock out more, Lo -FULL appears (see “Reviewing Locked-Out Frequencies” and “Removing Lockouts From All Frequencies”).
- The scanner uses same Lockout List between service search band, tune and spectrum sweeper. (ex.: the scanner uses same lock out list between aircraft search band and aircraft spectrum sweeper band.)

Reviewing Locked-Out Frequencies

To review the frequencies you locked out, hold down **L**/**O**/**L**/**O RVW** for about 2 seconds during a search, tune or spectrum sweeper, then repeatedly press ▲ or ▼. Lr (Lockout Review) appears and the scanner displays all locked out frequencies as you press ▲ or ▼, or, EMPty appears when the search bank has no locked out frequencies. When you reach the highest locked-out frequency, the scanner beeps twice and returns to the lowest locked-out frequency.

Removing Lockouts Form All Frequencies

Note: These steps do not clear any lockouts in the marine and weather bank.

1. Press **FUNC** then press **L**/**O** while search/tune/spectrum sweeper. Lr appears.
2. Press **FUNC** then **CLEAR**/**PSE** to clear the lockout. Lo ALL CL appears. After a second, YES Ent and No CLr appears alternately.
3. Press **ENT**. Lr EMPty appears. The scanner clears any lockouts from all frequencies in a service band. Or, if you do not want to clear the lockouts, press **PSE**/**CLEAR**. Press **FUNC** then **L**/**O** to return to previous mode.

USING PRIORITY

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

1. Press FUNC then ENT/PGM, then press FUNC PRI/TUNE. PCH and 000.0000 or the previously-stored frequency appear.

2. Enter the frequency you want to enter into the priority channel, then press ENT.

To program a weather channel as the priority channel:

1. Press WX.
2. Select the weather channel you want to program as the priority channel.
3. Press ENT. P Ch flashes and previously-stored frequency displays.
4. Press ENT again to store the priority channel and display blinks two times. Press PSE/CLEAR to cancel.

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

To turn off the priority feature, press FUNC then PRI/TUNE. PRI disappears.

Note: If you program a weather frequency into the priority channel and the scanner detects a WX alert tone on that frequency (see “WX Alert” on Page XX), the scanner sounds the alert tone and ALErt flashes. Press any key to turn off the alarm.

Using Attenuator

To reduce interference or noise caused by strong signals, you can reduce the scanner’s sensitivity to these signals.

Press FUNC then press 6 (ATT) to turn on or off the attenuator while the channel number is indicated or while the scanner is searching/tuning. When the attenuator is on, ATT appears.

When you turn it off, ATT disappears. You cannot set the attenuator while the scanner scanning.

Note:If you turn on the attenuator, the scanner might not receive weak signals.

USING THE DISPLAY BACKLIGHT

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

Press and hold (light/key symbol) to turn on the display’s backlight for an extended period of time. To turn it off, press (light/key symbol).

TURNING THE KEY TONE ON AND OFF

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

1. If the scanner is on, turn OFF/VOLUME counterclockwise until it clicks to turn it off.
2. Turn OFF/VOLUME clockwise to turn the scanner on. Welcome message appears..
3. While Welcome message appears, press 1 to turn on the key tone or 2 to turn it off..

USING THE KEY LOCK

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

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

To turn on the keylock, press FUNC then (Key Symbol) so (Key Symbol) appears. To turn it off, press FUNC then (Key Symbol) again so (Key Symbol) disappears.

Cloning the Programmed Data

You can transfer the programmed data to and from another PSR-120 scanner using an optional connecting cable with 3.5mm phone plugs on both ends (not supplied).

1. Turn on both scanner.
2. Press FUNC then 0/CLONE to enter the clone mode. CLOnE and Up to-SEnd appears alternately.
3. Connect the connecting cable to each scanner's PC/IF jack.
3. Press ^ at the host scanner.
4. SEndInG appears at the host scanner.

The scanner sends the data. To exit the clone mode, remove the cable.

CLOnE and Error may alternately appear when the scanner receives data from a scanner other than a PSR-120. If this happens when the scanner receives data from another PSR-120, turn off the scanner and then turn it on again.

INITIALIZING THE SCANNER

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

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

1. Turn off the scanner, then turn it on again. WELCOME PSR120 ScAnnEr appears.
2. Press 0 while welcome message. Then press 1. InItIAL appears about 2 seconds. After 2 seconds, YES --- Ent and No ---CLEAr appears alternately.
3. Press ENT. WAIt appears for about 2 seconds.

Note: Do not turn off the scanner until the initialization is complete. When the initialization is complete, 1CH 000.0000 appears on the display.

FAQs (Frequently Asked Questions)

The scanner is not working at all. What's wrong?

- The AC or DC adaptor might not be connected. Be sure the adaptor's barrel plug is fully inserted into the PWR DC 6V jack. The center tip of the adaptor's barrel plug must be set to positive.
- The batteries might be dead or need to be recharged. Recharge the rechargeable batteries or replace the alkaline batteries.

The scanner does not receive any stations or reception is poor. What's wrong?

- The scanner receives weak signals from distant stations. Reposition radio for best reception.
- Attenuator in use on weak signal. Check performance with and without attenuator activated, use setting with best reception.
- Loose or defective antenna. Inspect antenna and connectors and correct any problems found.
- The scanner might need to be initialized. Turn the scanner off then on again, or initialize the scanner (see "Initializing the Scanner").

The scanner is on but does not scan. What's wrong?

- Press SQ ON/OFF switch until S appears.
- There might only be one channel or no channels stored in the scanner. Store frequencies into more than one channel.

While scanning, the scanner locks on frequencies that have an unclear transmission. What's wrong?

- Some frequencies programmed into the scanner might be the same as "birdie" frequencies. Avoid programming "Birdie Frequencies" or only listen to them manually.

The keypad does not work

- The keypad may be locked. Press FUNC then KEY to unlock.
- The scanner might need to be initialized. Turn the scanner off then on again, or initialize the scanner (see "Initializing the Scanner").

Birdie Frequencies

Every scanner has birdie frequencies. Birdies are signals created inside the scanner's receiver. These operating frequencies might interfere with transmissions on the same frequencies. If you program one of these frequencies, you hear only noise on that frequency. If the interference is not severe, you might be able to select SQ HI to cut out the birdie.

To find the birdies in your individual scanner, begin by disconnecting the antenna and moving it away from the scanner. Make sure that no other nearby radio or TV sets are turned on near the scanner. Use the tune or search function and search every frequency range from its lowest frequency to the highest. Occasionally, the searching will stop as if it had found a signal, often without any sound. That is a birdie. Make a list of all the birdies in your scanner for future reference.

CARE

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

IN CASE OF FAULT

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

SPECIFICATIONS

Frequency Coverage (MHz): (USA)

25.000-26.960	10 kHz steps (AM)
26.965-27.405	10 kHz steps (AM)
27.410-29.505	5 kHz steps (AM)
29.510-29.700	5 kHz steps (FM)
29.710-49.830	10 kHz steps (FM)
49.835-54.000	5 kHz steps (FM)
88.000-107.900	100 kHz steps (WFM)
108-136.99166	8.33 kHz steps (AM)
137.000-137.995	5 kHz steps (FM)
138.000-143.9875	12.5 kHz steps (AM)
144.000-147.995	5 kHz steps (FM)
148.000-150.7875	12.5 kHz steps (FM)
150.800-150.845	5 kHz steps (FM)
150.8525-154.4975	7.5 kHz steps (FM)
154.515-154.640	5 kHz steps (FM)
154.650-156.045	7.5 kHz steps (FM)
156.050	(FM)
156.0525-156.1725	7.5 kHz steps (FM)
156.175	(FM)
156.180-156.2475	7.5 kHz steps (FM)
156.250	(FM)
156.255	(FM)
157.275-157.450	25 kHz steps (FM)
157.470-160.8225	7.5 kHz steps (FM)
160.825	(FM)
160.830-161.5725	7.5 kHz steps (FM)

161.600-161.975	5 kHz steps (FM)
162.000-174.000	12.5 kHz steps (FM)
380.000-419.9875	12.5 kHz steps (FM)
420.000-450.000	5 kHz steps (FM)
450.00625-512.000	6.25 kHz steps (FM)
806.000-823.9875	12.5 kHz steps (FM)
849.000-868.9875	12.5 kHz steps (FM)
894.000-939.9875	12.5 kHz steps (FM)
940.000-960.000	6.25 kHz steps (FM)
1240.000-1300.000	6.25 kHz steps (FM)

Frequency Coverage (MHz): (Canada)

25.000-26.960	10 kHz steps (AM)
26.965-27.405	10 kHz steps (AM)
27.410-29.505	5 kHz steps (AM)
29.510-29.700	5 kHz steps (FM)
29.710-49.830	10 kHz steps (FM)
49.835-54.000	5 kHz steps (FM)
88.000-107.900	100 kHz steps (WFM)
108-136.99166	8.33 kHz steps (AM)
137.000-174	5 kHz steps (FM)
380.000-512.000	12.5 kHz steps (FM)
806.000-823.9875	12.5 kHz steps (FM)
849.000-868.9875	12.5 kHz steps (FM)
894.000-939.9875	12.5 kHz steps (FM)
940.000-960.000	6.25 kHz steps (FM)
1240.000-1300.000	6.25 kHz steps (FM)

Channels of Operation

Scanner mode	300 channels
FM radio mode	50 channels

Sensitivity

FM 12 dB SINAD at Dev.: 3kHz at 1kHz:

29.51–54 MHz	0.2 uV
137–174 MHz	0.3 uV
380–512 MHz	0.5 uV
806-960 MHz	0.5 uV
1240-1300 MHz	0.5 uV

AM 12 dB SINAD at Mod.: 60% at 1kHz:

25–29.505 MHz	0.2 uV
108–136.99166 MHz	0.5 uV
138–143.9875 MHz (USA Only)	0.3 uV

WFM (FM radio) 12 dB SINAD at Dev.: 45kHz at 1kHz

88-107.9 MHz	0.8 uV

Spurious Rejection (FM @154 MHz) 40 dB

Selectivity:

AM 25-27.995 MHz	±4 kHz	–6 dB
	±6 kHz	–50 dB
Other frequency	±8 kHz	–6 dB
	±17 kHz	–50 dB
FM radio 88-107.9 MHz	±50 kHz	–6 dB
	±160 kHz	–50 dB

Search Speed	Up to 50 Steps/Sec
Scan Speed	Up to 40 Channels/Sec
Delay Time	2 Seconds

IF Frequencies:

1st IF	308.8 MHz
2nd IF	10.7 MHz
3rd IF	450 kHz
IF Rejection Ratio (380.8 MHz)	80 dB at 154.1 MHz
Squelch Sensitivity:	
SQ SW Lo AM/FM	0.5 uV
FM radio	1.0 uV
SQ SW Hi AM	25 dB
AM/FM: (S+N)/N=20dB FM	30 dB
FM radio: (S+N)/N=30 dB FM radio	45 dB
Antenna Impedance	50 Ohms
Audio Output Power (10% THD) BTL	280 mW Nominal
Built-In Speaker	1 1/4 Inches (32 mm), 8 Ohms
Operating Temperature	14° to 140°F
(–10° to 60°C)	
Power Requirements	4.5 Volts DC, 3 AA Batteries, AC Adapter (Supplied), DC Adapter (Optional)
Current Drain (Squelched)	65 mA
Charging Current (Ni-MH Battery 2300mA/h)	
using AC adapter	155mA
Dimensions (HWD)	4 7/8 x 2 5/8 x 1 3/16 Inches
(123 x 66 x 30 mm)	
Weight (without antenna)	approx. 6.7 oz
(190 g)	
Supplied Accessories	Antenna, Belt Clip

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