PSR-295

Portable Scanner

OWNER'S MANUAL

GRE

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FEATURE

Your PSR-295 Portable Scanner also lets you scan transmissions, and is preprogrammed with service search banks for convenience.

This scanner gives you direct access to over 61,000 frequencies including those used by police and fire departments, ambulance services, government agencies, air, and amateur radio services.

Your scanner includes these features:

10 Channel-Storage Banks — let you store 100 channels in each bank (1,000 channels) to group channels so calls are easier to identify.

Data Cloning — lets you transfer the programmed data to another PSR-295 scanner.

CTCSS and DCS Subaudible Encoded Squelch Modes — restricts conventional channel reception to transmissions using specified subaudible CTCSS tone or DCS data code when scanning or parked on a single channel. Code Search feature displays the tone or code in use. Takes advantage of subaudible squelch tail elimination turn off codes when they are present.

16-Character, 4-Line, Alphanumeric Display — shows you detailed operating information clearly.

Triple Conversion Superheterodyne Receiver — virtually eliminates any interference from intermediate frequency (IF) images, so you hear only the frequency you select.

Preprogrammed Frequency Ranges — lets you search for transmissions within preset frequency ranges or within ranges you set, to reduce search time and select interesting frequencies more quickly.

High-Speed Scan and High-Speed Search — the scanner scans at up to 60 channels per second and searches up to 75 frequencies per second, to help you quickly find transmissions.

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

Priority Channel — lets you set the scanner to check one channel every 2 seconds so you do not miss transmissions.

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Attenuate — lets you program your scanner to reduce the scanner's sensitivity to strong local signals, to reduce interference or noise caused by these signals.

Text Input — lets you input a text label for each channel, or other memory location so you can easily identify the transmission.

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

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

Flexible Antenna with BNC Connector — provides excellent reception and is designed to help prevent antenna breakage.

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

Three Power Options — let you power the scanner with internal batteries (non-rechargeable batteries or rechargeable batteries, not supplied). You can also use an AC adapter (not supplied) or power the scanner in a vehicle using a DC adapter (not supplied).

Your scanner can receive these frequencies:

- 25 — 88 MHz
- 118 — 136.99166 MHz
- 137 — 174 MHz
- 216 — 225 MHz
- 225.0125 — 400 MHz
- 400.0125 — 512 MHz
- 806 — 824 MHz
- 824.01 — 894 MHz
- 894.0125 — 960 MHz
- 1,240 — 1,300 MHz

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PREPARATION

Power Sources

You can power your scanner from any of three sources:

- internal non-rechargeable batteries or rechargeable batteries (not supplied — see “Using Batteries”)
- standard AC power (with an optional AC adapter — see “Using AC Power” on Page 7)
- vehicle power (with an optional DC adapter — see “Using Vehicle Battery Power” on Page 7)

Notes:

- Connecting an AC or DC adapter to the scanner disconnects internal batteries when you use the supplied non-rechargeable battery holder, but it does not disconnect internal batteries when you use the supplied rechargeable battery holder.
- If you install the rechargeable battery holder, you can operate the scanner and recharge the rechargeable batteries at the same time. See “Using Batteries” and “Charging Rechargeable Batteries” on Page 6.
- If the scanner stops working properly after connecting it to power, try resetting it. See “Resetting/Initializing the Scanner” on Page 34.
- You must charge rechargeable batteries before you use them the first time. See “Charging Rechargeable Batteries” on Page 6.

Using Batteries

You can power the scanner with four AA batteries (not supplied). For the longest operation and best performance, we recommend alkaline batteries.

You can use either the supplied non-rechargeable battery holder (black), or the supplied rechargeable battery holder (yellow).

You must charge rechargeable batteries before you use them the first time. See “Charging Rechargeable Batteries” on Page 6.

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

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CAUTIONS:

- The battery holder fits only one way. Do not force it.
- Use only fresh batteries of the required size and recommended type.
- Always remove old or weak batteries. Batteries can leak chemicals that destroy electronic circuits.
- Do not mix old and new batteries, different types of batteries (alkaline or rechargeable), or rechargeable batteries of different capacities.
- If you do not plan to use the scanner with batteries for a month or longer, remove the batteries. Batteries can leak chemicals that can destroy electronic parts.

Follow these steps to install the batteries:

1. Press in on the battery compartment cover on the back of the scanner and slide the cover down to remove it.
2. Pull the battery holder out of the battery compartment.
3. If you are using non-rechargeable batteries, place them into the black holder, as indicated by the polarity symbols (+ and —) marked on the holder.

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

When battery power is low, **Low battery!** appears and the scanner beeps continuously. When battery power is depleted, the scanner turns itself off. Replace all four non-rechargeable batteries, or recharge the rechargeable batteries. See “Charging Rechargeable Batteries”.

Charging Rechargeable Batteries

Your scanner has a built-in charging circuit that lets you charge nickel-metal hydride (Ni-MH) or nickel cadmium (Ni-CD) rechargeable batteries (not supplied) while they are in the scanner. To charge rechargeable batteries, connect an appropriate AC or DC adapter to the **PWR DC 9V** jack.

WARNING: Always dispose of old batteries promptly and properly. Do not bury or burn them.

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To charge batteries with a DC adapter from a DC power source, you must use a 9V, 300mA DC adapter with 4.75mm outer/1.7mm inner plug.

It takes about 16 hours to recharge fully discharged 1600mAh Ni-MH rechargeable batteries. You can operate the scanner while recharging the rechargeable batteries, but charging takes longer.

Notes:

- The scanner can also charge Ni-Cd batteries. 600mAh batteries require 6 hours and 850mAh batteries require 8 hours to charge.
- When you charge Ni-Cd batteries, do not overcharge 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 **Low battery!** appears. Then fully charge the rechargeable batteries.

Using AC Power

You can power the scanner using a 9V, 300mA AC adapter with 4.75mm outer/1.7mm inner plug.

CAUTIONS:

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

To power the scanner using an AC adapter, insert the plug (4.75mm outer/1.7mm inner plug) into the scanner's **PWR DC 9V** jack. Then connect the other end of the adapter to a standard AC outlet.

Using Vehicle Battery Power

You can also power the scanner from a vehicle's 12V power source (such as a cigarette-lighter socket) using a 9V, 300mA adapter with 4.75mm outer/1.7mm inner plug.

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

To power the scanner using a DC adapter, set the adapter's voltage switch to **9V**. Next, insert the plug (4.75mm outer/1.7mm inner plug) into the scanner's **PWR DC 9V** jack. Plug the other end of the DC adapter into your vehicle's cigarette-lighter socket.

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

Connecting the Supplied Antenna

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

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

Connecting an Earphone/Headphones

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

Listening Safely

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

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

Traffic Safety

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

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

Connecting an Extension Speaker

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

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ABOUT YOUR SCANNER

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

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

You can also search the **SEARCH** banks, which are preprogrammed frequencies in the scanner's memory (see "Searching a Preprogrammed Frequency Range" on Page 20 for the frequency list.) You can even change the frequency range on one of the SEARCH banks (Limit) to limit the search.

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.

ABOUT THE KEYPAD

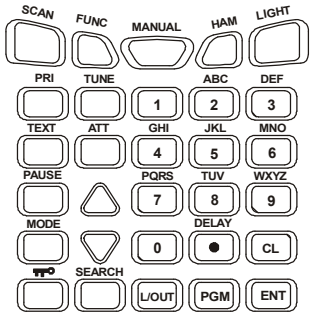
Here is a brief overview of your scanner's keys and their functions.

SCAN — scans through the programmed channels.

FUNC (function) — lets you use various functions by pressing this key in combination with other keys.

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

HAM — searches through the six preprogrammed ham band.



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LIGHT — turns on/off the display's backlight.

PRI (priority) — sets and turns the priority function on or off.

TEXT — lets you input text.

PAUSE — stops/restarts search/tune.

MODE — changes the receive mode (AM, FM, CTCSS, DCS)

KEY mark — locks/unlocks the keypad to prevent accidental entries when this key press and hold about three seconds.

TUNE — lets you input a frequency and allows you to fine tune a frequency along with /\ or \/.

ATT (attenuate) — turns attenuation on to reduce the scanner's sensitivity and block extremely strong signals, or turns it off to increase sensitivity.

/\ **or** \/ — selects the scan or search direction.

SEARCH — lets you search the six search banks.

L/OUT (lock out) — lets you lock out a selected channel, skip a specified frequency during search.

PGM — programs frequencies into channels.

ENTER — completes the entry of frequencies and text.

1 — enters a 1, or inputs characters 0 through 9 in text mode.

2/ABC — enters a 2, or inputs characters A, B, or C.

3/DEF — enters a 3, or inputs characters D, E, or F.

4/GHI — enters a 4, or inputs characters G, H, or I.

5/JKL — enters a 5, or inputs characters J, K, or L.

6/MNO — enters a 6, or inputs characters M. N, or O.

7/PQRS — enters a 7, or inputs characters P, Q, R, or S.

8/TUV — enters an 8, or inputs characters T, U, or V.

9/WXYZ — enters a 9, or inputs characters W, X, Y, or Z.

0 — enters a zero, or inputs characters ., -, #, _, @, +, *, &, /, ', $, %, !, ^, (,), ?, ->, `, or <-.

•/**DELAY** — enters a decimal point (necessary when programming frequencies), space, or programs delay time for the selected channel/search bank.

CL — clears an incorrect entry.

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UNDERSTANDING BANKS

Channel Storage Banks

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

To make it easier to identify and select the channels you want to listen to, your scanner divides the channels into 10 banks (0 to 9) of 100 (00 to 99) channels each, a total of 1,000 channels. You can use each channel-storage bank to group frequencies.

Search Banks

Your scanner has six preprogrammed search banks and one limit search bank. You can set the lower and higher frequency limit in the limit search bank.

Note: For example, if you wanted to find active frequencies between a range of 150.1000 and 150.5000, you would put both of those frequencies in the limit search bank.

For the default setting, see “Searching a Preprogrammed Frequency Range” on Page 20.

UNDERSTANDING YOUR SCANNER’S MODES

You can program each channel with any of four receive modes (AM, FM, CTCSS, and DCS). Each receive mode affects how your scanner operates when scanning and receiving transmissions.

AM Mode

The AM mode sets the scanner to receive transmissions using amplitude modulation (AM), primarily used for aircraft, or some amateur radio transmissions. When the scanner receives a transmission on a channel set to the AM mode, it always stops on the transmission.

FM Mode

The FM mode sets the scanner to receive transmissions using frequency modulation (FM), used for most public safety transmissions, as well as broadcast, business, and

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amateur radio transmissions. When the scanner receives a transmission on a channel set to the FM mode, it always stops on the transmission.

CTCSS Mode (CT)

CTCSS mode sets the scanner to receive transmissions using frequency modulation (FM) with Continuous Tone Coded Squelch System (CTCSS) subaudible tone codes. CTCSS allows multiple users to share a single radio frequency without hearing each other's transmissions. In your PSR-295 scanner, the CTCSS feature can be used to block the reception of transmissions on shared channel to only those that use the CTCSS tone that you have specified. CTCSS mode also features a Code Search setting that allows you to display and store unknown codes into the channel memory. CTCSS tones can sometimes be heard as a low "hum" in the background of a voice transmission. Many systems that use CTCSS transmit a special "turn off code" at the end of each transmission. The turn off code causes a properly equipped receiver to mute before the transmission ends, eliminating the "squelch tail" burst of noise the commonly occurs when the signal is lost. CTCSS turn off code performance can be affected by weak signals.

DCS Mode (DC)

DCS mode sets the scanner to receive transmissions using frequency modulation (FM) with Digital Coded Squelch (DCS) subaudible data signaling. DCS is very similar to CTCSS, except that a digital code is transmitted instead of an audio tone. Like CTCSS, DCS allows multiple users to share a single radio frequency without hearing each other's transmissions. In your PSR-295 scanner, the DCS feature can be used to block the reception of transmissions on a shared channel to only those that use the DCS tone that you have specified. DCS mode also features a Code Search setting that allows you to display and store unknown codes into the channel memory. DCS data can sometimes be heard as a low "purring" sound in the background of a voice transmission. Some DCS systems transmit a special "turn off code" at the end of each transmission. The turn off code causes a properly equipped receiver to mute before the transmission ends, eliminating the "squelch tail" burst of noise the commonly occurs when the signal is lost.

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OPERATION

Turning on the Scanner and Setting Squelch

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

2. Turn **SQUELCH** fully counterclockwise until the indicator points to **MIN**, then turn **SQUELCH** clockwise until the hissing sound stops.
3. To turn off the scanner, turn **VOLUME** counterclockwise to **OFF**.

Notes:

- The scanner does not scan if there are no frequencies stored in channels. If the scanner does not scan and you have already stored frequencies in channels, turn **SQUELCH** further clockwise.
- If the scanner picks up unwanted, partial, or very weak transmissions, turn **SQUELCH** clockwise to decrease the scanner's sensitivity to these signals. If you want to listen to a weak or distant station, turn **SQUELCH** counterclockwise.
- If **SQUELCH** is adjusted so you always hear a hissing sound, the scanner will not scan properly.

Storing Known Frequencies into Channels

Follow these steps to store frequencies into channels.

Note: When **MAN** is on the display, you can also select your desired bank and channel number with the **FUNC** and arrow keys.

1. Press **MANUAL**, enter the bank (0—9) and channel number (00—99) where you want to store a frequency, then press **MANUAL** again. **MAN** and the bank and channel number appear at the upper left corner of the display (for example: **MAN Ch000**).

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- Press **FUNC,** then press /\ or \/. The bank number moves in the direction of the arrow pressed.
- Press **FUNC**. Then hold down /\ or \/. The bank number moves continuously in the assigned direction.
- Press /\. The channel number moves upward one by one. Or, press \/. The channel number moves downward one by one.

2. Press **PGM**. **MAN** changes to **PGM**.
3. Use the number keys and •/**DELAY** to enter the frequency (including the decimal point) you want to store.

   If you make a mistake, press **CL** to delete a single digit or press and hold **CL** about 2 seconds to delete all digits.
4. Press **ENTER** to store the frequency into the channel.

Notes:

- If you made a mistake in Step 3, **Invalid Freq.** briefly appears and the scanner beeps when you press **ENTER**. Start again from Step 3.
- Your scanner automatically rounds the entered frequency to the nearest valid frequency. For example, if you enter a frequency of 151.553, your scanner accepts it as 151.550.
- After a transmission, to have the scanner pause for 2 seconds on this channel before proceeding to the next active transmission, press •/**DELAY** to turn the delay function on. See “Using the Delay Function” on Page 29. The scanner stores this setting in the channel.

5. If necessary, press **MODE** to change the receiving mode.
6. If desired, program a text tag for the channel (see “Assigning a Text Tag to a Channel” on Page 18).
7. The next channel in sequence is ready for programming. Press **PGM** and then repeat steps 3 through 6.

Programming Channels for CTCSS and DCS Operation

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.

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There are two ways you can program your scanner to operate with CTCSS and DCS. If you know the CTCSS and DCS code that is used on a particular frequency, you can manually enter the code when you are programming the scanner, or any time afterwards.

You can also set a special search code up that will decode the CTCSS and DCS code on a received transmission. Channels programmed with the search code will receive all traffic on the channel, and will decode and display any CTCSS or DCS code that is found with the transmission. You can then store the found code in the channel memory with one keystroke.

This section of the manual describes the process for configuring a memory channel for CTCSS or DCS operation and manually programming a known code. For more information on using the CTCSS and DCS feature while scanning, see “Using CTCSS and DCS” on Page 28.

To program channel memories for CTCSS or DCS operation, follow these steps.

1. First, enter a conventional frequency. See “Storing Known Frequencies into Channels” on Page 14.
2. Once you have entered the frequency, press **MODE** until the desired mode appears in the upper left hand corner of the display. Use CT for CTCSS, and DC for DCS.
3. By default, the search code (indicated with **CT:Search** in the bottom of the display) is programmed. To program a specific code, press **FUNC**, **MODE**, and then use the arrow keys to scroll to the desired CTCSS or DCS code. You can also use the keypad to enter the code manually. Note that the scanner will automatically fill the code field as you enter the code.
4. Once the desired code is selected, press **ENTER** to store the code in the channel memory.
5. It is possible to program memory channels for CTCSS or DCS operation at any time. Simply place the scanner in program mode, navigate to the channel you wish to change, and follow the steps above.
6. When stopped on an active conventional channel while scanning, you can press **MODE** to cycle through the valid modes for that channel, including CTCSS and DCS. This will reset any stored CT or DC code to the search code, allowing you to easily check for other CT or DC codes that may be present on the frequency.

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CTCSS Code Table: (kHz)

67.0	94.8	131.8	171.3	203.5
69.3	97.4	136.5	173.8	206.5
71.9	100.0	141.3	177.3	210.7
74.4	103.5	146.2	179.9	218.1
77.0	107.2	151.4	183.5	225.7
79.7	110.9	156.7	186.2	229.1
82.5	114.8	159.8	189.9	233.6
85.4	118.8	162.2	192.8	241.8
88.5	123.0	165.5	196.6	250.3
91.5	127.3	167.9	199.5	254.1

DCS Code Table:

6	50	125	174	255	343	445	526	703
7	51	131	205	261	346	446	532	712
15	53	132	212	263	351	452	546	723
17	54	134	214	265	356	454	565	731
21	65	141	223	266	364	455	606	732
23	71	143	225	271	365	462	612	734
25	72	145	226	274	371	464	624	743
26	73	152	243	306	411	465	627	754
31	74	155	244	311	412	466	631	
32	114	156	245	315	413	503	632	
36	115	162	246	325	423	506	654	
43	116	165	251	331	431	516	662	
47	122	172	252	332	432	523	664	

Storing Text Tags

You can customize your scanner by storing text tags (up to 16 characters) for easy identification of channel transmissions, or banks.

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Assigning a Text Tag to a Channel

1. Press **MANUAL**, enter the channel number where you want to enter the text, then press **MANUAL** again. **MAN** and the bank and channel number appear at the upper left corner of the display (for example: **MAN Ch000**).
2. Press **PGM**. **MAN** changes to **PGM**.
3. Press **TEXT**. The cursor appears at the third line.
4. Enter the text using the numeral keys.

   Note: If you make a mistake, press /\ or \/ to move to the character you want to change.

For example, to identify amateur (ham) radio transmissions in the 6 meter range, input "**HAM 6m**" as follows:

- "H" is the second letter associated with 4 on the keypad. Press **4** then **2**.
- "A" is the first letter associated with 2 on the keypad. Press **2** then **1**.
- "M" is the first letter associated with 6 on the keypad. Press **6** then **1**.
- "Space". Press •/**DELAY**.
- "6" is the sixth number associated with 1 on the keypad. Press **1** then **6**.
- "m" is the first letter associated with 6 on the keypad. Press **6** and **FUNC** (for the lower case set), then press **1**.

5. Press **ENTER** to input the text.

Text Input Chart

Press	Character
1	0 1 2 3 4 5 6 7 8 9
2	A B C
2 then FUNC	a b c
3	D E F
3 then FUNC	d e f
4	G H I
4 then FUNC	g h i
5	J K L
5 then FUNC	j k l

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6	M N O
6 then FUNC	m n o
7	P Q R S
7 then FUNC	p q r s
8	T U V
8 then FUNC	t u v
9	w x y z
9 then FUNC	w x y z
0	. - # _ @ + * & / ,
0 then FUNC	$ % ! ^ ( ) ? -> ` <-
•/DELAY	space
CL	backspace

Note: To enter a lower case character or a character from the second set for key **0**, press **FUNC** after pressing the first numeral key.

Finding and Storing Active Frequencies

You can search for transmissions in the scanner's preprogrammed search bank. The search bank is divided into four search bands. You can change the search range of Bank Limit manually by setting the lower and higher ends of the search range.

Notes:

- You can use the scanner's delay feature while searching the search bank. See "Using the Delay Function" on Page 29.
- The scanner does not search locked-out frequencies while searching ranges. See "Locking Out Channels or Frequencies" on Page 29.

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Searching a Preprogrammed Frequency Range

The scanner contains these preprogrammed search ranges, stored in the search bank.

Bank	Band
Marine	Marine Channels
CB	CB (Citizens Band) Channels
PMR	PMR (Personal Mobile Radio) Channels
Air	Air Band
All	All Receivable Frequencies
Limit	Limit Search (User changeable)

Follow these steps to select preprogrammed search bands and search them for active frequencies:

1. Repeatedly press **SEARCH** to select your desired search banks (Marine, CB, PMR, Air, All, Limit)
2. In the Marine, CB and PMR bands, you can directly select a channel or search through the band. When **M** appears at the left most position of the second line, you can directly select a channel (refer to “Search Band Charts”). Press the desired channel number while **M** appears to select it. You can also change the channels by pressing /\ or \/.
3. Press **FUNC** then **SEARCH** while **M** appears. **M** changes to **S** and now you can search through the band. Press **FUNC** then **SEARCH** again to return to the previous mode.
4. Rotate **SQUELCH** clockwise and leave it set to a point just after the hissing sound stops. After 2 seconds (if the delay feature is on), the received frequency appears and the scanner starts searching.
5. When the scanner finds an active frequency, it stops searching.

Search Band Charts

Search Range: Marine (Marine Band)

Receive mode: FM

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Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	156.0500	05	156.2500
06	156.3000	07	156.3500
08	156.4000	09	156.4500
10	156.5000	11	156.5500
12	156.6000	13	156.6500
14	156.7000	15	156.7500
16	156.8000	17	156.8500
18	156.9000	19	156.9500
20	157.0000	21	157.0500
	161.6000		
22	157.1000	23	157.1500
24	157.2000	25	157.2500
	161.8000		161.8500
26	157.3000	27	157.3500
	161.9000		161.9500
28	157.4000	63	156.1750
	162.0000		
64	156.2250	65	156.2750
	160.8250		
66	156.3250	67	156.375
68	156.4250	69	156.4750
70	156.5250	71	156.5750
72	156.6250	73	156.6750
74	156.7250	77	756.8750
78	156.9250	79	156.9750
80	157.0250	81	157.0750
82	157.1250	83	157.1750
84	157.2250	85	157.2750
	161.8250		161.8750
86	157.3250	87	157.3750
	161.9250		161.9750
88	157.4250		

Note: Two frequencies are assigned in one channel in some Marine frequencies. For example, 157.000 and 161.600 are assigned in Channel 20.

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Search Range: CB (Citizen Band)

Receive mode: FM (Default)

Channel	Freq. (MHz)	Channel	Freq. (MHz)
01	26.9650	02	26.9750
03	26.9850	04	27.0050
05	27.0150	06	27.0250
07	27.0350	08	27.0550
09	27.0650	10	27.0750
11	27.0850	12	27.1050
13	27.1150	14	27.1250
15	27.1350	16	27.1550
17	27.1650	18	27.1750
19	27.1850	20	27.2050
21	27.2150	22	27.2250
23	27.2550	24	27.2350
25	27.2450	26	27.2650
27	27.2750	28	27.2850
29	27.2950	30	27.3050
31	27.3150	32	27.3250
33	27.3350	34	27.3450
35	27.3550	36	27.3650
37	27.3750	38	27.3850
39	27.3950	40	27.4050

Search Range: PMR (Personal Mobile Radio Band)

Receive mode: FM

1Ch	466.00625	2Ch	466.01875
3Ch	466.03125	4Ch	466.04375
5Ch	466.05625	6Ch	466.06875
7Ch	466.08125	8Ch	466.09375

Search Range: Air (Aircraft Band)

Receive mode: AM

Frequency (MHz)	Step (kHz)
118.000-136.99166	8.33

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Search Range: All (All Receivable Band)

Receive mode: FM (Default)

Group	Display	Search Range (MHz)
0	25-68	25.000-67.995
1	68-88	68.000-88.000
2	118-137	118.000-136.99166
3	137-174	137.000-174.000
4	216-225	216.000-225.000
5	225-400	225.0125-400.000
6	400-512	400.0125-512.000
7	806-900	806.000-900.000
8	900-960	900.0125-960.000
9	1240-1300	1240.000-1300.000

Note: If you turn on the sub-bank, the scanner displays search range about 2 seconds, and start the search at that sub-bank.

Search Range: Limit (Limit Search Band/User changeable)

Receive mode: FM (Default setting)

Note: You can input a text label in this search range.

Searching Active Frequencies in Your Desired Frequency Range

You can program the desired frequency range for a search.

1. Repeatedly press **SEARCH** to select Limit.
2. Press **PGM** then **SEARCH**. **PGM Limit** (Program Limit Search) appears in the top line and the cursor blinks **L** on the second line for the lower-end limit frequency.
3. Use the number keys and •/**DELAY** to enter the desired lower-end limit frequency (including the decimal point).
4. Press **ENTER** to set the frequency. The cursor moves to **H**. If the entered frequency is incorrect, **Invalid Freq.** briefly appears.
5. Enter your desired higher-end frequency and press **ENTER**.

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6. If you want to input text label into limit search bank, press **TEXT**. Cursor blinks third line. Enter the text label using the keypad, then press **ENTER**. (See Text Input Chart on Page 18.)
7. Rotate **SQUELCH** clockwise and leave it set to a point just after the hissing sound stops.
8. Press **SEARCH** to start searching. When the scanner finds an active frequency, it stops searching.

Notes:

- You can copy and save a frequency into a specified bank, channel, or priority channel when the scanner finds an active frequency. See "Using Frequency Copy" on Page 25 to save the frequency. The frequency copy works only in search banks CB, Air, All Limit, and HAM band.
- While the scanner is searching, you can use the seek search by pressing **FUNC** then **7**. **Seek Search On.** appears on the bottom line and **S** appears at second digit of the second line. The scanner stops at an active frequency for five seconds and restarts searching automatically. The scanner repeats this operation.

You can set Zeromatic on or off by pressing **FUNC** then **0**. Press **FUNC** then **0** again to reverse the Zeromatic setting. Whenever this feature is turned on, **Zeromatic ON** briefly appears then **z** appears at the first digit of the second line and the scanner stops at the correct frequency. When you turn this feature off, **z** disappears and the scanner stops when it detects an active signal. Zeromatic functions only in search banks CB, Air, All, Limit and HAM band.

Manually Tuning a Frequency

You can manually set the scanner to move through all receivable frequencies, or select a specific frequency as a starting point.

1. Press **TUNE**. Fine Tune and the current frequency appears. The scanner automatically begins tuning up or down.
2. If you want to start another frequency, use the number keys to enter the frequency, then press **ENT**.
3. Press /\ or \/ to move up or down. When the scanner finds an active frequency, it stops on the frequency.

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Note: If you press **PAUSE** while tuning, the scanner stops tuning and *** PAUSED *** appears. Press **PAUSE** again, and the scanner resumes tuning.

Listening to the Ham Band

You can search for transmissions in the scanner's preprogrammed ham band. The ham band is divided into six sub-bank.

To search the ham band, simply press **HAM**. The scanner starts search. You can turn on or off the groups (sub-bank) by pressing the group numbers. For example, to turn off group 0, press **0**.

If you turn on the sub-bank, the scanner displays search range about 2 seconds, and start the search at that sub-bank.

Sub-Bank	Frequency Range (MHz)
0	28.000—29.700
1	50.000—54.000
2	144.000—145.9875
3	216.000—225.000
4	430.000—440.000
5	1240.000—1300.000

Using Frequency Copy

You can copy a frequency into a specified channel, a vacant channel in a specified bank, or a priority channel. However, you cannot copy a frequency from the Marine and PMR search bands.

Copying a Frequency into a Specified Channel

You can copy a frequency into a specified channel when the scanner stops on that frequency during search mode or manual tuning.

1. Press **FUNC** then **PGM** when you find a frequency.

   Store in ChXXX ? (XXX: channel number) appears on the bottom line. After about 1 second, the frequency to be copied flashes on the indicator.

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2. Press the desired bank and the channel number where you want to store the frequency. The display indicates the bank and channel number. After 1 second, the frequency to be copied flashes.
3. Press **ENTER**. All the conditions such as receive mode and delay condition are copied onto the channel. **Channel Stored !** briefly appears. The scanner automatically returns to search mode.

If you try to copy a frequency which is already stored, the scanner sounds the notice tone 3 times after you press **ENTER**. **Dupl.Freq.ChXXX** appears at the 3rd line. If you want to copy the duplicate frequency anyway, press **ENTER**, or if not, press **CL** to cancel.

Copying a Frequency into a Vacant Channel in a Specified Bank

You can copy a frequency into a vacant channel in a specified bank when the scanner stops on the frequency during search or tune mode.

1. Press **FUNC** then **ENTER** when you find a frequency you want to copy. **Bank 9 Store?** appears (Default setting: Bank 9).
2. If you want to copy the frequency into bank 9, press **ENTER**. It is stored in the first available vacant channel in the bank. Or, press your desired bank number to store, then press **ENTER**. **Channel Stored !** appears for 2 seconds. All the conditions such as receiving mode and delay condition are copied on the channel. After about 2 seconds, the scanner automatically returns to search mode.
3. If you try to copy a frequency which is already stored in the same bank, the scanner sounds the notice tone 3 times after you press **ENTER**. **Dupl.Freq.Chxxx** appears at the bottom line. If you want to copy the duplicate frequency anyway, press **ENTER**, or if not, press **CL** to cancel.

Note: If the bank does not contain any empty channel, **Bank X Full !** appears on the display's lower line.

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Copying a Frequency into the Priority Channel

You can copy a frequency into the priority channel (see “Priority” on Page 31) when the scanner stops on the frequency during Search, Scan, Manual, Tune, or HAM mode.

Press **FUNC** then **PRI** when the frequency is on the display. The display flashes twice and the frequency is copied to the priority channel.

Scanning the Channels

To begin scanning channels or to start scanning again after monitoring a specific channel, press **SCAN**.

Notes:

- You must store frequencies into channels before the scanner can scan them. The scanner does not scan through empty channels.
- To change the scanning direction, press /\ or \/.

The scanner scans through all channels (except those you have locked out) in the active banks (see “Turning Channel-Storage Banks Off and On” and “Locking Out Channels or Frequencies” on Page 29).

Turning Channel-Storage Banks Off and On

To turn off banks while scanning, press the bank’s number key so the bank’s number disappears. For example, to turn off bank 1, press **1**. The scanner does not scan any of the channels within the banks you turned off.

To turn on banks while scanning, press the number key until the bank’s number appears. For example to turn bank 1 on again, press **1**.

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.

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Deleting Frequencies from Channels

1. Press **MANUAL**.
2. Use the number keys to enter the channel with the frequency you want to delete.
3. Press **MANUAL** again.
4. Press **PGM** to enter the program mode. **MAN** changes to **PGM**.
5. Press **FUNC**.
6. Press **CL**. The frequency number changes and **0.0000** appears.

SPECIAL FEATURES

Using CTCSS and DCS

When your scanner stops on a conventional frequency that is configured for CTCSS or DCS, it checks for a match between the transmitted CTCSS or DCS code and the code that is stored with the channel memory. If the transmitted and stored codes match, the scanner stops on the transmission and allows the audio to pass to the speaker. If the codes do not match, the scanner resumes scan operation. If the special “search” code is in use, the scanner will instantly display any detected CTCSS code if programmed for CTCSS mode, or DCS code if programmed for DCS code. You can store the detected code into the channel memory by pressing **ENTER** while the code is displayed.

For more information about your scanner’s receive modes, including CTCSS and DCS, see “Understanding Your Scanner’s Modes” on Page 12. For information on programming memory channels for CTCSS or DCS operation, see “Programming Channels for CTCSS or DCS operation” on Page 15.

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Using the Delay Function

Many conversations might have a pause of several seconds between a query and a reply. To avoid missing a reply, you can program a 2-second delay into any of your scanner's channels. Then, when the scanner stops on the channel, **D** appears and the scanner continues to monitor the channel for 2 seconds after the transmission stops before it resumes scanning or searching.

Note: Delay is automatically set as the default for each channel when you turn on the scanner.

To turn delay on or off, press •/**DELAY**.

Locking Out Channels or Frequencies

You can scan existing channels or search frequencies faster by locking out channels or frequencies that have a continuous transmission.

Locking Out Channels

To lock out a channel while scanning, press **L/OUT** when the scanner stops on the channel. To lock out a channel manually, select the channel then press **L/OUT** so **L** appears.

Note: You can still manually select locked-out channels.

To remove the lockout from a channel, manually select the channel and press **L/OUT** so **L** disappears.

Reviewing the Lock-Out Channels

To review all locked out channels, press **MANUAL**. Then repeatedly alternate between pressing **FUNC** and then **L/OUT** to view each locked-out channel. When you finish reviewing locked-out channels, press **MANUAL**.

Locking Out Frequencies

To lock out a frequency during a search, press **L/OUT** when the scanner stops on that frequency. The scanner locks out the frequency, then continues searching.

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Notes:

- The scanner does not store locked out frequencies during a search.
- You can lock out as many as 50 frequencies in each bank. If you try to lock out more, **L/O Memory Full!** appears.
- If you lock out all frequencies in one search bank and only this search bank is activated, **All ranges Locked out!** appears and the scanner does not search.

Reviewing Locked-Out Frequencies

To review the frequencies within a search bank that you locked out:

1. Press **SEARCH** (if you review in the ham band, press **HAM**) to set search mode.
2. Press **FUNC** then **L/OUT**. The locked-out frequency and Lockout list appear. Press /\ or \/ to review the list. The locked-out number and the total locked-out number also appear as **L/O XX of YY**. (The tenth of thirty locked out numbers would appear as **L/O 10 of 30**.) If the search bank has no locked-out frequencies, **No Lockout** appears. Press **FUNC** then **L/OUT** again to cancel reviewing locked-out frequencies.

Clearing a Locked-Out Frequency

To clear a locked-out frequency, select that frequency (see "Reviewing Locked-Out Frequencies"), then press **CL**.

If all locked-out frequencies are cleared within a bank, **No Lockout** appears.

Clearing All Locked-Out Frequencies in a Search Bank

1. Press **SEARCH**.
2. Select the search bank in which you want to clear all locked-out frequencies.
3. Press **FUNC** then press **L/OUT**. **Lockout list** appears.
4. Press **FUNC** then **6**. **Clear entire list? Press 1 to clear all, any other key aborts** appears. Press **1** to clear all locked-out frequencies. **No Lockout** appears. Press any key other than **1** to cancel clear.

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Note: You cannot clear all locked out frequencies (another banks locked out frequencies) if all frequencies in the selected bank are locked out.

Priority

In addition to the 1,000 programmable memory channels, the scanner has one priority channel.

With the priority feature, you can scan through programmed channels and still not miss an important or interesting transmission on a specific channel. When priority is turned on, the scanner checks that channel every 2 seconds, and stays on the channel if there is activity until the activity stops.

To program a frequency in the priority channel:

1. Press **MANUAL**.
2. Use the number keys to enter the channel number which contains the frequency you want to program as the priority channel. Then press **MANUAL** again.
3. Press **FUNC** then **PRI**. **Pri Channel** blinks on the bottom line.

To program the priority channel directly:

1. Press **PGM**.
2. Press **PRI**.
3. Enter the frequency you want to enter into the priority channel, then press **ENTER**.

To turn on the priority feature, press **PRI**. **P:On** appears on the bottom line. If the scanner detects activity on the priority channel, **Pri Chan** appears.

Note: If you change the receive mode at a priority channel to DPL or CTCSS, **P:DC** or **P:CT** appears instead of **P:On**.

To turn off the priority feature, press **PRI**. **P:On** changes to **P:Off**

Changing the Receive Mode

The scanner is preset to the most common AM or FM receive mode for each frequency range. The preset mode is correct in most cases. However, some amateur radio transmissions and some business radio do not operate in the preset mode. If you try to listen to a transmission when the scanner is not set to the correct receive mode, the transmission might sound weak or distorted.

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To change the receive mode, repeatedly press **MODE**. The receive mode changes as follows:

AM — configures the channel for AM mode.

FM — configures the channel for FM mode.

CT — configures the channel for CTCSS mode.

DC — configures the channel for DCS mode.

Note: You can change the receive mode during searching and tuning. You changes the receive mode while search or tune, the display shows small caps (ex. **am**). To return to the receive mode for default setting, press **FUNC** then press **MODE**.

Using the Attenuator

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

There are two attenuator modes in your scanner. One is normal attenuator mode in which you set the attenuator in each channel or each band/group in the search and tune mode. The other is global mode in which you set the attenuator only once. This setting is applied all the time in every mode.

Press **ATT** to turn on or off the attenuator while the channel number is indicated or while the scanner is searching through bands/groups. When the attenuator is on, **A** appears at the eleventh digit in the top line.

When you turn it off, **A** changes to "•". You cannot set the attenuator while the scanner is scanning.

Press **FUNC** and then **ATT** to set the attenuator to its global mode. **Global ATT.** appears for 2 seconds at the bottom line and **a** or — appears. **a** means the attenuator is on and — means it is off. Press **ATT** to turn the attenuator on or off. **ATT:G—On** or **ATT:G—Off** appears on the bottom line while scanning.

Press **FUNC** and then **ATT** again to turn off the global attenuation mode. **Normal ATT.** appears on the bottom line for about 2 seconds.

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

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Turning the Key Tone On and Off

Each time you press any of the scanner's keys, the scanner sounds a tone. To turn the scanner's key tone off or on:

1. If the scanner is on, turn **VOLUME OFF/MAX** counterclockwise until it click to turn the scanner off.
2. Turn **VOLUME OFF/MAX** clockwise to turn the scanner on. **Welcome To Scanning Receiver** appears.
3. While **Welcome To Scanning Receiver** appears, press **1** to turn on the key tone or **2** to turn it off.

Using the Display Backlight

You can turn on the display's backlight for easy viewing in dimly lit areas. Press **LIGHT** to turn on the backlight for 5 seconds. To turn off the backlight before it automatically turns off, press **LIGHT** again.

To turn on the backlight so it does not turn off automatically, press **FUNC** then press **LIGHT**. Press **LIGHT** while the backlight is on to turn it off.

You can select the amount of time the light stays on. Follow these steps to change the illuminated time:

1. If the scanner is on, turn it off and back on again. **Welcome To Scanning Receiver** appears.
2. While **Welcome To Scanning Receiver** appears, press **LIGHT**.
3. **Use Up/Down keys to set light T/O ENTER key saves. 5 seconds** appears (Default setting: 5 seconds).
4. Press /\ or \/ to select 3, 5, 10 or 20 seconds then press **ENTER**.

Using the Keylock

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 **FUNC**, **KEY**, **LIGHT**, **SQUELCH**, and **VOLUME**.

You cannot activate the key lock while you are entering a frequency into a channel.

To turn on the key lock, press and hold **KEY** about 3 seconds. **Key locked.** appears for about 1 second. **Key locked.** appears when you press any key after locking the keypad.

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To turn off the key lock, press and hold **KEY** about 3 seconds. The scanner beeps three times and **Key unlocked.** appears.

Changing the Display Contrast

1. Press **MANUAL**.
2. Press **FUNC** then **9**. **Use Up/Down keys to set contrast, Enter key saves.** appears.
3. Press /\ or \/ to select the contrast.
4. Press **ENTER** to set the display contrast.

Cloning the Programmed Data

You can transfer the programmed data to and from another PSR-295 scanner using an optional connecting cable with 3.5mm phone plugs on both ends (not supplied).

Note: **** CLONE MODE ** Incorrect Model!** appears if the scanner receives data from another scanner other than a PSR-295.

Follow these steps to clone the data.

1. Turn on both scanners.
2. Connect the connecting cable to each scanner's **PC**/**IF** jack. **** CLONE MODE ** Press UP to send Remove cable to exit.** appears.
3. Press /\. **Confirm send data? 1 -> YES Press other key for NO.** appears.
4. Press **1** to send the data to the other unit or press any other key to cancel the operation.

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

RESETTING/INITIALIZING THE SCANNER

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

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IMPORTANT: If you have problems with the scanner, first try to reset it to retain all memory. If that does not work, you can initialize the scanner; however, initializing clears all information stored in the scanner's memory.

Resetting the Scanner

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

Pressing the reset button does not clear the scanner's memory.

Initializing the Scanner

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

1. Turn off the scanner, then turn it on again. **Welcome To Scanning Receiver** appears.
2. Press **0** then **1** while **Welcome To Scanning Receiver** appears. **Initializing Please Wait.** appears for about 7 seconds.

Do not turn off the scanner until the initialization is complete. When the initialization is complete **MAN Ch000** appears on the top line of the display. **0.00000 MHz** appears on the second line.

GENERAL HINTS

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 turn **SQUELCH** clockwise to omit the birdie.

The scanner's birdie frequencies (in MHz) are:

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51.000	62.835	63.090
73.795	119.80833	122.88333
123.53333	125.950	127.500
129.025	132.09166	134.76666
135.16666	140.250	153.600
154.100	165.750	285.6875
285.7375	316.5375	316.575
327.250	327.2875	340.225
340.9875	347.1375	348.6375
348.675	353.275	396.2875
451.000	451.150	457.725
470.0125	482.300	488.450
494.5875	812.700	829.440
835.490	835.580	847.870

To find the birdies in your 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 search function and scan 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. This is a birdie. Make a list of all the birdies in your scanner for future reference.

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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

- 25-88 (in 5 kHz steps)
- 118-136.99166 (in 8.33 kHz steps)
- 137-174 (in 12.5 kHz steps)
- 216-225 (in 5 kHz steps)
- 225.0125-400 (in 12.5 kHz steps)
- 400.0125-512 (in 12.5 kHz steps)
- 806-824 (in 12.5 kHz steps)
- 824.01-894 (in 10 kHz steps)
- 894.0125-960 (in 12.5 kHz steps)
- 1240-1300 (in 12.5 kHz steps)

Memory channels 1,000
Channel memory banks 10

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Sensitivity (20dB S/N):
FM:
25-88 MHz ..... 0.3 µV
118-174 MHz ..... 0.3 µV
216-225 MHz ..... 0.5 µV
225.0125-400 MHz ..... 0.7 µV
400.0125-512 MHz ..... 0.5 µV
806-960 MHz ..... 0.7 µV
1240-1300 MHz ..... 0.7 µV
AM:
25-88 MHz ..... 1 µV
118-174 MHz ..... 1 µV
216-225 MHz ..... 1.5 µV
225.0125-400 MHz ..... 3 µV
400.0125-512 MHz ..... 2 µV
806-960 MHz ..... 2 µV
1240-1300 MHz ..... 3 µV

Selectivity:
AM 25-27.995 MHz
-6 dB ..... +/-5 kHz
-50 dB ..... +/-6 kHz
All frequencies except 25-27.995 MHz at AM and FM mode
-6 dB ..... +/-10 kHz
-50 dB ..... +/-18 kHz

Spurious Rejection (at 154.1 MHz) ..... 40 dB

Scanning Rage ..... Up to 60 Channels per Second
Search Rate ..... Up to 75 Steps per Second
Delay Time ..... 2 seconds
Intermediate Frequencies (IF):
1st ..... 380.8 MHz
2nd ..... 21.4 MHz
3rd ..... 455 kHz

Priority Sampling ..... 2 seconds
Operating Temperature ..... -10 to +60 °C

IF Rejection:
380.8 MHz at 154.1 MHz ..... 60 dB
21.4 MHz at 154.1 MHz ..... 100 dB

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Squelch Sensitivity:
Threshold (AM/FM) ..... 0.5 µV
Tight (AM) ..... 20 dB
Tight (FM) ..... 25 dB

Antenna Impedance ..... 50 Ohms
Audio Output Power (10% THD) ..... 170 mW
Built-in Speaker ..... 36 mm, 8-ohm Dynamic Type

Power Requirements:
Batteries ..... 4 AA Alkaline Batteries
..... or 4 AA Rechargeable Mi-MH Batteries
External Power ..... 9V DC
Current Drain (Squelched) ..... 90 mA
Battery Charge Current ..... 150 mA

Dimensions ..... 157(H) x 62(W) x 41(D) mm
Weight (without antenna and batteries) ... Approx. 240 g

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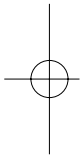
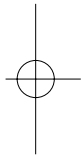

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