PSR-200U

200-Channel plus 20 FM Channel VHF/Air/UHF Desktop Scanner

Please read this user's guide before installing, setting up and using your new product.

Owner's Manual

CONTENTS

What's Included

- PSR-200U Scanner

- Telescoping Antenna

- AC Adaptor

- User's Guide

FEATURES

Your new PSR-200U 200 Channel plus 20 FM channels VHF/Air/UHF Desktop Scanner lets you scan conventional transmissions, and is preprogrammed with search banks for convenience. You press a **FM RADIO** key, you can quickly listen to the local broadcast stations.

This scanner gives you direct access to over 24,000 exciting frequencies, including those used by police and fire departments, ambulance services, aircraft, and amateur radio services, and you can change your selection at any time.

Your scanner also has these special features:

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

FM Radio — lets you receive FM broadcast for your local area.

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 20 channels in each bank (200 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.

Memory Backup — keeps the frequencies stored in memory for an extended time during a power loss.

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

Tone Squelch (CTCSS and DCS) — decodes and displays the CTCSS or DCS tone signal.

Data Cloning — lets you transfer the programmed data to another PSR-200U scanner.

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

4

Supplied Telescoping Antenna — provides good reception of strong local signals.

External Antenna Connector — lets you connect an external antenna (not supplied) with a BNC connector to the scanner for improved reception of distant/weaker signals.

Your PSR-200U scanner can receive these bands:

Frequency Range	Types of Transmissions
29–54 MHz	10-Meter Ham Band, VHF Lo, 6-Meter Ham Band
87.3–107.9 MHz	FM broadcast
108–136.99166 MHz	Aircraft
137–174 MHz	Military Land Mobile, 2-Meter Ham Band, VHF Hi
380–512 MHz	UHF Aircraft, Federal Government, 70-cm Ham Band, UHF Standard Band, UHF "T" Band

Note: See "Specifications" on Page 37 for more information about the scanner's frequency steps.

THE FCC WANT 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.

• Consult the dealer or an experienced radio/TV technician for help.

SCANNING LEGALLY

Your scanner covers frequencies used by many different groups including police and fire departments, ambulance services, government agencies, private companies, amateur radio, military operations, pager services, and wireline (telephone and telegraph) service providers. It is legal to listen to almost every transmission 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

POWER SOURCES

USING AC POWER

You can power the scanner using a supplied AC adaptor.

Cautions:

! You must use a supplied AC adaptor.

• Always connect the AC adaptor to the scanner before you connect it to AC power. When you finish, disconnect the adaptor from AC power before you disconnect it from the scanner.

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

• Plug the adaptor into an easily accessible power outlet located near the equipment.

To power the scanner using an AC adaptor, connect the plug into the scanner's **DC 9V** jack. Then connect the AC adaptor to a standard AC outlet.

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.

USING VEHICLE BATTERY POWER

You can power the scanner from a vehicle's 12V power source (such as cigarette-lighter socket) using a 9VDC at least 400 mA adaptor with 4.75mm outer/1.7mm inner plug. Its centre tip must be set to positive and its plug must fit the scanner's **DC 9V** jack. Using an adaptor that does not meet these specifications could damage the scanner or the adaptor.

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

To power the scanner using a DC adaptor, connect the plug into the scanner's **DC 9V** jack. Plug the other end of the DC adaptor into your vehicle's cigarette-lighter socket.

Note: If you use a cigarette-lighter **DC 9V** adaptor and your vehicle's engine is running, you might hear electrical noise from the engine while scanning. This is normal.

8

CONNECTING THE SUPPLIED ANTENNA

You must install an antenna before you can operate the scanner.

The supplied telescoping antenna helps your scanner receive strong local signals. To install the antenna, thread it clockwise into the hole on top of the scanner.

The scanner's sensitivity depends on its location and the antenna's length. For the best reception of the transmissions you want to hear, adjust the antenna's length according to the chart below.

Frequency	Antenna Length
29-174 MHz	Extend fully
380-512 MHz	Extend 2 segments

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 adaptor.

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 back of the scanner. This automatically disconnects the internal speaker.

9

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 transmission. 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 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 ⌒ jack.

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

10

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.

ABOUT THE KEYPAD

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

SCAN (Orange) — Lets you scan or manual operation the scanner's channel memory.

FM RADIO (Orange) — Lets you tune the local FM broadcast, or manual operation the scanner's FM Radio channels.

SRCH (Orange) — Searches the scanner's preprogrammed search bands.

MAN/SCAN (Blue) — Lets you scan or manual operation the scanner's channels (or FM Radio channels) while SCAN (or FM RADIO mode).

TUNE (Blue) — Lets you tune the frequency along with ▲ or ▼.

11

WX (Blue)/ 🔊 — Lets you search the scanner's preprogrammed 7 weather channels; directly accesses skywarn channel.

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

▲ / ▼ — Searches up or down for active frequencies or selects the direction when scanning channels.

CT/**DC** — The scanner decodes the CTCSS or DCS code, or program CTCSS/DCS code.

PRI — Sets and turns the priority function on or off.

Number Keys — Each key has single-digit (0 to 9) and a range of numbers. Use the range of numbers above the key (21–40 for example) to select the channel in a channel-storage bank.

DELAY /• — Programs a 2-second delay for the selected channel; enters a decimal point.

ENT (enter) — Enters frequencies into channels.

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

PSE/**CLEAR** — Stops or restarts search or tune; Clears an incorrect entry.

PGM — Programs frequencies into channels.

12
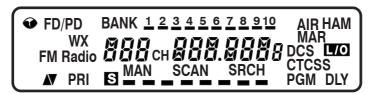
A LOOK AT THE DISPLAY

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.

🐱 — Appears when you hear the skywarn channel.

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

BANK — Appears with numbers (1–10) to indicate the scan bank or service search sub-bank. Bank numbers with a bar under them show which banks are turned on for scanning (see "Understanding Channel Storage Banks" and "Searvice Search Banks" on Page 16).

AIR — Indicates that the scanner is active for aircraft bank.

HAM — Indicates that the scanner is active for amateur radio bank.

WX — Indicates that the scanner is active for weather channels.

MAR — Indicates that the scanner is active for marine bank.

FM Radio — Appears when you listen FM broadcast.

CH — Appears with digits (1–200) or P to show which channel the scanner is tuned to.

7-Digit number — Indicates receiving frequency, error messages, etc.

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.

DCS — Appears when your scanner decodes DCS code.

CTCSS — Appears when your scanner decodes CTCSS code.

▲/▼ — Indicates the search or scan direction.

PRI — Appears when the priority feature is turned on.

MAN — Appears when you manually select a channel.

SCAN — Appears when the scanner scans channels.

SRCH — Appears when the scanner searches during service search band.

S — Appears with 8-digit bar that shows receiving signal strength.

PGM — Appears when you program frequencies into the scanner's channels.

DLY — Appears when you program a 2-second delay.

ALL CH L-out — Appears when you lock out the all marine channels.

-b- — Appears during service search (Fire/Police, Aircraft and Ham band)

b X Ch-FULL — Appears when you try to enter a frequency during a search when all displayed bank's channels are full.

b X StorE — Appears when you program the frequency into desired vacant channel.

CLOnE — Appears when the scanner stays in the clone mode.

-dUPL- — Appears when you try to store a frequency that is already stored in another channel.

Error — Appears when you make an entry error.

Func — Appears when you press **FUNC** key to use various functions.

FLo ALL-CL — Appears when you remove all the locked-out frequencies during a FD/PD, AIR, or HAM band.

L-r — Appears when you review the locked-out frequencies.

L-r EMPty — Appears when the locked-out frequency is empty in the search/tune.

L-O Fr-FULL — Appears when you try to lock out a frequency during a search/tune when 100 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.

P — Appears when the scanner is tuned to the priority channel.

PSE — Appears when the scanner pauses the search/tune.

-t- — Appears during a tune mode.

MAr — Appears about 2 seconds when you select marine band.

FIrE — Appears about 1 second when you select FD/PD band.

POLICE — Appears about 1 second when you select FD/PD band.

AIr — Appears about 2 seconds when you select AIR band.

HAM — Appears about 2 seconds when you select HAM band.

14

WEAthEr — Appears about 2 seconds when you select weather band.

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.

UHF — Appears when you turn on the UHF sub-bank while fire/police bank searching.

10 M — Appears when you turn on the 10m sub-bank 1 while HAM bank searching.

6 M — Appears when you turn on the 6m sub-bank 2 while HAM bank searching.

2 M — Appears when you turn on the 2m sub-bank 3 while HAM bank searching.

70CM — Appears when you turn on the 70cm sub-bank 4 while HAM bank searching.

15

Understanding 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 (1 to 10) of 20 channels each, a total of 200 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 1 (the first channel in bank 1) and program the fire department frequencies starting with Channel 21 (the first channel in bank 2).

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 Banks

The scanner is preprogrammed with the frequencies allocated by marine, fire/police, aircraft, and ham radio services. This is handy for quickly finding active frequencies instead of searching through an entire band (see "Searching the Service Search Band on Page 20).

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

16

Marine

Channel	Frequency (MHz)	Chhannel	Frequency (MHz)
01	156.0500	63	156.1750
05	156.2500	64	156.2250
06	156.3000		160.8250
07	156.3500	65	156.2750
08	156.4000	66	156.3250
09	156.4500	67	156.3750
10	156.5000	68	156.4250
11	156.5500	69	156.4750
12	156.6000	70	156.5250
13	156.6500	71	156.5750
14	156.7000	72	156.6250
15	156.7500	73	156.6750
16	156.8000	74	156.7250
17	156.8500	77	156.8750
18	156.9000	78	156.9250
19	156.9500	79	156.9750
20	157.0000	80	157.0250
	161.6000	81	157.0750
21	157.0500	82	157.1250
22	157.1000	83	157.1750
23	157.1500	84	157.2250
24	157.2000		161.8250
	161.8000	85	157.2750
25	157.2500		161.8750
	161.8500	86	157.3250
26	157.3000		161.9250
	161.9000	87	157.3750
27	157.3500		161.9750
	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.

17

Fire/Police

Group	Frequency Range (MHz)	Step (kHz)
1	33.420-33.980	20
	37.020-37.420	20
	39.020-39.980	20
	42.020-42.940	20
	44.620-45.860	40
	45.880	-
	45.900-46.060	40
	46.080-46.500	20
2	153.770-154.130	60
	154.145-154.445	15
	154.650-154.950	15
	155.010-155.370	60
	155.415-155.700	15
	155.730-156.210	60
	158.730-159.210	60
	166.250	-
	170.150	-
3	453.0375-453.9625	12.5
	458.0375-458.9625	12.5
	460.0125-460.6375	12.5
	465.0125-465.6375	12.5

Air

Group	Frequency Range (MHz)	Step (kHz)
1	108.000-118.000	8.33
2	118.00833-136.99166	8.33

Amateur Radio

Group	Frequency Range (MHz)	Step (kHz)
1	29.000-29.700	5
2	50.000-54.000	5
3	144.000-148.000	5
4	420.000-450.000	12.5

18

OPERATION

UNDERSTANDING 3 MODES

Your PSR-200U has three kinds of modes, and changes the mode by pressing an orange key.

- Scan/Manual mode

- FM Radio mode

- Service Search mode

If you press **SCAN** (Orange) key, your PSR-200U scanner enters SCAN/MANUAL mode. The SCAN/MANUAL mode is a mode to which the programmed channel memory is scanned. Or you can manually tuning the channel memory.

If you press **FM RADIO** (Orange) key, the scanner enters FM RADIO mode. FM RADIO mode is a mode to receive FM broadcast. You can use tune operation or manually FM-Radio channel selection.

If you press **SRCH** (Orange) key, the scanner enters Service Search mode. The Service Search mode is a mode that searches for the preprogrammed service search band.

TURNING ON THE SCANNER/SETTING VOLUME AND SQUELCH

1. Turn **SQUELCH** until the indicator points to **MIN** before you turn on the scanner.

2. To turn on the scanner, slide **POWER** to **ON**.

3. Turn **VOLUME** clockwise until you hear a hissing sound.

4. Turn **SQUELCH** clockwise, just until the hissing sound stops.

Notes:

- To listen to a weak or distant station, turn **SQUELCH** counterclockwise. If reception is poor, turn **SQUELCH** clockwise to cut out weak transmissions.

- If **SQUELCH** is adjusted so you always hear a hissing sound, the scanner will not scan or search properly.

5. To turn off the scanner when you finish, slide **POWER** to **OFF**.

STORING KNOWN FREQUENCIES INTO CHANNELS

Follow these steps to store frequencies into channels.

1. Press **SCAN** (Orange).

Note: If you want to program FM broadcast into channel, press **FM RADIO**.

2. Press **PGM**, then *PGM* appears. Enter the channel number (1–200; If you enter FM RADIO mode, 1-20) where you want to store a frequency, then press **PGM** again.

3. Use the number keys and • to enter the frequency (including the decimal point) you want to store.

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

Notes:

• If you made a mistake in Step 3, *Error* appears and the scanner beeps three times when you press **ENT**. Simply start again from Step 3.

• Your scanner automatically rounds the entered frequency down to the closest valid frequency. For example, if you enter a frequency of 151.451, your scanner accepts it as 151.450.

• 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–* appears. If you want to store the frequency anyway, press **ENT** again. Press **CLEAR**/**PSE** to clear the frequency.

• Press **DELAY** 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 30). The scanner also stores this setting in the channel.

5. To program the next channel in sequence, press **PGM** and repeat Steps 3 and 4.

FINDING AND STORING ACTIVE FREQUENCIES

Searching the Service Search Band

You can search for transmissions in the scanner's preprogrammed search bank. The search bank is divided into four search bands.

20

Notes:

- You can use the scanner's delay feature while searching the banks, see "Delay" on Page 30.

- The scanner does not search locked-out frequencies while searching ranges. See "Locking out Channels or Frequencies".

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

> Emergency (Fire/Police)
>
> Aircraft
>
> Ham
>
> Marine

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

1. Repeatedly press **SRCH** (Orange) to select your desired search bank (Fire/Police, Aircraft, Ham, or Marine).

Note: If you want to listen to marine band, see "Listening to Marine Band".

The scanner displays *FIrE*/*POLICE* or *AIr* or *HAM*. 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.

- Pressing **SRCH** to advance the search bands.

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.

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**. *PSE* and start frequency appears.

(If your scanner enters into FM RADIO mode, the scanner tunes FM radio band. If your scanner enters into SCAN or SEARCH mode, the scanner tunes all receiving frequency band without FM radio band.)

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**/**CLEAR** to start tune. *-t-* appears on the display.

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 ▼ .

Copying a Frequency into a Vacant Channel in a Specified Bank

1. To store the displayed frequency in the desired bank's lowest vacant channel, press **FUNC** then press **ENT** when you find a frequency. The bank number and *StorE* appears.

2. If you desired to store the other bank, press number key.

3. Press **ENT** to store the frequency. The channel and frequency flash twice. If you want to cancel the operation, press **CLEAR**/**PSE** 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 flash for about 3 seconds. If you want to store the frequency anyway, press **ENT** again. You can then delete the frequency later. See "Clearing a Stored Channel" on Page 24.

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 24. To continue searching after *Ch-FULL* appears, press **CLEAR**/**PSE**.

Copying a Frequency into a Specified Channel

1. To store the displayed frequency in the desired channel memory, press **FUNC** then press **PGM** when you find a frequency. The *ChAnnEL* appears about a second, then the channel number flashes and frequency (or *000.0000*) appears.

2. To change the target channel, enter the channel number.

3. Press **ENT**. Channel number flashes and previous frequency (or *000.0000* if it is vacant channel) appears.

   If you re-enter the channel number press channel number then press **ENT**.

4. Press **ENT** again. The channel and frequency flash twice. If you want to cancel the operation, press **CLEAR**/**PSE** instead of **ENT**.

22

Note: If the scanner displays **-dUPL-**, the entered frequency is already stored in another channel. See above Note on previous page.

SCANNING THE STORED CHANNELS

To set the scanner to continuously scan through all channels with stored frequencies as follows:

1. Press **SCAN** (Orange). If error tone beeps, proceed to step 2.

2. 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 30.

• 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 31.

TURNING CHANNEL-STORAGE BANKS OFF AND ON

Channel-storage banks (1–10) 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.

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

To turn on a channel-storage bank (1–10) 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.

23

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. Press **SCAN** (Orange) to enter SCAN mode. If error tone beeps, proceed to step 2.

2. Pressing **SCAN**/**MAN** until *MAN* appears.

3. Enter the channel number (1–200).

4. 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 while SCAN mode.

2. To select the desired channel number, use the number keys to enter that channel number (1–200).

3. Press **PGM**. *PGM* appears.

4. Press **FUNC** then **CLEAR**/**PSE**. 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 (1–200), then press **PGM** again. Or, repeatedly press **PGM** until the desired channel number appears. Then repeat Step 4.

FM RADIO OPERAION

The operation method has neither SCAN/MANUAL mode nor the change also by FM Radio mode.

A operation method is shown in the following.

Tune Operation in the FM Radio Mode

1. Press **FM RADIO** to enter FM Radio mode.

2. If the scanner's display shows channel number, press **TUNE**.

24

3. Press **PSE** to start tune.

To change the tune direction, press ▼ or ▲ .

To program tuned broadcast into FM Radio Channel

1. Press **FM RADIO** if your scanner does not stay the FM RADIO mode.

2. Press **FUNC**.

3. Press **ENT** to store the lowest FM Channel memory.

   Or press **PGM** to select FM channel number. (See "Copying a Frequency into a Specified Channel" for more details.) Then press **ENT**.

Monitoring Stored FM Radio Channel

In FM Radio mode, there is little thing that becomes interrupted the broadcast and scans to the advanced channel, and operate the channel by the manual operation.

Follow these steps to manually select a FM Radio channel.

1. Press **FM RADIO** (Orange) to enter FM Radio mode.

2. Pressing **SCAN**/**MAN** until *MAN* appears.

3. Enter the channel number (1–20).

4. Press **SCAN**/**MAN** again.

   Pressing ▲ or ▼ to advance/return the FM Radio channel.

LISTENING TO THE MAEINE BANK

To listen to the marine bank, pressing **SRCH** to select marine band. *MAr* appears abour 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 Channels" on Page 31.

LISTENING TO THE WEATHER BAND

Your scanner incorporates weather alert as one of its features and is an extremely sensitive high quality receiver on the weather frequencies. However, the included telescopic antenna is optimized for general purpose scanning. If you use this scanner as your only means for receiving weather alerts, please check to be sure you are receiving a clear signal on the telescopic antenna or switch to an external antenna that gives you clear reception of a local NOAA weather broadcast.

The FCC (Federal Communications Commission) has allocated channels for use by the National Oceanic and Atmospheric Administration (NOAA). Regulatory agencies in other counties 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.

Weather Channels

Channel	Frequency (MHz)
1	162.400
2	162.425
3	162.450
4	162.475
5	162.500
6	162.525
7	162.550

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 ▼.

26

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 **PGM** to access the FIPS code entry table.

3. Use ▲ or ▼ keys to select the desired FIPS code storage location (FC1 to FC7).

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 **FUNC** then **PGM** to exit the FIPS code entry table. The scanner displays *F* at the left hand if you enter the FIPS code(s).

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.

7. Press **FUNC** then **WX** to initiate SAME standby. The scanner will monitor the all weather radio 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.

Note: In the SAME Standby mode, the scanner receives all alert/warning messages for receivable areas if you do not enter the FIPS code.

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 channel (Channel 200) from any mode by pressing and holding WX/ about 2 seconds. The scanner displays .

Notes:

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

• Your scanner enters into Scan/Manual mode when the scanner jumps to the skywarn channel.

28

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: In the Aircraft band (108-136.99166 MHz), this function cannot be used.

Searching CTCSS/DCS Code

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

CTCSS and DCS icon as follows:

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

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

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

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

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

Programming CTCSS/DCS Code Search Setting into
Channel Memory

1. Manually select the channel when you program the code, then press **PGM**.
2. Press **CT**/**DC**. *Ct dC-Srch* appears and *DCS*/*CTCSS* flashes. Press **ENT** to store CTCSS/DCS code search setting into this channel.

29

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

4. Press **CT**/**DC** 3 times. *dC-Srch* appears and *DCS* 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 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 **PGM**.

2. Press **CT**/**DC** two times. *Ct dC-Srch* appears and *CTCSS* flashes. Press ▲ or ▼ to select CTCSS code then press **ENT** to store CTCSS code into this channel.

3. Press **CD**/**DC** three times. *Ct-Srch* appears and *DCS* 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 search band/tune range. 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, or tuning.

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 **DELAY**/• before it resumes scanning.

• If the desired channel is not selected, manually select the channel, then press **DELAY**/• .

- If the scanner is searching, or tuning, press **DELAY/•**. *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 **DELAY/•** 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 birdie frequency (see "Birdie Frequencies" on Page 35).

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.

To call the locked out channel, press **FUNC** then press *L/O* while manual or program mode. Pressing **FUNC** then *L/O* to call the next locked out channels.

Notes:

- Your scanner automatically locks out empty channels.

- You can still manually select locked-out channels.

Locking Out Marine Channels

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

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

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

Locking Out Frequencies

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

Note: You can lock out as many as 100 frequencies during a search/tune and 50 frequencies during a FM radio mode. If you try to lock out more, *L-O Fr-FULL* appears (see "Reviewing Locked-Out Frequencies" and "Removing Lockouts From All Frequencies").

Reviewing Locked-Out Frequencies

To review the frequencies you locked out, press **FUNC** then press **L/O/L/O RVW** during a search or tune, then repeatedly press ⏶ or ⏷. *L-r* (Lockout Review) appears and the scanner displays all locked out frequencies as you press ⏶ or ⏷, or, *EMPty* appears when the search/tune 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.

If you press **CLEAR** using lock out frequency review, the lockout of the frequency is cleared.

Removing Lockouts Form All Frequencies

1. Press **FUNC** then **CLEAR** while *L-r* appears.

2. *FLo ALL-CL* appears about 2 seconds. After 2 seconds, *YES ---Ent* and *No ---CLEAr* appears alternately.

3. Press **ENT**. *L-r EMPty* appears. The scanner clears any lockouts from all frequencies in a search band. Or, if you do not want to clear the lockouts, press **CLEAR**.

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 **PGM**, then press **PRI** while Scan/Manual mode. *PCH* and *000.0000* or the previously-stored frequency appears.

2. Enter the frequency you want to enter into the priority channel, then press **ENT**. The display flashes twice.

32

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 **FUNC** then **PRI**. *P ChAnnEL* is displayed momentarily. After *P ChAnnEL* appears, *PCH* flashes and *000.0000* or the previously-stored frequency appears.

4. Press **ENT** to store the priority channel and display blinks two times. Press **CLEAR** to cancel.

To turn on the priority feature, press **PRI** 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 **PRI**. *PRI* disappears.
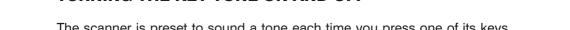
Notes:

• If you program a weather frequency into the priority channel and the scanner detects a WX alert tone on that frequency (see "SAME Standby mode" on Page 27), the scanner sounds the alert tone and *ALErt* flashes. Press any key to turn off the alarm.

• Priority does not function when you listen FM radio mode.

TURNING THE KEY TONE ON AND OFF

The scanner is preset to sound a tone each time you press one of its keys. You can turn the key tone off or on.

1. If the scanner is on, slide **POWER** to off.

2. Slide **POWER** to turn on the scanner. *Welcome* message appears.

3. While *Welcome* message appears, press **1** to turn on the key tone or **2** to turn it off.

Cloning the Programmed Data

You can transfer the programmed data to and from a PSR-200U scanner using an optional connecting cable with 3.5mm stereo phone plugs on both ends (not supplied).

1. Turn on both scanner.

2. Connect the connecting cable to each scanner's **PC**/**IF** jack. *CLOnE* and *UP to SEnd* appears.

3. Press 5 on the host scanner.

4. *SEndInG* appears at the host scanner.

To exit clone mode after the data transfer is complete, remove the cable.

No ConnEct appears if you try to connect to another model scanner. The PSR-200U does not clone with other scanner models.

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 SCAnnInG rECEIVEr* appears.

2. Press **0** while welcome message appears. 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. Press **CLEAR** to cancel the initialize.

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

34

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 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 function and tune every frequency range from its lowest frequency to the highest. Occasionally, the tune 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.

Frequency Conversion

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

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

- To convert MHz to kHz, multiply the number of megahertz by 1,000:

> 30.62 (MHz) x 1000 = 30,620 kHz

- To convert from kHz to MHz, divide the number of kilohertz by 1,000:

> 127,800 (kHz) / 1000 = 127.8 MHz

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

> 300 / 50 MHz = 6 meters

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 DC 9V jack. The center tip of the adaptor's barrel plug must be set to positive.

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

- 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?

- The squelch might not be adjusted correctly. Turn **SQUELCH** clockwise. 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.

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.

36

SPECIFICATIONS

Frequency Coverage (MHz):

29–54 (in 5 kHz steps/FM)

87.3–107.9 (in 100 kHz steps/WFM)

108–136.99166 (in 8.33 kHz steps/AM)

137–143.9875 (in 12.5 kHz steps/FM)

144–148 (in 5 kHz steps/FM)

148.0125–150.7875 (in 12.5 kHz steps/FM)

150.8–161.995 (in 5 kHz steps/FM)

162–174 (in 12.5 kHz steps/FM)

380–512 (in 12.5 kHz steps/FM)

Channels of Operation

Normal Channel .... 200 channels

FM Radio Channel .... 20 channels

Sensitivity (12 dB SINAD at 3 kHz Dev.):

29–54 MHz .... 0.2 μV

137–174 MHz .... 0.3 μV

380–512 MHz .... 0.4 μV

87.3–107.9 MHz (12dB SINAD at 45 kHz Dev.) .... 0.5 μV

108–136.99166 MHz (12dB SINAD at 60% Mod) .... 0.4 μV

Spurious Rejection (FM @154 MHz) .... 50 dB

Selectivity:

±8 kHz (at 154 MHz) .... −6 dB

±17 kHz (at 154 MHz) .... −50 dB

±50 kHz (at 98 MHz) .... −6 dB

±180 kHz (at 98 MHz) .... −50 dB

Search Speed .... Up to 40 Steps/Sec

Scan Speed... Up to 80 Channels/Sec

Delay Time .... 2 Seconds

IF Frequencies:

1st IF .... 10.7 MHz

2nd IF .... 455 kHz

IF Interference Ratio (10.7 MHz) .... 70 dB at 154 MHz

Squelch Sensitivity:

Threshold (AM/FM) ....Less than 0.5 μV

Threshold (WFM) ....Less than 1.0 μV

Tight (FM)...(S + N)/N 25 dB

Tight (AM) ....(S + N)/N 20 dB

Tight (WFM) ....(S + N)/N 60 dB

Antenna Impedance..50 Ohms

Audio Output Power (10% THD)...0.7 W Nominal

Built-In Speaker... 3 Inches (77 mm), 8 Ohms

Operating Temperature .... 32° to 110°F(0° to 43°C)

Power Requirements...9 Volts DC

(Supplied 9V AC or Optional 9V DC Adaptor)

Dimensions (WDH) ....8 1/4 x 6 7/8 x 2 3/8 inches (210 x 175 x 60 mm)

Weight (without antenna)..approx. 24.7 oz. (700 g)

Supplied Accessories ....Antenna, AC adaptor

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

NOTE

Limited Warranty

General

GRE America, Inc. warranty all parts of each new product to be of sound design, good material and workmanship, and will repair or exchange any parts proven to be defective under normal use at no charge for a period of 12 months from the date of sale to the end user.

GRE America will correct defects. There will be no charge for labor for a period of 12 months from the date of original sale, except as provided below. Overtime premiums and/or expedited handling and shipping costs must be paid by the owner.

An enclosed Warranty Card is included with each unit of purchase. We request the Warranty card be filled and return back to GRE America to validate the Warranty of purchase along with Proof-of-purchase or you may also register online from the link below.

Online Product Registration is also available at http://www.greamerica.com/register

Warranty Limitations

This warranty does not apply to equipment or parts that have been subject to accident, abuse, incorrect service, alterations, service by non-authorized service personal, misuse.

A copy of the purchase receipt must be supplied or validated Warranty Registration must be on GRE database either by mail or through online when requesting for service.

Equipment must be sent to GRE America at the owner or dealer's expense and will be returned via surface carrier at no cost to the owner.

This warranty is strictly limited to the terms indicated herein, and no other warranties or remedies thereunder, express or implied, shall be binding on GRE America.

Warranty Returns

RETURN DEFECTIVE PRODUCTS TO YOUR DEALER OR CALL GRE AMERICA FOR A RETURN AUTHORIZATION NUMBER (RMA). YOU SHOULD HAVE A COPY OF YOUR ORIGINAL RECEIPT TO VERIFY DATE PURCHASE. UNIT IN WHICH THE WARRANTY HAS EXPIRED MAY BE SERVICED AT A FIXED RATE + PARTS FOR FACTORY REPAIRS. RETURN SHIPPING FOR UNITS UNDER WARRANTY WILL BE PAID BY GRE AMERICA. SHIPPING FOR UNITS OUT OF WARRANTY WILL BE PAID BY THE SENDER IN BOTH DIRECTIONS. AN RMA# OUTSIDE THE BOX NEXT TO THE SHIPPING ADDRESS MUST BE ACCOMPANIED WITH ALL UNITS BEING RETURN BACK TO GRE AMERICA. RETURNS WITHOUT RMA# WILL DELAY IN PROCESSING YOUR WARRANTY OR NON-WARRANTY REPAIRS.

GRE America, Inc.

425 Harbor Blvd.

Belmont, CA 94002 U.S.A

Ph: (650) 501-1400 . Fax: (650) 591-2001

Website: http://www.greamerica.com

Online Registration: http://www.greamerica.com/register

© 2010 General Research of Electronics, Inc.   GR-10D-0710

All Rights Reserved.   Printed in China