Cobra MARINE®

Owner's Manual

VHF MARINE RADIO

MR HH325 VP

Printed in China Part No. 480-343-P Version B

Nothing Comes Close to a Cobra®

English

Introduction

Our Thanks to You and Customer Assistance

Our Thanks to You

Thank you for purchasing a CobraMarine® VHF radio. Properly used, this Cobra® product will give you many years of reliable service.

How Your CobraMarine VHF Radio Works

This radio is a battery-powered portable transceiver for use afloat. It gives you two-way vessel-to-vessel and vessel-to-shore station communications, primarily for safety and secondarily for navigation and operational purposes. With it, you can call for help, get information from other boaters, talk to lock or bridge tenders, and make radiotelephone calls to anywhere in the world through a marine operator.

Besides two-way communications, the radio can provide quick access to receive all the NOAA (National Oceanographic and Atmospheric Administration) weather channels and alert you to weather emergencies with a tone on a weather channel you can select for your area.

Customer Assistance

Customer Assistance

Should you encounter any problems with this product, or not understand its many features, please refer to this owner's manual. If you require further assistance after reading this manual, Cobra Electronics offers the following customer assistance services:

For Assistance in the U.S.A.

Automated Help Desk English only.
24 hours a day, 7 days a week 773-889-3087 (phone).

Customer Assistance Operators English and Spanish.
8:00 a.m. to 6:00 p.m. Central Time Mon. through Fri. (except holidays)
773-889-3087 (phone).

Questions English and Spanish.
Faxes can be received at 773-622-2269 (fax).

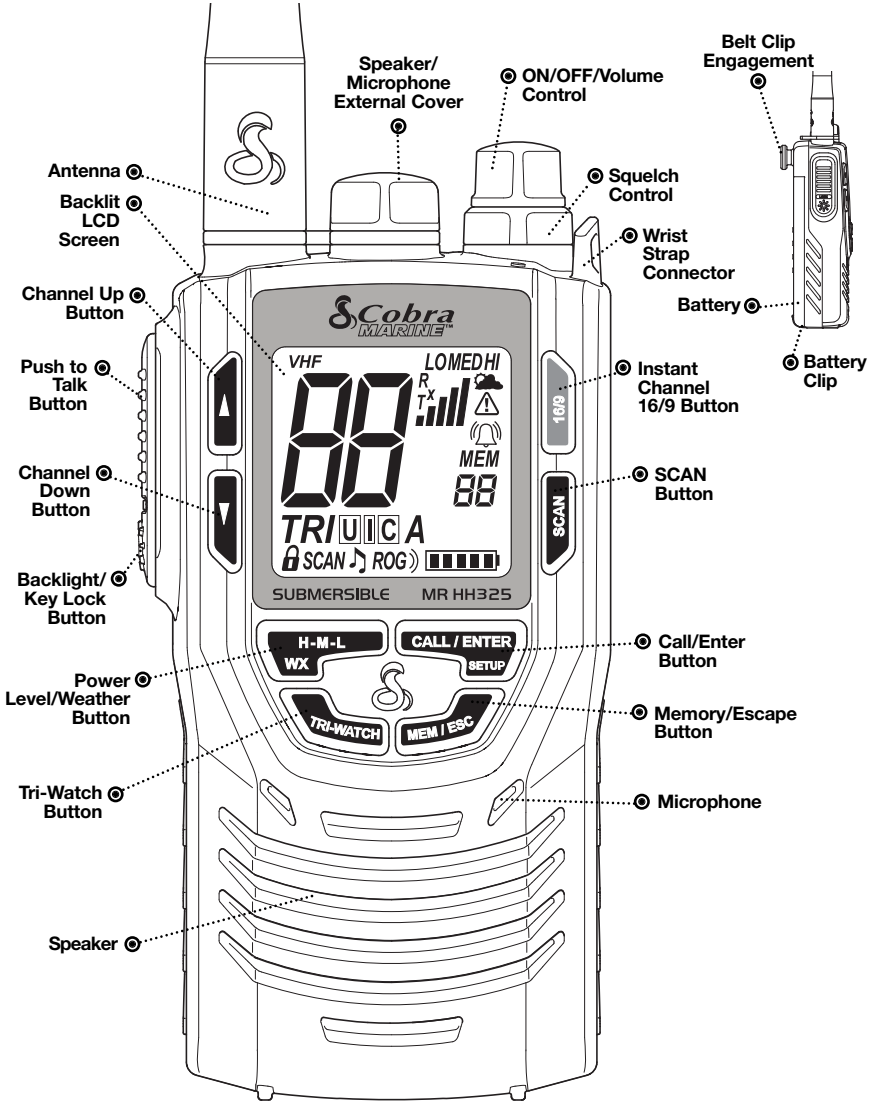
Technical Assistance English only.
www.cobra.com (on-line: Frequently Asked Questions).
English and Spanish. productinfo@cobra.com (e-mail).

For Assistance Outside the U.S.A.

Contact Your Local Dealer

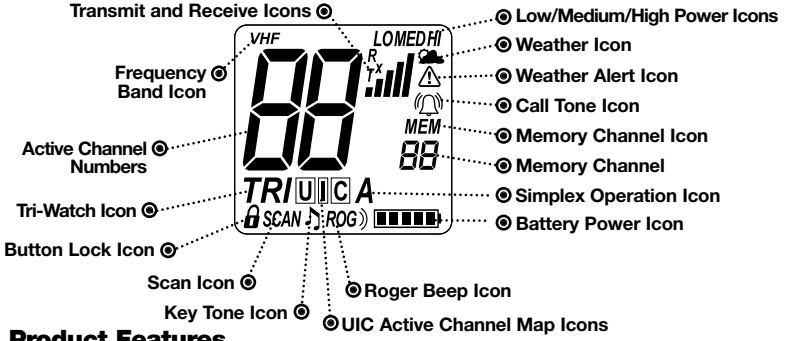
6500 West Cortland Street
Chicago, Illinois 60707 USA
www.cobra.com

Radio Controls and Indicators



Backlit LCD Screen and Product Features

Backlit LCD (Liquid Crystal Display) Screen



Product Features

Power Settings

Selectable power settings produce 1, 3 or 5 watts of output power for near or distant calling.

USA/International/Canada Channels

Allows operation on any of the three (3) different channel maps established for these areas.

All NOAA Weather Channels

Instant access to all National Weather Channels, 24 hours a day.

Submersible to JIS7 Standards

Waterproof to 3.3 ft (1 m) of water for 30 minutes.

Button/Key Lock

Prevents accidental setting changes when button lock is set.

Channel Scan/Memory Scan

Use to scan through unlimited channels or memory locations to find conversations in progress.

Instant Channel 16/9

Provides instant access to priority Channel 16 and calling Channel 9.

Tri-Watch

Use to monitor three (3) channels at once — Channel 16 and two (2) programmable channels.

NiMH (Nickel-Metal Hydride) Battery

Sealed battery pack provides extended operating time when compared to alkaline batteries with no memory effect.
Six (6) high-quality AA alkaline batteries may also be used for emergency backup power — requires optional AA battery tray (P/N CM 110-011).

120V/12V Charger Included

Use to charge battery pack, at home, in a car or in a boat.

Locking Desktop Charger

Holds the radio or battery in place while charging. Vertical or horizontal mounting.

Call Tones (Selectable)

10 selectable call tones.

Product Features

Product Features (continued)

Emergency Weather Alert
Receive NOAA alerts when threatening weather is nearby.

Speaker/Mic Jack
Allows connecting optional Cobra Lapel Speaker/Mic and other Cobra accessories.

Unlimited Memory Channels
Allows programming of unlimited VHF memory channels.

Signal Strength Meter
Shows the strength of incoming or outgoing signals.

Illuminated Buttons
Allows high visibility of all function buttons.

Roger Beep Tone (Selectable)
Confirmation tone indicates the completion of the user's transmission and signals to others it is clear to talk. On or Off selectable.

Patented VibrAlert®
Provides a silent alert for incoming calls. Ideal for noisy or all-quiet environments.

Table of Contents

Important Safety Information

Before installing and using your CobraMarine VHF radio, please read these general precautions and warnings.

Warning and Notice Statements

To make the most of this radio, it must be installed and used properly. Please read the installation and operating instructions carefully before installing and using the radio. Special attention must be paid to the **WARNING** and **NOTICE** statements in this manual.

WARNING
Statements identify conditions that could result in personal injury or loss of life.

NOTICE
Statements identify conditions that could cause damage to the radio or other equipment.

Safety Training Information

This CobraMarine® radio is designed for, and classified as, "Occupational Use Only." The radio must only be used in the course of employment by individuals aware of both the hazards and the ways to minimize those hazards. This radio is NOT intended for use in an uncontrolled environment by the "General Population."

This radio has been tested and complies with the FCC RF exposure limits for "Occupational Use Only." This CobraMarine VHF radio also complies with the following guidelines and standards regarding RF energy and electromagnetic energy levels as well as evaluation of those levels for human exposure:

- FCC OET Bulletin 65 Edition 97-01 Supplement C, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields.
- American National Standards Institute (C95.1-1992), IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.
- American National Standards Institute (C95.3-1992), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields — RF and Microwave.

Introduction
Important Safety Information

The following **WARNINGS** and **NOTICE** information will make you aware of RF exposure hazards and how to assure you operate the radio within the FCC RF exposure limits established for the radio.

WARNINGS
Your radio generates electromagnetic RF (radio frequency) energy when it is transmitting. To ensure that you and those around you are not exposed to excessive amounts of that energy, **DO NOT** touch the antenna when transmitting and **KEEP** yourself and all others on your vessel the required distance away from the antenna while transmitting. See page 31 in the antenna requirements section for further information.

DO NOT operate the radio without a proper antenna or equivalent dummy load attached. Doing so may expose you to excessive RF energy and will damage the radio.

DO NOT transmit more than 50% of the time the radio is in use — 50% duty cycle. The radio is transmitting when the Talk button is pressed and the transmit information shows on the LCD screen.

ALWAYS use only Cobra authorized accessories.

DO NOT operate the radio in an explosive atmosphere, near blasting sites, or in any area where signs are posted prohibiting radio transmissions.

NEVER connect the transceiver directly to AC power. It can be a fire hazard, may cause an electric shock and may damage the transceiver.

NEVER mount the transceiver or microphone/speaker where they might interfere with operation of your vessel or cause injury.

DO NOT allow children or anyone unfamiliar with proper procedures to operate the radio without supervision.

Failure to observe any of these warnings may cause you to exceed FCC RF exposure limits or create other dangerous conditions.

Important Safety Information

NOTICE
Your radio is waterproof only when the antenna and batteries are properly installed.

AVOID using or storing the radio at temperatures below -4˚F (-20˚C) or above 140˚F (60˚C).

KEEP your radio at least 3 ft (0,9 m) away from your vessel's magnetic navigation compass.

DO NOT attempt to service any internal parts yourself. Have any necessary service performed by a qualified technician.

This radio is supplied with an NiMH (Nickel-Metal Hydride) rechargeable battery pack.

- Use only the Cobra charger to recharge NiMH battery in the radio.
- Do not short circuit the battery pack.
- When replacing the battery, dispose of the old battery properly. The NiMH battery may explode if disposed of in a fire.

Changes or modifications to your radio MAY VOID its compliance with FCC (Federal Communications Commission) rules and make it illegal to use.

Recommendations for Marine Communication

Recommendations for Marine Communication

The frequencies your radio uses are set aside to enhance safety afloat and for vessel navigation and operational messages over a range suitable for nearshore voyages. If the 5 watt maximum output of your radio is not sufficient for the distances you travel from the coast, consider installing a CobraMarine fixed mount radio with up to 25 watts of output power. (Visit www.cobra.com or your local dealer for model availability.)

If traveling far offshore, you should consider adding even more powerful radio equipment such as HF single side band or satellite radio for your vessel.

The U.S. Coast Guard does not endorse cellular telephones as substitutes for marine radios. They generally cannot communicate with rescue vessels and, if you make a distress call on a cellular telephone, only the party you call will be able to hear you. Additionally, cellular telephones may have limited coverage over water and can be hard to locate. If you do not know where you are, the Coast Guard will have difficulty finding you if you are using a cellular telephone.

However, cellular telephones can have a place on board where cellular coverage is available — to allow social conversations and keep the marine frequencies uncluttered and available for their intended uses.

FCC Licensing Information

CobraMarine VHF radios comply with the FCC (Federal Communications Commission) requirements that regulate the Maritime Radio Service.

The radio operates on all currently allocated marine channels and is switchable for use according to U.S.A., International or Canadian regulations. It features instant access to emergency Channel 16 and calling Channel 9 as well as NOAA (National Oceanic and Atmospheric Administration) All Hazards Radio with Alert that can be accessed by pressing one (1) button.

Station License

An FCC ship station license is no longer required for any vessel traveling in U.S.A. waters which uses a VHF marine radio, RADAR, or EPIRB (Emergency Position Indicating Radio Beacon), and which is not required to carry radio equipment. However, any vessel required to carry a marine radio on an international voyage, carrying an HF single side band radiotelephone, or carrying a marine satellite terminal must obtain a station license.

FCC license forms and applications for ship and land stations can be downloaded through the Internet at www.fcc.gov. Forms can also be obtained by calling the FCC at 888-225-5322.

International Station License

If your vessel will be entering the sovereign waters of a country other than the U.S.A. or Canada, you should contact that country's communications regulatory authority for licensing information.

Radio Call Sign

Currently, the FCC does not require recreational boaters to have a license. The United States Coast Guard recommends that the boat's registration number and state of registry (e.g., IL 1234 AB) be used as a call sign and be clearly visible on the vessel.

Canadian Ship Station License

You need a Radio Operator's Certificate if your vessel is operated in Canadian waters. Radio Operator training and certification is available from the Canadian Power Squadron. Visit their website (http://www.cps-ecp.ca/english/newradiocard.html), contact the nearest field office or write: Industry of Canada, Radio Regulatory Branch, Attn: DOSP, 300 Slater Street, Ottawa, Ontario, Canada K1A 0C8.

VHF Marine Radio Protocols
FCC Licensing Information

User Responsibility and Operating Locations

All users are responsible for observing domestic and foreign government regulations and are subject to severe penalties for violations. The VHF frequencies on your radio are reserved for marine use and require a special license to operate from land, including when your boat is on its trailer.

NOTE

This device complies with part 15 of the FCC Rules. Operation is subject to the following two (2) conditions:

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

FCC Warnings: Replacement or substitution of transistors, regular diodes or other parts of a unique nature, with parts other than those recommended by Cobra may cause a violation of the technical regulations of part 80 of the FCC Rules, or violation of type acceptance requirements of part 2 of the rules.

VHF Marine Radio Procedures

Maintain Your Watch

Whenever your boat is underway, the radio must be turned On and be tuned to Channel 16 except when being used for messages.

Power

Try 1 watt first, if the station being called is within a few miles. If there is no answer, switch to 3 watts and call again. You have the ability to go up to 5 watts of output power to increase your calling distance. Remember, the lower wattage outputs will conserve your battery and minimize interference to other users.

Calling Coast Stations

Call a coast station on its assigned channel. You may use Channel 16 when you do not know the assigned channel.

Calling Other Vessels

Call other vessels on Channel 16 or on Channel 9. (Channel 9 is preferred for recreational vessel use.) You may also call on ship-to-ship channels when you know that the vessel is listening on a ship-to-ship channel.

Initial Calling on Channel 16 or 9

The use of Channel 16 is permitted for making initial contact (hailing) another vessel. The limits on calling must be followed. Be reminded, Channel 16's most important function is for Emergency Messages. If for some reason, Channel 16 is congested, the use of Channel 9, especially in U.S. waters, may be used as the initial contact (hailing) channel for non-emergency communication.

Limits on Calling

You must not call the same station for more than 30 seconds at a time.
If you do not get a reply, wait at least two (2) minutes before calling again.
After three (3) calling periods, wait at least 15 minutes before calling again.

Change Channels

After contacting another station on a calling channel, change immediately to a channel which is available for the type of message you want to send.

Station Identification

Identify, in English, your station by your FCC call sign, vessel name and the state registration number, at both the beginning and at the end of the message.

VHF Marine Radio Protocols
VHF Marine Radio Procedures

Prohibited Communications

You **MUST NOT** transmit:

- False distress or emergency messages.
- Messages containing obscene, indecent or profane language.
- General calls, signals or messages (messages not addressed to a particular station) on Channel 16, except in an emergency or if you are testing your radio.
- When you are on land.

Voice Calling

You are required to listen to Channel 16 while standing by. Channel 16 is the distress and safety channel used for establishing initial contact with another station and for emergency communication. The Coast Guard also monitors Channel 16 for safety purposes for everyone on the water.

NOTE

Channel 9 may be used by recreational vessels for general-purpose calling. This frequency should be used whenever possible to help relieve congestion on Channel 16. The Coast Guard generally does not make urgent marine information broadcasts or weather warnings on Channel 9. Boaters are still asked to “keep watch” on Channel 16 whenever the radio is turned on and not in use with another station.

To call another vessel or shore installation (e.g, lock or bridge tender):

- Make sure the radio is On.
- Make sure you are in standby listening mode on Channel 16. Make sure Channel 16 is not in use.
- When the channel is open (quiet), press the **Talk** button and call a vessel. Hold the radio or microphone several inches from your face and speak clearly and distinctly in a normal voice tone. Say “name or station being called,” “THIS IS [your vessel name or call sign].”
- Once contact is made, you must leave Channel 16 and go to another working channel. See channel listing on pages 20-27.

For Example

The vessel Corsair is calling the vessel Vagabond:

Corsair: “Vagabond, this is Corsair. Over.”

Vagabond: “Please switch and answer on Channel 68 (or any proper working channel). Over.”

Corsair: “Switching to Channel 68. Over.”

- If the other does not respond, wait two (2) minutes and repeat. You are permitted to attempt contact three (3) times, two (2) minutes apart. If you still have not made contact, wait 15 minutes before trying again.
- After communications are completed, each vessel must sign off with its call sign or vessel name and the word “out” and return to Channel 16.

NOTE

For best sound quality at the station you are calling, hold the microphone on the front of the radio at least 2 in. (51 mm) from your mouth and slightly off to one (1) side. Speak in a normal tone of voice.

NOTE

“Over and Out”

The most commonly misused procedure words are “over and out” within the same transmission. “Over” means you expect a reply. “Out” means you are finished and do not expect a reply.

Radiotelephone Calls

Radiotelephone Calls

Boaters may make and receive radiotelephone calls to and from any number on the telephone network by using the services of public coast stations. Calls can be made — for a fee — between your radio and telephones on land, sea and in the air. See pages 20 through 27 for the public correspondence (marine operator) channels.

If you plan to use these services, consider registering with the operator of the public coast station that you plan to work through. These services can provide you with detailed information and procedures to follow.

NOTICE
You may disclose privileged information during a radiotelephone call. Keep in mind that your transmission is **NOT** private, as it is on a regular telephone. Both sides of the conversation are being broadcast and can be heard by anyone who has a radio and tunes to the channel you are using.

Emergency Messages and Distress Procedure

Emergency Messages and Distress Procedure

The ability to summon assistance in an emergency is the primary reason to have a VHF marine radio. The marine environment can be unforgiving, and what may initially be a minor problem can rapidly develop into a situation beyond your control.

The Coast Guard monitors Channel 16, responds to all distress calls, and coordinates all search and rescue efforts. Depending on the availability of other capable vessels or commercial assistance operators in your vicinity, Coast Guard or Coast Guard Auxiliary craft may be dispatched.

In any event, communicate with the Coast Guard as soon as you experience difficulties and before your situation becomes an emergency. Use the emergency message procedures only after your situation has become grave or you are faced with a sudden danger threatening life or property and requiring immediate help. Use Channel 16 to communicate your emergency message. Make sure you transmit on high power. If you are merely out of gas, do not send an emergency message. Drop your anchor and call a friend or marina to bring the fuel you need or to give you a tow.

Marine Emergency Signals

The three (3) spoken international emergency signals are:

MAYDAY

The distress signal **MAYDAY** is used to indicate that a station is threatened by grave and imminent danger and requests immediate assistance.

PAN

The urgency signal **PAN** is used when the safety of the vessel or person is in jeopardy. (This signal is properly pronounced pahn.)

SECURITE

The safety signal **SECURITE** is used for messages about the safety of navigation or important weather warnings. (This signal is properly pronounced see-cure-ee-tay.)

When using an international emergency signal, the appropriate signal is to be spoken three (3) times prior to the message.

If You Hear a Distress Call

You must give any message beginning with one (1) of these signals priority over any other messages. ALL stations MUST remain silent on Channel 16 for the duration of the emergency unless the message relates directly to the emergency.

If you hear a distress message from a vessel, stand by your radio. If it is not answered, YOU should answer. If the distressed vessel is not nearby, wait a short time for others who may be closer to acknowledge. Even if you cannot render direct assistance, you may be in a position to relay the message.

VHF Marine Radio Protocols
Emergency Messages and Distress Procedure

Marine Distress Procedure

Speak slowly — clearly — calmly.

1. Make sure your radio is On.
2. Select Channel 16.
3. **Press Talk button and say:**
   "MAYDAY — MAYDAY — MAYDAY."
   (Or "PAN — PAN — PAN,"
   or "SECURITE — SECURITE — SECURITE.")
4. **Say:**
   "THIS IS [your vessel name or call sign]," repeated three (3) times.
5. **Say:**
   "MAYDAY (or "PAN" or "SECURITE")
   [your vessel name or call sign].
6. **Tell where you are:**
   (what navigational aids or landmarks are nearby).
7. State the nature of your distress.
8. State the kind of assistance needed.
9. Give number of persons aboard and conditions of any injured.
10. Estimate present seaworthiness of your vessel.
11. Briefly describe your vessel (length, type, color, hull).
12. **Say:**
    "I WILL BE LISTENING ON CHANNEL 16."
13. **End message by saying:**
    "THIS IS [your vessel name or call sign]. OVER."
14. Release **Talk** button and listen. Someone should answer.
    If not, repeat the call, beginning at step 3 above.

Keep the radio nearby. Even after your message has been received, the Coast Guard can find you more quickly if you can transmit a signal for a rescue boat to hone in on.

Emergency Messages and Distress Procedure

For Example

"Mayday — Mayday — Mayday"

"This is Corsair — Corsair — Corsair" [or "IL 1234 AB," repeated three (3) times]

"Mayday Corsair (or IL 1234 AB)"

"Navy Pier bears 220 degrees magnetic — distance 5 miles"

"Struck submerged object and flooding — need pump and tow"

"Four (4) adults, three (3) children aboard — no one injured"

"Estimate we will remain afloat one-half hour"

"Corsair (or IL 1234 AB) is 26 ft sloop with blue hull and tan deck house"

"I will be listening on Channel 16"

"This is Corsair (or IL 1234 AB)"

"Over"

It is a good idea to write out a script of the message form and post it where you and others on your vessel can see it when an emergency message needs to be sent.

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VHF Marine Channel Assignments

Three (3) sets of VHF channels have been established for marine use in the U.S.A., Canada and the rest of the world (International). Most of the channels are the same for all three (3) maps, but there are definite differences (see table on the following pages). Your radio has all three (3) maps built into it and will operate correctly in whichever area you choose.

The following is a brief outline of the channel assignments in the U.S.A. Channel Map.

Distress, Safety, and Calling

Channel 16
Getting the attention of another station (calling) or in emergencies (distress and safety).

Calling

Channel 9
General-purpose (non-emergency) calling by non-commercial vessels. Recreational boaters are urged to use this channel to reduce congestion on Channel 16.

Intership Safety

Channel 6
Ship-to-ship safety messages and for search and rescue messages to Coast Guard ships and aircraft.

Coast Guard Liaison

Channel 22A
To talk to the Coast Guard, Canadian Coast Guard (non-emergency) after making contact on Channel 16.

Non-Commercial

Channels 68*; 69, 71, 72, 78A, 79A*; 80A*
Working channels for small vessels. Messages must be about needs of the vessel, such as fishing reports, berthing and rendezvous. Use Channel 72 only for ship-to-ship messages.

Commercial

Channels 1A, 7A, 8, 9, 10, 11, 18A, 19A, 63A, 67, 72, 79A, 80A, 88A*
Working channels for working ships only. Messages must be about business or needs of the ship. Use Channels 8, 67, 72 and 88A only for ship-to-ship messages.

VHF Marine Radio Protocols
VHF Marine Channel Assignments

Public Correspondence (Marine Operator)

Channels 24, 25, 26, 27, 28, 60, 61, 84, 84A, 85, 85A, 86, 86A, 87, 87A, 88*
For calls to marine operators at public coast stations. You can make and receive telephone calls through these stations.

Port Operations

Channels 1A*; 5A*; 12*; 14*; 18, 19, 20A, 21, 22, 63A*; 65A, 66A, 73, 74, 75, 76, 77*; 79, 80, 81, 82
Used for directing the movement of ships in or near ports, locks or waterways. Messages must be about operational handling, movement and safety of ships.

Navigational

Channels 13, 67
Channels are available to all vessels. Messages must be about navigation, including passing or meeting other vessels. These are also the main working channels for most locks and drawbridges. You must keep your messages short and power output at no more than 1 watt.

Maritime Control

Channel 17
For talking to vessels and coast stations operated by state or local governments. Messages must be about regulation and control, boating activities, or assistance.

Digital Selective Calling

Channel 70
This channel is set aside for distress, safety and general calling using only digital selective calling techniques. Voice communication is prohibited; your radio cannot transmit voice messages on this channel.

Weather

Channels Wx 1 Thru 9
Receive-only channels for NOAA and Canadian weather broadcasts. You cannot transmit on these channels.

NOTE

* These channels are restricted to the listed uses in certain parts of the country or for certain types of users only. Consult FCC rules or a knowledgeable radio operator before using them.

VHF Marine Channel Assignments

Channel Number	Channel Map USA	Int'l	Canada	Frequency Transmit	Receive	Power Limits
01		•	•	156.050	160.650	
01A	•			156.050	156.050	
02		•	•	156.100	160.700	
03		•	•	156.150	160.750	
03A	•			156.150	156.150	
04		•		156.200	160.800	
04A			•	156.200	156.200	
05		•		156.250	160.850	
05A	•		•	156.250	156.250	
06	•	•	•	156.300	156.300	
07		•		156.350	160.950	
07A	•		•	156.350	156.350	
08	•	•	•	156.400	156.400	
09	•	•	•	156.450	156.450	
10	•	•	•	156.500	156.500	
11	•	•	•	156.550	156.550	
12	•	•	•	156.600	156.600	
13	•	•	•	156.650	156.650	1 watt USA and CAN
14	•	•	•	156.700	156.700	
15	•			Rx Only	156.750	
15		•	•	156.750	156.750	1 watt CAN and INT
16	•	•	•	156.800	156.800	
17	•	•	•	156.850	156.850	1 watt USA and CAN

VHF Marine Radio Protocols

VHF Marine Channel Assignments

Channel	Use
01	Public Correspondence (Marine Operator)
01A	Port Operations and Commercial, VTS in selected areas
02	Public Correspondence (Marine Operator)
03	Public Correspondence (Marine Operator)
03A	**Government Only**
04	Public Correspondence (Marine Operator), Port Operations, Ship Movement
04A	**West Coast (Coast Guard Only);** East Coast (Commercial Fishing)
05	Public Correspondence (Marine Operator), Port Operations, Ship Movement
05A	Port Operations, VTS in selected areas
06	Intership Safety
07	Public Correspondence (Marine Operator), Port Operations, Ship Movement
07A	Commercial
08	Commercial (Intership Only)
09	Boater Calling Channel, Non-Commercial (Recreational)
10	Commercial
11	Commercial, VTS in selected areas
12	Port Operations, VTS in selected areas
13	Intership Navigation Safety (Bridge-to-Bridge). In U.S. waters, large vessels maintain a listening watch on this channel.
14	Port Operations, VTS in selected areas
15	Environmental (Receive Only). Used by class C EPIRB's.
15	Canada (EPIRB Buoys Only); International (On-Board Communication)
16	**International Distress, Safety and Calling**
17	State Controlled (U.S.A. Only)

VHF Marine Channel Assignments

Channel Number	Channel Map USA	Int'l	Canada	Frequency Transmit	Receive	Power Limits
18		•		156.900	161.500	
18A	•		•	156.900	156.900	
19		•		156.950	161.550	
19A	•		•	156.950	156.950	
20	•	•	•	157.000	161.600	1 watt CAN
20A	•			157.000	157.000	
21		•	•	157.050	161.650	
21A	•		•	157.050	157.050	
22		•		157.100	161.700	
22A	•		•	157.100	157.100	
23		•	•	157.150	161.750	
23A	•			157.150	157.150	
24	•	•	•	157.200	161.800	
25	•	•	•	157.250	161.850	
26	•	•	•	157.300	161.900	
27	•	•	•	157.350	161.950	
28	•	•	•	157.400	162.000	
60		•	•	156.025	160.625	
61		•		156.075	160.675	
61A	•		•	156.075	156.075	
62		•		156.125	160.725	
62A			•	156.125	156.125	

VHF Marine Radio Protocols

VHF Marine Channel Assignments

Channel	Use
18	Port Operations, Ship Movement
18A	Commercial
19	Port Operations, Ship Movement
19A	Commercial
20	**Canada (Coast Guard Only);** International (Port Operations, Ship Movement)
20A	Port Operations
21	Port Operations, Ship Movement
21A	**U.S. (Government Only); Canada (Coast Guard Only)**
22	Port Operations, Ship Movement
22A	U.S. and Canadian Coast Guard Liaison and Maritime Safety Information Broadcasts that are announced on Channel 16
23	Public Correspondence (Marine Operator)
23A	**Government Only**
24	Public Correspondence (Marine Operator)
25	Public Correspondence (Marine Operator)
26	Public Correspondence (Marine Operator)
27	Public Correspondence (Marine Operator)
28	Public Correspondence (Marine Operator)
60	Public Correspondence (Marine Operator)
61	Public Correspondence (Marine Operator), Port Operation, Ship Movement
61A	**U.S. (Government Only); Canada (Coast Guard Only); West Coast (Coast Guard Only);** East Coast (Commercial Fishing)
62	Public Correspondence (Marine Operator), Port Operations, Ship Movement
62A	**West Coast (Coast Guard Only);** East Coast (Commercial Fishing)

VHF Marine Channel Assignments

Channel Number	Channel Map USA	Int'l	Canada	Frequency Transmit	Receive	Power Limits
63		•		156.175	160.775	
63A	•			156.175	156.175	
64		•	•	156.225	160.825	
64A	•		•	156.225	156.225	
65		•		156.275	160.875	
65A	•		•	156.275	156.275	
66		•		156.325	160.925	
66A	•		•	156.325	156.325	1 watt CAN
67	•	•	•	156.375	156.375	1 watt USA
68	•	•	•	156.425	156.425	
69	•	•	•	156.475	156.475	
70	•	•	•	RX only	156.525	
71	•	•	•	156.575	156.575	
72	•	•	•	156.625	156.625	
73	•	•	•	156.675	156.675	
74	•	•	•	156.725	156.725	
75		•		156.775	156.775	1 watt Only Int.
76		•		156.825	156.825	1 watt Only Int.
77	•	•	•	156.875	156.875	1 watt USA and CAN

VHF Marine Radio Protocols

VHF Marine Channel Assignments

Channel	Use
63	Public Correspondence (Marine Operator), Port Operations, Ship Movement
63A	Port Operations and Commercial, VTS in selected areas
64	Public Correspondence (Marine Operator), Port Operations, Ship Movement
64A	**U.S. (Government Only);** Canada (Commercial Fishing)
65	Public Correspondence (Marine Operator), Port Operations, Ship Movement
65A	Port Operations
66	Public Correspondence (Marine Operator), Port Operations, Ship Movement
66A	Port Operations
67	U.S. (Commercial). Used for bridge-to-bridge communications in lower Mississippi River (Intership Only); Canada (Commercial Fishing), S&R
68	Non-Commercial (Recreational)
69	U.S. (Non-Commercial, Recreational); Canada (Commercial Fishing Only); International (Intership, Port Operations, Ship Movement)
70	**Digital Selective Calling (Voice communications not allowed)**
71	U.S. and Canada (Non-Commercial, Recreational); International (Port Operations, Ship Movement)
72	Non-Commercial (Intership Only)
73	U.S. (Port Operations); Canada (Commercial Fishing Only); International (Intership, Port Operations, Ship Movement)
74	U.S. (Port Operations); Canada (Commercial Fishing Only); International (Intership, Port Operations, Ship Movement)
75	Port Operations (Intership Only)
76	Port Operations (Intership Only)
77	Port Operations (Intership only). Restricted to communications with pilots for movement and docking of ships.

VHF Marine Channel Assignments

Channel Number	Channel Map USA	Int'l	Canada	Frequency Transmit	Receive	Power Limits
78		•		156.925	161.525	
78A	•		•	156.925	156.925	
79		•		156.975	161.575	
79A	•		•	156.975	156.975	
80		•		157.025	161.625	
80A	•		•	157.025	157.025	
81		•		157.075	161.675	
81A	•		•	157.075	157.075	
82		•		157.125	161.725	
82A	•		•	157.125	157.125	
83		•	•	157.175	161.775	
83A	•		•	157.175	157.175	
84	•	•	•	157.225	161.825	
84A	•			157.225	157.225	
85	•	•	•	157.275	161.875	
85A	•			157.275	157.275	
86	•	•	•	157.325	161.925	
86A	•			157.325	157.325	
87	•		•	157.375	161.975	
87		•		157.375	157.375	
87A	•			157.375	157.375	
88	•		•	157.425	162.025	
88		•		157.425	157.425	
88A	•			157.425	157.425	

NOTE

Many of the plain-numbered channels, such as 01, 02 and 03, transmit and receive on different frequencies. This is termed duplex operation. The rest of the plain-numbered channels and all of the A channels, such as 01A, 03A and 04A, transmit and receive on a single frequency, which is termed simplex operation. Your radio automatically adjusts to these conditions. When in simplex operation, the A icon will appear on the LCD (see illustration on page A3).

VHF Marine Radio Protocols

VHF Marine Channel Assignments

Channel	Use
78	Public Correspondence (Marine Operator)
78A	Non-Commercial (Recreational)
79	Port Operations, Ship Movement
79A	Commercial (Also Non-Commercial only in Great Lakes)
80	Port Operations, Ship Movement
80A	Commercial (Also Non-Commercial only in Great Lakes)
81	Port Operations, Ship Movement
81A	**U.S. (Government Only; Environmental Protection Operations)**
82	Public Correspondence (Marine Operator), Port Operation, Ship Movement
82A	**U.S. (Government Only); Canada (Coast Guard Only)**
83	**Canada (Coast Guard Only)**
83A	**U.S. (Government Only); Canada (Coast Guard Only)**
84	Public Correspondence (Marine Operator)
84A	Public Correspondence (Marine Operator)
85	Public Correspondence (Marine Operator)
85A	Public Correspondence (Marine Operator)
86	Public Correspondence (Marine Operator)
86A	Public Correspondence (Marine Operator)
87	Public Correspondence (Marine Operator)
87	Public Correspondence (Marine Operator)
87A	Public Correspondence (Marine Operator)
88	Public Correspondence (Ship to Coast). In U.S. only within 75 miles of Canadian Border.
88	Commercial Intership only
88A	Commercial Intership only

NOTE

All channels are preprogrammed at the factory according to international regulations and those of the FCC (U.S.A.) and Industry Canada (Canada). They cannot be altered by the user nor can modes of operation be changed between simplex and duplex.

NOAA Weather Channels and Alert

Monitoring the weather will probably be a frequent use of your radio. NOAA provides continuous, around-the-clock broadcasts of the latest weather information. Taped weather messages run every four (4) to six (6) minutes and are revised every two (2) or three (3) hours, or as needed. The Coast Guard also announces weather and other safety warnings on Channel 16. Smart boaters keep an eye on safety and an ear to the radio — and never let the weather catch them unaware.

NOAA Emergency Weather Alert

In the event of a major storm or other weather condition requiring vessels at sea or on other bodies of water to be notified, NOAA broadcasts a 1050 Hz tone that receivers such as your CobraMarine VHF radio can detect and warn you of a weather alert condition. When the Weather Alert mode on your radio is On, this signal will produce a loud tone from the speaker in the radio and will automatically switch to the alerting weather channel so the alert broadcast can be heard.

VHF Marine Radio Protocols
NOAA Weather Channels and Alert

NOAA Test Alert System

To test this system, NOAA broadcasts the 1050 Hz signal every Wednesday sometime between 11 a.m. and 1 p.m. in each local time zone. Any receiver that can detect the weather alert tone may use this service to verify that this system is functioning properly.

Weather Frequency/Channel

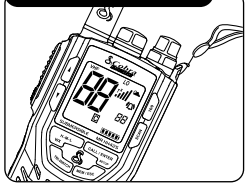
Channel	RX Frequency MHz	Weather Channel
1	162.550	NOAA
2	162.400	NOAA
3	162.475	NOAA
4	162.425	NOAA
5	162.450	NOAA
6	162.500	NOAA
7	162.525	NOAA
8	161.650	Canadian
9	161.775	Canadian
10	163.275	NOAA

Included in this Package

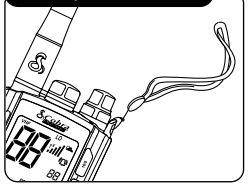
Included in this Package

You should find all of the following items in the package with your CobraMarine VHF radio:

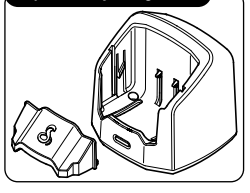
Radio



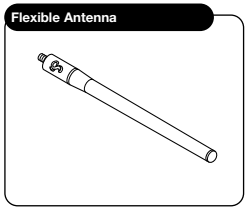
Wrist Strap



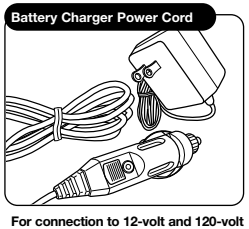
Drop-In Battery Charger



Flexible Antenna

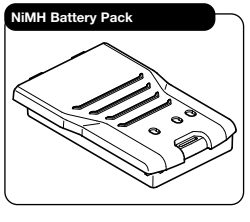


Battery Charger Power Cord



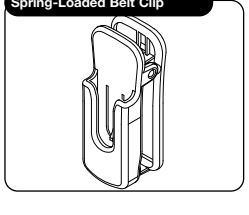
For connection to 12-volt and 120-volt power sources.

NiMH Battery Pack



Operating Instruction Manual

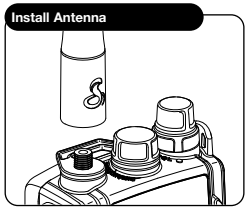
Spring-Loaded Belt Clip



Antenna, Wrist Strap and Belt Clip

Antenna, Wrist Strap and Belt Clip

Install Antenna



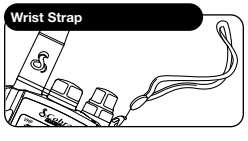
Antenna Installation

The flexible antenna is shipped separately in the package and must be attached before you use the radio.

1. Align the base of the antenna with the socket in the top of the radio.
2. Screw it all the way into the socket. Be sure that the seal seats properly.

NOTICE
Operating the radio without the antenna in place may damage the unit. The radio is not waterproof until the antenna and battery pack are in place with their seals properly seated.

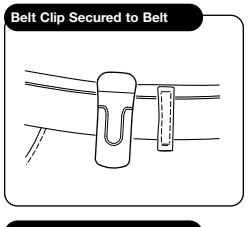
Wrist Strap



Wrist Strap

The radio comes with the wrist strap already attached. It can be easily removed if you choose not to use it.

Belt Clip Secured to Belt

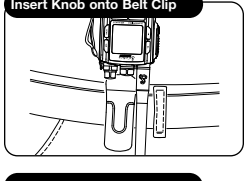


Belt Clip

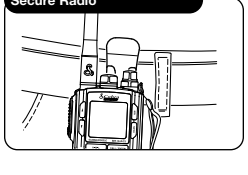
Use the spring-loaded belt clip to carry the radio on your person.

1. Press open the belt clip, slide it over the belt and release the clip.
2. Insert the round guide on the back of the radio into the guide channel on the back of the belt clip. The radio must be upside-down, as shown, to remove it from the belt clip.
3. Once the knob is inserted all the way into the belt clip channel, the radio swings free but remains secure.

Insert Knob onto Belt Clip

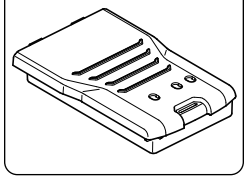


Secure Radio



Batteries and Charger

NiMH Battery Pack

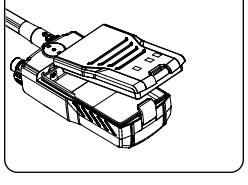


The radio is shipped with a sealed NiMH (Nickel-Metal Hydride) (P/N CM 110-009) battery pack that is rechargeable.

WARNING
The charger provided for this radio is only to be used to charge the battery pack provided. Do Not charge any other type of batteries in the charger as fire, explosion or battery damage will occur. Avoiding extreme room temperatures will also help prolong the life of the battery pack for the radio.

When your rechargeable batteries begin to discharge too quickly, it is time to install a new battery pack. Your radio will also operate with six (6) high-quality AA alkaline batteries, using the optional alkaline battery tray.

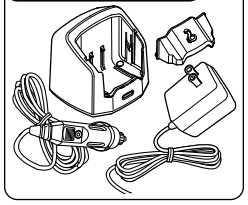
Install Battery Pack



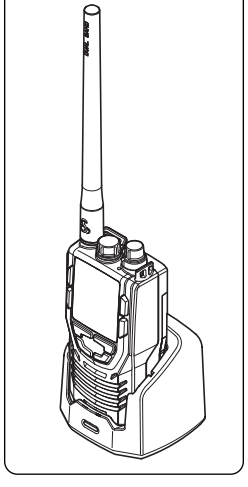
Installing the Battery Pack

1. Position the battery pack to line up the two (2) external alignment tabs to the alignment slots in the radio.
2. Engage the battery pack into the radio until battery pack is fully seated against the radio housing.
3. Pivot the locking tab up until it snaps into place on the back of the battery pack.

Power Sources



Initial Battery Charge



Initial Charge

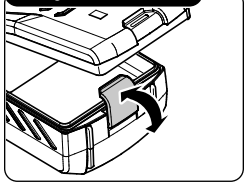
The Cobra-provided NiMH battery pack may be charged at home, in a car or in a boat using the appropriate 12V or 120V power cord with the charger.

1. Insert one (1) of the power cords into the back of the drop-in charger.
2. Insert the other end of the power cord into the appropriate 12V or 120V power source.
3. Remove the spacer from the charger and insert the entire radio/battery into the charger. The metal charge contacts on the battery will contact the mating prongs in the charger to transfer the charging current.
4. Observe that the red light on the front of the charger glows to indicate that the battery pack is properly seated and the charger is operating.
5. Allow the batteries to charge for 12 to 14 hours before use.

WARNING
Only the rechargeable NiMH battery pack can be recharged. You MUST use one of the charging devices provided with this radio. Do not substitute any other type of charging adapter or charger base for this radio. Battery damage, fire or explosion may result. It is equally important to prevent the NiMH battery pack from freezing to obtain best performance from the battery pack.

NOTE
If the drop-in charger is used on a boat, Cobra recommends you attach it to a horizontal shelf or vertical bulkhead (using the screw holes provided) to prevent possible damage due to the boat rolling or pitching. The charging base has been designed to hold the battery pack in place during rough sea conditions.

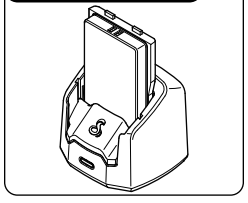
Locking Tab



To Remove Battery Pack from Radio

1. Pivot the locking tab off of the back of the battery pack to unlock.
2. Lift the bottom of the battery pack slightly to remove it from the radio housing.
3. Pull battery pack out of the radio housing.

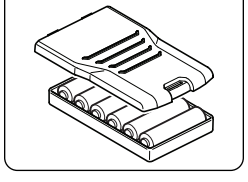
Battery Pack Charging Only



NOTE
The NiMH battery pack can also be charged in the battery charger without being installed in the radio. Insert the spacer into the battery charger to support the battery pack during this charging process. Follow the same procedures in “Initial Charge” to charge the battery pack.

NOTICE
NiMH batteries are toxic. Please dispose of properly. Some marine suppliers accept old battery packs for recycling and some municipal waste disposal agencies have special provisions for battery disposal.

Alkaline Battery Tray



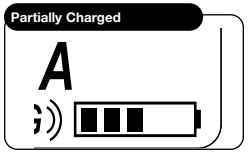
Alkaline Batteries

An optional alkaline battery tray (P/N CM 110-011) can be purchased for this radio. The alkaline battery tray acts as a backup or “Emergency” power source should the battery pack run low on power and needs to be recharged. The radio will transmit at full power when using six (6) new AA alkaline batteries.

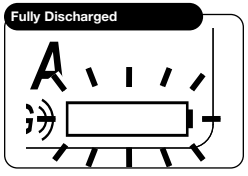
WARNING
Never attempt to recharge alkaline batteries. They are not made to be recharged, and should be disposed of in a proper manner.

Fully Charged

Partially Charged



Fully Discharged



Maintaining the Battery Charge

As you use your radio, the battery power icon will show the battery power remaining. When the icon begins to flash, it is time to recharge or change the batteries.

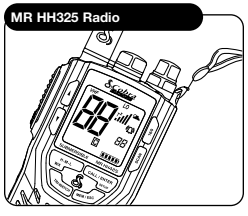
NOTICE
Use only the drop-in charger provided by Cobra. Do not use the charger with alkaline batteries; only the NiMH battery pack is rechargeable. Spent alkaline batteries must be discarded and replaced.

It is a good idea to keep a set of fresh, high-quality AA alkaline batteries with your radio. Should the rechargeable battery pack become discharged and no electrical power source is available, you can insert the optional alkaline battery tray with fresh alkaline batteries and continue to use your radio.

NOTE
Some radios with NiMH batteries have AA or AAA battery packs which only allow low-power transmit. The optional AA battery tray for the MR HH325 and a fresh set of alkaline batteries will allow for full-power emergency transmissions.

Getting Started

MR HH325 Radio



Refer to the foldout at the front of this manual to identify the various controls and indicators on your radio. Throughout this manual you will be instructed to “Press” or to “Press and Hold” various buttons (except “Push to Talk”) on the radio. “Press” means a momentary press of approximately one (1) second. “Press and Hold” means to hold the button down for approximately three (3) seconds.

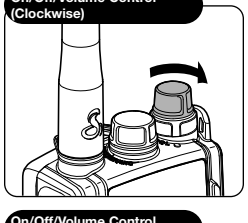
Whenever you press any button except the **Talk** button on your radio, a brief tone (beep) will sound to confirm the button press. With all button presses, the appropriate icon will appear on the LCD and the backlight will turn On. The backlight will stay on for 10 seconds after the button is released.

At times, you will hear two (2) other sounds. Two (2) beeps will sound to confirm your setting changes and three (3) beeps will sound to notify you of an error.

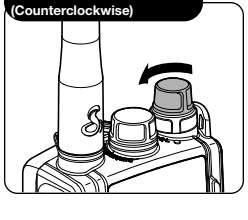
Common Radio Functions

The following procedures define common operating functions of the radio when in either **Marine Standby** or **Weather (WX) Standby** modes.

On/Off/Volume Control (Clockwise)



On/Off/Volume Control (Counterclockwise)



Power/Volume/Squelch Controls

Power On/Off Control

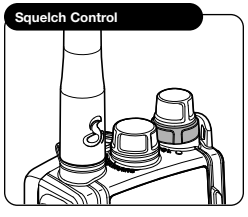
The **On/Off/Volume** control is located at the upper right side of the radio. Turning the **On/Off/Volume** control past the detent position will turn the radio On or Off.

Volume Control

Volume is controlled by turning the **On/Off/Volume** control.

- To increase the volume, turn the **On/Off/Volume** control clockwise.
- To decrease the volume, turn the **On/Off/Volume** control counterclockwise.

Squelch Control



Squelch Control

Squelch is controlled by turning the lower rotary concentric knob located directly below the **On/Off/Volume** switch.

With the power On, turn the knob counterclockwise until you hear a hissing sound, then turn the knob clockwise until the hissing stops. This will establish a “Baseline” squelch. By turning the knob further in a clockwise direction, you will filter weak and medium-strength signals. By turning the knob in a counterclockwise direction (further from your baseline setting), you will receive weaker signals. Squelch Control filters weak signals and radio frequency (RF) noise so that you will clearly hear the signals you want.

NOTE

If the **Squelch** is set so that you can hear a continuous hissing sound, the **Memory Scan** and **Tri-Watch** functions will be blocked.

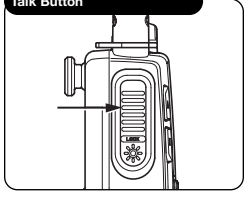
Radio Speaker and Microphone

The internal **Radio Speaker** and **Microphone** are located on the bottom front face of the radio below the lower control buttons.

Speaker/Mic Port

An optional **Speaker/Microphone** port is located at the top of the radio between the antenna and the **Power/Volume/ Squelch** control. Unthread the **Speaker/Microphone** port cover to access and install an optional speaker or microphone into this port.

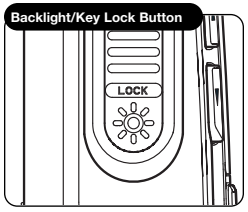
Talk Button



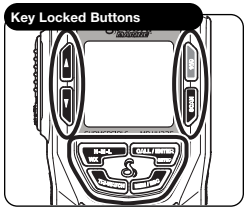
Talk Button

Press and hold the **Talk** button to transmit messages. Release the **Talk** button to stop transmitting.

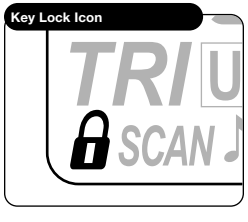
Backlight/Key Lock Button



Key Locked Buttons



Key Lock Icon



Backlight/Key Lock Button

The LCD will be illuminated by the backlight as long as any button is pressed and will remain On for 10 seconds after the button is released.

To Display the Backlight Momentarily:

Press the **Backlight/Key Lock** button. The backlight will remain On for 10 seconds. If the backlight is already On, another press of the **Backlight/Key Lock** button will turn it Off.

Key Lock

To prevent accidental changes to your settings, you can lock all of the following buttons:

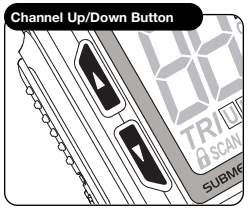
- **Channel Up** Button
- **Channel Down** Button
- **SCAN** Button
- **MEM/ESC** Button
- **WX/H-M-L** Button
- **16/9** Button
- **TRI-WATCH** Button
- **Call/Enter/Setup** Button

To Lock or Unlock the Buttons:

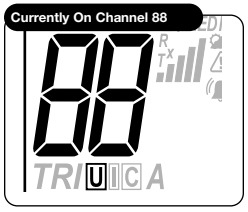
Press and hold the **Backlight/Key Lock** button for two (2) seconds. The **Key Lock** icon will appear or disappear in the LCD. When **Key Lock** is On, pressing any of the listed buttons on the front of the radio will result in a three (3) beep error message.

Both the **Backlight/Key Lock** button and the **Talk** button are active — you can **Receive (Rx)** or **Transmit (Tx)** a message with **Key Lock** On, but you cannot change the channel.

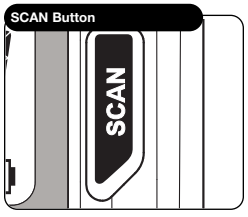
Channel Up/Down Button



Currently On Channel 88



SCAN Button



Channel Up/Down Button

Your radio will **Receive (Rx)** and **Transmit (Tx)** VHF signals on the channel indicated on the LCD display. You can change the channel at any time using the **Channel Up/Down** button.

To Change Channels:

Press the **Channel Up/Down** button.

If you are on Channel 88, pressing the **Channel Up** button will advance to Channel 01. If you are on Channel 01, pressing the **Channel Down** button will advance to Channel 88.

You can press and hold the **Channel Up/Down** button for fast advance. The beep sound will occur only at the first press of the button and not during fast advance.

If the new channel selected is restricted to low power, the radio will automatically switch to **Low Power** mode and the **Low Power** icon will appear on the LCD.

If the radio is in the **Key Lock** mode, the channel will not change and the three (3) beep error signal will sound.

SCAN Button

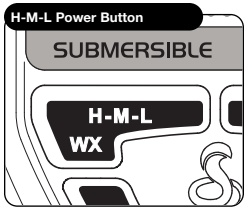
Press and release the **SCAN** button to scan all channels. The **SCAN** icon will display on the LCD display. Scanning begins at lower channels, and scans to higher channels. Press **Channel Up/Down** button to change the scan direction.

When a signal is received in **SCAN** mode, the radio will pause 10 seconds before resuming **SCAN** operation. The scan will stop when the **Talk** button is pressed.

In **Memory** mode, press and release the **SCAN** button to scan all memory channels. Because the unit is already in the **Memory Channel** mode, only the channels in the memory bank will be displayed.

NOTE

Memory channels need to be saved to effectively enter the **Memory Channel** mode and scan all memory channels.



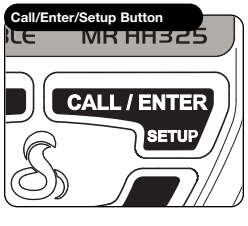
High/Medium/Low (H-M-L) Power Button

Your radio can transmit selectively at 1, 3 or 5 watts of power. Cobra suggests you maintain the low power setting for short-range communications. You will conserve battery life and avoid overpowering nearby stations with a low power setting signal. Use the high power setting for long-range communications or when you do not receive a response to a signal sent at 1 watt.

To Toggle Between H-M-L Power Modes:

Press the **H-M-L Power** button. The LCD will show which mode is in effect. Some channels are restricted for a maximum use of 1 watt. Your radio will automatically set the power to **Low Power** mode when you select those channels.

NOTE
Some channels, frequency bands and countries of use might not be able to operate in **High Power** mode.



Call /Enter/Setup Button

The **Call/Enter/Setup** button has multiple functions. It is generally used in the following ways:

- Press and release to transmit your unique **Call Tone** signal to another radio.
- Press and hold to enter any **Setup** menu.
- Functions as an **ENTER** button when making a selection in any **Setup** menu.

Setup Mode Programming

The following series of procedures is designed to allow you to set the programmable features of your radio. Correctly following these steps results in a minimal amount of radio setup programming time.

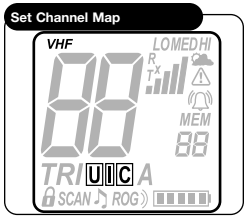
NOTE
When in the **Setup** mode, if you stop programming for longer than 15 seconds, your entry will be saved and the radio will go back to the **Marine Standby** mode. When you return to **Setup** mode and continue programming you will see the last “value” displayed. While in the **Setup** mode, you will not receive any signal reception.

Marine (VHF) Mode Programming

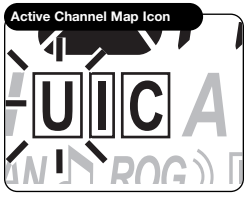
Programming these features will allow you to customize certain features of this radio to enhance your “On-Water” audio needs.

Start from **Marine Standby** mode to begin **Marine (VHF) Setup** programming. Press and hold the **Call/Enter/Setup** button for two (2) seconds to enter the programming mode.

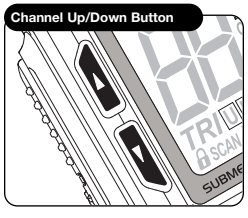
Set Channel Map



Active Channel Map Icon



Channel Up/Down Button



USA/International/Canada Channel Maps

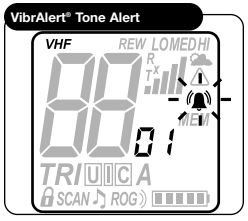
Three (3) sets of VHF Channel Maps have been established for marine use in the USA, Canada, and the rest of the world (International). Most of the channels are the same for all three (3) maps, but there are definite differences (see table on pages 20 through 27). Your radio has all three (3) maps built into it and will operate correctly in whichever area you choose.

To Set Channel Map Operating Area:

1. The **Channel Map** mode is the first mode that begins the **Marine (VHF) Setup** programming.
2. **U, I** and **C** will display, with the current setting (the **U** icon is the default) flashing.
3. Press **Channel Up/Down** button to select the **U, I** or **C** icon.
4. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

NOTE
One or two of the channel maps might have been disabled for sales of this radio in some countries.

VibrAlert® Tone Alert



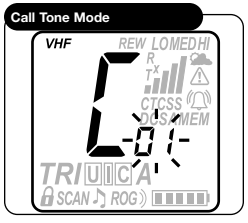
VibrAlert® Mode

In **VibrAlert®** mode, your radio can alert you to incoming signals by sounding an audible call tone, a silent vibration or both.

To set VibrAlert®:

1. The display will show either the **Vibrate** icon (shake bars), **Call Tone** icon (bell shape) or a combination **VibrAlert®** icon.
2. The present setting of either, **01**, **02** or **03** will be flashing.
3. Press **Channel Up/Down** button to select one of the following:
   - **01** = VibrAlert® On (both shake bars and bell shape).
   - **02** = Vibrate On (shake bars only).
   - **03** = Call Tone Only On (bell shape only).
4. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

Call Tone Mode



Call Tone Mode

In **Call Tone** mode, your radio can alert you to incoming signals by sounding an audible call tone, a silent vibration or both. This setting will also allow you to transmit a unique **Call Tone** alert to identify your radio when you transmit messages. You can select from one of 10 different **Call Tone** signals.

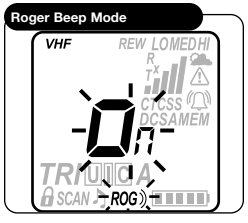
To Set Call Tone:

1. From the previous press of the **Call/Enter/Setup** button, the LCD will display the letter **"C"** and the current **Call Tone** number (01 through 10).
2. Press the **Channel Up/Down** button to select a different **Call Tone**. An example of each call tone will sound for 1.5 seconds.
3. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

NOTE

Call Tones are not usually used for **Marine VHF** communications. We allow you to turn it On for your unique communication needs.

Roger Beep Mode



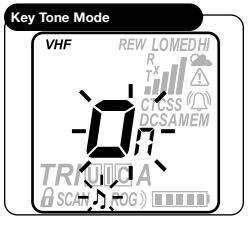
Roger Beep Mode

In **Roger Beep** mode, your listener will hear an audible tone when you release the **Talk** button. This alerts your listener that you are finished talking and it is OK for them to speak.

To Set Roger Beep On or Off:

1. Display will show **ROG** icon and **ON** or **OFF** flashing.
2. Press **Channel Up/Down** button to select **ON** or **OFF**. **ROG** will be displayed when On.
3. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

Key Tone Mode



Key Tone Mode

In **Key Tone** mode, an audible tone will sound each time a button is pressed or you change a setting.

To Set Key Tone On or Off:

1. Display will show **Key Tone** icon and **ON** or **OFF** flashing.
2. Press **Channel Up/Down** button to select **ON** or **OFF**.
3. Press **Call/Enter/Setup** button to save entry.

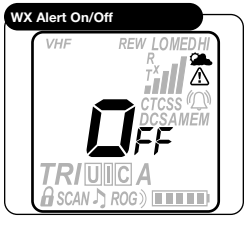
You have now ended **Marine (VHF) Setup** programming mode and will enter **Marine Standby** mode.

Weather (WX) Alert Mode Programming

Programming these features will allow your radio to listen to all NOAA Hazard Alert radio channels.

Start from **WX Alert Standby** mode to begin **WX Alert Setup** programming. Press and hold the **Call/Enter/Setup** button for two (2) seconds to enter the programming mode.

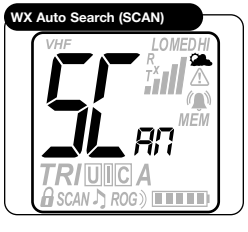
WX Alert On/Off



To Set WX Alert On or Off:

1. **WX Alert** mode is the first mode that begins **WX Alert Setup** programming.
2. Display will show **WX Alert** icon and **ON** or **OFF** flashing.
3. Press **Channel Up/Down** button to select **ON** or **OFF**.
4. Press **Call/Enter/Setup** button to save this entry and move to the next setup programming mode.

WX Auto Search (SCAN)



To Set WX Auto Search (SCAN) On or Off:

1. Display will show **WX Alert** icon and **SCAN**, **ON** or **OFF** is flashing.
2. Press **Channel Up/Down** button to select **SCAN**, **ON** or **OFF**.
3. Press the **Call/Enter/Setup** button to save entry.

You have now ended the **WX Alert Setup** programming mode and will enter the **WX Alert Standby** mode.

NOTE

When **WX Auto Search (SCAN)** is set to On, weather channel scanning will start automatically and scan all available weather channels until the strongest channel is found. This will happen under the following conditions:

- **WX Alert** is engaged.
- Radio is in **VHF Standby**.
- **WX** received signal level falls below a preset level.
- Radio is in **Power Saver** mode.

Standby/Receive and Transmit

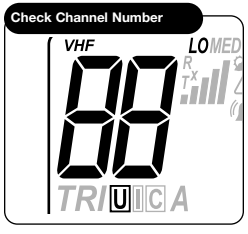
Marine Standby and Receive (Rx) Mode

Marine Standby mode is the default mode for the radio whenever it is turned on. From this mode, you can change current settings by becoming familiar with the different key functions in **Marine Standby** mode. While in **Marine Standby** mode, the user will be able to transmit by pressing the **Push to Talk (Talk)** button. Signals in **Receive (Rx)** mode will be received on the selected channel(s) and alerts broadcast by the Coast Guard and will activate the corresponding NOAA weather alert channels in your radio.

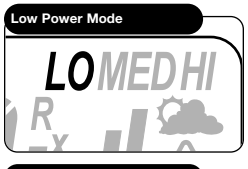
NOTE

Coast Guard alerts are broadcast on Channel 16 and you need to have the **WX Alert** turned On to receive NOAA weather alerts. While in **Marine Standby** mode, you will receive any messages sent on the channel to which you are tuned.

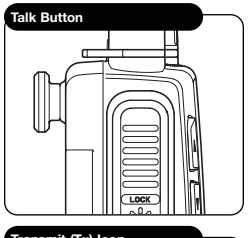
Check Channel Number



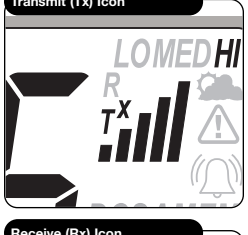
Low Power Mode



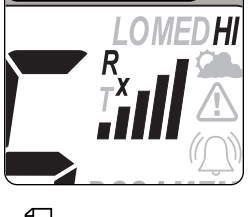
Talk Button



Transmit (Tx) Icon



Receive (Rx) Icon



Transmit (Tx) Mode

Transmit (Tx) mode gives you the ability to interact with safety services, other vessels and shore stations. When you use this capability, be sure to follow the procedures and to observe the courtesies that govern its use so everyone benefits. (See pages 20 through 27) to help you select the proper channels.

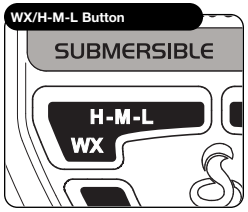
To Transmit a Message:

1. Check to see that your radio is set to a proper channel for the type of message you plan to send.
2. Toggle to the **Low Power** setting.
3. With the microphone about 2 in. [51 mm] from your mouth, press and hold the **Talk** button and speak into the microphone. The **Transmit** icon will appear on the LCD.
4. Release the **Talk** button when you are finished speaking. Your radio can only operate in either **Transmit (Tx)** or **Receive (Rx)** mode at any given time. You will not hear the response to your message unless the **Talk** button is released. If the **Battery Power** icon begins blinking on the LCD when the **Talk** button is pressed, the radio will NOT transmit.

NOTE
If the **Talk** button is held down for five (5) minutes, the radio will automatically sound a series of beeps and cease transmitting to prevent unwanted signal generation and battery drain. As soon as the **Talk** button is released, it can be pressed again to resume transmission.

Operating Your Radio
Standby/Receive and Transmit

WX/H-M-L Button



Weather (WX) Standby Mode

To enter the **WX Standby** mode, press and hold the **WX/H-M-L** button. All common operating functions of the radio will work the same in **WX Standby** mode as they do in the normal **Marine Standby** mode. The radio will be monitoring for all alerts in the background when in the **WX Standby** mode.

WX Alert Standby Mode

NOAA broadcasts weather information as described in the NOAA weather channels section on page 29 of this manual.

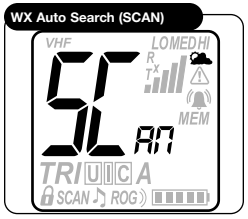
When NOAA broadcasts a weather alert signal and your radio is in **WX Alert Standby** mode, the following items will be displayed on the LCD display:

- The **WX** icon (cloud/sun) icon will be displayed.
- The last used weather channel will be displayed.
- The bar graph will display received signal strength level.
- The **WX Alert** icon (safety triangle) will be displayed.

NOTE
Only one (1) or two (2) of the weather channels will be operating in any given location (only in **Receive (Rx)** mode). You will need to select the channel with the strongest signal in your location.

NOTE
When in the **WX Alert** mode, and NOAA sends the 1050Hz alert tone, the radio will sound a series of loud beeps regardless of the volume control setting.

WX Auto Search (SCAN)



WX Auto Search (SCAN) Mode Function:

The purpose of the **WX Auto Search (SCAN)** function is to enable the receiver to automatically scan for an active **WX** channel under the following conditions:

1. **WX Auto Search (SCAN)** function is On.
2. **WX Alert** is On.
3. The radio is tuned to a **Marine VHF** channel and has entered **Power Save** mode (meaning there is no signal activity or user input for 10 seconds).
4. The radio software has detected that the current **WX** channel signal level has dropped below a preset minimum level or is gone completely.

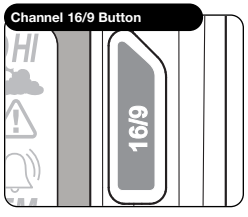
Once these conditions have been met, the software will then scan the **WX** channels looking for an active **WX** channel. When an active **WX** channel is found, it will stop the scan and use the new **WX** channel to look for the standard 1050Hz alert tone.

Advanced Operation

Channel 16/9 Mode

Channel 16/9 mode gives you quick access to calling on Channel 16 and Channel 9 from any operational mode.

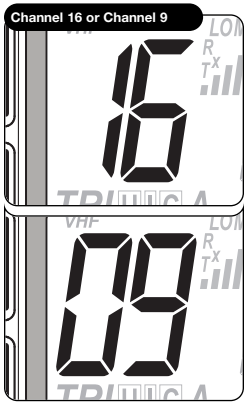
Channel 16/9 Button



To Switch to Channel 16 or Channel 9:

1. Press the **Channel 16/9** button to change to Channel 16.
2. Press the **Channel 16/9** button again to change to Channel 9.
3. Press the **Channel 16/9** button a third time and return to the last used **Standby** channel.

Channel 16 or Channel 9



Tri-Watch Mode

Tri-Watch mode gives you one (1) button access to scan a total of three (3) channels of most importance to you. Channel 16 is preprogrammed and will always be one (1) of the scanned locations. Two (2) other channels of your choice can be stored in the radio. These channels can be edited and/or recalled during future engagements of **Tri-Watch** mode.

NOTE
The radio must be squelched for **Tri-Watch** mode to function. See page 37 for **Squelch** procedure.

Tri-Watch Setup

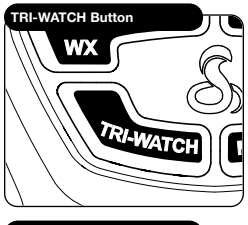
To Program or Edit the Tri-Watch Channels:

1. Press and hold the **TRI-WATCH** button for two (2) seconds to activate **Tri-Watch Setup** mode. The **TRI** and **MEM** icons on the display will turn On.

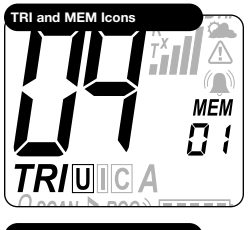
NOTE
The main channel number will flash to indicate channel position. If there is no input activity for 15 seconds, the radio will sound two (2) beeps and return to Marine Standby mode.

2. Press **Channel Up/Down** button to select the desired **Tri-Watch** channel.
3. Press and release **TRI-WATCH** button or **Call/Enter/Setup** button to confirm entry.
4. Repeat steps 2 and 3 to program the remaining additional **Tri-Watch** memory channel.
5. After programming both **Tri-Watch** memory channels the radio will immediately engage **Tri-Watch** mode. (See page 53 for further details.)

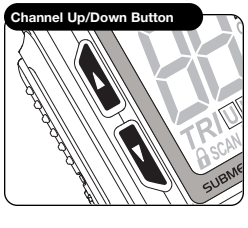
TRI-WATCH Button



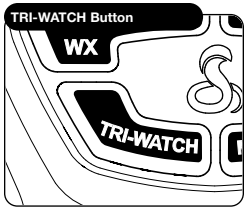
TRI and MEM Icons



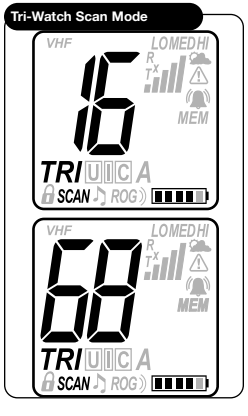
Channel Up/Down Button



TRI-WATCH Button



Tri-Watch Scan Mode



Using Tri-Watch

Tri-Watch Scan Mode:

1. From **Marine Standby** mode, press the **TRI-WATCH** button. The **TRI** icon will appear on the LCD display and the radio will scan through the three (3) **Tri-Watch** memory channels.
2. A signal on any one (1) of the three (3) channels will stop the scan for 10 seconds to allow you to listen to the traffic on that location.

NOTE
After the **Tri-Watch** scan stops to monitor a channel, as long as you do not press any buttons within 10 seconds, your radio will automatically resume scanning the **Tri-Watch** channels.

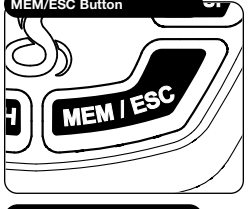
3. Press the **Channel Up/Down** button to resume scanning the **Tri-Watch** channels or to change the scan direction.
4. To EXIT the **Tri-Watch** scan, press the **TRI-WATCH** button again. The **TRI** icon will disappear from the LCD and the radio will return to **Marine Standby** mode.

Memory Location Mode

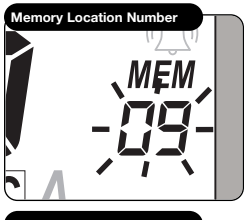
Your radio has unlimited memory locations for storing your most frequently used channels. These memory locations can be selected individually or can be scanned. (See page 57 under **Memory Location Scan**.)

To enter **Memory** mode, press **MEM/ESC** button. The display will show the **MEM** icon and the **Memory Channel** bank will be activated and displayed.

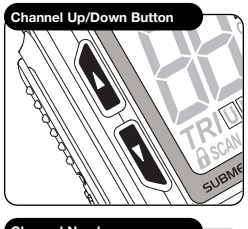
MEM/ESC Button



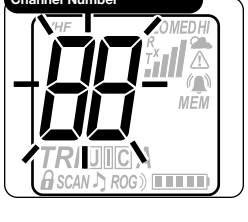
Memory Location Number



Channel Up/Down Button



Channel Number



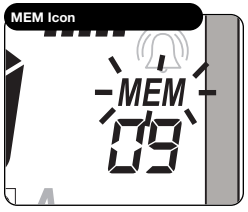
To Program Memory Locations:

1. Press and hold the **MEM/ESC** button for two (2) seconds. The memory location number will start flashing and the **MEM** icon will be turned On.
2. Use the **Channel Up/Down** button to advance to the memory location (00-99) you want to program.
3. Press the **MEM/ESC** button to select the memory location. The memory channel number will stop flashing and the channel number will start flashing.
4. Use the **Channel Up/Down** button to change to the channel you want to store into the selected memory location.
5. Press the **MEM/ESC** button to program that channel. The memory location number will flash again.

Repeat steps 2 through 5 to program as many additional memories as you want.

6. Press and hold the **MEM/ESC** button for two (2) seconds. This will return the radio to **Memory** mode.
7. Press and release the **MEM/ESC** button again to return to **Marine Standby** mode.

MEM Icon



To Recall a Stored Memory Location:

1. Press the **MEM/ESC** button. The **MEM** icon will be turned On.
2. Press the **Channel Up/Down** button to select the memory location. If a memory location has been programmed, its associated channel will display on the LCD. Your radio is now in **Marine Standby** mode on the selected memory location.

To Exit Memory Location Mode:

Press the **MEM/ESC** button to return the radio to **Marine Standby** mode. The last channel used in **Marine Standby** mode will now be displayed on the LCD and the **MEM** icon will disappear.

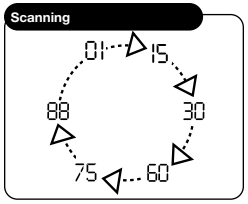
To Erase Stored Memory Locations:

1. Press and hold the **MEM/ESC** button for two (2) seconds. The memory location number will start flashing and the **MEM** icon will be turned On.
2. Use the **Channel Up/Down** button to advance to the memory location you want to erase.
3. Press the **MEM/ESC** button to select the memory location. The memory channel number will stop flashing and the channel number will start flashing.
4. Use the **Channel Up/Down** button to change to the channel to read “00” at the selected memory location.
5. Press the **MEM/ESC** button to erase that channel.

Repeat steps 2 through 5 to erase as many additional memories as you want.

6. Press and hold the **MEM/ESC** button for two (2) seconds. This will return the radio to **Memory** mode.
7. Press and release the **MEM/ESC** button again to return to **Marine Standby** mode.

Scanning



Channel Scan Mode

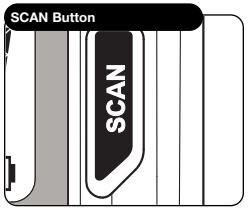
During **Channel Scan** mode, the radio will rapidly switch from channel to channel through all the channels. Whenever any activity is detected, the radio will stop the scan for 10 seconds to allow you to listen briefly on that channel. The radio will then continue to scan unless you switch out of the **Channel Scan** mode.

NOTE
The radio must be squelched for **Channel Scan** mode to function. See page 37 for **Squelch** procedure.

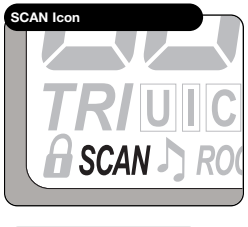
To Enter Channel Scan:

1. From **Marine Standby** mode, press the **SCAN** button. The radio will immediately begin to scan the entire channel map selected in the active channel map. The **SCAN** icon will show on the LCD.
2. A signal on any channel will stop the scan for 10 seconds to allow you to listen to the traffic on that location.
3. Press the **Channel Up/Down** button to resume scanning the **Channel Scan** channels or to change the scan direction.
4. To EXIT **Channel Scan** mode, press the **SCAN** button again. The **SCAN** icon will disappear from the LCD and the radio will return to **Marine Standby** mode.

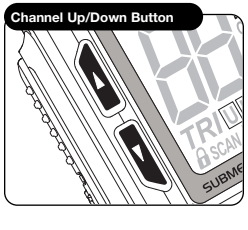
SCAN Button



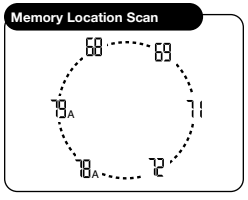
SCAN Icon



Channel Up/Down Button



Memory Location Scan

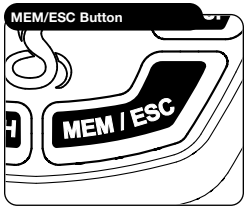


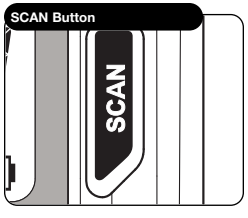
Memory Location Scan Mode

During **Memory Location Scan** mode, the radio will rapidly scan through all pre-assigned memory channels. Whenever any activity is detected on a channel, the radio will stop the scan for 10 seconds to allow you to listen briefly on that channel. It will then continue to scan unless you switch out of **Memory Location Scan** mode.

NOTE
The radio must be squelched for **Memory Location Scan** mode to function. See page 37 for **Squelch** procedure.

NOTE
If there are fewer than two (2) memory locations programmed in the radio, the **Memory Location Scan** option will not be available. To program at least two (2) memory locations, see page 54.





To Enter Memory Location Scan:

1. From **Marine Standby** mode, press the **MEM/ESC** button.
2. Press the **SCAN** button. The radio will immediately begin to scan all pre-assigned memory channels. The **SCAN** and **MEM** icons will show on the LCD.
3. A signal on any channel will stop the scan for 10 seconds to allow you to listen to the traffic on that location.
4. Press the **Channel Up/Down** button to resume scanning the **Memory Location Scan** channels or to change the scan direction.
5. To EXIT **Memory Location Scan** mode, press the **SCAN** button again. The **SCAN** and **MEM** icons will disappear from the LCD and the radio will return to **Marine Standby** mode.

Maintenance

Very little maintenance is required to keep your CobraMarine VHF radio in good operating condition:

- Keep the radio and charger clean by wiping with a soft cloth and mild detergent. Do not use solvents or harsh or abrasive cleaners, which could damage the case or scratch the LCD screen.
- If the radio is exposed to salt water, wipe with a soft, moist cloth at least once a day to prevent buildup of salt deposits, which could interfere with button operation.
- If the radio will be stored for a long period, such as over the winter, remove the batteries from the battery tray and store them in a separate package. This is especially important if you are using alkaline batteries.

Troubleshooting

Problem	Possible Cause(s)	Solution(s)
No display on LCD when radio is turned On	Batteries are exhausted	Recharge or replace batteries
	Batteries not installed properly	Remove batteries and reinstall according to polarity markings
NiMH batteries run down quickly	Batteries are at the end of their life	Replace with new batteries
Will transmit at one (1) or three (3) watts, but not at five (5) watts	Batteries are low	Recharge or replace batteries
	Selected channel is imited to one (1) watt	Switch to another channel
Will not transmit	Selected channel is limited to receive only	Switch to another channel
No sound from speaker	Volume level is too low or squelch level is too deep	Re-adjust volume and squelch
No response to button press	Button lock is On	Press **Backlight/ Key Lock** button
No answer to calls	Out of range of other station	Switch to three (3) or five (5) watts or move closer
	Signal is blocked by terrain	Move until you have a “line-of-sight” to the other station

Specifications

Specifications

General	
Number of Channels	All U.S., Canadian, International and NOAA Weather Channels
Channel Spacing	25 kHz
Modulation	5 kHz Max.
Input Voltage	7.2 VDC
Battery Life: 5% TX, 5% RX, 90% Standby	NiMH: 11 hours @ 5 watts, 18.5 hours @ 1 watt Alkaline: 20 hours @ 5 watts, 35 hours @ 1 watt
Current Drain: Standby Receive (Rx) Transmit (Tx)	 40 mA 200 mA 1.8 A @ High Power, 700 mA @ Low Power
Temperature Range	-20˚C to 50˚C
Radio Dimensions	4.8" x 2.4" x 1.4" (123 mm x 62 mm x 36 mm) not including antenna
Radio Weight	0 lbs 8 oz. (228 g) without batteries
Receiver	
Frequency Range	156.050 to 163.275 MHz
Receiver Type	Double Conversion Super-Heterodyne
Sensitivity: 20 dB Quieting 12 dB Sinad	 0.35 uV 0.30 uV
Adjacent Channel Selectivity	-60 dB
Intermodulation and Rejection	-60 dB
Spurious and Image Rejection	-60 dB
AF Output	250 mW @ 8 Ohms
Transmitter	
Frequency Range (Tx):	156.025 to 157.425 MHz
RF Output Power	1, 3 or 5 watts
Spurious Emissions	-60 dB @ High Power, -55 dB @ Low Power
Microphone Type	Condenser
Frequency Stability	+/-10 ppm
FM Hum and Noise	40 dB

Warranty and Trademark Acknowledgement

Limited 3-Year Warranty

For Products Purchased In The U.S.A.

Cobra Electronics Corporation warrants that its CobraMarine VHF radio, and the component parts thereof, will be free of defects in workmanship and materials for a period of three (3) years from the date of first consumer purchase. This warranty may be enforced by the first consumer purchaser, provided that the product is utilized within the U.S.A.

Cobra will, without charge, repair or replace, at its option, defective radios, products or component parts upon delivery to the Cobra Factory Service department, accompanied by proof of the date of first consumer purchase, such as a duplicated copy of a sales receipt.

You must pay any initial shipping charges required to ship the product for warranty service, but the return charges will be at Cobra's expense, if the product is repaired or replaced under warranty. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

Exclusions: This limited warranty does not apply:

1. To any product damaged by accident.
2. In the event of misuse or abuse of the product, or as a result of unauthorized alterations or repairs.
3. If the serial number has been altered, defaced, or removed.
4. If the owner of the product resides outside the U.S.A.

All implied warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty. Cobra shall not be liable for any incidental, consequential or other damages; including, without limitation, damages resulting from loss of use or cost of installation.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

For Products Purchased Outside The U.S.A.

Please contact your local dealer for warranty information.

Trademark Acknowledgement

Product Service

If you have any questions about operation or installing your new CobraMarine VHF product or if you are missing parts…

Please call Cobra first! DO NOT RETURN THIS PRODUCT TO THE STORE! See customer assistance on page A1.

If your product should require factory service, please call Cobra first before sending your radio. This will ensure the fastest turn-around time on your repair. You may be asked to send your radio to the Cobra factory. It will be necessary to furnish the following to have the product serviced and returned:

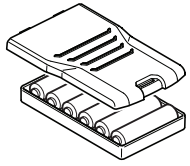
1. For warranty repair, include some form of proof-of-purchase, such as a photocopy of a sales receipt. If you send the original receipt, it cannot be returned.
2. Send the entire product.
3. Enclose a description of what is happening with the radio. Include a typed or clearly printed name and address of where the radio is to be returned.
4. Pack radio securely to prevent damage in transit. If possible, use the original packing material.
5. Ship prepaid and insured by way of a traceable carrier such as United Parcel Service (UPS) or Priority Mail to avoid loss in transit to: Cobra Factory Service, Cobra Electronics Corporation, 6500 West Cortland Street, Chicago, Illinois 60707 U.S.A.
6. If the radio is in warranty, upon receipt of your radio, it will either be repaired or exchanged depending on the model. Please allow approximately three (3) to four (4) weeks before contacting Cobra for status. If the radio is out of warranty, a letter will automatically be sent informing you of the repair charge or replacement charge.
7. If your radio is returned for factory repair, it will be returned to you with default settings restored.

If you have any questions, please call 773-889-3087 for assistance.

Accessories

Your Cobra radio comes with several accessories that will enhance the use of the radio and also offer convenience to the end user.

Alkaline Battery Tray

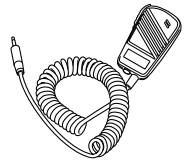


Alkaline Battery Tray

A special alkaline battery tray (P/N CM 110-011) is available as an optional accessory to have as an emergency backup. By using six (6) high-quality AA alkaline batteries, you can have a spare battery backup source for your radio.

NOTE
Alkaline batteries are not rechargeable.

Lapel Speaker/Microphone



Lapel Speaker/Microphone

A speaker/microphone, that attaches to your lapel, by ordering P/N CM 330-001.

This unique accessory allows you to wear the radio on your belt while still being able to communicate with other vessels. A small **Push to Talk** button on the lapel speaker/microphone allows you to answer any incoming call.