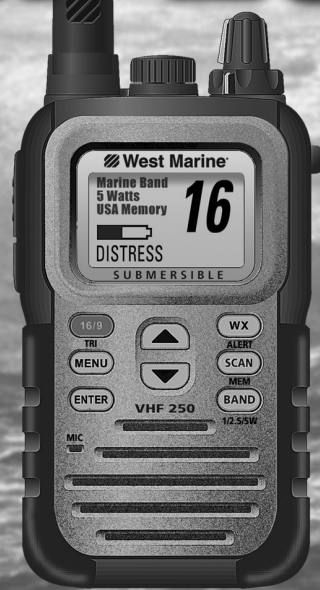


Marine Multi-band Transceiver

Émetteur-récepteur marin multibande
Transreceptor Marino Multibandas

VHF 250



OWNER'S
MANUAL
ENGLISH

 **West Marine**

Maritime Radio Services Operation

Warning! This transmitter operates on channels/frequencies that have restricted use in the United States. The channel assignments include frequencies assigned for exclusive use of the U.S. Coast Guard, use in Canada, and use in international waters. Operation on these frequencies without proper authorization is strictly forbidden. For frequencies/channels that are currently for use in the U.S. without an individual license, please contact the FCC Call Center at 1-888-CALL-FCC (1-888-225-5322).

For individuals requiring a license, such as commercial users, you should obtain a license application from your nearest FCC field office (for US users) or Industry Canada (for Canadian users).

FCC/Industry Canada Information

Certification FCC Part 80 or RSS-182/188

Output Power 5W

Emission 16K0F3E, 16K0F2D

Transmitter Frequency Range - VHF: 156.025 to 157.425 MHz; FRS: 462.5625-467.7125 MHz

This device complies with Part 80 of the *FCC Rules*, as well as Part 15 of the *FCC Rules*. Operation is subject to the condition that this device does not cause harmful interference.

Unauthorized changes or modifications to this equipment may void compliance with the FCC Rules. Any change or modification must be approved in writing by West Marine. Changes or modifications not approved by West Marine could void the user's authority to operate the equipment.

Table of Contents

Maritime Radio Services Operation	2
FCC/Industry Canada Information	2
A Quick Start Guide for the VHF250	6
Marine Band.....	6
FRS Band.....	7
Weather Band	8
AM Band	8
FM Band.....	9
Aircraft Band	9
Scanning Introduction	10
Normal.....	10
TripleWatch	11
FCC RF Exposure Information	12
Lithium Ion Battery Pack Warning	13
What's Included	14
Introduction	15
Features	15
VHF250 Controls	17
Radio Charger Cradle	20
LCD Displays	21
VHF Marine Band.....	21
Family Radio Service (FRS) Band	21
AM Band	21
FM Band.....	22
Aircraft Band	22
Indicator Meanings	22
Owner's Manual Conventions	23
Indicator Sounds	24
Batteries	24
Installing the Lithium Ion Battery Pack.....	25

Using the Alkaline Battery Pack	25
Battery Life and Indication.....	26
Alkaline Batteries and Radio Performance	27
Mounting the Charging Cradle	27
To Mount the Cradle on a Counter Top	27
Mounting on a Wall	27
Attaching the Belt Clip	28
Basic Operation, Controls, and Setup Options	29
Operation - Marine and Weather Bands	29
Selecting a Channel	30
Setting the Transmitting Power Level.....	30
Transmitting.....	31
Operation - Family Radio Service Band	31
Operation - AM Band	32
Operation - FM Band	33
Operation - Aircraft Band	33
Using the Radio Menu Options	34
Accessing the Menus	35
USA/CAN/INT (U.I.C.)	35
Lamp (Backlight) Adjust	36
Adjusting Display Contrast	37
Setting Dual or TripleWatch (Tri Watch)	37
Setting the Key Beep	38
Adding FIPS Codes.....	38
Changing Channel Names	40
Restoring Default Names	40
Setting CTCSS Codes	41
Setting Frequency Steps.....	43
AM Band.....	43
FM Band.....	43
Setting FM Muting	44

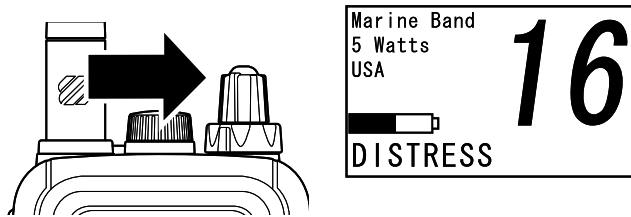
Other Options	44
Setting the Key Lock	44
Manually Selecting Coast Guard/Distress/Hailing Channels.....	45
Storing a Channel or Frequency in Memory	46
Selecting and Using the Weather Channel and Weather Alert (WX)	47
Using the TripleWatch or DualWatch Mode	48
Scanning - the Basics and Beyond	49
Normal Scanning.....	51
TripleWatch and DualWatch Scanning.....	52
Both Watches and Weather Channel.....	53
Scanning (Memory Preset Station Tuning) in the AM, FM, and Aircraft Bands	54
Examples of Mode Applications	55
Accessory Options - Using the External Speaker/Mic Jack	55
Care and Maintenance	56
Troubleshooting	56
Reference Section	58
Specifications	58
USA Channel Frequencies	60
Canadian Channel Frequencies	62
International Channel Frequencies	64
NOAA Channels and Frequencies	66
FRS Channels and Frequencies	66
CTCSS Channels and Frequencies	66
DCS Codes	66
Three Year Limited Warranty Statement	67

A Quick Start Guide for the VHF250

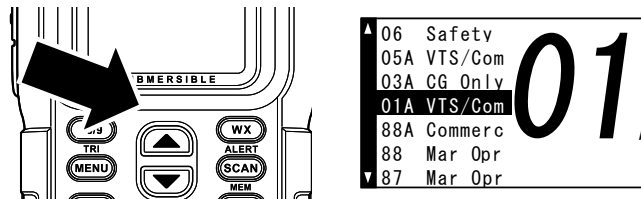
Follow these steps to get going!

Marine Band

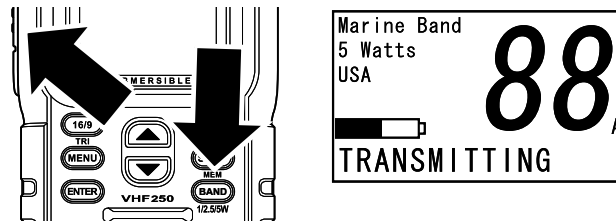
1. Rotate **VOLUME** until the display lights. The Power On tone sounds. The default display starts with the VHF Marine Band and displays USA Channel 16, at a 5 watt power level, and *DISTRESS* is displayed in the LCD message line area.



2. Press **▲** or **▼** to change channels. The marine channels begin with 01 in Canada and 01_A in the USA, and continue in a closed loop, through 88_A in the USA and 88 in Canada.



3. Before you transmit, press and hold **BAND/1/2.5/5W** to select a power level. Then press ▲ or ▼ to select a channel.
4. Press **PTT** (the **Push To Talk** button) on the side of the radio to transmit. Release to stop transmitting.



To change bands, follow these steps.

FRS Band

1. Briefly press **BAND/1/2.5/5W**. The radio changes to the FRS Band.
2. Use ▲ or ▼ to select one of the 14 FRS channels.
3. You can choose to leave the CTCSS coding disabled (default) in which case *OFF* appears to the right of the channel selected. Or, you can press **MENU** to select and activate a CTCSS code for the chosen channel. See Using the Menu options for the FRS Band on Page 35.

Note: Selecting and assigning one of the 142 Privacy Codes (CTCSS/DCS) to the operating FRS channel lets you and another radio communicate without interference from others in your area who might be using the identical FRS channel. Without enabling the CTCSS code feature, you and others in your group might also hear everyone else in the area on that same channel.

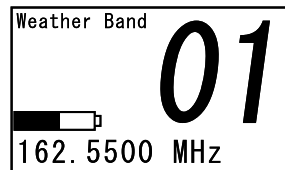
4. To transmit, press **PTT**. *TRANSMITTING* appears in the message line of the LCD screen.

Note: Do not press **PTT** and turn on power at the same time. The radio sounds the PTT error tone and *RELEASE PTT* appears in the LCD message line.

See Page 35 to select various menu options for this band using the FRS MENU screen.

Weather Band

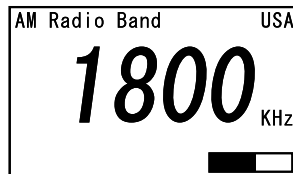
1. Press **WX** to switch to the weather channels. Ten channels are designated as weather channels. All carry the same information. One will provide the best reception for your particular area.



2. Use **▲** or **▼** to cycle through the ten channels until you locate the one with the best reception.
3. Press **WX** again to return to the band in use prior to switching to the weather channels.

AM Band

1. Briefly press **BAND/1/2.5/5W** to change to the AM Broadcast band. The default LCD screen shows the frequency, the USA frequency step setting and the power level icon.



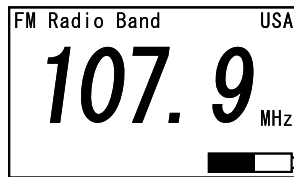
2. Press either **▲** or **▼** to change frequency by 10KHz

(500, 510, 520 KHz, etc) until you reach the desired station. In Europe, the step is 9kHz.

Note: See Page 35 to select various menu options for this band using the *AM MENU* screen.

FM Band

1. Briefly press **BAND/1/2.5/5W** to change to the FM Broadcast band. The default LCD screen shows the frequency, the USA frequency step setting and the power level icon.

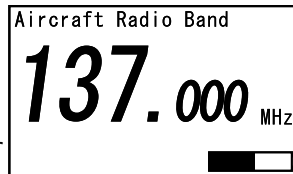


2. Press either **▲** or **▼** to change frequency by 200KHz (87.9, 88.1, 88.3 MHz etc) until you reach the desired station.

Note: See Page 35 to select various menu options for this band using the *FM MENU* screen.

Aircraft Band

1. Briefly press **BAND/1/2.5/5W** to change to the Aircraft (commercial) band. The default LCD screen shows the frequency, and the power level icon.



2. Press either **▲** or **▼** to change frequency by 25KHz (108.00, 108.025, 108.050 MHz etc) until you reach the desired frequency.

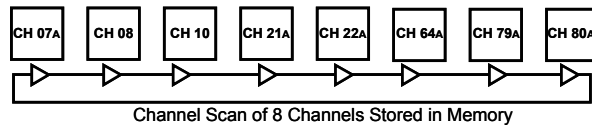
Scanning Introduction

There are three types of VHF marine scanning choices that you can select: Normal, DualWatch, and TripleWatch. Normal and TripleWatch scanning are described below. For additional details regarding the various scanning modes, see Page 49.

Normal

Normal Scanning lets you scan all the channels you store in memory. This means the radio checks each channel in memory then moves to the next channel if no activity is found. If activity is found, the radio stops so you can monitor the channel.

To activate **Normal Scan** mode, momentarily press **SCAN/MEM**. The radio scans all the channels stored in memory from lowest to highest. The display shows *CHANNEL SCAN* in the VHF marine band at the bottom. For the other bands, the *Scan* icon appears in the display.

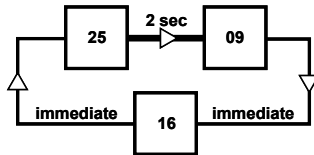


When you scan those channels, each channel is checked in order and the scan sequence repeats until you interrupt it.

TripleWatch

Using the *MARINE MENU* option choices (see Page 35), you can choose to have the radio monitor a working channel (in this example, Channel 25,) and Channel 16, the safety and hailing channel, and Channel 9, the backup hailing, and calling channel. Although this feature is called **TripleWatch**, the LCD only shows *TRIWATCH* due to character count limitations.

When you press and hold **16/9/TRI**, the radio monitors



TripleWatch of Marine Ch. 25,

according to the sequence shown. In the illustration, the radio is set to marine Channel 25 (the working channel) and TripleWatch has been selected from the *MARINE MENU*.

To learn about details dealing with General Setup, Battery Operation and Charging, Menu Options, Storing Channels, Scanning Channels as well as Memorized Station Preset operations for the other bands, in addition to using the special features of either Triple or DualWatch, consult the Table of Contents which immediately precedes these Quick Start pages.

FCC RF Exposure Information

WARNING! Read this information before using the radio

In August 1996 the Federal Communications Commission (FCC) of the United States with its action in Report and Order FCC 96-326 adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies. The design of the radio complies with the FCC guidelines and these international standards.

Never allow children to operate the radio without adult supervision and the knowledge of the following guidelines.

WARNING! It is up to the user to properly operate this radio transmitter to insure safe operation. Please adhere to the following:

Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the radio, or result in violation of FCC regulations.

Do not use the radio with a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Please contact your local dealer for a replacement antenna.

Body-worn Operation — This device was tested for typical body-worn operations using the supplied belt-clip. To maintain compliance with FCC RF exposure requirements, body-worn operations are restricted to the supplied belt-clip. For hand-held operation, the radio should be held 1 inch from the user's face. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements and should be avoided. For more information about RF exposure, please visit the FCC website at www.fcc.gov

Lithium Ion Battery Pack Warning

This equipment contains a rechargeable Lithium Ion battery. The rechargeable Lithium Ion battery contained in this equipment may explode if disposed of in a fire.

Do not short-circuit the Battery Pack.

Do not charge the rechargeable Lithium Ion battery used in this equipment in any charger other than the one designed to charge this battery as specified in the owner's manual. Using another charger may damage the battery or cause the Battery Pack to explode.

Lithium Ion batteries must be recycled or disposed of properly.

Avoid exposing the Lithium Ion battery, attached or unattached to the radio, in direct sunlight, heated cars, or in areas with temperatures below -4°F (-20°C) or above +140°F (+60°C). Exposing the chemical contained within the battery pack to temperatures above +140°F (+60°C) may cause the battery to rupture, fail, or reduce performance.

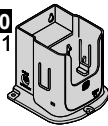
In case of exposure to the cell contents, wash the affected area thoroughly, and seek medical attention.

What's Included



VHF250 Radio

RSC250
7830441



Charging Cradle

AC250
7830474



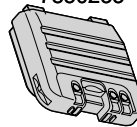
AC Adapter

DC250
7830417



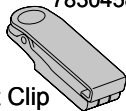
DC Adapter

BP250Li
7850233



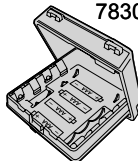
Lithium Ion
Battery Pack

CLIP250
7830458



Belt Clip

BT250
7830466



Alkaline Battery Case
(batteries not included)



Mounting
Hardware

Accessory ID numbers such as **CLIP250** 7830458 are provided to help you order replacements should that be necessary.



Wrist Strap



Owner's
Manual

If any of these items are missing from the box, contact West Marine or call 1-800-BOATING.

Introduction

Your West Marine VHF250 represents the latest in marine radio technology in a conveniently sized and rugged package. It has features you'll come to count on for day in and day out use. The product combines size, value, and fully featured performance that makes it a good choice for an all around marine communications radio.

Features

The VHF250 brings the following key features to make marine radio useful and easy:

Complete Marine VHF channels (USA-1A to 88A) for the U.S., Canada, and International waters — let you communicate with standard marine radio operators.

National Oceanic and Atmospheric Administration (NOAA) Weather channels — let you listen to the local weather conditions and be forewarned of dangerous conditions.

NOAA Weather Alert — provides a siren tone warning of a serious impending weather event and emergency weather warnings, broadcast by NOAA.

Emergency CH 16 (Coast Guard/Distress Hailing) and CH9 (Calling/Hail Secondary) operation

Family Radio Service Band (FRS) with CTCSS/DSC (Continuous Tone Coded Squelch System/Digital Squelch Control) Privacy encoding — Provides you with 2-way communication using 14 channels plus Privacy Codes to help interference from nearby FRS units.

Standard AM Broadcast Band (500-1800 KHz) — Lets you listen to news, music, sports, and other programming. enjoyment anywhere.

Standard FM Broadcast Band (87.5-108 MHz) — Lets you enjoy your favorite broadcast programming.

Aircraft Broadcast Reception (108-137MHz) — Lets you listen in on aircraft to ground transmissions.

Triple and DualWatch Operation — In TripleWatch operation, the radio monitors the working channel, then 2-seconds later, the Coast Guard/Distress/Hailing Channel 16 then in another 2-seconds, Channel 9, the backup channel. In DualWatch, the radio monitors the channel in use (marine or weather) then 2-seconds later, Channel 16.

Normal Scan — with two or more channels or frequencies stored in memory, the radio either checks those channels in rapid succession or lets you use the frequencies as Station Presets. This also applies to Dual or TripleWatch mode.

Transmitter Power Level Select — lets you select an output power settings of 1, 2.5, and 5 watts except for certain restricted channels.

Channel Select Keys — let you easily navigate up and down the channel list to the desired channel. They also let you quickly choose all desired Radio Menu options.

Submersible — The radio is JIS7 compliant. This means it remains watertight if submerged in 1 meter of water for 30 minutes.

Battery Power Level Display and Tone — clearly indicates five levels of battery power. Sounds an alert tone when battery power reaches a level before shutting down.

Battery Save — during specific transmit operations, the radio powers down to extend battery life.

VHF 250 Controls



- 1. Antenna** —Flexible for convenience. Heavy duty covering to ensure long-term endurance.
- 2. Watertight Ext. Speaker/Mic Jack** — Unscrew the cap and insert an approved mic/speaker for convenient operation.
- 3. Volume-Power ON/OFF Control** - Rotate to turn on power and set volume to a comfortable listening level.
- 4. Squelch Control** — Rotate clockwise to hear strong signals without noise or static and weak signals with a minimum level of noise..
- 5. Wrist Strap Anchor** — Thread and loop the supplied wrist strap to conveniently carry the radio.
- 6. WX/ALERT** — Press briefly to change the mode to Weather Channel reception. Press and hold to activate the Weather Alert feature.
- 7. SCAN/MEM** — Press to set Normal Channel Scan on or off. Press and hold to store or remove the current channel into and out of memory.
- 8. BAND/1/2.5/5W** — Press briefly to change bands. Press and hold to select the output power unless fixed by regulations.
- 9. 16/9/TRI** — Press briefly to switch to the Coast Guard/ Distress/Hailing Channel 16 or the secondary Calling Hailing Channel 9. Press and hold to enable TripleWatch or Dual Watch monitoring.
- 10. MENU** — Press to display the user-settable menu options.
- 11. ENTER** — Press to select or store a chosen menu option.
- 12. ▲ and ▼** — Press to select channels above or below your currently selected channel. Press and hold to change channels rapidly. Press to scroll through a band's menu selections.
- 13. Belt Clip**—Squeeze and attach to your belt for convenient carrying.

14. PTT — Press to transmit.

15. Key Lock ON/OFF — lets you lock the keypad to prevent accidental changes while powered on. The feature becomes unlocked when powered off and on again. You can also quickly disable the feature by pressing and holding down this key.

16. Backlight — Press briefly to activate the Backlight.

17. Battery Connection Area and Battery Recharging Contacts— Install the supplied Lithium Ion Rechargeable Battery being sure to position the pack as shown in the section **Batteries**. To recharge the installed Lithium Ion battery, place the VHF250 into the Charger Cradle. The contacts at the bottom edge of the radio receive the required voltage and current from the cradle to completely recharge the battery in about 4 hours.

18. Battery Latch — Lift the latch to remove and replace the Lithium-Ion battery or to install the Alkaline Battery case.

19. MIC — Speak clearly into the microphone aperture when transmitting for best results. Position the microphone at least 4 inches from your mouth.

Radio Charger Cradle



20. Front Charging Indicator — Lights during battery charging and goes off when the battery is fully charged. If a fully charged battery is placed in the cradle, the LED does not light and no charging takes place. While you can monitor incoming calls while the radio is in the charger, **do not attempt to transmit while it is in the cradle.**

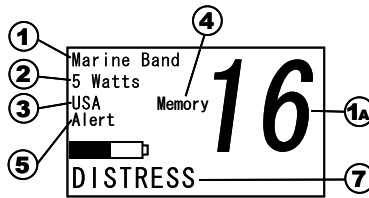
21. DC Input Jack — Connect the AC adapter then plug the adapter into a standard 120/240V AC outlet. The DC adapter connects to a vessel's 12V socket and this jack.

22. Charging Latch — Holds the radio in place when you insert it into the cradle.

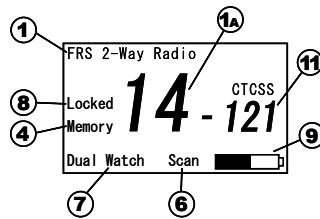
LCD Displays

The LCD screen for each band displays the information specific for that band. Some indications are common to all six bands. Some screens are condition specific such as a Low Battery situation.

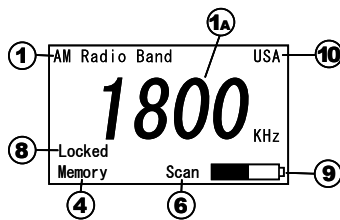
VHF Marine Band



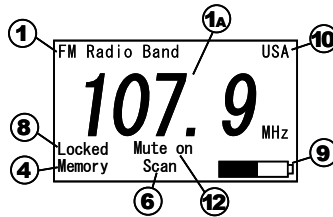
Family Radio Service (FRS) Band



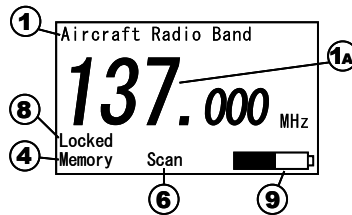
AM Band



FM Band



Aircraft Band



Indicator Meanings

Band Indication ① — shows which of the 6 bands is currently selected (VHF, Weather (WX), FRS, FM, AM, and Aircraft)

CHANNEL or Frequency ①A — shows the currently selected channel number: 1A to 88A, (1 to 88 in Canada) or for AM, FM, and Air, the frequency selected.

1 Watt or 2.5 Watts or 5 Watts ② — indicates present transmit power. Not displayed when receiving weather frequencies. Not displayed for those channels on which transmitting is prohibited. The initial setting is 5W.

USA or INT or CAN (UIC) ③ — indicates the frequency band in use for marine operation.

Memory ④ — displayed when the radio displays a channel stored in memory.

Alert ⑤ — displays when weather alert is enabled.

Scan ⑥ — displays when you enable scanning.

TRIWATCH or **DUALWATCH** ⑦ — displayed in the VHF *Message Line* when either mode is active. Displayed independently in the FRS band.

Locked ⑧ — displayed when the keypad is locked.

Battery Level Icon ⑨ — displays one of five different indicators to show the battery power level.

Frequency Step Indication (USA/Europe) ⑩ — shows the selection of the value of the frequency step between channels in AM or FM mode.

Message Line ⑦ — depending on the current band or the selected radio mode, this line can show you the Channel Name (for the marine band), the MENU options (Setup Options), or other data specific to the chosen band.

CTCSS Option ⑪ — Displays *OFF* when not enabled. Displays a code number when enabled for the associated channel.

Muting On ⑫ — appears when you select Muting from the FM Band option menu. Disappears when you disengage muting from the menu.

Owner's Manual Conventions

To indicate a key, button, knob or other physical control, we print the label in **BOLD UPPER CASE**. To indicate an LCD (display) label, option, or selection, we use *UPPER* or *Lower Case* italic labels such as *MENU*, *5 Seconds*, *Channel 06*.

Occasionally we indicate an option as (default). This means that the option is set in the manner indicated at the factory and is the setting when you first apply power. If you choose not to alter it, the default is the setting used by the radio.

Indicator Sounds

The radio sounds several tones designed to convey important information. Become familiar with them to use the radio more effectively.

Power On — a rapidly rising tone sounds to confirm that power is applied.

Keypad Touch Single Tone — sounds to confirm you have pressed a single key

Keypad Touch Double Tone — sounds to confirm you pressed and held down a key for 2 seconds.

Error Tone — sounds to indicate an invalid key press or operation.

PTT Error Tone — sounds to indicate an invalid press of the PTT switch.

WX ALERT Tone — a rising and falling tone sounds when a weather alert is received and decoded.

SAME Tone — sounds a confirmation tone when entering a FIPS code.

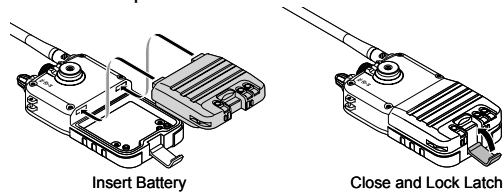
PTT Time Out Tone (PTT Error Tone) — sounds when your continuous transmitting time exceeds 5 minutes. Also sounds if you attempt to transmit with low power battery. If the battery icon continues to blink once you stop pressing the PTT key, you must recharge/replace the currently installed battery(s)

Batteries

Your West Marine VHF 250 comes equipped with a Lithium Ion battery which snaps into the back of the radio and secures with a latch. The battery has a minimal charge when shipped. Before use, place the radio in the Charging Cradle and charge the battery for four hours. Note that unlike some other types of rechargeable batteries, a Lithium Ion battery can be “topped-off” as needed with no degradation of performance.

Installing the Lithium Ion Battery Pack

1. To install the Lithium Ion Battery Pack, insert the upper contacts on the lower edge of the battery area on the radio back as shown in the first illustration.
2. Lower the pack until it is flat in the chamber
3. Bring the locking latch up and lock it into place to secure the pack.

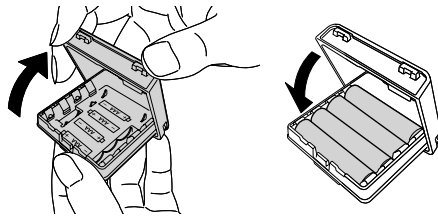


Using the Alkaline Battery Pack

The radio is supplied with a battery pack that can hold four AAA type alkaline batteries (not supplied). For longest useful life we suggest using an extra strength battery such as Duracell Ultra[®] batteries.

Note: When powering the radio by alkaline batteries, transmit power is limited to a maximum of 2.5 watts.

To install the four AAA batteries in the alkaline battery pack, refer to the following steps and illustrations.



1. Hold the lower part of the pack and with the other

hand, lift the cover to reveal the contacts in the chamber. Note the polarity markings.

2. Position the alkaline batteries according to the ⊕ and ⊖ terminals and snap each into place.
3. Close the cover as shown.

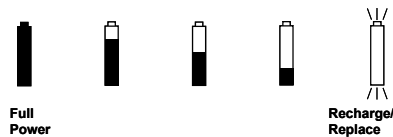
Using alkaline batteries let you continue to use the radio until you have an opportunity to fully recharge your primary Lithium Ion Battery pack. Be sure to dispose of the alkaline batteries properly according to their package information.

Warning - although the design of the case prevents accidental charging of installed alkaline batteries, for safety, never attempt to recharge alkaline batteries by defeating the case design or recharging outside of the case.

Battery Life and Indication

The operational power level of the Lithium-Ion battery pack or the alkaline battery pack is common to use by each band. It is important to recognize when the Lithium-Ion pack needs recharging or when you must replace all the alkaline batteries.

On each band LCD screen you see one of the following battery power level icons displayed.




If a level 0 condition occurs, the battery icon flashes, a 'battery low' tone sounds repeatedly each second, and *BATTERY LOW* appears on the message line.

To cancel this warning, press any key. The flashing icon continues until you turn off the radio. The message and tone, however, disappear.

Note: During the time you press **PTT** to transmit, you may notice the power level indicator drop to a lower level and then return to a higher level once you stop transmitting. This is normal and merely indicates that additional power is required to transmit compared to that used during reception.

Alkaline Batteries and Radio Performance

If you use alkaline batteries for emergency purposes, note that the transmitting power output may suffer as the alkaline batteries become weak and near the end of their useful life. In such cases, you might not be able to transmit with a full 2.5 watts of power. Replace the batteries with known fresh batteries to be sure, or switch to a fully charged Lithium Ion battery pack.

When the  appears (Low Battery), or you hear the Low Battery alert tone sound, be sure to replace all alkaline batteries in use. Doing so removes any chance of degraded radio performance and operation that can occur toward the end of the batteries' useful life.

Mounting the Charging Cradle

Your VHF250 Li-Ion battery may not be fully charged when you first turn on the radio. To facilitate convenient charging we suggest mounting the charger cradle to either a counter top or wall. Use the AC Adapter at home and the DC Adapter on your boat or car.

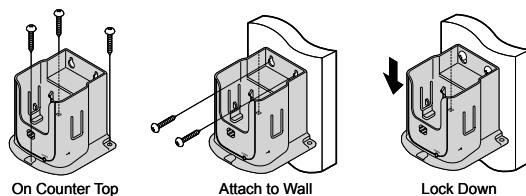
To Mount the Cradle on a Counter Top

Locate the three holes provided in the flange surrounding the cradle. Using the holes as a template, mark the surface. Center punch and drill three holes to accommodate the provided screws and washers.

Mounting on a Wall

Using the keyholes in the rear of the cradle as a template, confirm that the area on the wall has solid backing such as a wooden beam. Then drill holes and use the screws and

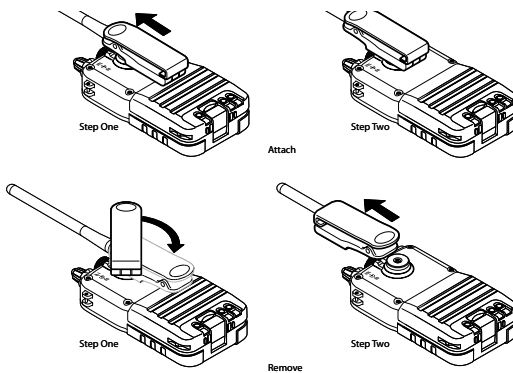
washers provided. Otherwise, select mounting hardware (not supplied) that is appropriate for the mounting material.



Attaching the Belt Clip

To conveniently carry the radio, attach the provided belt clip as follows.

- Align the clip mounting hole with the mounting post as shown. Place the clip on the post and slide it in the direction of the arrow until you hear a click.
- To remove the clip, rotate the clip so the indentation is toward the bottom of the radio. Move the clip in the direction of the arrow and lift it off the post.

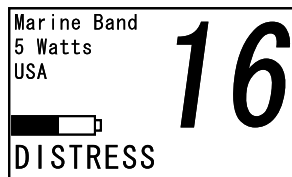


Basic Operation, Controls, and Setup Options

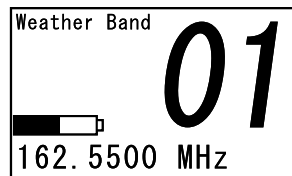
Each band has settings that are specific to that band and certain controls as well. To start using your VHF250, find the desired band and follow the steps in the section.

Operation - Marine and Weather Bands

1. Rotate **VOLUME** until the display lights and the Power On tone sounds. The West Marine animated 'splash' screen displays followed by the model number.



2. Set the volume to a comfortable listening level. The display shows Channel 16 (default) in the US marine band, a 5-watt level and *DISTRESS* appears on the message line space at the bottom edge of the screen.
3. Press **▲** or **▼** to change channels. The marine channels begin at 01 and continue, in a closed loop, through 88A. Using either key you can manually select a channel to use. To cycle rapidly through the channels, press and hold either **▲** or **▼** for about one-half second.
4. Press **WX** to switch to the weather channels. Ten channels are designated as weather channels. All carry the same information. One will provide the best reception for your particular area.
5. Use **▲** or **▼** to cycle through the ten channels



until you locate the one with the best reception.

6. Press **WX** to return to marine Channels 1 to 88A.

Selecting a Channel

1. To receive marine transmissions and transmit signals, select a working channel. When you first apply power, the screen displays the default band (Marine USA), the default power setting (5 Watts), and the battery power level icon.
2. To change the channel, press **▲** or **▼**. The default channel names appear next to the channel numbers along the left border of the screen. To change (personalize) the channel names, see Page 40.

Setting the Transmitting Power Level

You can select the transmitting power for all channels except those designated as Receive Only or Low Power Channels (see the Status column of the Frequency Charts for more details).

Repeatedly press and hold **BAND/1/2.5/5W** for about 3 seconds. Each time you press the key, the power output level changes and the corresponding icon appears on the display. A rapid double beep sounds to confirm the change.

Note: for those channels designated as 1W maximum, even though you have set the power level to either 2.5 or 5W, 1W is displayed and used. Channels 13, 17, 67, and 77 in the US are an exception. Normally these channels are also designated for normal operation as 1W channels. However, in emergency, if you press and hold the **PTT** switch and at the same time you momentarily press **1/2.5/5W**, the power level changes from 1 to 5W with the Li-Ion battery or 1 to 2.5W with alkaline batteries installed.

You cannot override the 1W power level setting for Channels 75 and 76.

Transmitting

To transmit, follow the steps below.

1. Press ▲ or ▼ to select a channel. The selected channel number appears on the display along with the country label, and the selected power setting.
2. Press the **PTT** switch. *TRANSMITTING* appears at the bottom of the screen and remains displayed as long as you hold down the **PTT** switch.

Notes:

- You cannot transmit on the weather frequencies. They are designated 'receive' only. An error tones sounds when you press **PTT** and a weather channel is selected. The displayed weather channel number flashes, and *RELEASE PTT KEY* is displayed to remind you that you cannot transmit on the selected channel.
- You cannot transmit on Channel 70, and 15 in the USA. They are reserved for digital data. If you attempt to transmit, *RELEASE PTT KEY* appears in the LCD message line.
- Do not hold down **PTT** while turning on the radio. An error tone sounds and the same message appears.
- Pressing **PTT** halts Scanning. For Scanning and the settings for Dual and TripleWatch, see Page 51. If the channel has no carrier, the first press of **PTT** takes the radio out of scan mode. Press **PTT** to activate transmitting. Continuous transmitting is limited to 5 minutes by regulations. After this time, an error tone sounds and *RELEASE PTT KEY* displays. After you release **PTT**, pressing **PTT** again restarts the 5-minute time interval.

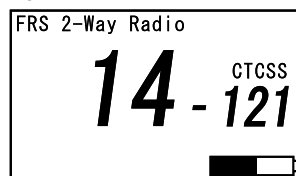
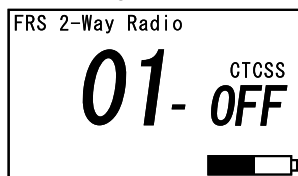
Operation - Family Radio Service Band

Fourteen FRS channels are available for transmitting and

receiving use. The transmission/reception range depends on local terrain, the presence of steel and similar structures as well as other variables.

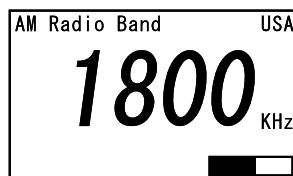
1. Use either ▲ or ▼ to reach one of the 14 available channels.
2. Press **PTT** while holding the radio a few inches from your mouth. Release **PTT** to hear the reply.

Note: if you encounter communication interference from other FRS users in your area, enable the CTCSS encoding. See Setting CTCSS Codes on Page 41.



Operation - AM Band

The AM Band lets you listen to standard AM broadcasts between 500 and 1800 KHz depending on the chosen frequency step option. To select that option, and others, refer to Accessing the Menus on Page 35.



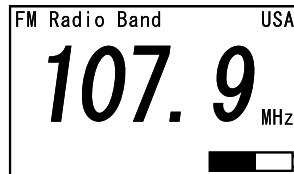
1. Press ▲ or ▼ to step to the desired AM station.
2. Press and hold ▲ or ▼. The stations are selected rapidly and the radio stops on the next strong station.

Note: AM broadcasts are subject to interference from many outside sources, as well as weather disturbances. The signal strength and atmospheric conditions can also play a part in reception.

Operation - FM Band

1. Momentarily press **BAND/1/2.5/5W** to switch to the FM band.
2. Press either ▲ or ▼ to select a local FM station.

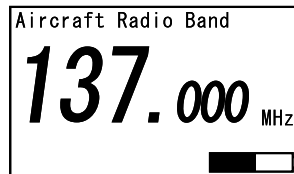
The default (USA) step option is 200MHz per press of either the ▲ or ▼ key. To change to 100MHz steps, see Page 43. If selected, *Europe* replaces *USA* in the upper right corner of the LCD.



Note: Typical FM broadcasts rarely reach more than 30 miles from the transmitter and terrain may also be a factor.

Operation - Aircraft Band

1. Momentarily press **BAND/1/2.5/5W** to change to the aircraft band.
2. Press either ▲ or ▼ to select a channel. Hold down either key to change frequencies rapidly.



- The default aircraft step option is 25KHz steps per press of either the ▲ or ▼ key.
- After holding ▲ for more than a second, if you release it, the radio will scan all frequencies until it finds a signal, and will stay on that frequency.
- Memory channels can be added and deleted as in VHF mode. Press **SCAN/MEM** to scan those channels in memory until a channel with signal is reached.

Using the Radio Menu Options

The VHF250 lets you select options that personalize your use of the radio and makes using it more convenient. Each band has menu options specific to that band.

To access the menu options for any band, press **MENU**. The options for each band are:

Marine Band

```
MARINE MENU
^ USA/CAN/INT ▶
Lamp Adjust ▶
v Contrast ▶
Dual/TriWatch▶
Key Beep ▶
FIPS Codes ▶
Channel Name ▶
Exit
```

FRS Band

```
FRS MENU
^ CTCSS ▶
Lamp Adjust ▶
v Contrast ▶
Dual TriWatch▶
Key Beep ▶
Exit
```

AM Band

```
AM MENU
^ Lamp Adjust ▶
Contrast ▶
v Tuning Steps ▶
Key Beep ▶
Exit
```

FM Band

```
FM MENU
^ Lamp Adjust ▶
Contrast ▶
v FM Muting ▶
Tuning Steps ▶
Key Beep ▶
Exit
```

Aircraft Band

```
AIRCRAFT MENU
^ Lamp Adjust ▶
Contrast ▶
v Key Beep ▶
Exit
```

Accessing the Menus

To access the menu selections for each band, change to that band and press **MENU**. To exit a menu for any band, press **MENU** again or use **▲** or **▼** to scroll to *EXIT* on that menu. Then press **ENTER** to return to the previous screen.

Note: if during any of the following operations you fail to press a key or make a selection in more than 30 seconds, the radio returns to standard marine mode. Each band has several menu options in common while other choices are specific to that band. The option order for each band is:

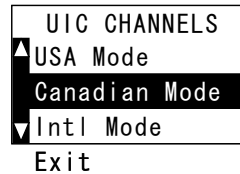
Marine VHF/WX	FRS	AM	FM	Aircraft
USA/CAN/INT	CTCSS		Lamp Adjust	Lamp Adjust
Lamp Adjust	Lamp Adjust	Lamp Adjust	Contrast	Contrast
Contrast	Contrast	Contrast	FM Muting	
Dual or Tri Watch	Dual or Tri Watch	Tuning Steps	Tuning Steps	
Key Beep	Key Beep	Key Beep	Key Beep	Key Beep
FIPS Codes	Exit	Exit	Exit	Exit
Channel Name				
Exit				

USA/CAN/INT (U.I.C.)

[Marine Band Only]

The radio is set as a factory default to the USA channel frequencies. To change to either Canadian [CAN] or International [INT] channels follow these steps.

1. Press either **▲** or **▼** until you

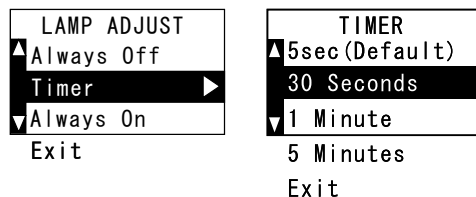


- highlight *USA/CAN/INT*.
2. Press **ENTER**.
 3. Press either **▲** or **▼** until the country mode is highlighted. Press **ENTER** to select it.
 4. Scroll to *EXIT* to exit the menu then press **ENTER** to return to radio operation.

Note: the radio remembers the last selection setting you make when powered down.

Lamp (Backlight) Adjust

[For All Bands]



The backlight that provides convenient illumination of the keys and the LCD has three settings.

1. Press **▲** or **▼** to scroll to *LAMP ADJUST*.
2. Press **ENTER**. *LAMP ADJUST* appears at the top of the screen. Highlight either *Always Off*, *Always On*, or *Timer*.
3. Press **ENTER** to select your choice.
4. To set the on-time duration of the backlight, select *Timer* then highlight either *5 seconds* (default), *30 seconds*, *1 minute*, or *5 minutes* then press **ENTER**. A double beep sounds to confirm your selection.
5. Scroll to *EXIT* and press **ENTER** to return to the menu screen.

Adjusting Display Contrast

[For All Bands]

You can adjust the contrast setting of the LCD to accommodate various viewing conditions.

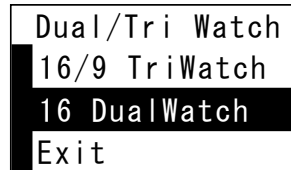


1. Press ▲ or ▼ from the band's menu screen to highlight *Contrast Adjust*. Press **ENTER**.
2. Press ▲ or ▼ to increase or decrease the level which is indicated by the number displayed (01 to 10) and the thermometer bar. You see the screen contrast change as you change the setting from 01 to 10.
3. Press **ENTER** to save your selection. The display returns to the band's menu screen.

Setting Dual or TripleWatch (Tri Watch)

[For Marine and FRS Band Only]

There are two specialty channels: 16, and 9. Channel 16 is the primary distress/Coast Guard/Hailing channel while Channel 9 is typically the backup hailing/calling channel for areas where there is higher level of marine traffic. Depending on your location, you can choose to monitor both distress Channel 16, the extra hailing Channel 9 as well as the radio channel you are otherwise using (TripleWatch), or you can choose to only monitor Channel 16 and your regular channel (DualWatch) which lets the radio check each channel more frequently.



1. From the marine band's menu screen, use ▲ or ▼ to

scroll to the *Dual/TriWatch* option. Press **ENTER**.

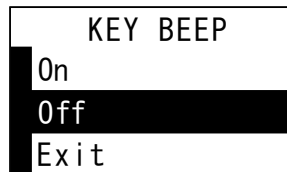
2. Press either **▲** or **▼** to reach either *16/9 TriWatch* (default) or *16 DualWatch*. Press **ENTER** to select it. A double beep sounds and the radio returns to the root menu option screen.
3. Press **MENU** again to return to the marine mode.

Setting the Key Beep

[For All Bands]

Your VHF250 confirms a key press by sounding a short single or double beep (default). You can disable this sound.

1. From the band's menu screen, press **▲** or **▼** to highlight the *KEY BEEP* option. Press **ENTER** to select it.
2. Press **▲** or **▼** to select *On* or *Off* or *Exit*. Press **ENTER** to save your selection. The display returns to the band's menu screen.



Adding FIPS Codes

[For Marine/Weather Band Only]

To effectively use the **Specific Area Message Encoding** feature (S.A.M.E.) entering the code specific to your geographic location is required.

These codes that provide your radio with certain geographic data, are known as FIPS or **Federal Information Processing Standards** codes (FIPS codes). They are a standardized set of numeric codes issued by the National Institute of Standards and Technology (NIST) to ensure uniform identification of geographic entities through all

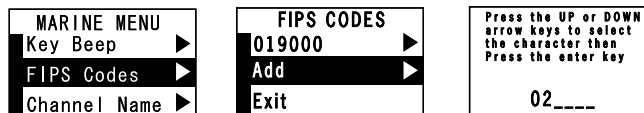
federal government agencies. The entities covered include: states and statistically equivalent entities, counties and statistically equivalent entities, named populated and related location entities (such as, places and county subdivisions), and American Indian and Alaska Native areas.

1. Press **MENU**. From the *MARINE MENU* screen, use **▲** or **▼** to select the FIPS option. The screen displays *FIPS Codes* and lets you select *Add* or *Exit*.

Note: You can find your area FIPS codes and other valuable data from <http://www.nws.noaa.gov/nwr/indexnw.htm>. or by telephone at 1-888-NWR-SAME [1-888-697-7263]

2. Once you locate the code for your county or area, use **▲** or **▼** until the correct number appears on the screen then press **ENTER** to select it. Repeat this for all six digits.
3. Enter all the codes you wish, then move to *EXIT* and **ENTER** to select it. The radio returns to the *MARINE MENU* screen.
4. Press **MENU** again to return to the marine mode.

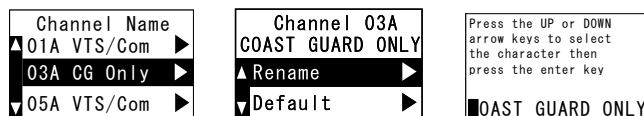
Note: You can add up to 20 FIPS codes to your radio.



Changing Channel Names

[For Marine Band Only]

Each channel has a default name which you can change. When a channel is allocated to a specific service, changing the name on your radio can help make identification faster and easier. Or you can change the name to a member of your boating family such as *MOMS CHANNEL*. You can use up to 16 characters.

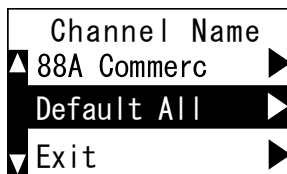


1. From the *MARINE MENU*, press ▲ or ▼ to highlight *Channel Name*.
2. Press **ENTER**. Use ▲ or ▼ to scroll to the desired channel you wish to rename. Press **ENTER**. Then choose *Rename*, *Default*, or *Exit*. and select it.
3. If you choose *Rename*, press either ▲ or ▼ until the first letter or number of the new name appears. Press **ENTER** to select it and move to the next character.
4. When the name is complete, repeatedly press **ENTER** until the cursor reaches the right end of the line. Then press **ENTER** again. A double beep sounds confirming the change and the display returns to the *Channel Name* menu. Use ▲ or ▼ to *Exit* and press **ENTER**.

Restoring Default Names

[For Marine Band Only]

1. If you want to restore all the factory default



names, use ▲ or ▼ to highlight *Default All* located between Channel 88A and *Exit*. Use ▲ or ▼ to highlight *Yes* then press **ENTER** to restore all the original names. A double beep sounds to confirm the action.

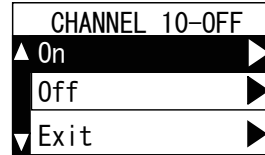
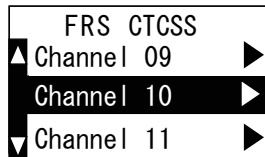
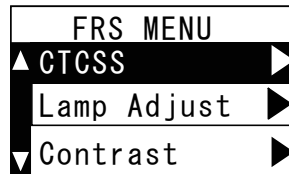
2. To restore only one name to default, highlight the channel by using ▲ or ▼ then press **ENTER**. Then use ▲ or ▼ to next highlight *Default*.

Setting CTCSS Codes

[FRS Band Only]

If you encounter interference from another FRS radio while using the FRS band, enabling one of the 142 CTCSS codes may prevent that interference.

1. With the FRS band operational, momentarily press **MENU**.
2. Use ▲ or ▼ to scroll to *CTCSS*.
3. Press **ENTER**. The currently used FRS channel is highlighted. To select a different channel, press either ▲ or ▼



4. Press **ENTER** to choose it. You can select *ON*, *OFF*, or *EXIT*, next.
5. Use ▲ or ▼ to choose *ON* (to associate a CTCSS

code), *OFF* (to remove a previously associated CTCSS code), or *EXIT* (to leave this option without taking any action).

Press the UP or DOWN
arrow keys to select
the character then
press the enter key

0_ _

6. To associate a code with the chosen channel, highlight *ON* then press **ENTER**. You next choose a code number between 001 and 142.
7. Use ▲ or ▼ to change the first blinking single digit on the screen to either 0 or 1. Press **ENTER** to move to the middle digit.
8. Use ▲ or ▼ to increment or decrement the middle digit. If the first digit is 0, then you can select a middle number between 0 and 9. If the first number is 1, then only select a middle number value between 0 and 4 to avoid an error when your entry is complete as the highest complete code is 142. Press **ENTER**. If you decide you must change the first digit, press **MENU** to return to the first digit.
9. Use ▲ or ▼ to change the third digit between 0 and 9. Press **ENTER** when done. The screen changes back to *EXIT* and displays the Channel at the top along with the chosen code number. When the screen reverts to the operational screen, the CTCSS *OFF* message has been replaced by the code number.

Note: CTCSS codes range between 1 and 142. If you set a code number outside this range (for example 190), when you press **ENTER** to set that number, an error tone sounds to tell

you to make a proper selection within the correct range.

Setting Frequency Steps

[AM, FM Only]

In the United States there are 10 KHz steps between AM stations. In other parts of the world such as Europe, the step frequency is 9 KHz.

There are 200 MHz steps between stations in the United States on the FM band while in Europe, the step is 100 MHz. You can select which step you use.

AM Band

1. From the *AM MENU*, scroll using ▲ or ▼ to highlight *Tuning Steps*. Press **ENTER**.
2. Use ▲ or ▼ to choose either *9 KHz* or *10 KHz Steps* or *Exit* to make no change.
3. Press **ENTER** to set your choice. The screen returns to the *AM MENU*. Either scroll to *Exit* or wait until the radio times out and returns to the previously selected AM station.

FM Band

1. From the *FM MENU*, scroll using ▲ or ▼ to highlight *Tuning Steps*. Press **ENTER**.
2. Use ▲ or ▼ to choose either *100 MHz* or *200 MHz Steps* or *Exit* to make no change.
3. Press **ENTER** to set your choice. The screen returns to the *FM MENU*. Either scroll to *Exit* or wait until the radio times out and returns to the previously selected FM station.

Note: during the time you are taking these steps, your radio continues to broadcast the station selected.

Setting FM Muting

[FM Band Only]

You can turn FM Muting ON to silence your radio as you tune frequencies where either no station exists or the station that is using that frequency is weak. Muting eliminates the noise unless the level of the signal is sufficient for comfortable listening.

1. Select the FM band. Press **MENU**.
2. Use **▲** or **▼** to *FM Muting*. Press **ENTER** to select it.
3. Use **▲** or **▼** to choose either *On* to enable muting, *Off* to disable a previously set muting on condition or *Exit* to take no action. Press **ENTER**.

With muting on, as you tune through the FM band, the usual noise from weak or unassigned frequencies in your area will be silenced.

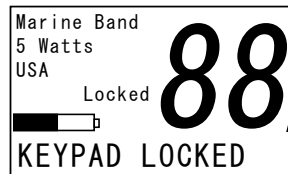
Other Options

Setting the Key Lock

[For All Bands]

To prevent keys from being accidentally operated, set the Key Lock. Hold down **LIGHT/LOCK** for 2 seconds. **KEYPAD LOCKED** appears on the VHF display bottom for 3 seconds then the message line displays what information had been shown before you pressed **LIGHT/LOCK**.

Locked remains next to the channel number or frequency to remind you that the locked option is enabled for all bands.



During Key Lock mode, you can adjust only the following controls:

- PTT switch
- Light/Lock key
- Volume
- Squelch
- 1/2.5/5W (Only while pressing and holding **PTT**.)

If any other control is used, an error tone sounds.

To disable the keypad lock, press and hold **LIGHT/LOCK** for about 2 seconds or turn power off then on. *KEYPAD UNLOCKED* appears briefly on the VHF display only. The *LOCKED* display disappears.

Note: if the radio receives either a weather alert or decodes a severe weather S.A.M.E. code transmission, the keypad automatically unlocks.

Manually Selecting Coast Guard/Distress/Hailing Channels

In addition to using Triple or DualWatch to monitor the Coast Guard/Distress/Hailing channels, you can manually select them at any time.

To select your Coast Guard/Distress/Hailing channel, repeatedly press **16/9/TRI**. At

the first press, the radio switches to Channel 16, the primary Coast Guard/Distress/Hailing channel. 16 appears on the screen. Press the key again to switch to Channel 9, the backup calling channel. 9 appears and *NON COMMERCIAL* appears at the bottom for USA channels. Press again to return to the standard marine channels.



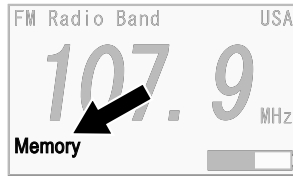
If you are listening to a weather (WX) channel and you press **16/9/TRI**, the radio drops out of weather mode and switches to Channel 16 and displays 16.

Storing a Channel or Frequency in Memory

[For All Bands]

Once you have stored channels in memory, you can set the radio to scan those channels for activity. You can also store and later use AM, FM, and Air frequencies as memorized Station Presets. To select and store a channel or frequency follow these steps.

1. Use ▲ or ▼ until you display a channel you want to store.
2. Press and hold **SCAN/MEM** to store the channel in memory. A double beep sounds to confirm your action. *MEMORY* appears near the channel or frequency displayed.



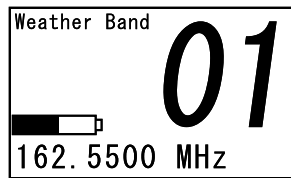
CHANNEL STORED appears at the bottom of the display for the VHF band only.

If you take no further action, the screen returns to the standard marine screen in 3-seconds.

3. To remove a channel from memory, with the stored channel displayed, press and hold **SCAN/MEM**. *MEMORY* disappears.

Selecting and Using the Weather Channel and Weather Alert (WX)

The radio receives ten National Oceanic and Atmospheric Administration weather channels. Although the radio receives all ten, one channel will be received best due to your geographic location.



1. Briefly press **WX/ALERT** to activate the weather band. The screen displays *Weather Band* at the upper left and the channel number. The frequency of that channel number appears at the bottom of the screen. You can find a complete listing of the weather channels in the Reference pages.
2. Use ▲ or ▼ to change between WX channels. Select the channel with the best reception.
Note: the radio's memory retains the channel that appears when you switch to WX mode in memory when you turn off the radio.
3. To switch to the *Alert* mode, press and hold down **WX/ALERT** for about 2 seconds. *WEATHER ALERT MODE ENABLED* scrolls along the bottom of the display.

If the radio receives a weather alert by means of either a S.A.M.E by decoding the entered FIPS code or if the radio is in the marine channel mode, detecting the 1050Hz tone, the radio sounds an alarm and displays an alert message at the bottom of the screen, such as *HURRICANE WARNING*.

Note: if the event code is longer than 16 characters, the display label scrolls across the display bottom then changes to the abbreviated format. Thus, *HURRICANE WARNING* (17 spaces) becomes *HURRICANE WARN...* and remains.

- To verify if the radio is in the ALERT mode, press and hold **WX/ALERT** for about 2 seconds. If ALERT is active, *WEATHER ALERT MODE ENABLE* scrolls along the screen bottom. This message appears for about 6 seconds then returns to the marine standard screen.

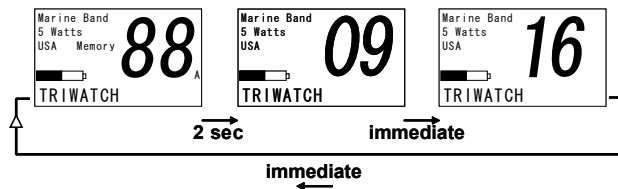
If the radio is set to alert mode and you press and hold **WX/ALERT** for about 2 seconds, the radio exits alert mode, and the screen scrolls *WEATHER ALERT MODE DISABLED*.

For greater details regarding SAME Event Codes, refer to the NOAA website mentioned on Page 39.

Using the TripleWatch or DualWatch Mode [For Marine. Weather Channel, and FRS Band]

If during setup of your VHF250, you selected Triple or DualWatch mode. The following shows you how to use this valuable feature.

- To activate TripleWatch, from the active marine or FRS radio screen, press and hold **16/9/TRI** for about 2 seconds.



The screen displays *TRIWATCH* in the message line area (marine) or adjacent to the channel number (FRS) and the radio begins to check two additional channels in rapid sequence every 2 seconds: the currently selected marine channel, the backup calling Channel 9, then the Coast Guard/Distress/Hailing Channel 16, before starting with the current channel again.

2. To exit either mode, press and hold **16/9/TRI** for about 2 seconds.

Notes:

- If you selected DualWatch during setup, when activated, every two seconds, the radio checks the current channel then it checks Channel 16 before returning to your selected channel. *DUALWATCH* appears on the display bottom during this cycle.
- If you enable TripleWatch or DualWatch from a Weather Channel, the same watch cycle occurs. When the radio checks the selected weather channel, the screen displays Weather Band in the upper left corner. When the radio checks Channel 9, Channel 16, or both, the screen briefly displays Marine Band at the upper left.
- If you momentarily press **SCAN/MEM**, the TripleWatch or DualWatch functions as described above. Channels stored in memory are also scanned. If you want to change the channels being scanned, momentarily press **SCAN/MEM** again, or press **WX** or **PTT**, to exit scanning (TripleWatch or DualWatch continues). Then use **▲** or **▼** to manually select another marine channel and press and hold **SCAN/MEM** to store it. Momentarily press **SCAN/MEM** to resume scanning.
- In scan mode, the radio pauses on an active channel and resumes scanning 2 seconds after the channel activity ceases.

Scanning - The Basics and Beyond

Marine VHF radios use scanning to let you monitor several channels at once. It's common to want to listen most of the time to a specific channel, yet also check for traffic on selected other channels. To accomplish this, your VHF250

has several scanning modes which can be used based on your needs.

DualWatch — allows you to monitor a primary channel, for example Channel 68, yet check for traffic on Channel 16 every two seconds.

TripleWatch — lets you monitor a primary channel, for example Channel 68, yet check for traffic on Channels 16 and 9 every two seconds.

Weather Alert (WX) — lets you monitor one or more channels, yet check for weather alerts on a selected weather channel every 7 seconds. First select the Weather Mode (**WX**) and choose the clearest weather channel using ▲ or ▼ before using Weather Alert.

Normal Scanning — lets you monitor two or more channels in rapid succession. When the radio detects traffic on any of the channels in memory, it pauses scanning until the traffic stops, then continues scanning after an additional two seconds.

DualWatch Scanning — lets you monitor two or more channels in succession, but also monitors Channel 16 every two seconds.

TripleWatch Scanning — as above, but also monitors Channel 9.

Notes:

- Most of these scanning modes require that two or more channels are first entered into memory. This is done by selecting the desired channel using ▲ or ▼, then pressing and holding **SCAN/MEM** for two seconds. *CHANNEL STORED* appears in the display. Press and hold **SCAN/MEM** a second time to remove the channel from memory.

These various scanning modes can be turned on and off using three keys — **16/9/TRI**, **WX/ALERT**, and **SCAN/MEM**. The scanning modes can be used in conjunction with one another, or used separately.

- Pressing and holding **16/9/TRI**, for example, starts and stops TripleWatch mode. *TRIWATCH* is shown in the display when it is selected. There are insufficient characters available on the LCD panel to display "TripleWatch."
- Pressing and holding **WX/ALERT** starts and stops Weather Alert mode.
- Pressing **SCAN/MEM** quickly starts and stops Normal Scan mode.

You can choose either Dual or TripleWatch (whether or not Channel 9 is scanned as well as Channel 16) by making a menu selection. Press **MENU**, then use **▲** or **▼** to reach *Dual/Tri Watch*. Next select *16/9 TriWatch* or *16 DualWatch*. Press **MENU** again to return to radio operation.

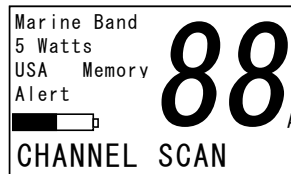
- **AM, FM, and AIR Bands:** You can store up to 25 frequencies in memory for the AM, FM, or Air band, press and hold **SCAN/MEM** for about 2 seconds until you hear a double beep confirmation. *Memory* appears on the display.
- If you want to remove a frequency already stored, with that frequency displayed, press and hold **SCAN/MEM** for another 2 seconds until you hear the double beep sound. *Memory* disappears.
- Once you have stored two or more frequencies in the AM, FM, or AIR band, you can move from station to station within that band [Station Preset] by pressing **SCAN/MEM** briefly then using **▲** to jump from station to station.

Normal Scanning

To activate Normal Scanning, momentarily press **SCAN/MEM**. The radio scans all the channels you stored in memory from lowest to highest. The VHF marine band display shows *CHANNEL SCAN* at the bottom. The FRS band displays *SCAN*.

TripleWatch and DualWatch Scanning [VHF - FRS]

For the marine, weather, and FRS bands only, to initialize the TripleWatch scanning mode, press and hold **16/9/TRI**. Now *TRIWATCH SCAN* appears on the LCD's message line area. The scan check sequence becomes — the working channel is checked then the radio checks Channel 9 and then Channel 16, in that order, every 2 seconds.

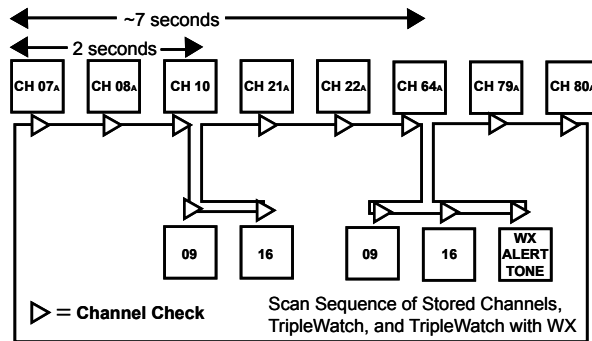


If you have set DualWatch as your default mode, by selecting that option from the menu, Channel 9 is not checked and *DUALWATCH SCAN* appears on the display.

To disable Triple or DualWatch and revert to Normal Scanning of stored channels, press and hold **16/9/TRI** for 2 seconds. Channel 16 and 9 are no longer checked. The radio continues to scan only channels stored in memory. *CHANNEL SCAN* appears on the bottom and each channel number is displayed in rapid sequence.

Both Watches and Weather Channel [VHF-FRS]

If both the Weather Alert and the TripleWatch features are enabled when you press **SCAN/MEM**, the radio starts checking the memory channels in ascending order. Then it checks Channel 9 and 16 every 2 seconds and finally, it checks the active weather channel approximately every 7 seconds, looking for the alert tone (1050Hz). The radio then repeats the cycle. If the radio detects a weather alert tone during the check cycle, it remains on the weather channel until you disable the weather mode.



Notes:

- If during scanning, the radio detects a signal, it stops scanning and remains on the detected channel for 2 seconds after the activity ends before resumption of scanning.
- During scanning, you can press **SCAN/MEM**, **16/9/TRI**, or **WX/ALERT** to halt scanning. Depending upon which key you used, the screen shows one of the scanned channels, your local weather channel, or the distress channel.
- All channels, except CH70, and the weather channels, can be stored in memory. When you turn off the radio, all

memory stored channels are retained so that upon turning the radio on again, they are immediately available.

Scanning (Memory Preset Station Tuning) in the AM, FM, and Aircraft Bands

As you can store up to 25 frequencies in each of the other bands, you can also move from one stored frequency (station) to the next in each band. You cannot set presets that cross from one band to another.

1. To tune to memorized Station Presets that you have **stored**, that are valid station frequencies, briefly press **SCAN/MEM**. *Memory* and *Scan* appear in the display. If you inadvertently store three FM frequencies for which there are no stations in your area, no presets will be available.
2. Repeatedly press ▲ to move from the first stored frequency to the second and so on.
3. If you press ▼, an error tone sounds. If you want to remove a frequency from memory, when you press ▲ and that frequency is displayed, press and hold **SCAN/MEM** until the double beep sounds. Memory disappears from the display and the frequency is removed from memory. It is no longer available for that session.

Note: if no frequencies have been stored and you press **SCAN/MEM**, an error tone sounds.

Examples of Mode Applications

While there are many scenarios for making a mode choice or setting the VHF250 in a certain manner that applies to your own special requirements, we hope the following three examples might help you get started.

1. You're a safety boat at the scene of a yacht race. You have to monitor the Intership safety channel, 06, yet you want to monitor Channel 16 for emergency traffic. Select DualWatch, with Channel 06 as the normal working channel.
2. You're fishing, and there are four channels being used by local anglers: Channels 68, 69, 71, and 09. Put all four channels into memory, and use Normal Scanning to listen to them in succession.
3. You're cruising with your family on Lake Erie, and you are concerned about a summer thunderstorm in your area. First select the weather channel with the best reception, then return to the marine band. Press and hold **WX/ALERT** so that your radio monitors the local weather channel for Weather Alert broadcasts.

Accessory Options — Using the External Speaker/Mic Jack

You can connect an optional external speaker-mic to this watertight jack. Unscrew the cap, which is held by the rubber cap-keeper to prevent loss. Insert the special gasketed plug and screw down the shell, which assures prevention of water entering the jack. Two available units are **HHSPM Speaker Mic** [West Marine SKU 7830425] and **VOX100 Headset Mic**. [West Marine SKU 7830409] For details, consult your West Marine dealer or call 1-800-BOATING.

Care and Maintenance

Your VHF250 is a precision electronic product and you should treat it accordingly. Due to the rugged design, very little maintenance is required. However a few precautions should be observed:

- If the antenna has been damaged, do not transmit except in an emergency situation. Transmitting with a defective antenna may cause further radio damage.
- You are responsible for continued FCC technical compliance of your radio.

Troubleshooting

In the event that the radio fails to perform or clearly needs servicing, please contact either 1-800 BOATING (1-800 262-8464) or your local West Marine store.

In case of the need to return it to our service center, be sure to include your return mailing information and detailed accounting of the problems experienced and/or the service requested. Please use the following shipping address:

West Marine Electronics Repair Center
2395 Bert Court
Hollister, CA 95023
Telephone (831) 761-4205

Refer to the following table to possibly assist you to remedy simple difficulties.

Troubleshooting

SYMPTOM	CAUSE	REMEDY
Won't power ON.	Low or Discharged battery pack.	Recharge Lithium Ion battery. Replace battery. Use alkaline batteries temporarily.
When the PTT is pressed - TX icon appears and another radio can hear a 'click' but no audio is heard.	Bad microphone element	Send in for repair.
When scanning, radio stops on a particular channel all the time.	A source of noise is nearby.	Turn Squelch clockwise to reduce noise so that scan function skips channel or remove channel from scan.
There is noise on the receiver that the squelch will not eliminate.	An external noise is being generated by some device.	Turn off the offending device or contact the device manufacturer regarding FCC Part 15 "unintentional radiator."
You made arrangements to communicate with another VHF radio on a specific channel, and you cannot hear them.	You and the other user are using different country modes (USA/CAN/INT)	Be sure both are using the same country mode. Some modes use the same numeric selections. Channel 16, the Distress, Safety, and Calling channel is the same on all three modes.
You cannot change the transmit power setting.	You selected a channel that is limited to a 1watt transmit power such as channel 13, or you selected a 'receive only' channel such as WX.	Change to an unrestricted Transmit/receive channel.
The SCAN/MEM key does not start scanning.	Cause 1: No channels have been stored in memory. Cause 2: Squelch is not adjusted correctly.	Remedy 1: Use the SCAN/MEM key to store several selected channel in memory. Remedy 2: Adjust the Squelch setting to a point just below that when the background noise disappears.
You can hear transmissions, but the other radio cannot hear you.	The transmit power is set to 1W watt.	Use BAND/1/2.5/5W to change to a higher transmit power level.

Reference Section

Specifications

General	
Item	Description
Channels	All USA, Canadian, and International
Frequency Range/Step	Marine-Weather: 156.05 ~ 163.275MHz, 25kHz Step Family Radio Service: 462.5625 ~ 467.7125MHz, 12.5kHz Step AM Broadcast: 500.00 ~ 1800kHz, 10 or 9kHz Step FM Broadcast: 87.5 ~ 108.0MHz, 100 or 200MHz Step Aircraft: 108.00 ~ 137.00MHz, 25kHz Step
Antenna	Fixed Mount type
Connectors	External MIC/SPEAKER, 2.5mm Diam. 3-contact Stereo type
Controls and Switches	Volume, Squelch with Power On/Off, Up, Down Keys, Ch16/TRI, Menu, Enter, WX Alert, Scan/Mem, Band/1, 2.5/5W, Push to Talk, Light/Lock
Display	LCD 128 x 64 Full Dot Matrix
Backlight	LCD Front Key -yellow-green color
Cabinet Size	4.21H x 2.55W x 1.38D inches (107 x 65 x 35mm)
Weight	8.8 oz (250 g.)
Speaker	Built-in 32mm diam. Dynamic type (8Ω, 0.7W)
Microphone	Built-in Electret type
Supplied Accessories	Li-Ion Battery Pack (7.4VDC, 1400mA/hr min) AC Adapter, Drop-In Charger, CLA DC Cord, Alkaline Battery Tray (4xAAA), Belt Clip, Hand Strap
Operating Temperature	-30° C to 50° C, (Battery charge: 0° C to 45° C.)
Storage Temperature	-30° C to 60° C
AC Adapter Regulation	Input: 100VAC ~ 240VAC, 50/60Hz Output: 12VDC, 1A FCC, IC
Battery Life (Li-Ion)	10 Hours, Min.
Waterproof Grade	Compliant to JIS7/IPX7 Immersion Protection Standards. Submersible in one meter of water for 30 minutes without damage.

Transmitter			
Items		Unit	Nominal
Frequency Tolerance @ 25° C to 50° C		PPM	±0.5
Frequency Stability -20° C to 50° C		PPM	
Carrier Power	(MRN, 5W)	W	5
	(MRN 2.5W)	W	2.5
	(MRN 1W)	W	1
	(FRS/MRN 0.5W)	W	0.5
Spurious Emission	(MRN 5W)	dBc	53
	(MRN 2.5W/1W)	dBc	58
Modulation Frequency Response	500Hz	dB	-6
	2000Hz	dB	+6
Microphone Sensitivity	(MRN for ± 3kHz Deviation)	mV	6
	(FRS for ± 1.5kHz Deviation)	mV	6
Maximum Deviation@100mV Input	(MRN)	±kHz	4.5
	(FRS with Subaudio)	±kHz	2.3
Modulation Distortion 750 μS De-emphas 0.3 to 3kHz BPF		%	0.6
Hum and Noise 750 μS De-emphas 0.3 to 3kHz PF	(MRN)	dB	38
	(FRS)	dB	35
Current Drain @ High Power 5W	(MRN)	mA	1500
	(FRS)	mA	650

Specifications (cont.)

Receiver

Items		Unit	Nominal	Limit
Sensitivity for 12dB SINAD	(MRN)	μV	0.3	0.4 max.
	(FRS)	μV	0.35	0.5 max.
	(FM Broadcast)	μV	1.0	3.0 max.
	(Air)	μV	1.0	30 max.
	(AM Broadcast)	μV	1.0	2.0 max.
Squelch Sensitivity	Threshold	μV	0.1	0.25 max.
	Tight	μV	0.7	2.0 max.
CTCSS/DCS Opening SINAD	(FRS)	dB	8	12 max.
Audio Freq. Response 1kHz Ref.		dB	6	3 to 7
(MRN) @ 500Hz				
(MRN) @ 2000Hz		dB	-6	-9 to -5
(FRS) @ 500Hz		dB	6	3 to 7
(FRS) @ 2000Hz		dB	-6	-9 to -5
Adjacent Channel Selectivity	(MRN ±25kHz)	dB	72	60 min.
	(FRS ±12.5kHz)	dB	40	30 min.
IM Rejection(MRN)		dB	63	55 min.
Image and Spurious Rejection	(MRN)	dB	75	50 min.
Conducted Spurious Emission at the antenna terminal		dBm	-65	-57 max.
Hum and Noise Ratio	(MRN)	dB	50	35 min.
	(FRS)	dB	37	32 min.
	(AM Broadcast)	dB	42	32 min.
	(FM Broadcast)	dB	53	32 min.
	(Air)	dB	42	32 min.
THD @ Standard Output Power (MRN)		%	1.2	10 max.
Audio Output Power @ 10% THD (MRN)		W	0.45	0.3 min.
Oscillator Dropout Voltage (MRN)		V	2.9	3.8 max.
Current Drain @ No Signal (MRN)		mA	72	85 max.
Current Drain @ Maximum Output (MRN)		mA	220	250 max.

USA Channel Frequencies

Ch No.	RX Freq TX Freq	Status	Full Name	16 Char Name
1A	156.0500 156.0500	Simplex	VESSEL TRAFFIC SYSTEM/COMMERCIAL	VTS/COMMERCIAL
3 A	156.1500 156.1500	Simplex	COAST GUARD,GOVT ONLY	COAST GUARD ONLY
5 A	156.2500 156.2500	Simplex	VESSEL TRAFFIC SYSTEM/COMMERCIAL	VTS/COMMERCIAL
6	156.3000 156.3000	Simplex	INTER-SHIP SAFETY	SAFETY
7 A	156.3500 156.3500	Simplex	COMMERCIAL	COMMERCIAL
8	156.4000 156.4000	Simplex	COMMERCIAL	COMMERCIAL
9	156.4500 156.4500	Simplex	NON COMMERCIAL	NON COMMERCIAL
10	156.5000 156.5000	Simplex	COMMERCIAL	COMMERCIAL
11	156.5500 156.5500	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
12	156.6000 156.6000	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
13	156.6500 156.6500	Simplex, 1W	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
14	156.7000 156.7000	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
15	156.7500 <i>1mhzbit</i>	Receive Only	ENVIRONMENTAL	ENVIRONMENTAL
16	156.8000 156.8000	Simplex	DISTRESS, SAFETY, CALLING	DISTRESS
17	156.8500 156.8500	Simplex, 1W	GOVT MARITIME CONTROL	GOVERNMENT
18 A	156.9000 156.9000	Simplex	COMMERCIAL	COMMERCIAL
19 A	156.9500 156.9500	Simplex	COMMERCIAL	COMMERCIAL
20	161.6000 157.0000	Duplex	PORT OPERATION	PORT OPERATION
20 A	157.0000 157.0000	Simplex	PORT OPERATION	PORT OPERATION
21 A	157.0500 157.0500	Simplex	COAST GUARD ONLY	COAST GUARD ONLY
22 A	157.1000 157.1000	Simplex	COAST GUARD	COAST GUARD
23 A	157.1500 157.1500	Simplex	COAST GUARD ONLY	COAST GUARD ONLY
24	161.8000 157.2000	Duplex	MARINE OPERATOR	MARINE OPERATOR
25	161.8500 157.2500	Duplex	MARINE OPERATOR	MARINE OPERATOR
26	161.9000 157.3000	Duplex	MARINE OPERATOR	MARINE OPERATOR
27	161.9500 157.3500	Duplex	MARINE OPERATOR	MARINE OPERATOR
28	162.0000 157.4000	Duplex	MARINE OPERATOR	MARINE OPERATOR
61 A	156.0750 156.0750	Simplex	COAST GUARD	COAST GUARD
63 A	156.1750 156.1750	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
64 A	156.2250 156.2250	Simplex	COMMERCIAL	COMMERCIAL
65 A	156.2750 156.2750	Simplex	PORT OPERATION	PORT OPERATION
66 A	156.3250 156.3250	Simplex	PORT OPERATION	PORT OPERATION

USA Channel Frequencies

28	162.0000 157.4000	Duplex	MARINE OPERATOR	MARINE OPERATOR
61 A	156.0750 156.0750	Simplex	COAST GUARD	COAST GUARD
63 A	156.1750 156.1750	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
64 A	156.2250 156.2250	Simplex	COMMERCIAL	COMMERCIAL
65 A	156.2750 156.2750	Simplex	PORT OPERATION	PORT OPERATION
66 A	156.3250 156.3250	Simplex	PORT OPERATION	PORT OPERATION
67	156.3750 156.3750	Simplex, 1W	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
68	156.4250 156.4250	Simplex	NON COMMERCIAL	NON COMMERCIAL
69	156.4750 156.4750	Simplex	NON COMMERCIAL	NON COMMERCIAL
70	156.5250 <i>Inhibit</i>	Receive Only	DIGITAL SELECTIVE CALLING	DSC RECEIVE ONLY
71	156.5750 156.5750	Simplex	NON COMMERCIAL	NON COMMERCIAL
72	156.6250 156.6250	Simplex	NON COMMERCIAL (SHIP-SHIP)	NON COMMERCIAL
73	156.6750 156.6750	Simplex	PORT OPERATION	PORT OPERATION
74	156.7250 156.7250	Simplex	PORT OPERATION	PORT OPERATION
75	156.7750 156.7750	Simplex, 1W	PORT OPERATION	PORT OPERATION
76	156.8250 156.8250	Simplex, 1W	PORT OPERATION	PORT OPERATION
77	156.8750 156.8750	Simplex, 1W	PORT OPERATION (SHIP-SHIP)	PORT OPERATION
78 A	156.9250 156.9250	Simplex	NON COMMERCIAL	NON COMMERCIAL
79 A	156.9750 156.9750	Simplex	COMMERCIAL	COMMERCIAL
80 A	157.0250 157.0250	Simplex	COMMERCIAL	COMMERCIAL
81 A	157.0750 157.0750	Simplex	COAST GUARD	COAST GUARD
82 A	157.1250 157.1250	Simplex	COAST GUARD	COAST GUARD
83 A	157.1750 157.1750	Simplex	GOVERNMENT	GOVERNMENT
84	161.8250 157.2250	Duplex	MARINE OPERATOR	MARINE OPERATOR
85	161.8750 157.2750	Duplex	MARINE OPERATOR	MARINE OPERATOR
86	161.9250 157.3250	Duplex	MARINE OPERATOR	MARINE OPERATOR
87	161.9750 157.3750	Duplex	MARINE OPERATOR	MARINE OPERATOR
88	162.0250 157.4250	Duplex	MARINE OPERATOR	MARINE OPERATOR
88 A	157.4250 157.4250	Simplex	COMMERCIAL (SHIP-SHIP)	COMMERCIAL

Canadian Channel Frequencies

Ch No.	RX Freq TX Freq	Status	Full Name	16 Char Name
1	160.6500 156.0500	Duplex	MARINE OPERATOR	MARINE OPERATOR
2	160.7000 156.1000	Duplex	MARINE OPERATOR	MARINE OPERATOR
3	160.7500 156.1500	Duplex	MARINE OPERATOR	MARINE OPERATOR
4 A	156.2000 156.2000	Simplex	CANADIAN COAST GUARD	COAST GUARD
5 A	156.2500 156.2500	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
6	156.3000 156.3000	Simplex	INTER-SHIP SAFETY	SAFETY
7 A	156.3500 156.3500	Simplex	COMMERCIAL	COMMERCIAL
8	156.4000 156.4000	Simplex	COMMERCIAL	COMMERCIAL
9	156.4500 156.4500	Simplex	BOATER CALLING CHANNEL	CALLING
10	156.5000 156.5000	Simplex	COMMERCIAL	COMMERCIAL
11	156.5500 156.5500	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
12	156.6000 156.6000	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
13	156.6500 156.6500	Simplex, 1W	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
14	156.7000 156.7000	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
15	156.7500 156.7500	Simplex	ENVIRONMENTAL	ENVIRONMENTAL
16	156.8000 156.8000	Simplex	DISTRESS, SAFETY, CALLING	DISTRESS
17	156.8500 156.8500	Simplex, 1W	STATE CONTROL	STATE CONTROL
18 A	156.9000 156.9000	Simplex	COMMERCIAL	COMMERCIAL
19 A	156.9500 156.9500	Simplex	CANADIAN COAST GUARD	COAST GUARD
20	161.6000 157.0000	Duplex, 1W	PORT OPERATION	PORT OPERATION
21 A	157.0500 157.0500	Simplex	CANADIAN COAST GUARD	COAST GUARD
22 A	157.1000 157.1000	Simplex	CANADIAN COAST GUARD	COAST GUARD
23	161.7500 157.1500	Duplex	CANADIAN COAST GUARD	COAST GUARD
24	161.8000 157.2000	Duplex	MARINE OPERATOR	MARINE OPERATOR
25	161.8500 157.2500	Duplex	MARINE OPERATOR	MARINE OPERATOR
26	161.9000 157.3000	Duplex	MARINE OPERATOR	MARINE OPERATOR
27	161.9500 157.3500	Duplex	MARINE OPERATOR	MARINE OPERATOR
28	162.0000 157.4000	Duplex	MARINE OPERATOR	MARINE OPERATOR
60	160.6250 156.0250	Duplex	MARINE OPERATOR	MARINE OPERATOR
61 A	156.0750 156.0750	Simplex	CANADIAN COAST GUARD	COAST GUARD
62 A	156.1250 156.1250	Simplex	CANADIAN COAST GUARD	COAST GUARD
64	160.8250 156.2250	Duplex	MARINE OPERATOR	MARINE OPERATOR

Canadian Channel Frequencies

Ch No.	RX Freq TX Freq	Status	Full Name	16 Char Name
64 A	156.2250 156.2250	Simplex	MARINE OPERATOR	MARINE OPERATOR
65 A	156.2750 156.2750	Simplex	SEARCH AND RESCUE	SEARCH & RESCUE
66 A	156.3250 156.3250	Simplex, 1W	PORT OPERATION	PORT OPERATION
67	156.3750 156.3750	Simplex	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
68	156.4250 156.4250	Simplex	NON COMMERCIAL	NON COMMERCIAL
69	156.4750 156.4750	Simplex	NON COMMERCIAL	NON COMMERCIAL
70	156.5250 <i>Inhiber</i>	Receive Only	DIGITAL SELECTIVE CALLING	DSC RECEIVE ONLY
71	156.5750 156.5750	Simplex	NON COMMERCIAL	NON COMMERCIAL
72	156.6250 156.6250	Simplex	NON COMMERCIAL	NON COMMERCIAL
73	156.6750 156.6750	Simplex	PORT OPERATION	PORT OPERATION
74	156.7250 156.7250	Simplex	PORT OPERATION	PORT OPERATION
75	156.7750 156.7750	Simplex, 1W	PORT OPERATION	PORT OPERATION
76	156.8250 156.8250	Simplex, 1W	PORT OPERATION	PORT OPERATION
77	156.8750 156.8750	Simplex, 1W	PORT OPERATION	PORT OPERATION
78 A	156.9250 156.9250	Simplex	INTER SHIP	INTER SHIP
79 A	156.9750 156.9750	Simplex	INTER SHIP	INTER SHIP
80 A	157.0250 157.0250	Simplex	INTER SHIP	INTER SHIP
81 A	157.0750 157.0750	Simplex	CANADIAN COAST GUARD	COAST GUARD
82 A	157.1250 157.1250	Simplex	CANADIAN COAST GUARD	COAST GUARD
83	161.7750 157.1750	Duplex	CANADIAN COST GUARD	COAST GUARD
83 A	157.1750 157.1750	Simplex	CANADIAN COAST GUARD	COAST GUARD
84	161.8250 157.2250	Duplex	MARINE OPERATOR	MARINE OPERATOR
85	161.8750 157.2750	Duplex	MARINE OPERATOR	MARINE OPERATOR
86	161.9250 157.3250	Duplex	MARINE OPERATOR	MARINE OPERATOR
87	161.9750 157.3750	Duplex	MARINE OPERATOR	MARINE OPERATOR
88	162.0250 157.4250	Duplex	MARINE OPERATOR	MARINE OPERATOR

International Channel Frequencies

Ch No.	RX Freq	TX Freq	Status	Full Name	16 Char Name
1	160.6500	156.0500	Duplex	MARINE OPERATOR	MARINE OPERATOR
2	160.7000	156.1000	Duplex	MARINE OPERATOR	MARINE OPERATOR
3	160.7500	156.1500	Duplex	MARINE OPERATOR	MARINE OPERATOR
4	160.8000	156.2000	Duplex	MARINE OPERATOR	MARINE OPERATOR
5	160.8500	156.2500	Duplex	MARINE OPERATOR	MARINE OPERATOR
6	156.3000	156.3000	Simplex	INTER-SHIP SAFETY	SAFETY
7	160.9500	156.3500	Duplex	MARINE OPERATOR	MARINE OPERATOR
8	156.4000	156.4000	Simplex	COMMERCIAL (SHIP-SHIP)	COMMERCIAL
9	156.4500	156.4500	Simplex	BOATER CALLING CHANNEL	CALLING
10	156.5000	156.5000	Simplex	COMMERCIAL	COMMERCIAL
11	156.5500	156.5500	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
12	156.6000	156.6000	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
13	156.6500	156.6500	Simplex	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
14	156.7000	156.7000	Simplex	VESSEL TRAFFIC SYSTEM	VESSEL TRAFFIC
15	156.7500	156.7500	Simplex, 1W	ENVIRONMENTAL	ENVIRONMENTAL
16	156.8000	156.8000	Simplex	DISTRESS, SAFETY, CALLING	DISTRESS
17	156.8500	156.8500	Simplex, 1W	GOVT MARINE CONTROL	GOVERNMENT
18	161.5000	156.9000	Duplex	PORT OPERATION	PORT OPERATION
19	161.5500	156.9500	Duplex	COMMERCIAL	COMMERCIAL
20	161.6000	157.0000	Duplex	PORT OPERATION	PORT OPERATION
21	161.6500	157.0500	Duplex	PORT OPERATION	PORT OPERATION
22	161.7000	157.1000	Duplex	PORT OPERATION	PORT OPERATION
23	161.7500	157.1500	Duplex	MARINE OPERATOR	MARINE OPERATOR
24	161.8000	157.2000	Duplex	MARINE OPERATOR	MARINE OPERATOR
25	161.8500	157.2500	Duplex	MARINE OPERATOR	MARINE OPERATOR
26	161.9000	157.3000	Duplex	MARINE OPERATOR	MARINE OPERATOR
27	161.9500	157.3500	Duplex	MARINE OPERATOR	MARINE OPERATOR
28	162.0000	157.4000	Duplex	MARINE OPERATOR	MARINE OPERATOR
60	160.6250	156.0250	Duplex	MARINE OPERATOR	MARINE OPERATOR
61	160.6750	156.0750	Duplex	MARINE OPERATOR	MARINE OPERATOR
62	160.7250	156.1250	Duplex	MARINE OPERATOR	MARINE OPERATOR
63	160.7750	156.1750	Duplex	MARINE OPERATOR	MARINE OPERATOR
64	160.8250	156.2250	Duplex	MARINE OPERATOR	MARINE OPERATOR

International Channel Frequencies

CH No.	RX Freq TX Freq	Status	Full Name	16 Char Name
65	160.8750 156.2750	Duplex	MARINE OPERATOR	MARINE OPERATOR
66	160.9250 156.3250	Duplex	MARINE OPERATOR	MARINE OPERATOR
67	156.3750 156.3750	Simplex	BRIDGE TO BRIDGE	BRIDGE TO BRIDGE
68	156.4250 156.4250	Simplex	NON COMMERCIAL	NON COMMERCIAL
69	156.4750 156.4750	Simplex	NON COMMERCIAL	NON COMMERCIAL
70	156.5250 <i>Inhibit</i>	Receive Only	DIGITAL SELECTIVE CALLING	DSC RECEIVE ONLY
71	156.5750 156.5750	Simplex	NON COMMERCIAL	NON COMMERCIAL
72	156.6250 156.6250	Simplex	NON COMMERCIAL	NON COMMERCIAL
73	156.6750 156.6750	Simplex	PORT OPERATION	PORT OPERATION
74	156.7250 156.7250	Simplex	PORT OPERATION	PORT OPERATION
75	156.775 156.775	Simplex 1W	PORT OPERATION	PORT OPERATION
76	156.825 156.825	Simplex 1W	PORT OPERATION	PORT OPERATION
77	156.8750 156.8750	Simplex	PORT OPERATION (SHIP-SHIP)	PORT OPERATION
78	161.5750 156.9250	Duplex	PORT OPERATION	PORT OPERATION
79	161.5750 156.9750	Duplex	PORT OPERATION	PORT OPERATION
80	161.6250 157.0250	Duplex	PORT OPERATION	PORT OPERATION
81	161.6750 157.0750	Duplex	PORT OPERATION	PORT OPERATION
82	161.7250 157.1250	Duplex	PORT OPERATION	PORT OPERATION
83	161.7750 157.1750	Duplex	PORT OPERATION	PORT OPERATION
84	161.8250 157.2250	Duplex	MARINE OPERATOR	MARINE OPERATOR
85	161.8750 157.2750	Duplex	MARINE OPERATOR	MARINE OPERATOR
86	161.9250 157.3250	Duplex	MARINE OPERATOR	MARINE OPERATOR
87	161.9750 157.3750	Duplex	MARINE OPERATOR	MARINE OPERATOR
88	162.0250 157.4250	Duplex	MARINE OPERATOR	MARINE OPERATOR

NOAA Channels and Frequencies

Channel	RX
WX01	162.5500
WX02	162.4000
WX03	162.4750
WX04	162.4250
WX05	162.4500
WX06	162.5000
WX07	162.5250
WX08	161.6500
WX09	161.7750
WX10	163.2750

FRS Channels and Frequencies

Channel	Frequency (MHz)
1	462.5625
2	462.5875
3	462.6125
4	462.6375
5	462.6625
6	462.6875
7	462.7125
8	467.5625
9	467.5875
10	467.6125
11	467.6375
12	467.6625
13	467.6875
14	467.7125

CTCSS Channels and Frequencies

Code	Frequency (Hz)	Code	Frequency (Hz)
1	67.0	21	136.5
2	71.9	22	141.3
3	74.4	23	146.2
4	77.0	24	151.4
5	79.7	25	156.7
6	82.5	26	162.2
7	85.4	27	167.9
8	88.5	28	173.8
9	91.5	29	179.9
10	94.8	30	186.2
11	97.4	31	192.8
12	100.0	32	203.5
13	103.5	33	210.7
14	107.2	34	218.1
15	110.9	35	225.7
16	114.8	36	233.6
17	118.8	37	241.8
18	123.0	38	250.3
19	127.3		
20	131.8		

DCS Codes

Tone Number	Octal Code	Tone Number	Octal Code	Tone Number	Octal Code
39	023	74	251	109	631
40	025	75	261	111	654
41	026	76	263	112	662
42	031	77	265	113	664
43	032	78	271	114	703
44	043	79	306	115	712
45	047	80	311	116	723
46	051	81	315	117	731
47	054	82	331	118	732
48	055	83	343	119	734
49	071	84	346	120	743
50	072	85	351	121	754
51	073	86	364	122	036
52	074	87	365	123	053
53	114	88	371	124	122
54	115	89	411	125	145
55	116	90	412	126	212
56	125	91	413	127	225
57	131	92	423	128	246
58	132	93	431	129	252
59	134	94	432	130	255
60	143	95	445	131	266
61	152	96	464	132	274
62	155	97	465	133	325
63	156	98	466	134	332
64	162	99	503	135	356
65	165	100	506	136	446
66	172	101	516	137	452
67	174	102	532	138	454
68	205	103	546	139	455
69	223	104	565	140	462
70	226	105	606	141	523
71	243	106	612	142	526
72	244	107	624		
73	245	108	627		

Three Year Limited Warranty Statement

WARRANTOR: WEST MARINE AMERICA CORPORATION

("West Marine")

ELEMENTS OF WARRANTY: West Marine warrants, for three years, to the original retail owner, this West Marine Product to be free from defects in materials and craftsmanship with only the limitations or exclusions set out below.

WARRANTY DURATION: This warranty to the original user shall terminate and be of no further effect 36 months after the date of original retail sale. The warranty is invalid if the Product is (A) damaged or not maintained as reasonable or necessary, (B) modified, altered, or used as part of any conversion kits, subassemblies, or any configurations not sold by West Marine,

(C) improperly installed, (D) serviced or repaired by someone other than an authorized West Marine service center for a defect or malfunction covered by this warranty, (E) used in any conjunction with equipment or parts or as part of any system not manufactured by West Marine, or (F) installed or programmed by anyone other than as detailed by the Operating Guide for this product.

STATEMENT OF REMEDY: In the event that the product does not conform to this warranty at any time while this warranty is in effect, warrantor will repair the defect and return it to you without charge for parts, service, or any other cost (except shipping and handling) incurred by warrantor or its representatives in connection with the performance of this warranty. THE LIMITED WARRANTY SET FORTH ABOVE IS THE SOLE AND ENTIRE WARRANTY PERTAINING TO THE PRODUCT AND IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES OF ANY NATURE WHATSOEVER, WHETHER EXPRESS, IMPLIED OR ARISING BY OPERATION OF LAW, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THIS WARRANTY DOES NOT COVER OR PROVIDE FOR THE REIMBURSEMENT OR PAYMENT OF INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states do not allow this exclusion or limitation of incidental or consequential damages so the above limitation or exclusion may not apply to you.

LEGAL REMEDIES: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty is void outside the United States of America.

PROCEDURE FOR OBTAINING PERFORMANCE OF WARRANTY: If, after following the instructions in this Operating Guide you are certain that the Product is defective, pack the Product carefully (preferably in its original packaging). Include evidence of original purchase and a note describing the defect that has caused you to return it. The Product should be shipped freight prepaid, by traceable means, or delivered, to warrantor at:

West Marine Electronic Repair Center

2395 Bert Court

Hollister, CA 95023

You can contact us at (831) 761-4205



QUESTIONS?

**Contact your local
West Marine store**

Call 1-800-BOATING

**Contact us at
www.westmarine.com**

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