Printed in China Part No. 480-1015-P Version C

Nothing Comes Close to a Cobra®

English

Introduction

Our Thanks To You And Customer Assistance

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 VHF transceiver for fixed mounting on your boat. It gives you 2-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 2-way communications, in the U.S.A., the radio can provide quick access to receive eight NOAA (National Oceanographic and Atmospheric Administration) and two Canadian weather channels for alerting 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.

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

English and Spanish 8:00 a.m. to 5:30 p.m. Central Time Mon. through Fri. (except holidays) 773-889-3087 (phone).

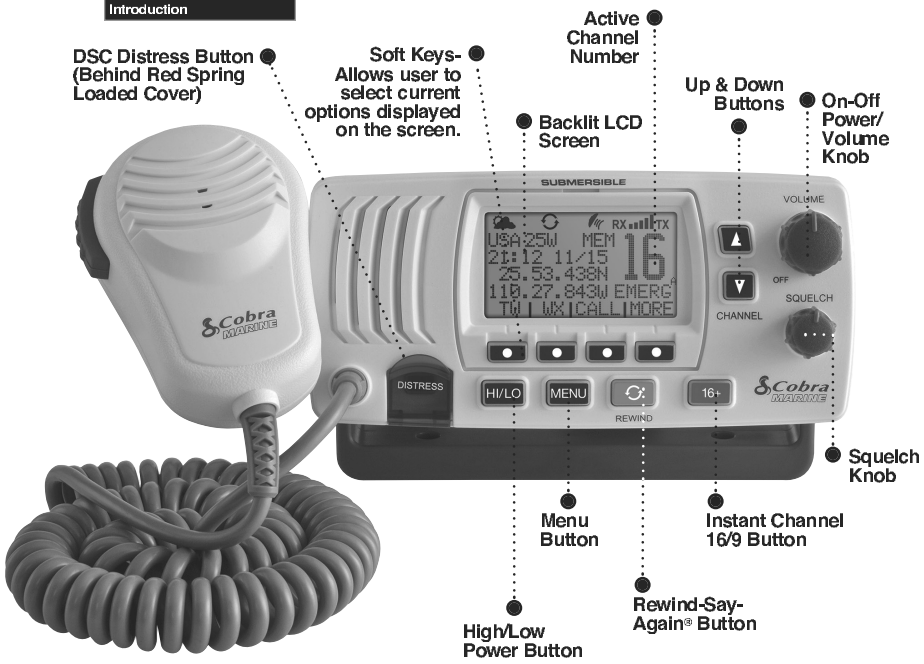
English and SpanishFaxes can be received at 773-622-2269 (fax).

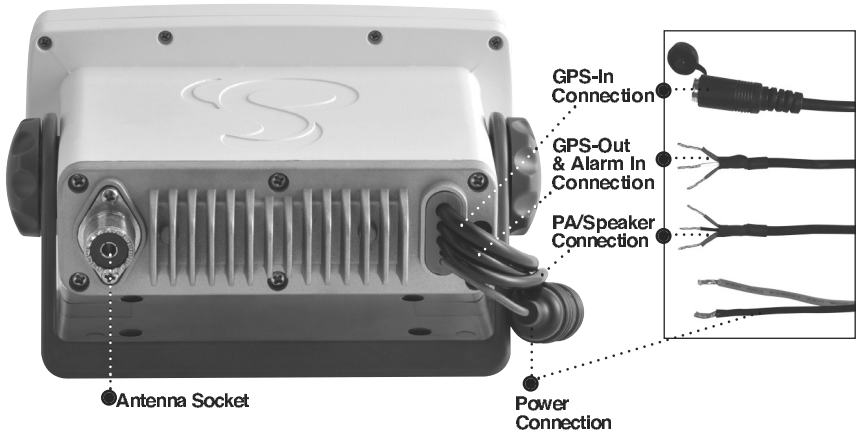
English only.www.cobra.com (on-line: Frequently Asked Questions).
English and Spanish. productinfo@cobra.com (e-mail).

For Assistance Outside The U.S.A.

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

Transceiver Controls, Indicators And Connections





Product Features

Product Features

Replay missed VHD calls. Automatically records the last 20 seconds of incoming radio transmissions. Great when in noisy conditions.

Selectable to one (1) or 25 watts output power for near or distant calling.

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

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

Can alert you with an audible tone and visual alarm if threatening weather is nearby.

Instant access to the priority Channel 16 and calling Channel 9.

Allows the ability to maintain a listening watch on VHF Channel 16 while simultaneously monitoring Channel 70 for DSC calls. Allows sending a distress message at the touch of a button as well as specific station-to-station calls. Radio utilizes two (2)built-in encoders (receivers).

Lets you scan through all selected memory channels to find conversations in progress.

Lets you monitor three (3) channels at once — Channel 16, Channel 9, and one (1) user selectable channel.

Blocks background noise to let your voice be heard at the receiving station.

Helps you quickly find the buttons you need in low light conditions.

Radio can be mounted on, under, or in almost any flat surface using one (1) of the included brackets.

Submersible to (1.5) meters of water for 30 minutes - meets IPX8/JIS8 Standards.

Allows connection to the alarm output of your chart plotter to alert you when an arrival, off-course, etc. alarm has been activated.

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 it. 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." It 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."

- FCC OET Bulletin 65 Edition, 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.
- Cobra Electronics Corporation™ recommendations for radio frequency exposure are based upon the federal regulatory requirements in the U.S.A. Your country may have different requirements. Ask your dealer or another knowledgeable person. Compliance with recommendations for Radio Frequency Exposure is the responsibility of both the antenna installer and the radio operator.

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

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. **KEEP** the radio at least two (2) inches (5 cm) away from yourself and others when transmitting. SEE page 20 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.

NEVER connect the transceiver 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 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, Industry Canada or EU RF exposure limits or create other dangerous conditions.

NOTE
Throughout this manual, the term "Transceiver" will be used to identify the main unit containing the LCD screen and controls. The term "Radio" will be used to identify the entire equipment including transceiver, microphone, antenna and any attached external speakers.

Recommendations For Marine Communication

NOTICES

AVOID using or storing the radio at temperatures below -4°F (-20°C) or above 140°F (55°C).

NEVER connect the transceiver to DC power greater than 16 volts or to any DC source with reversed polarity. Doing so will damage the transceiver.

DO NOT cut the power cables attached to the transceiver. Improper reconnection with reversed polarity will damage the transceiver.

POSITION your radio, external speakers, and cables at least three (3) feet (0.9 m) away from your vessel's magnetic navigation compass. CHECK your compass before and after installation to be sure that it has not introduced any deviation.

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

DO NOT drop the transceiver or microphone. Doing so may crack the case or damage a waterproof seal. Once these items have been dropped, the original waterproofing cannot be guaranteed.

DO NOT use chemicals or solvents such as mineral spirits and alcohol to clean your radio. They may damage the case surfaces.

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

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 25 watt maximum output of your radio isn't sufficient for the distances you travel from the coast, consider installing 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 don't know where you are, the Coast Guard will have difficulty finding you if you're 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 Information

Sea Tow Automated Radio Check (ARC) System

Please try the Sea Tow Automated Radio Check service. Areas where the safety check service is available include the East Coast, Gulf of Mexico, Southern California, and select inland locations including the Great Lakes. The first and only boating safety program of its kind, the Sea Tow Automated Radio Check service is fully automated and allows 24 hour a day automated responses to radio check calls.

Conducting a radio check through the Sea Tow Automated Radio Check service couldn't be simpler. All boaters need to do is tune their VHF radio to Channel 24, 25, 26, 27, 28 or 84 (channel varies by location), then key the mic and ask for a radio check. The system responds to each radio check with an automated reply including the location, and also replays the boater's original radio transmission, allowing them to assess the strength of the signal and confirm the VHF radio is in good working order.

To find the Sea Tow Automated Radio Check service channel in an area boaters, radio owners should visit www.seatow.com/arc. The web page allows you to search for the local channel and has an instructional video on how to use the service step by step.

FCC LICENSING INFORMATION

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

This CobraMarine radio incorporates a VHF FM transceiver designed for use in the frequency range of 156.025 to 163.275 MHz. It requires 13.8 volts DC and has a switchable RF output power of one (1) or 25 watts.

The transceiver is capable of Class-D (Digital Selective Calling) operation in accordance with CFR Part 47, Section 80,225.

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) key.

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 a 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. 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.

VHF Marine Radio Procedures

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.

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. Try a second call after waiting two (2) minutes. If there is no answer, switch to a higher power. This will conserve your battery and minimize interference to other users by avoiding repeated calls.

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.

Voice Calling

Initial Calling on Channel 16 or 9

The use of Channel 16 is permitted for making initial contact (hailing) with 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, ship name, the state registration number, or other official number at both the beginning and end of each message.

Prohibited Communications

You **MUST NOT** transmit:

- False distress or emergency messages.
- Messages containing obscene, indecent, or profane words or meaning.
- 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

To Call Another Vessel Or A Shore Installation Such As A Lock Or Bridge Tender:

- Make sure your radio is **On**.
- Select Channel 16 and listen to make sure it is not being used.

NOTE

Channel 9 may be used by recreational vessels for general-purpose calling. This frequency should be used whenever possible to relieve congestion on Channel 16.

- When the channel is quiet, press the **Talk** button and call the ship you wish to call. (Hold the microphone a few inches from your face and speak directly into it in a normal tone of voice — clearly and distinctly.) Say "[name of station being called] THIS IS [your vessel's name or call sign]."
- Once contact is made on the calling channel, you must switch to a proper working channel. See the channel listing on page 66 through 78.

Digital Selective Calling (DSC)

For Example

The vessel Corsair calling the vessel Vagabond:

Corsair: "Vagabond, this is Corsair (station license number call sign)."

Vagabond: "Corsair, this is Vagabond. Over."

Corsair: "Vagabond go to working Channel 68. Over."

Both parties switch over to the agreed upon working channel....

Corsair: "Vagabond I need to talk to you about... Over."

Vagabond: "Corsair in answer to your question about... Over."

Corsair: "Vagabond, thanks for the information about... (call sign and **out**)."

After each transmission, say "OVER" and release the microphone **Push to Talk** (PTT) button. This confirms that the transmission has ended. When all communication with the other vessel is totally completed, end the message by stating your call sign and the word "OUT." Remember, it is not necessary to state your call sign with each transmission, only at the beginning and end of the message.

NOTE
For best sound quality at the shore station or other vessel receiving your call, hold the microphone/speaker at least 2 in. (51 mm) from your mouth and slightly off to one (1) side. Speak in a normal tone of voice.

Digital Selective Calling (DSC)

Digital selective calling is a semi-automated system for establishing a radio call. It has been designed by the International Maritime Organization (IMO) as an international standard for VHF, MF, and HF calls and is part of the Global Maritime Distress and Safety System (GMDSS).

DSC will eventually replace aural (listening) watches on distress frequencies and will be used to announce routine and urgent maritime safety information broadcasts. Until DSC is fully implemented, it is still necessary to maintain a listening watch on Channel 16.

The DSC system allows mariners to instantly send a distress call with GPS position coordinates (requires a GPS receiver to be connected to the radio) to the Coast Guard and other vessels within range of the transmission. DSC also allows mariners to initiate and receive distress, urgent, safety, routine, position request, position send, and group calls between vessels equipped with DSC capable radios.

Maritime Mobile Service Identity (MMSI)

Maritime Mobile Service Identity (MMSI)

The MMSI Number Is Available In The U.S.A. From Any Of Two (2) Sources:

- U.S. Power Squadron www.usps.org
- BoatU.S.: 1-800-563-1536 – www.boatus.com/mmsi

NOTE
The above references are for recreational vessels only. Commercial vessels should contact the FCC.

An MMSI is a nine (9) digit number used on a marine radio capable of using digital selective calling (DSC). It is used to selectively call other vessels or shore stations and is similar to a telephone number.

For your CobraMarine™ radio to operate in the **DSC** mode, you must enter your maritime mobile service identity (MMSI) number. See page 41 for instructions on how to enter it.

In Canada, Contact:

- Industry Canada Spectrum Management Office (only available on the Internet): www.ic.gc.ca and search for "MMSI".

To Obtain An MMSI Number Outside The U.S.A.:

Users can obtain an MMSI from their country's telecommunications authority or ship registry. This may involve amending or obtaining a ship station license.

WARNING
This equipment is designed to generate a digital maritime distress and safety signal to facilitate search and rescue. To be effective as a safety device, this equipment must be used only within communication range of a shore-based VHF marine channel to distress and safety watch system. The range of the signal may vary, but under normal conditions should be approximately 20 nautical miles.

Radiotelephone Calls

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, do 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 marine to bring the fuel you need or to give you a tow.

Emergency Messages And Distress Procedure

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-it-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.

Emergency Messages And Distress Procedure

Marine Distress Procedure

Speak slowly — clearly — calmly.

1. Make sure your radio is **On**.
2. Select VHF 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]."
5. **Say:**
   "MAYDAY (or "PAN" or "SECURITE")
   [your vessel name or call sign].
6. **Tell where you are:**
   (what navigational aids or landmarks are near).
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 item 3 above.

VHF Marine Radio Protocols

Emergency Messages And Distress Procedure

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.

For Example

"Mayday — Mayday — Mayday"

"This is Corsair — Corsair — Corsair" [or "Illinois 1234 AB" three (3) times]

"Mayday Corsair (or Illinois 1234 AB)"

"Navy Pier bears 220 degrees magnetic — distance five (5) miles"

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

"Four adults, three children aboard — no one injured"

"Estimate we will remain afloat one-half (½) hour"

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

"I will be listening on Channel 16"

"This is Corsair (or Illinois 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.

Marine Distress Procedure – DSC

Digital Selective Calling (DSC) is a semi-automated system that will allow you to press the **Distress** button from any routine to make a distress call. When the distress button is pressed, all other channels go to **Standby** mode and allow the digitally encoded "pre-programmed" message to take precedence. Important information such as your MMSI number, position and name will be transmitted on Channel 16. The distress alarm will sound for two (2) minutes or until the alarm is cleared.

The DSC system allows you to choose a "pre-programmed" distress call such as: "Man Overboard, Sinking, Collision." There are many pre-programmed choices to choose from. If a GPS is connected to your radio, your coordinates will also be sent to the Coast Guard as well as to other vessels that are within range of the transmission. DSC calling also allows the user to initiate and receive distress, urgent, safety, routine, position request, position send and group calls between vessels equipped with DSC capable radios.

WARNING
This radio will generate a digital maritime distress and safety signal to help facilitate search and rescue. This radio must be used only within communication range of a shore based VHF station with a distress and safety watch system. The range of the signal may vary, however, under normal conditions should be approximately 20 nautical miles.

Included In This Package

Included In This Package

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

Transceiver*

Transceiver Flush Mount Kit

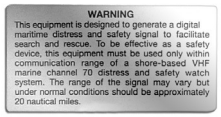
Transceiver Surface Mount Kit

Microphone

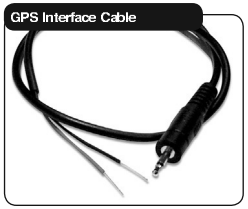
Microphone Mounting Kit

Operating Instruction Manual

Warning Sticker



GPS Interface Cable



Accessories Order Info

Optional Accessories

You can find quality Cobra products and accessories at your local Cobra dealer, or in the U.S.A., you can order directly from Cobra.

Ordering From U.S.A.

Call 773-889-3087 for pricing or visit www.cobra.com.

For Credit Card Orders
Call 773-889-3087 [Press one from the main menu] 8:00 a.m. to 5:30 p.m. Central Time, Monday through Friday.

Make Check or Money Order Payable To
Cobra Electronics, Attn: Accessories Dept.,
6500 West Cortland Street, Chicago, IL 60707 U.S.A.

To Order Online
Please visit our website: www.cobra.com

Mounting And Powering The Radio

Before using your CobraMarine VHF radio, it must be installed on your vessel.

Installing Your Radio

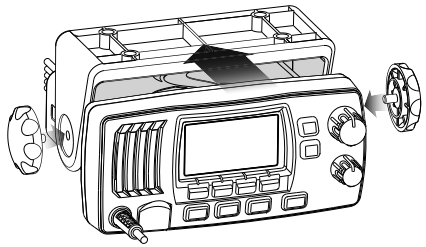
Choose a location for your radio where it will be conveniently accessible with the following factors in mind:

- The leads to the battery and the antenna are best kept as short as possible.
- The antenna must be mounted at least three (3) feet from the transceiver.
- The radio and all speakers need to be far enough from any magnetic compass to avoid deviation due to the speaker magnet.
- There needs to be free air flow around the heat-sink fins on the back of the transceiver.

Surface Mount

A **Surface Mounting** kit is included with your CobraMarine VHF radio to allow its installation on almost any flat surface.

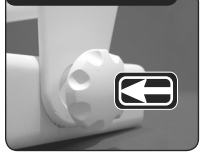
Surface Mounting Kit



To Mount The Transceiver On Almost Any Flat Surface:

1. Use the mounting bracket as a template to drill holes for the mounting screws.
2. Attach the mounting bracket to the chosen surface.
3. Attach the transceiver to the mounting bracket with the locking knobs.
4. Tilt the transceiver to a convenient angle and tighten the locking knobs.

Tilt Lock Knobs



Installation And Start-Up
Mounting And Powering The Radio

Microphone Bracket

Microphone Bracket

To Install The Microphone Bracket:

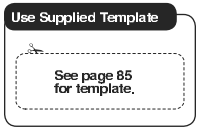
1. Install the microphone bracket on a vertical surface near the transceiver using the supplied stainless steel screws.

Flush Mount

A **Flush Mounting** kit is included with your CobraMarine VHF radio to allow its installation in almost any flat surface.

To Mount The Transceiver Flush In Almost Any Flat Surface:

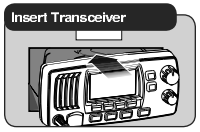
Use Supplied Template



1. Use the supplied template to mark and cut an opening in the flat surface. See page 85 for template.

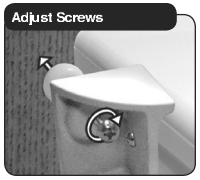
CAUTION
Before cutting, be sure the area behind the flat surface is clear of any instruments or wires that might be damaged in the process.

Insert Transceiver



2. Insert the transceiver into the opening.
3. Attach the flush mounting brackets to the sides of the transceiver with the adjusting screw flanges facing the back of the flat surface.

Adjust Screws



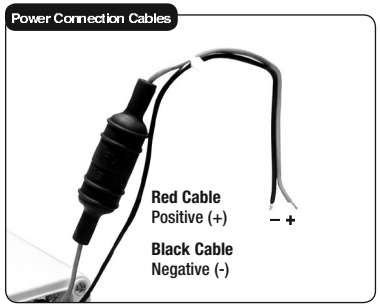
4. Tighten the adjusting screws against the back of the flat surface until the flange on the front of the transceiver is tight against the flat surface.

Warning Sticker

Warning Sticker

FCC regulations require that the **Warning Sticker** supplied with this radio be applied to a spot where it is easily seen by the radio operator. Be sure the location is clean and dry before applying the sticker.

Power Connection Cables



Electrical Power Connection

Your CobraMarine VHF radio is powered from +10.0V ⎓ to +16.0V ⎓vessel direct current electrical, negative ground systems (12-volt nominal). A fused power connection lead is provided at the back of the transceiver.

To Connect To A Power Source:

1. Attach the **black** (-) wire to a **negative** (-) ground.
2. Attach the fused **red power** (+) wire to the **positive** (+) side of the power system.

NOTE
This radio will draw up to 8 amps when transmitting at full power.

NOTICES
A reverse polarity connection will damage the radio.
When replacing the fuse in your transceiver, use only the size and type originally provided.

NOTE
All wiring is best kept as short as possible. If the power leads must be extended, use a high-quality, marine-grade cable sized for up to 10 amps of current. To minimize voltage drop, choose a wire gauge as follows:

Length	Wire Gauge
Up to 1.5m(4.9ft)	1.6 mils(#14)
Up to 3.0m(9.8 ft)	2.0 mils(#12)
Up to 5.0m(16.4 ft)	2.6 mils(#10)
Up to 6.0m(19.7 ft)	3.3 mils(#8)

Antenna Requirements And Attachment

Antenna Requirements

Your CobraMarine VHF radio requires an external marine antenna to send signals into the air and to receive them. The radio is arranged to use any of the popular marine VHF antennas, but it is up to you to choose which antenna to use.

Since it represents the link between your radio and the outside world, Cobra® suggests you purchase the best quality antenna, coaxial cable, and connectors you can. This is best accomplished with the advice and guidance of a knowledgeable dealer who can assess the variables involved with your particular boat and preferences.

WARNING
Compliance with FCC requirements for Radio Frequency Exposure is the responsibility of both the antenna installer and the radio operator.

Safe Maximum Permissible Exposure (MPE) Radius
To avoid health hazards from excessive exposure to RF energy, FCC OET Bulletin 65 establishes an MPE radius of 10' (3 m) for the maximum power of your radio with an antenna having a maximum power gain of 9 dBi. This means that all persons must be at least 10' (3 m) away from the antenna when the radio is transmitting.

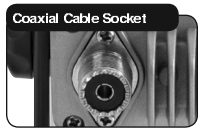
Installation Requirements

A) An omnidirectional antenna with a gain not greater than 9 dBi must be mounted at least 16.4' (5 m) above the highest deck where people may be during radio transmissions, measured vertically from the lowest point of the antenna. This provides the minimum separation distance to comply with RF exposure requirements and is based on the MPE radius of 10' (3 m) plus the 6.6' (2 m) height of an adult.

B) For vessels without structure to mount the antenna as described in A, it must be mounted as follows AND all persons must be outside the 10' (3 m) MPE radius during radio transmissions. The antenna must be mounted so that its lowest point is at least 3.3' (1 m) vertically above the heads of all persons during radio transmissions.

Radio Operator Requirements
Do not transmit when anyone is within the MPE radius of the antenna unless that person or persons are shielded from the antenna by a grounded metallic barrier. This is especially important on vessels with antennas mounted as described in B where no one may be within 9' (2.8 m) horizontally from the base of the antenna during transmissions.

FAILURE TO OBSERVE THE ABOVE LIMITS MAY EXPOSE THOSE WITHIN THE MPE RADIUS TO RF ENERGY ABSORPTION IN EXCESS OF THE FCC MAXIMUM PERMISSIBLE EXPOSURE. IT IS THE RADIO OPERATOR'S RESPONSIBILITY TO INSURE THAT MPE LIMITS ARE HEEDED AND THAT NO ONE IS WITHIN THE MPE RADIUS DURING TRANSMISSIONS.



Antenna Lead Attachment

Once the antenna is installed, the **Coaxial Cable Lead** can be attached to the socket at the back of the transceiver.

CAUTION
Attempting to transmit without an antenna attached will damage your CobraMarine VHF radio.

External Devices And Connections

Your CobraMarine VHF radio is set up to connect auxiliary devices for navigation, convenience, and added versatility. As is the case with the antenna, choosing these devices is best done with the advice and guidance of a knowledgeable dealer. Standard connectors are provided on the front and back of the transceiver.

External Speaker (Not Included)

An **External Speaker** can provide greater volume to hear messages than the speaker incorporated in the CobraMarine microphone/speaker.

To Install An External Speaker:

1. Connect the wires to the External Speaker as follows:

   Orange wire - +Positive connection

   Black wire - -Negative connection (Black wire is common shared -Negative for the External Speaker and PA output)
2. Make sure to solder, crimp, or twist the wires together firmly and use shrink tubing or electrical tape to waterproof the connection.

Public Address Speaker (Not Included)

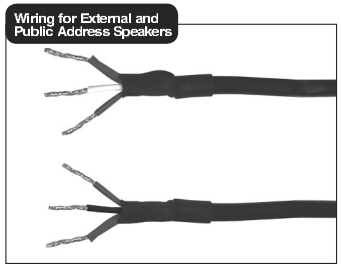
At times, it may be handy to hail other boats or give instructions to line handlers on the dock. Your CobraMarine VHF radio can be switched to operate in the **Public Address** mode through an attached PA speaker.

To Install A Public Address Speaker:

1. Connect the wires to the External Speaker as follows:

   Red wire - +Positive connection

   Black wire - -Negative connection (Black wire is common shared -Negative for the External Speaker and PA output)
2. Make sure to solder, crimp, or twist the wires together firmly and use shrink tubing or electrical tape to waterproof the connection.



Global Positioning System (GPS) Device (Not Included)

Your Cobra Marine radio does not include a built-in GPS receiver. After connecting an external GPS receiver, your position will be continuously indicated on the LCD and, most importantly, it will be included automatically with any DSC Distress message you may need to send. That will take the “search” out of “search and rescue.

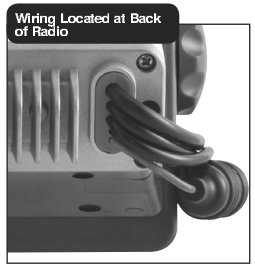
An external GPS input connector has been provided to allow connection to a back-up GPS receiver.

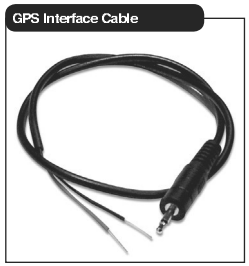
To Install A GPS Device:

1. Install the GPS device in a convenient location according to its manufacturer’s directions.
2. Plug-in the optional Cobra C.P.S. (Cobra Positioning System) into the provided 2.5mm jack.
3. Or using the supplied 2-wire adapter wire as follows:

   Yellow wire - NMEA 0183 +Data in

   Green wire - NMEA 0183 -Data in.





NOTE
Satellite acquisition time is dependent on the antenna mounting location. If the acquisition takes too long, relocate the radio or use an external GPS receiver.

NOTE
GPS data input is as follows:

- Input voltage (peak to peak): 10V
- Maximum data rate: 4800 baud
- Impedance: 4KΩ

Getting Started

Refer to the foldout on the front cover 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 buttons on the transceiver. Press means a momentary press, then release; press and hold means to hold the button.

Tones And Alarms

When your CobraMarine VHF radio is **On**, you can expect to hear the following tones and alarms. The volume of these sounds is controlled by the circuitry in the radio and is not affected by the volume set with the **On-Off Power/Volume** knob.

Confirmation Tone
Single high-pitched beep confirms all button presses except the **Talk** button. It can be turned **On** or **Off**. See set-up routines on page 30.

Error Tone
Three low-pitched beep indicates an invalid button press.

DSC Distress Alarm
High—low—high—low—high. Pause, then repeat. The volume of all alarms will increase after 10 seconds. Press any button to turn it Off.

NOTE
This alarm sounds only for DSC distress calls on Channel 70. It does not sound for voice calls on Channel 16 — you still must listen for those.

Distress Acknowledgement Alarm
High—low—high—low—high. Pause, then repeat. The volume of all alarms will increase after 10 seconds. Press any button to turn it Off.

DSC Routine Call Alarm
High—pause—high—pause—high. Long pause, then repeat. Press any button to turn it Off.

DSC Geographical Alarm
Loud, continuous, medium-pitched, high-low tones (warble) — sounds when a geographical call is received. Press any button to turn it Off.

DSC Position Request Alarm
Medium-loud, continuous, low-pitched series of closely spaced, four (4) beeps [three (3) short – one (1) long] groups — sounds when a position request call is received. Press any button to turn it **Off**.

DSC Individual Alarm
High—pause—high—pause—high. Long pause, then repeat. Press any button to turn it Off.

Weather Alarm
Medium-loud, continuous, medium-pitched series of one-half (½) second beeps spaced one-half (½) second apart — sounds when weather alert is turned **On** and NOAA sends a 1050 Hz weather alert tone on the selected weather channel. Press any button to turn it **Off**.

Power On-Off

Transceiver power can be turned **On** or **Off** by the **On-Off Power/Volume** knob on the transceiver.

To Turn Your Radio On Or Off:

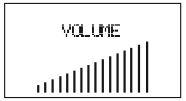
1. Rotate the **Off Power/Volume** knob clockwise to turn on the transceiver. To turn off the transceiver, rotate the **Off Power/Volume** counter clockwise until a “click” is heard.

When the radio is powered **On**, the confirmation tone will sound.

The radio will return to the settings in effect when it was last powered **Off**, the LCD will show the corresponding information, and all controls will be operative. The radio will then be in **Standby** mode.

Volume

The **On-Off Power/Volume** knob on the transceiver controls the speaker volume. The volume adjustment applies only to what you hear from the speaker and does not affect the volume of your outgoing messages. That is controlled by the circuitry of your radio. The volume bar graph will be shown to indicate the volume setting. 2 seconds after finishing the volume adjustment, the radio will return to the **Standby** mode.



To Increase The Volume:

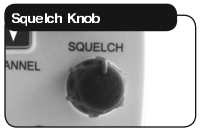
- Turn the **On-Off Power/Volume** knob clockwise.

To Decrease The Volume:

- Turn the **On-Off Power/Volume** knob counter-clockwise.

Squelch

Squelch control filters weak signals and radio frequency noise so that you can more clearly hear the signals you want. You can think of it as a variable barrier that blocks what you don’t want to hear.



To Squelch Your Radio:

1. With the **Squelch** knob turned fully counter-clockwise, turn the **On-Off/Volume** knob clockwise until you hear a hissing (noise) sound.
2. Turn the **Squelch** knob clockwise until the hissing sound stops.

Turning the **Squelch** knob further clockwise (higher barrier) will filter weak and medium strength signals until only the strongest signal can get through at the highest squelch setting. The Squelch bar graph will be shown to indicate the Squelch setting. 2 seconds after finishing the Squelch adjustment, the radio will return to the **Standby** mode.

To Receive Weaker Signals:

1. Turn the **Squelch** knob counterclockwise (lower barrier).

If the squelch is set so that you can hear a continuous hissing sound, the memory scan and tri-watch functions will be blocked.

Standby And Receive

Standby mode is the usual mode for the radio whenever it is turned **On**.

From Standby Mode, You Can:

- Change your radio's settings using set-up routines.
- Receive messages on the current channel as well as DSC messages.
- Listen and Receive NOAA alerts if **Weather Alert** mode is turned **On**.
- Switch to **Transmit** mode using the **Talk** button.

While the radio is in **Standby** mode, the **Receive** mode is entered whenever a strong enough signal to break squelch is sent to the radio. You will hear the message through whichever speakers are connected to the radio.

To Change The Channel You Are Listening To, You Can Choose One Of The Following:

a. Press the **Up/Down** buttons. This will take you to the next higher or lower VHF channel. For rapid advance, press and hold the **Up** or **Down** button.

b. Press the **Channel 16/9** button. This will take you to Channel 16 with one (1) press and to Channel 9 with a second press. Additional presses will toggle between Channels 16 and 9 and the current user selected channel.

c. To listen to the **Weather Radio** press the **WX (Weather)** soft key. This will activate the weather radio mode. When in the **Weather mode**, the **Up/Down** buttons will change the weather channel.

d. Press and release the **Back** softkey to return the radio to **Standby Mode**.

HI/LO Transmit Setting

Transmit Power Output

Your radio can **Transmit** selectively at one (1) or 25 watts of power. Cobra® suggests you maintain the low power setting for short-range communications and to avoid overpowering nearby stations with your signal. Use the high power setting for long-range communications or when you do not receive a response to a signal sent at one (1) watt.

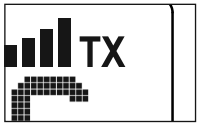
To Toggle Between The High And Low Power Modes:

1. Press the **High/Low Power** button. The LCD will show which mode is in effect.

Some channels are restricted to use at a maximum of one (1) watt. Your radio will automatically set the power to **Low Power** mode when you select those channels.

While using the U.S.A. channel map, if, in an emergency, you need to increase the output power on Channel 13 and Channel 67 for your signal to be heard, you can override the **Low Power** mode by pressing and holding the **High/ Low Power** button.

Transmit a Message



1. Check to see that your unit 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 two (2) inches [five (5) cm] from your mouth, press and hold the **Talk** button and speak into the microphone. Transmit will be indicated on the LCD.
4. Release the **Talk** button when you are finished speaking. Your unit can only operate in either the **Transmit** or the **Receive** mode at any given time. You will not hear the response to your message unless the **Talk** button is released.

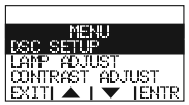
NOTE

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

Set-Up Routines

Settings Menu

The **Settings** menu in the CobraMarine VHF radio allows you to turn **On** and **Off** many of its features, to adjust other features to suit your preferences, and to enter your user MMSI number.



To Enter The Settings Menu:

1. Press the **Menu** button.
   The **Settings** menu will appear on the LCD.

After entering the **Settings** menu, you can scroll through it to make as many entries as you like. Whenever the setting selection highlight appears in a feature portion of the menu, it will highlight the setting that was in effect when you entered the menu.

When you are finished with changes, you can exit the **Settings** menu by pressing the Exit soft key and return to **Standby** mode.

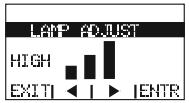
To Exit The Settings Menu:

1. Use the **Up/Down** buttons to scroll down to EXIT at the bottom of the menu, or press the Exit soft key to move up through the menu until the radio returns to the **Standby** mode.

NOTE
Basic set-up routines are described here. For set-up routines that apply specifically to a particular function, they are included in the section for that function.

LCD Backlight

The LCD has a **Backlight** lamp to make it visible in the dark. This lamp can be adjusted for brightness or turned **Off**.



To Adjust The Backlight Level:

1. Enter the **Settings** menu and scroll to LAMP ADJ with the **Up/Down** soft keys or using the Up/Down channel buttons.
2. Press the **ENTR** soft key and observe the current backlight setting — HIGH, MEDIUM, LOW or OFF.
3. Use the **Up/Down** buttons or **Right/Left** soft keys to switch to the setting you want.
4. Press the **ENTR** soft key to select the backlight setting. Or press the **EXIT** soft key to EXIT without making changes to the backlight setting.
5. The radio will return to the Settings menu. The radio will remember the saved backlight setting, when powering off the radio, or disconnecting power to the radio.

NOTE
If the backlight is set to off, ANY key press will activate the backlight at the lowest setting.

LCD Contrast

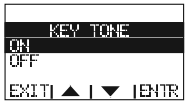
The LCD backlight will not be visible in daylight, but the **LCD Contrast** can be adjusted to make it easier to read in different light conditions.

To Change The Contrast:

1. Enter the **Settings** menu and scroll to CONTRAST ADJUST **Up/Down** soft keys or the **UP/Down channel** buttons.
2. Press the **ENTR** soft key and observe the current contrast setting — a number between one 0 and 16.
3. Use the **Up/Down** buttons or the **Right/Left** soft keys to change the number up or down
4. Press the **ENTR** soft key to select a contrast level. Or press the **EXIT** soft key to EXIT without making changes to the Contrast setting.
5. The radio will return to the settings menu. The radio will remember the saved contrast level, when powering off the radio, or disconnecting power to the radio.

Confirmation Tone

The **Confirmation Tone** sounds when your CobraMarine VHF radio is turned **On** and to confirm all button presses except for the **Talk** button. If you would prefer not to hear the **Confirmation Tone**, you can turn it **Off** and **On** as you choose.



To Turn The Confirmation Tone On Or Off:

1. Enter the **Settings** menu and scroll to KEY TONE with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. 2. Press the **ENTR** soft key and observe the current confirmation tone setting — ON or OFF.
3. Use the **Up/Down** soft keys or the **Up/Down channel** buttons to switch to the setting you want.
4. 4. Press the **ENTR** soft key to select the setting. Or press the **EXIT** soft key to EXIT without making changes to the Key Tone setting.
5. The radio will return to the settings menu. The radio will remember the saved Key Tone setting, when powering off the radio, or disconnecting power to the radio.

U.S.A./International/Canada Channel Maps

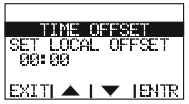
Three (3) sets of VHF **Channel Maps** have been established for marine use in the U.S.A., Canada, and the rest of the world (International). Most of the channels are the same for all three (3) maps, but there are definite differences (see table on pages **66** through **78**). Your radio has all three (3) maps built into it and will operate correctly in whichever area you choose.

To Set Your Radio For The Area In Which You Will Be Using It:

1. Enter the **Settings** menu and scroll to CHANNEL MODE with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Press the **ENTR** soft key and observe the current channel mode setting — USA, INTERNATIONAL, or CANADA.
3. Use the **Up/Down** soft keys or the **Up/Down channel** buttons to switch to the setting you want.
4. Press the **ENTR** soft key to select the setting. Or press the **EXIT** soft key to EXIT without making changes to the Channel Mode setting
5. The radio will return to the settings menu. The radio will remember the saved Key Tone setting, when powering off the radio, or disconnecting power to the radio

Time Adjust

All VHF, DSC, and GPS activities use a 24-hour clock and Universal Coordinated Time (UTC) which was formerly known as Greenwich Mean Time (GMT). Time Adjust uses your built-in GPS to gather time input. **Time Adjust** will allow the radio to display the time as Local time or UTC time. For time input to be converted to local time, you need to enter the hour offset of your local time zone from Greenwich. (See world city time zone chart on page **80**). You can also choose to have the time displayed in a 12 or 24 hour format

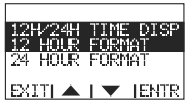


To Change The Time Offset:

1. Enter the **Settings** menu and scroll to TIME ADJUST with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Highlight the **TIME OFFSET** option in the menu.
3. Press the **ENTR** key and observe the current setting.
4. Use the **Up/Down** soft keys or the **UP/Down channel** buttons to change the setting for your local time zone.
5. Press the **ENTR** soft key to select the setting. Or press the **EXIT** soft key to EXIT without making changes to the Local Time Zone setting.
6. The radio will return to the Time Adjust menu. The radio will remember the saved Local Time Zone setting, when powering off the radio, or disconnecting power to the radio.

To Select UTC or Local Time Display:

1. Enter the **Settings** menu and scroll to TIME ADJUST with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Highlight the **LOCAL TIME** option in the menu.
3. Press the **ENTR** key and observe the current setting.
4. Use the **Up/Down** soft keys or the **UP/Down channel** buttons to change the setting for how the radio will display the time (UTC or Local).
5. Press the **ENTR** soft key to select the setting. Or press the **EXIT** soft key to EXIT without making changes to the Local Time setting.
6. The radio will return to the Time Adjust menu. The radio will remember the saved Local Time Zone setting, when powering off the radio, or disconnecting power to the radio.



To Select 12 or 24 Hour Format Time Display:

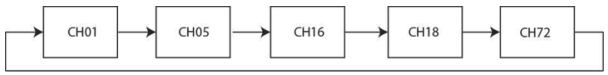
1. Enter the **Settings** menu and scroll to TIME ADJUST with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Highlight the **12H/24H TIME DISP** option in the menu.
3. Press the **ENTR** key and observe the current setting.
4. Use the **Up/Down** soft keys or the **UP/Down channel** buttons to change the setting for how the radio will display the time (12 Hour or 24 Hour format).
5. Press the **ENTR** soft key to select the setting. Or press the **EXIT soft key to** EXIT **without making changes to the** time format display setting.
6. The radio will return to the Time Adjust menu. The radio will remember the saved 12 or 24 hour radio display setting, when powering off the radio, or disconnecting power to the radio.

Priority Channel

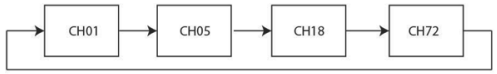
This setting will allow you to choose whether channel 16 is or is not included when channel scanning.

To Turn The Priority Channel On Or Off:

1. Enter the Settings menu and scroll to PRIORITY CHANNEL with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Press the **ENTR** soft key and observe the current priority channel setting — **ON** or **OFF**.
3. Use the **Up/Down** soft keys or the **Up/Down channel** buttons to switch to the setting you want.
4. Press the **ENTR** soft key to select the setting. Or press the **EXIT soft key to** EXIT **without making changes to the** priority channel setting.
5. The radio will return to the settings menu. The radio will remember the saved priority channel setting, when powering off the radio, or disconnecting power to the radio.



Priority Scan ON (Channel 16 in the channel scan)



Priority Scan OFF (Channel 16 Removed from channel scan)

Weather Alert

This setting will allow you to choose whether activate the Weather Alert feature.

When NOAA broadcasts a **Weather Alert Signal** and your radio is in the **Weather Alert** mode, you will hear a continuous audible tone and the radio will automatically switch to **Weather Radio** mode. The alert indicators will sound regardless of what channel you are operating on as soon as a NOAA alert signal is received

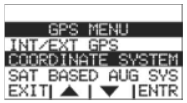
To Turn Weather Alert On Or Off:

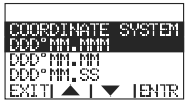
1. Enter the **Settings** menu and scroll to WEATHER ALERT with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Press the **ENTR** soft key and observe the current Weather Alert setting — ON or OFF.
3. Use the **Up/Down** soft keys or the **Up/Down channel** buttons to switch to the setting you want.
4. Press the **ENTR** soft key to select the setting. Or press the **EXIT soft key to** EXIT **without making changes to the** Weather Alert setting. The radio will turn on the Weather Icon and Weather Alert Icon to indicate that the Weather Alert is active.
5. The radio will return to the settings menu. The radio will remember the saved Weather Alert setting, when powering off the radio, or disconnecting power to the radio.

GPS Menu

All VHF Marine radios SHOULD / NEED to have a GPS receiver connected and operating to effectively use the DSC (Digital Selective Calling) features built-in to the radios. In an Emergency you want the rescue authorities and surrounding vessels to know where you are and to be able to quickly assist you in your time of need.

This menu allows you to select the coordinate system which is basically the accuracy (the most accurate setting is selected by default), and allows you to test the GPS receiver, select the coordinate system which is basically the accuracy (the most accurate setting is already selected by default), Select the Satellite Based Augmentation System to be enabled or turned off (some areas on Earth need this turned off for greater accuracy)(defaulted On), and allows you to test the GPS receiver (will test either the internal or an external GPS receiver) to be sure that you are receiving good satellite information and check the GPS signal strength.





To Select the Coordinate System:

1. Enter the Settings menu and scroll to GPS MENU with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Highlight the COORDINATE SYSTEM option in the menu.
3. Press the **ENTR** key and observe the current setting.
4. Use the **Up/Down** soft keys or the **UP/Down channel** buttons to change the setting to use the desired coordinate system.
5. Press the **ENTR** soft key to select the setting. Or press the **EXIT soft key to EXIT without making changes to the** Coordinate System setting.
6. The radio will return to the GPS menu. The radio will remember the saved Coordinate System setting, when powering off the radio, or disconnecting power to the radio.

To Select the GPS Status Screen:

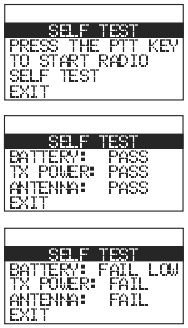
1. Enter the Settings menu and scroll to GPS MENU with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Highlight the **GPS STATUS** option in the menu.
3. Press the **ENTR** key and observe the current setting.
4. The GPS Status screen reports the following information:
   a. How many satellites are currently being tracked.
   b. The overall health of the GPS satellite signals being received.
5. Press the **EXIT** soft key to EXIT the GPS Status screen.
6. The radio will return to the GPS menu.

NOTE
The larger the signal SNR number the better the GPS signal strength.

Radio Self Test

Your CobraMarine radio includes a Self Test feature to allow you to test the input battery voltage, the output transmit power, and the Antenna! This is the perfect test before you head out from the dock to insure your radio is fully operational and is ready, willing, and able to assist you for your communications needs and in case of emergency.

To Select the Radio Self Test Screen:



1. Enter the Settings menu and scroll to SELF TEST with the **Up/Down** soft keys or the **Up/Down channel** buttons.
2. Press the **ENTR** soft key and observe the current setting.
3. Press and release the Transmit button on the Microphone to start the test.
4. The Self Test screen reports the following information:
   a. Battery input voltage. Shown as a PASS or FAIL. If a FAIL is reported, then this will show either HIGH (battery voltage is too high) or LOW (battery voltage is too low).
   b. Radio Transmitter Power. Shown as a PASS or FAIL. If a FAIL is reported, the RF output power is incorrect. Check the installation of the radio to ensure proper solid connections to power and the antenna.
   c. Antenna status. Shown as a PASS or FAIL. If a FAIL is reported, the antenna impedance is incorrect, open or shorted.
5. Press the **EXIT** soft key to EXIT the Self Test screen. The radio will return to the menu.

Digital Select Calling (DSC) Setup

DSC Set-Up

Digital selective calling — **DSC** — employs digital RF signals which tend to carry further and be less susceptible to distortion from noise and atmospheric conditions than analog ones. The result is greater range and more reliable message delivery per watt of output power.

But, that is not the only advantage of DSC equipped radios. Those radios are set up to interface with GPS and to automate many of the operations involved in sending and receiving messages. That results in more compact and accurate messages and less congestion of the airwaves.

The price of these benefits to the user is the time it takes to do the required set-up to make the DSC features work. A little time spent when your radio is new will pay dividends over its life.

These procedures use the **Settings** menu. Refer to page **28** for information on entering and exiting the **Settings** menu.

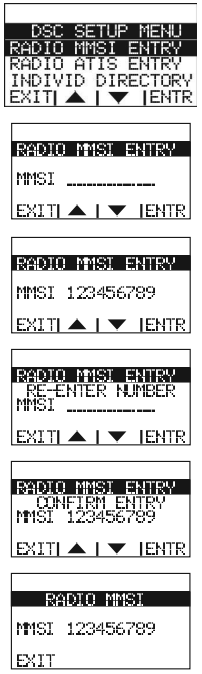
User MMSI Number

The nine (9) digit MMSI number, similar to a telephone number, is a unique identifier for a vessel. DSC incorporates this number into every message that is Sent (Tx) or Received (Rx). Enter the MMSI number as soon as you receive your MMSI number from the issuing agency listed on page **9**.

NOTE
The radio does not operate in the DSC mode until an official MMSI number is entered. An error tone will sound when attempting to operate in the DSC mode without an MMSI number.

NOTE
An MMSI number can only be entered one time. To enter a new MMSI number, please contact Cobra customer service.

Digital Select Calling (DSC) Setup



To Enter Your MMSI Number:

1. Enter the Settings menu and scroll to DSC SETUP with the **Up/Down** soft keys or the **channel Up/Down** buttons.
2. Press the **ENTR** soft key and scroll to **RADIO MMSI ENTRY** with the Up/Down soft keys or the channel Up/Down buttons.
3. Press the **ENTR** soft key . The blinking cursor will appear at the first digit under **RADIO MMSI ENTRY**.
4. Use the **Up/Down** soft keys or the **channel Up/Down** buttons to scroll through the number list to the first digit of your number.
5. Press the **ENTR** soft key to select the digit and the blinking cursor will move to the next digit of the number.
6. Repeat steps 3 and 4 until all nine (9) digits of your MMSI number are entered.
7. Check that you have entered the number correctly. The radio will ask you to re-enter your number to confirm.
8. Press **ENTR** soft key to save the MMSI number and the radio will return to the DSC SETUP MENU.

NOTE
After the MMSI number has been entered, the RADIO MMSI ENTRY menu option will move to the bottom of the DSC SETUP MENU. This is done because the MMSI entry is entered only once.

If You Incorrectly Enter Your MMSI Number

YOU CAN DO THIS ONLY ONCE! An attempt to enter an MMSI number again will result in an error message as shown.

Pressing the **EXIT** soft key from the error message will return the radio to the **DSC SETUP MENU**.

Once the error message appears, the radio will still operate in all non-DSC modes. But you will have to contact Cobra® Electronics (see product service on page **84** for details) for reset before you can enter a new MMSI number into the radio.

Because the MMSI number is so important to DSC operation, this limitation is imposed on all DSC capable radios to prevent constant changes and the potential introduction of errors in the process.

If You Transfer Your Radio To A Different Vessel

Contact the MMSI issuing agency from which you obtained your number and change the information associated with your number to correspond to vessel in which it will be mounted.

To View Your MMSI Number At Any Time:

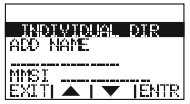
1. Enter the **DSC SETUP MENU** menu and scroll to RADIO MMSI ENTRY with the **Up/Down soft keys** or the **Up/Down channel buttons**.
2. Press the **ENTR** button and the already entered number will be displayed.
3. Press the **EXIT** soft key to return to the **DSC SETUP MENU.**

Individual Directory

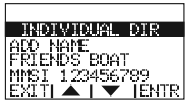
DSC calling allows you to call another vessel or station directly if you know its MMSI number. Your CobraMarine VHF radio allows you to store up to twenty (20) names and their associated MMSI numbers for quick access.

To Enter Or Edit Names And MMSI Numbers In The Directory:

1. Enter the **DSC SETUP MENU** and scroll to INDIVID DIRECTORY (individual directory) with the **Up/Down soft keys** or the **Up/Down channel buttons**.
2. The ADD option in the menu will be highlighted the first time this menu is entered. Press the **ENTR** soft key to ADD a new Name and MMSI number.
3. The cursor will begin to blink at the first character under **ADD NAME**.



4. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to scroll through the character list.
5. Press the **ENTR** soft key to select a character. This will also move the blinking cursor to the next character under **ADD NAME**.



6. Repeat steps 5 and 6 to enter additional characters — up to a maximum of eleven (11) — for the name.
7. After entering the name, press the **ENTR** soft key to move the blinking cursor to the first character under MMSI.
8. Use the Up/Down soft keys or the Up/Down channel buttons to scroll through the number list.

9. Press the **ENTR** soft key to select the number and move the cursor to the next **character under MMSI.**
10. Repeat steps 9 and 10 until the ninth (9) digit MMSI is entered.
11. Press the **ENTR** button to save the entry.
12. Highlight **ADD** to enter the next new name/MMSI number entry, or highlight the entry just entered and press the **ENTR soft key** to edit or delete the current entry, or press the **EXIT soft key** to return to the **DSC SETUP MENU**.

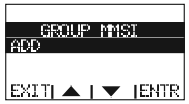
Group MMSI Number

Nautical organizations such as yacht clubs and the organizers of events such as regattas can establish **Group MMSIs**. These allow a message to be sent automatically to all members of the group without having to call each one individually.

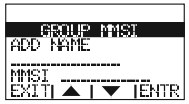
Each member of the group must enter the group MMSI number in his radio in order to receive group messages.

To Enter A Group MMSI Number:

1. Enter the **DSC SETUP MENU** and scroll to GROUP MMSI DIR (group MMSI) with the **Up/Down soft keys** or the **Up/Down channel buttons**.



2. The ADD option in the menu will be highlighted the first time this menu is entered. Press the **ENTR** soft key to ADD a new Name and MMSI number.
3. The cursor will begin to blink at the first character under **ADD NAME**.
4. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to scroll through the character list.



5. Press the **ENTR** soft key to select a character. This will also move the blinking cursor to the next character under **ADD NAME.**
6. Repeat steps 5 and 6 to enter additional characters — up to a maximum of eleven (11) — for the name.
7. After entering the name, press the **ENTR** soft key to move the blinking cursor to the second character under MMSI (the first digit of a Group MMSI number always starts with a 0).

8. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to scroll through the number list.
9. Press the **ENTR** soft key to select the number and move the cursor to the next character under MMSI.
10. Repeat steps 9 and 10 until the ninth (9) digit MMSI is entered.

11. Press the **ENTR** button to save the entry.
12. Highlight **ADD** to enter the next new name/MMSI number entry, or highlight the entry just entered and press the **ENTR** soft key to edit or delete the current entry, or press the **EXIT soft key** to return to the **DSC SETUP MENU**.

NOTE

The group MMSI is established by modifying the MMSI assigned to one (1) of the group members. The last digit of that member's MMSI number is dropped and a zero (0) is inserted at the beginning. For example, member MMSI number 366123456 becomes group MMSI number 036612345.

Group MMSIs can be entered and changed any number of times without encountering the need to have your radio reset