Cobra MARINE®

Owner's Manual

SUBMERSIBLE

VOLUME

OFF

SQUELCH

CHANNEL

INT 25W MEM **16**
21:12 11/11
25.53.438N
110.27.843W EMERG
DW CALL SCAN MORE

RX TX

DISTRESS   HI/LO   MENU   ⟳   16+   REWIND

Cobra MARINE

MR F57W E
MR F57B E

Class-D Fixed Mount VHF Radio

Our Thanks To You And Customer Assistance

Introduction

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.

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, please contact your local dealer.

This equipment is intended for use in:

☑ AT	☑ FI	☑ LT	☑ PT
☑ BE	☑ FR	☑ LV	☑ SE
☐ CY	☑ GB	☑ LI	☑ CH
☑ CZ	☑ GR	☑ LU	☐ SI
☑ DE	☑ HU	☑ MT	☑ SK
☑ DK	☑ IE	☑ NL	☐ TR
☑ EE	☑ IS	☑ NO	
☑ ES	☑ IT	☑ PL	

For Warranty, Product Service and Accessory Information
Please contact your local dealer or distributor.

A1 English

DSC Distress Button (Behind Red Spring Loaded Cover)

Soft Keys- Allows user to select current options displayed on the screen.

Active Channel Number

Up & Down Buttons

On-Off Power/ Volume Knob

Backlit LCD Screen

Squelch Knob

Menu Button

Instant Channel 16 Button

High/Low Power Button

Rewind-Say-Again® Button

GPS-In Connection

GPS-Out & Alarm In Connection

PA/Speaker Connection

Antenna Socket

Power Connection

Product Features

Rewind-Say-Again®
Replay missed VHF calls. Automatically records the last 20 seconds of incoming radio transmissions. Great when in noisy conditions.

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

International/USA/Canada Channels
Allows operation on any of the three (3) different channel maps established for these areas.

Instant Channel 16
Instant access to the priority Channel 16.

Digital Selective Calling (DSC Class-D)
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).

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

Dual Watch
Lets you monitor two (2) channels at once — Channel 16, and one (1) user selectable channel.

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

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

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

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

Alarm In
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 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.

- 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.

⚠️ **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 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 coastguard does not endorse mobile phones as substitutes for marine radios. They generally cannot communicate with rescue vessels and, if you make a distress call on a mobile phone, only the party you call will be able to hear you. Additionally, mobile phones may have limited coverage over water and can be hard to locate. If you don't know where you are, the coastguard will have difficulty finding you if you're using a mobile phone.

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

Licensing Information

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 1 or 25 watts.
The transceiver is capable of RTCM SC 101 DSC (Digital Selective Calling) operation.
The radio operates on all currently allocated marine channels and is switchable for use according to International, Canadian, or U.S.A. regulations. It features instant access to emergency Channel 16 by pressing one key.
CobraMarine® VHF radios comply with the U.S. FCC (Federal Communications Commission) requirements that regulate the Maritime Radio Service.

Station License

The UK requires a ships radio license and a marine radio operators certificate before transmitting equipment can be used aboard a vessel. Other European countries have specific requirements of their own.
For detailed information and applications, contact the Royal Mail Licensing Centre in the UK. In other countries contact the local equivalent of the UK Royal Mail or the national telecommunications authority.

Canadian or U.S.A. Station License

If your vessel will be entering the sovereign waters of Canada or the U.S.A., you should contact Industry of Canada, Radio Regulatory Branch or the U.S. Federal Communications Commission for licensing and operating information.

Radio Call Sign

A radio call sign is included as part of the ships radio license in the UK.
Other countries may have different practices; contact your local regulatory authority for 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.

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.

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.

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)

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.

To Obtain An MMSI Number:

United Kingdom

In the United Kingdom, MMSI numbers are available from the Royal Mail Radio Licensing Centre either when a radio license is applied for or any time afterward.

International

Users in other countries can obtain an MMSI from their country's equivalent to the UK Royal Mail, or their national telecommunications authority or ship registry. This may involve amending or obtaining a ship station license.

North America

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 their national telecommunications authority or ship registry.

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.

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.

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.

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.

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

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

MR F57W E
MR F57B E

GPS Interface Cable

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.

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
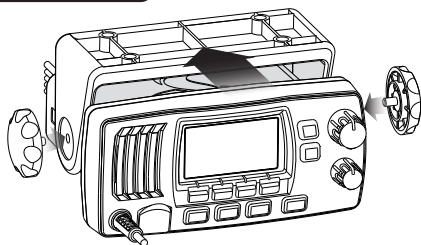
Tilt Lock Knobs

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.

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:

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

Use Supplied Template

See page 85
for template.

Insert Transceiver

Adjust Screws

> **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.

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.

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.

Power Connection Cables

Red Cable
Positive (+)   – +

Black Cable
Negative (-)

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

Coaxial Cable Socket

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.

Wiring Located at Back of Radio

Wiring for External and Public Address Speakers
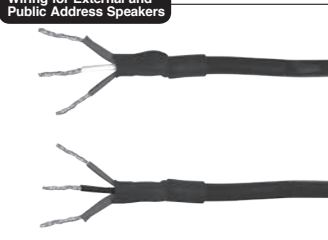
Global Positioning System (GPS) Device (Not Included)

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."

A GPS input connector has been provided to allow connection to an external 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.

Wiring Located at Back of Radio | Cobra Positioning System Plug | GPS Interface Cable

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.

Power On-Off

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

On-Off Power/Volume Knob

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.

On-Off Power/Volume Knob

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.

VOLUME

On-Off Power/Volume Knob

To Increase The Volume:
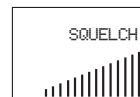• Turn the **On-Off Power/Volume** knob clockwise.

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.

Squelch Knob

Turn Till Hissing Sound Stops

Lower Barrier

Standby Mode

Up/Down Buttons

Channel 16 Button

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 dual 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.

■ 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+** button. This will take you to Channel 16. Additional presses will toggle between Channels 16 and the current user selected channel.


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.

High/Low Power Button
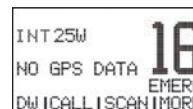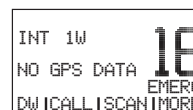
To Toggle Between The High And Low Power Modes:

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.

Menu Button

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.
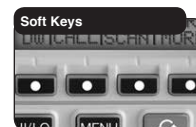
Up/Down Buttons

> **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**.

Soft Keys

Up/Down Buttons

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.

Soft Keys

Up/Down Buttons

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.
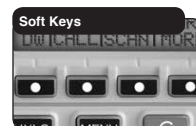
Confirmation Tone

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.

Soft Keys

Up/Down Buttons

```
     KEY TONE
ON
OFF
EXIT|▲ | ▼ |ENTR
```
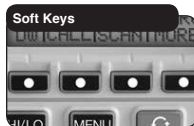
To Turn The Confirmation Tone On Or Off:

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.

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

Three (3) sets of VHF **Channel Maps** have been established for marine use in the International, Canada, and U.S.A. 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.

Soft Keys

Up/Down Buttons

```
     CHANNEL MODE
USA
INTERNATIONAL
CANADA
EXIT|▲ | ▼ |ENTR
```
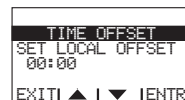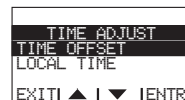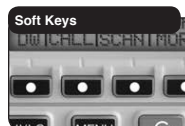
To Set Your Radio For The Area In Which You Will Be Using It:

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 — INTERNATIONAL, CANADA, or USA.

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

Soft Keys

Up/Down Buttons

```
    TIME ADJUST
TIME OFFSET
LOCAL TIME
EXIT|▲ | ▼ |ENTR
```

```
    TIME OFFSET
SET LOCAL OFFSET
 00:00
EXIT|▲ | ▼ |ENTR
```

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.
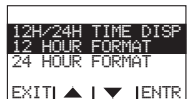
Soft Keys

Up/Down Buttons

```
12H/24H TIME DISP
12 HOUR FORMAT
24 HOUR FORMAT
EXIT| ▲ | ▼ |ENTR
```

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.

Soft Keys

Up/Down Buttons

```
 PRIORTY CHANNEL
ON
OFF
EXIT| ▲ | ▼ |ENTR
```

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.

CH01 → CH05 → CH16 → CH18 → CH72

Priority Scan ON (Channel 16 in the channel scan)

CH01 → CH05 → CH18 → CH72

Priority Scan OFF (Channel 16 Removed from channel scan)
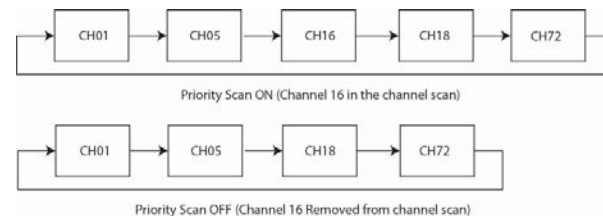
GPS Menu

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 t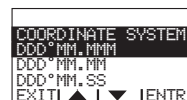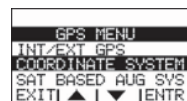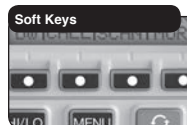he rescue authorities and surrounding vessels to know where you are and to be able to quickly assist you in your time of need.

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.

Soft Keys

Up/Down Buttons

```
GPS MENU
INT/EXT GPS
COORDINATE SYSTEM
SAT BASED AUG SYS
EXIT| ▲ | ▼ |ENTR
```

```
COORDINATE SYSTEM
DDD°MM.MMM
DDD°MM.MM
DDD°MM.SS
EXIT| ▲ | ▼ |ENTR
```

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.
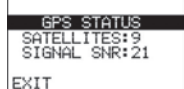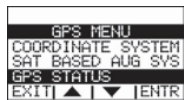
Soft Keys

Up/Down Buttons

GPS MENU
COORDINATE SYSTEM
SAT BASED AUG SYS
GPS STATUS
EXIT| ▲ | ▼ |ENTR

GPS STATUS
SATELLITES:9
SIGNAL SNR:21

EXIT

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.
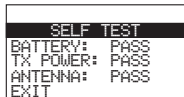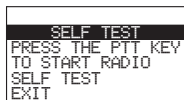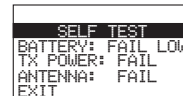
Radio Self Test

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:

Soft Keys

Up/Down Buttons

SELF TEST
PRESS THE PTT KEY
TO START RADIO
SELF TEST
EXIT

SELF TEST
BATTERY: PASS
TX POWER: PASS
ANTENNA: PASS
EXIT

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.

Radio Self Test (continued)

SELF TEST
BATTERY: FAIL LOW
TX POWER: FAIL
ANTENNA: FAIL
EXIT

5. Press the **EXIT** soft key to EXIT the Self Test screen. The radio will return to the menu.
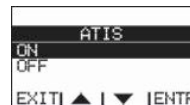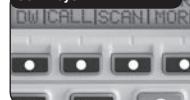
ATIS

ATIS is required in some countries when navigating inland water ways. The nine (9) digit ATIS 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 ATIS number as soon as you receive your MMSI number from the issuing agency listed on page **9**.

This menu option will allow the user to enable the ATIS feature on the radio.

The radio will activate the ATIS feature and will transmit the ATIS identifier number after every transmission.

To select the ATIS On/Off screen:

Soft Keys

ATIS
ON
OFF
EXIT| ▲ | ▼ |ENTR

1. Enter the Settings menu and scroll to ATIS with the **Up/Down** soft keys or the **Up/Down channel** buttons.

2. Press the **ENTR** soft key and observe the current **ATIS** 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 ATIS setting.

5. The radio will return to the settings menu. The radio will remember the saved ATIS setting, when powering off the radio, or disconnecting power to the radio.

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.

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.

```
   RADIO MMSI
MMSI 123456789
EXIT
```
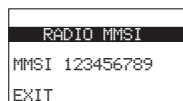
To View Your MMSI Number At Any Time:

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.**

User ATIS Number

ATIS is required in some countries when navigating inland water ways. The nine (9) digit ATIS 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 ATIS number as soon as you receive your MMSI number from the issuing agency listed on page **9**.

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

To Enter Your ATIS Number:

```
RADIO ATIS ENTRY
ATIS 9_____
EXIT| ▲ | ▼ |ENTR
```

1. Enter the **DSC SETUP MENU** menu and scroll to `DSC SETUP` with the **Up/Down soft keys** or the **Up/Down channel buttons**.

2. Press the **ENTR** soft key and scroll to `RADIO ATIS ENTRY` with the **Up/Down** soft keys or the **Channel Up/Down** buttons.

```
RADIO ATIS ENTRY
 RE-ENTER NUMBER
ATIS 9_____
EXIT| ▲ | ▼ |ENTR
```

3. Press the **ENTR** soft key. The blinking cursor will appear at the second digit under `RADIO ATIS ENTRY`.

> **NOTE**
> All ATIS numbers begin with a "9" digit.
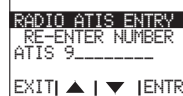
```
RADIO ATIS ENTRY
 RE-ENTER NUMBER
ATIS 9_____
EXIT| ▲ | ▼ |ENTR
```

4. Use the **Up/Down soft keys** or the **channel Up/Down** buttons to scroll through the number list to the second 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.

```
RADIO ATIS ENTRY
 CONFIRM ENTRY
ATIS 923456789
EXIT| ▲ | ▼ |ENTR
```

6. Repeat steps 3 and 4 until all nine (9) digits of your ATIS number are entered.

7. Check that you have entered the number correctly. The radio will ask you to re-enter your number to confirm.

```
   RADIO ATIS
ATIS 923456789
EXIT
```

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

If You Incorrectly Enter Your ATIS Number

YOU CAN DO THIS ONLY ONCE! There is no option to enter the ATIS number again after a number has been entered. You can view the entered number, but cannot change the number.

Because the ATIS number is so important to inland water way operations, this limitation is imposed on all DSC capable radios to prevent constant changes and the potential introduction of errors in the process.

To clear the currently entered ATIS number, you will have contact Cobra® Electronics Distrubutor (see product service on page **84** for details) for reset before you can enter a new ATIS number into the radio.

If You Transfer Your Radio To A Different Vessel

Contact the ATIS 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.

Soft Keys

Up/Down Buttons

To View Your ATIS Number At Any Time:

1. Enter the **DSC SETUP MENU** menu and scroll to `RADIO ATIS ENTRY` with the **Up/Down** soft keys or the **Up/Down channel** buttons

2. Press the **ENTR** button and the already entered number under will be displayed.

3. Press the **EXIT** soft key to return to the **DSC SETUP MENU**.

```
   RADIO ATIS
ATIS 923456789
EXIT
```
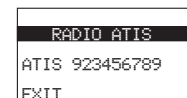
Individual Directory

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:

```
  DSC SETUP MENU
RADIO MMSI ENTRY
INDIVID DIRECTORY
GROUP MMSI DIR
EXIT| ▲ | ▼ |ENTR
```

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**.

```
 INDIVIDUAL DIR
ADD


EXIT| ▲ | ▼ |ENTR
```

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**.

```
 INDIVIDUAL DIR
ADD NAME

_____
MMSI _____
EXIT| ▲ | ▼ |ENTR
```

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**.

```
 INDIVIDUAL DIR
ADD NAME
FRIENDS BOAT
MMSI 123456789
EXIT| ▲ | ▼ |ENTR
```

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.

```
 INDIVIDUAL DIR
FRIENDS BOAT
ADD

EXIT| ▲ | ▼ |ENTR
```

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.

```
  DSC SETUP MENU
RADIO MMSI ENTRY
INDIVID DIRECTORY
GROUP MMSI DIR
EXIT| ▲ | ▼ |ENTR
```

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.

```
  GROUP MMSI
ADD


EXIT| ▲ | ▼ |ENTR
```

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.

```
  GROUP MMSI
ADD NAME

_____
MMSI _____
EXIT| ▲ | ▼ |ENTR
```

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).

```
  GROUP MMSI
ADD NAME
BOAT GROUP
MMSI 123456789
EXIT| ▲ | ▼ |ENTR
```

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.

```
 GROUP MMSI DIR
BOAT GROUP
ADD

EXIT| ▲ | ▼ |ENTR
```

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

Position Request Reply Type

The ability to send your position to another station is an added feature of DSC radios that have GPS attached. It is handy for rendezvous and rescue situations.

Your CobraMarine VHF radio allows you to choose whether to have the radio automatically respond to all **Position Requests** it receives or to alert you to a **Position Request** and allow you to choose whether to respond or not — manual reply.

```
 DSC SETUP MENU
INDIVID DIRECTORY
GROUP MMSI DIR
POSITION REPLY
EXIT| ▲ | ▼ |ENTR
```

To Set The Position Request Reply Type:

1. Enter the **DSC SETUP MENU** menu and scroll to POSITION REPLY with the **Up/Down soft keys** or the **UP/Down channel buttons.**

2. Press the **ENTR** soft key and observe the current highlighted setting — **AUTO or MANUAL.**

```
 POSITION REPLY
AUTO
MANUAL

EXIT| ▲ | ▼ |ENTR
```

3. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to change the setting.

4. Press the **ENTR** soft key to select the setting and return to the **DSC SETUP MENU.**
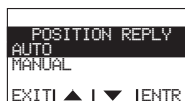
Auto Channel Switch

The ability of your radio to automatically switch to the requested channel when receiving an Individual Call. In some cases, automatically switching channels may not be wanted, especially if the radio is being used for Bridge to Bridge communications in a busy port or waterway.

Your CobraMarine VHF radio allows you to choose whether to have the radio automatically Change channels to the requested channel in an Individual Call or not.

```
AUTO CHANL SWITCH
ON
OFF

EXIT| ▲ | ▼ |ENTR
```

To Set The Automatic Channel Switch On or Off:

1. Enter the **DSC SETUP MENU** menu and scroll to AUTO CHANNL SWITCH (Automatic Channel Switch) with the **Up/Down soft keys** or the **UP/Down channel buttons**.

2. Press the **ENTR** soft key and observe the current highlighted setting — **ON or OFF.**

3. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to change the setting.

4. Press the **ENTR** soft key to select the setting and return to the **DSC SETUP MENU.**

Individual Call Reply

The Individual Call Reply feature is used when receiving Individual DSC calls. When receiving a Individual DSC Call, you may not want the radio to reply to the call automatically. Th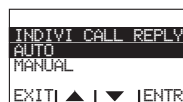is features allows you to disable the automatic reply. The ability to send your position to another station is an added feature of DSC radios that have GPS attached. It is handy for rendezvous and rescue situations.


```
INDIVI CALL REPLY
AUTO
MANUAL

EXIT| ▲ | ▼ |ENTR
```

To Set The Individual Reply Auto or Manual:

1. Enter the **DSC SETUP MENU** menu and scroll to INDIVID CALL REPLY (Individual Call Reply) with the **Up/Down soft keys** or the **UP/Down channel buttons.**

2. Press the **ENTR** soft key and observe the current highlighted setting — **AUTO or MANUAL.**

```
CALL REPLY    16
MANUAL
UNABLE      EMERG
EXIT| ▲ | ▼ |ENTR
```

3. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to change the setting.

4. Press the **ENTR** soft key to select the setting and return to the **DSC SETUP MENU.**
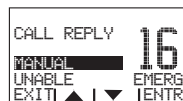
Manual Entry

The Manual position entry feature allow you to enter the time (UTC time), Latitude and Longitude.

```
 MANUAL ENTRY
UTC __:__
LAT __°__.___
LON ___°__.___
EXIT          ENTR
```
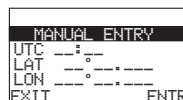
To Enter the Time, Latitude, and Longitude:

1. Enter the **DSC SETUP MENU** menu and scroll to MANUAL ENTRY with the **Up/Down soft keys** or the **UP/Down channel buttons.**

2. The cursor will begin to blink at the first number of the UTC time entry.

3. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to scroll through the number list.

4. Press the **ENTR** soft key to select a number. This will also move the blinking cursor to the next number under UTC Time.

5. Repeat steps 5 and 6 to enter additional numbers.

6. After entering the UTC time, press the **ENTR** soft key to move the blinking cursor to the first number under **LAT (Latitude).**

7. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to scroll through the number list.

8. Press the **ENTR** soft key to select the first number and move the cursor to the next number under LAT.

9. Repeat steps 9 and 10 until the seventh (7) digit of the LAT is entered.

10. After entering the LAT (Latitude), press the **ENTR** soft key to move the blinking cursor to the first number under LON (Longitude).

11. Use the **Up/Down soft keys** or the **Up/Down channel buttons** to scroll through the number list.

12. Press the **ENTR** soft key to select the first number and move the cursor to the next number under LON.

13. Repeat steps 9 and 10 until the eighth (8) digit of the LON is entered.

14. Press the **ENTR** button to save the entry and the radio will return to the **DSC SETUP MENU.**

MENU EXIT: You can exit the menu at any time by pressing the **EXIT** soft key on any screen. This method will exit to the next highest menu, repeated presses of the **EXIT** soft key will return the radio to the radio standby mode. The menu **EXIT** selection in the menu screen will return the radio immediately to the radio standby mode. When in the menu, just scroll down until the **EXIT** option is highlighted, then press the **ENTR** soft key.

Advanced Operation

Cobra® has incorporated several features in your CobraMarine VHF radio to give you quick access to the voice calling channels and to let you monitor more than one (1) channel at once.

Channel 16+
This function gives you quick access to calling Channel 16 or Channel 9 from any operational mode.

Channel 16/9 Button

16+

To Switch To Channel 16 Or Channel 9:

1. Press the Channel 16+ button to change to Channel 16 from any channel.
2. Press the Channel 16+ button again to change to Channel 9.

Additional presses of the Channel 16+ button will toggle back to the original channel and between channels 16 and 9.
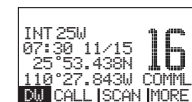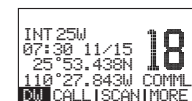
Dual-Watch
Dual-Watch gives you one (1) soft key access to scan the two (2) channels of most importance to you. Channel 16 will always be included as scanned channels. The remaining channel will be the VHF channel in effect when you enter **Dual-Watch** mode.

NOTE
The radio must be squelched for dual watch to function. See page **26** for squelch procedure.

Up/Down Buttons

To Enter Dual-Watch Mode:

1. In **Standby** mode, use the **Up/Down buttons** to go to the channel you want to add as the second channel to be scanned.
2. Press the **Dual-Watch soft key**.

Dual-watch will be indicated on the LCD and the radio will scan between Channel 16, and the Dual-watch channel you selected. A signal on any one (1) of the two (2) channels will stop the scan to allow you to listen to the traffic on the channel. The channel number will be displayed on the LCD.

To Exit Dual-Watch Mode:

1. Press the **Dual-Watch** soft key. The radio will return to **Standby** mode

Soft Keys

During Dual-Watch (while receiving an incoming transmission), You Can Choose From The Following:

a. Press the **Talk** button to remain on that dual-watch channel and return to **Standby** mode.

If you do not press any buttons, your radio will automatically resume scanning both channels when the incoming transmission is complete.

During Dual-Watch (while not receiving a transmission):

b. Press the **Talk** button to communicate on the last channel scanned and return to **Standby** mode.

Memory Channels

You can program (or tag) any or all channels to be scanned in the **Memory Scan** mode.

Standby Mode

Up/Down Buttons
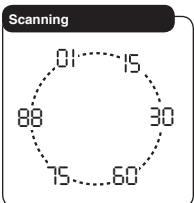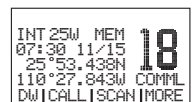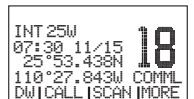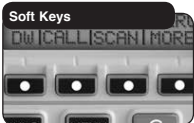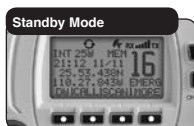
Soft Keys

To Program Memory Channels:

1. From **Standby** mode, select a channel to be tagged using the **Up/Down** buttons.

2. Press the **MORE soft key** (if necessary), then the **MEM soft key**. The channel will be tagged for scanning and **MEM** (memory channel) will appear on the LCD whenever that channel is selected.

   Repeat steps 1 through 2 to add addition memory channels.

To Clear Memory Channels:

1. From **Standby** mode, select a channel to be cleared from a memory tagging using the **Up/Down** buttons.

2. Press and hold the **MORE soft key** (if necessary), then the **MEM soft key**. The channel will be untagged and **MEM** (memory channel) will no longer appear on the LCD whenever that channel is selected.

   Repeat steps 1 through 2 to clear additional channels from memory locations.

Memory Scan

During **Memory Scan**, the radio will rapidly switch from tagged channel to tagged channel. Whenever any activity is detected, the radio will stop the scan to allow you to listen to the activity on that channel. The radio will then continue to scan after 2 seconds of inactivity, unless you switch out of the **Memory Scan** mode.

Scanning

NOTE
If there are fewer than two (2) channels tagged, the **Memory Scan** mode will not be available. [See page 47 under program memory channels to tag at least two (2) channels.]

NOTE
The radio must be squelched for the **Memory Scan** mode to function. See page **26** for squelch procedure.

Standby Mode

Soft Keys

To Enter Memory Scan:

1. From **Standby** mode, press the **MORE soft key** (if necessary), then the **SCAN soft key**.

The radio will immediately begin to scan the channels you tagged. SCAN (memory scan) will be highlighted on the LCD.

To Exit Memory Scan:

1. From **Memory Scan** mode, press the **SCAN soft key**.

This will return the radio to **Standby** mode on the last scanned memory location.

During Memory Scan (while receiving an incoming transmission), You Can Choose From The Following:

a. Press the **Talk** button to remain on that memory location and end scanning. This will return the radio to **Standby** mode.
   The radio will then continue to scan after 2 seconds of inactivity, unless you switch out of the **Memory Scan** mode.

   During Memory Scan (while not receiving a transmission):

b. Press the **Talk** button to communicate on the last channel scanned and return to **Standby** mode.
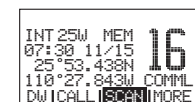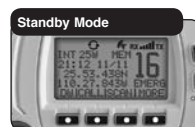
Public Address

Use the **Public Address (PA)** mode of voice transmission to communicate to other nearby vessels or people. This feature requires a mounted and connected optional PA speaker.

Soft Keys

Talk Button

To Broadcast on the PA Speaker:

1. Press the **PA** soft key.

2. Press the **Talk** button on the microphone and speak into the microphone.

> **NOTE**
> While in the **PA** mode:
>
> ■ When the **Talk** button is pressed, the output is directed to the **PA** speaker and not transmitted as a radio signal through the antenna.
>
> ■ Received radio messages will not be heard while the **PA** mode is active.
>
> **3.** To turn off **PA**, press **PA soft key** again.

Burp Feature

Cobra's **Burp** feature allows the operator to expel water from inside the speaker grill. This is especially useful if the radio is Sprayed or during extreme foul weather conditions. In these conditions, water can become trapped in the speaker grill and muffle the audio.

Soft Keys

To Activate Burp:

1. Press the **BURP** soft key.

2. The **Burp** tone(s) at maximum level will sound from the internal speaker for five seconds.

3. During this time, the matrix will display **EXCUSE ME !**.

4. After a 5-second interval, the radio will return to standby

EXCUSE ME ! 16 EMERG
BURP MORE

Rewind-Say-Again® Feature

The radio has a Cobra exclusive playback feature, **Rewind-Say-Again®**. This feature allows you to replay the last 20 seconds of an incoming audi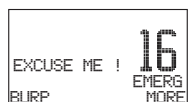o transmission. It also allows you to record call details including position coordinates, call signs, registration numbers and store details that will help authorities locate a distressed vessel.

Example 1:
When engine noise, music or conversation creates too much noise to hear an inbound message clearly, press the **Rewind-Say-Again®** button to enter the **Rewind-Say-Again®** menu to be able to hear the message a second time. This feature eliminates asking the sender to repeat the message.

Example 2:
When listening to an urgent distress of an excited caller with confusing background noise, press the **Rewind-Say-Again®** button to enter the **Rewind-Say-Again®** menu to be able to hear the message a second time and get lifesaving information.

Rewind-Say-Again® Button
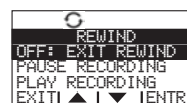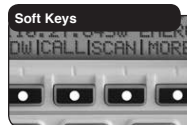
Soft Keys

Operation of Rewind-Say-Again®

1. Press the **Rewind** button after the last inbound audio transmission.

2. Using the **Up/Down soft keys** or the **channel Up/Down buttons** scroll to the PLAY RECORDING menu option.

3. Press the **ENTR** key to hear the recording.

4. The radio automatically replays the last 20 seconds of the previous audio transmission.

5. Respond to the caller normally, after the message is replayed.

REWIND
OFF: EXIT REWIND
PAUSE RECORDING
PLAY RECORDING
EXIT ▲ | ▼ |ENTR

Setup and Advanced Operation of Rewind-Say-Again®
Operation of Rewind-Say-Again®:

1. Press the **Rewind** button.

a. OFF: EXIT REWIND - When highlighted and the **ENTR** key is pressed, exits the **Rewind** features and when the **Rewind** button is pressed again, the screen above will be displayed.

b. PAUSE RECORDING - Pause recording of incoming audio transmissions.

c. PLAYBACK RECORDING - Playback recorded incoming audio.

d. SAVE RECORDING - Saves recorded incoming audio.

e. ERASE RECORDING - Erases the saved recording.

f. RECORD MESSAGE - Record a message (using the microphone to record the message, using the PTT key to start and stop the recording).

g. PLAYBACK MESSAGE - Playback the recorded message.

h. SAVE MESSAGE - Save the recorded message.

i. ERASE MESSAGE - Erases the saved message.

j. TRANSMIT MESSAGE - Transmit the recorded message.

Digital Select Calling (DSC) Operation

The **Send** menu displays when the **Distress** button is pressed.

> **NOTE**
> This radio follows Class-D DSC protocol with a dedicated Channel 70 receiver.

Sending Distress Calls

Sending and receiving distress calls and acknowledgements on Channel 70 can be a lifesaver for mariners.

> **NOTE**
> The DSC call:
> - Sound the distress alarm at all receiving stations.
> - Inform receiving stations of your identity (MMSI).
> - Informs receiving stations of the nature of the emergency.
> - Informs receiving stations of sending position when a GPS device is connected or a position is manually entered. DSC operation does not provide receiving stations with information like number of persons aboard or injuries. This specific information must be communicated by voice on Channel 16 to the station that acknowledges a DSC Distress call.
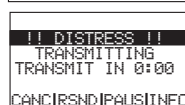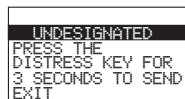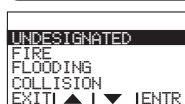
Distress Button

To Send a DSC Distress Call:

1. From **Standby** mode, pull down the spring-loaded red door on the transceiver and press the **Distress** button. You will have three (3) choices:

- Send a distress call automatically, with your position, if you are connected to a GPS. Or send the call, without your position, if not connected to a GPS.
- Include a Nature of Distress message with the distress call.
- Cancel the distress call process and return to **Standby** mode.

2. Choose one of the following:

Send an Automatic Distress Call:
   a. Press and hold the **Distress** button.

Include a Nature of Distress Message with Distress Call:
   a. Press and release the **Distress** button.
   b. Press the **Up/Down soft keys** or the **Channel Up/ Down buttons** to manually select from the list of pre-programmed Nature of Distress calls — UNDESIGNATED, FIRE, FLOODING, COLLISION, GROUNDING, more.
   c. Press and hold the **Distress** button for three (3) seconds to transmit the distress signal.

```
UNDESIGNATED
FIRE
FLOODING
COLLISION
EXIT| ▲ | ▼ |ENTR
```

```
  UNDESIGNATED
PRESS THE
DISTRESS KEY FOR
3 SECONDS TO SEND
EXIT
```

```
 !! DISTRESS !!
  TRANSMITTING
 TRANSMIT IN 0:00

CANC|RSND|PAUS|INFO
```

```
 !! DISTRESS !!
  WAIT FOR ACK
 TRANSMIT IN 4:11

CANC|RSND|PAUS|INFO
```
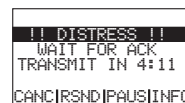
Abort The Distress Call Process:

If the **Distress** button is pressed by mistake:
a. Press the EXIT soft key to return to Standby mode.

The **Distress** alarm sounds to confirm that the message is transmitted. At the end of the transmission, the radio maintains a watch on Channel 16 and Channel 70 for an acknowledgement. Press any button to turn Off the alarm.

- If an acknowledgement is received, the **Distress** alarm sounds again and the responding party's MMSI number displays on the LCD.
- If no acknowledgement is received, the radio resends the message at approximately four (4) minute intervals until an acknowledgement is received or the **Distress** call is aborted.

Soft Keys

```
DW|CALL|SCAN|MORE
```
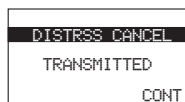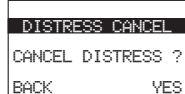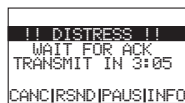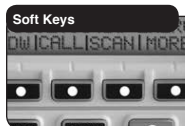
Cancelling a Distress Call

At anytime Before receiving a Distress Call Acknowledgement, the Distress can be canceled.

1. From the **WAIT FOR ACK** screen, press the **CANC** soft key.

2. From the **DISTRESS CANCEL** screen, confirm cancelling the Distress Call by pressing the **YES soft key**.

3. After the **Distress Call Cancel** message has been sent, press the **CONT** key.

4. After the Distress Cancel has been sent, your are required to follow-up with a **VOICE CANCEL** containing the following information:

"**ALL STATIONS**" SAY 3 TIMES

"This is (SHIP NAME), (CALL SIGN), (SHIP MMSI #), (POSITION)" CANCEL MY DISTRESS ALERT OF "(DATE, UTC TIME)"

5. After completing the **VOICE CANCEL** procedure, press the **DONE soft key** to return to the radio idle screen.

```
 !! DISTRESS !!
  WAIT FOR ACK
 TRANSMIT IN 3:05

CANC|RSND|PAUS|INFO
```

```
 DISTRESS CANCEL

CANCEL DISTRESS ?

BACK          YES
```

```
 DISTRSS CANCEL

  TRANSMITTED

          CONT
```

```
VOICE CANCEL REQ
 "ALL STATIONS"
   SAY 3 TIMES
 "THIS IS (SHIP
REPT| ▲ | ▼ |DONE
```

Receiving Distress Calls

When a vessel is within range of a DSC Distress call, the radio receives the call, sounds the **Distress** alarm, and switches to Channel 16. All DSC calls that are received will sound one (1) alert alarm. See pages **10-13** for descriptions of the different alarms. Press any button to turn Off the alarm. The received call information continues to display on the LCD.

```
DISTRESS RECEIVE
NOT ACKNOWLEDGED
MMSI: 123456789
RECEIVED:    0:34
STOP ALRM ANY KEY
```

```
DISTRESS RECEIVE
NOT ACKNOWLEDGED
MMSI: 123456789
RECEIVED:    0:34
 OK |QUIT|PAUS|INFO
```

When A Distress Call Is Received:

1. Press any button to turn Off the alarm.

2. Read and write down the distress information that displays on the LCD (position data may or may not be shown); then determine whether to answer the call.

3. Respond, if appropriate, by pressing and holding the **Talk** button to transmit on Channel 16.

4. The received information is placed into the **Call Log**. See page **62** for more information on viewing the **Call Waiting Log.**

5. If MMSI (Maritime Mobile Service Identify) matches a contact from the **Individual Directory** entry stored in your radio, the name identification displays and the alarm sounds to identify the **Name** of the matching MMSI member.

6. Press **ESC** after viewing the display to return to normal **Standby** mode.

> **NOTE**
> The radio automatically switches to Channel 16 upon receiving a DSC Distress call and the alarm will sound for approximately two (2) minutes. Press any button to clear the **Distress** alarm instantly.

Regarding Distress Relay Calls

This radio cannot send Distress Relay calls. Only large ships and shore stations, with specially equipped radios, can send Distress Relay calls.

Receiving Distress Relay Calls

This radio does respond to a Distress Relay call just as it responds to a Distress call.

Sending An All Ships Calls

Use the DSC All Ships call for the same urgency and safety purposes as the Pan and Securite voice calls as well as sending Routine messages to all stations at once. The DSC All Ships call reaches all stations in radio range. Use the DSC All Ships call for urgent, but not life-threatening situations or to broadcast a safety warning to all vessels in the area.

Up/Down Buttons
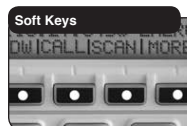
Soft Keys

```
   CALL MENU
INDIVIDUAL CALL
GROUP CALL
ALL SHIPS CALL
EXIT|  ▲  |  ▼  |ENTR
```

```
  SELECT CHANNEL
16
06
08
EXIT|  ▲  |  ▼  |ENTR
```

```
  ALL SHIPS CALL

TRANSMIT SAFETY ?

EXIT            ENTR
```

```
  ALL SHIPS CALL
SAFETY
CHANNEL 16
ELASPED TIME 0:50
EXIT
```

To Send An All Ships Call:

1. Press the **CALL soft key** and scroll to ALL SHIPS CALL with the UP/Down soft keys or the **channel Up/Down buttons**.

2. Select either SAFETY or URGENCY and press the **ENTR soft key**.

3. Using the **Up/Down soft keys** or the **channel Up/Down buttons**, select the voice channel all radios will tune to after the All Ships message is sent and press the **ENTR** key.

4. Press the **ENTR soft key** to send the **All Ships Call**.

5. The radio will tune to the voice channel previously selected.

6. Press the **EXIT soft key** to exit the All Ships Call mode and return the radio to the idle screen.

Receiving An All Ships Call

All Ships calls received from stations within range of the radio sound the Distress alarm and switch the radio to Channel 16.

```
ALL SHIPS RECEIVE
MMSI: 123456789
CONNECT TIME 0:45
TYPE: URGENCY
              QUIT
```

When An All Ships Call Is Heard:

1. Press any button to turn **Off** the alarm.

2. Read and write down the MMSI of the vessel sending the call as well as the date and time of the call.

3. Listen to the incoming voice message on the channel the radio selects for the incoming All Ships call.

Sending A Geographical Call

This radio does not send Geographical calls. Only large ships and shore stations with specially equipped radios send Geographical calls.

Sending An Individual Call

Use the DSC Individual call feature to request communication with one (1) exclusive station. The DSC Individual call does not alert all other stations within range.

Up/Down Buttons

Soft Keys

```
   CALL MENU
INDIVIDUAL CALL
GROUP CALL
ALL SHIPS CALL
EXIT| ▲ | ▼ |ENTR
```

```
INDIVIDUAL CALL
MANUAL
FRIENDS BOAT

EXIT| ▲ | ▼ |ENTR
```

```
  SELECT CHANNEL
06
08
09
EXIT| ▲ | ▼ |ENTR
```

```
 INDIVIDUAL CALL
VOICE CALL ON
CHANNEL 06 ?

EXIT| ▲ | ▼ |ENTR
```

```
 INDIVIDUAL CALL
FRIENDS BOAT
WAITING FOR ACK
ELASPED TIME00:15
EXIT          REPT
```

```
 INDIVIDUAL CALL
FRIENDS BOAT
CONNECTED
ELAPSED TIME00:15
EXIT| ▲ | ▼ |ENTR
```
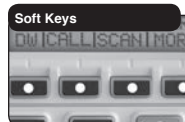
To Send An Individual Call:

1. Press the **CALL soft key** and scroll to INDIVIDUAL CALL with the **UP/Down soft keys** or the **channel Up/Down buttons** and press the **ENTR soft key.**

2. Using the **Up/Down soft keys** or the c**hannel Up/Down buttons** to highlight a previously entered directory entry or use the **MANUAL** entry option.

3. Press the **ENTR** key.

4. Using the **Up/Down soft keys** or the **channel Up/Down buttons**, select the voice channel all radios will tune to after the Individual Call message is sent and press the **ENTR** key.

5. Press the **ENTR soft key** to send the Individual Call.

6. The radio will tune to the voice channel previously selected.

7. Press the **EXIT soft key** to exit the Individual Call mode and return the radio to the idle screen.

■ If the radio called sends back an automatic DSC response "able to comply," the individual alarm will sound. Wait for a voice message from the called station.

■ If an "unable to comply" response or no reply is received, the radio display asks to resend the message or exit the menu. At the **Unavailable** menu, Press REPT or EXIT soft keys.

■ If **REPT** is selected, the radio restarts the individual call.

■ If **EXIT** is selected, the radio will return to the Call Menu.

Advanced Operation

```
 INDIVID RECEIVE
FRIENDS BOAT
NOT REPLIED
RECEIVED:    0:15
STOP ALRM ANY KEY
```

```
 INDIVID RECEIVE
FRIENDS BOAT
CONNECTED
CONNECT TIME -:--
RSND          QUIT
```

Receiving An Individual Call

When another station makes an **Individual** call to your radio:

■ The Individual alarm sounds.

■ The caller is identified on the LCD.

■ If **Automatic Channel Switch** is on, the radio switches to the channel selected by the caller.

■ Call information is placed in the **Call Log**.

To Receive An Individual Call:

Press the **Talk** button and greet the caller.

Sending A Group Call

Sending a Group call is like sending an Individual call, but the group MMSI information is used and the resend and DSC responses do not apply. See pg. **41** for creating and entering a group MMSI.

Up/Down Buttons

Soft Keys

```
   GROUP CALL
MANUAL
BOAT GROUP

EXIT| ▲ | ▼ |ENTR
```

```
  SELECT CHANNEL
06
08
09
EXIT| ▲ | ▼ |ENTR
```

```
   GROUP CALL
VOICE CALL ON
CHANNEL 06 ?

EXIT           ENTR
```

```
   GROUP CALL
BOAT GROUP
WAITING FOR ACK
ELASPED TIME00:15
EXIT          REPT
```

```
   GROUP CALL
BOAT GROUP
CONNECTED
ELAPSED TIME00:32
EXIT
```

To Send A Group Call:

1. Press the **CALL soft key** and scroll to `GROUP CALL` with the **Up/Down soft keys** or the **channel Up/Down buttons** and press the **ENTR** soft key.

2. Using the **Up/Down soft keys** or the **channel Up/Down buttons** to highlight a previously entered directory entry or use the **MANUAL** entry option.

3. Press the **ENTR** key.

4. Using the **Up/Down soft keys** or the **channel Up/Down buttons**, select the voice channel all radios will tune to after the Group Call message is sent and press the **ENTR** key.

5. Press the **ENTR** soft key to send the Group Call.

6. The radio will tune to the voice channel previously selected.

7. Press the **EXIT** soft key to exit the Group Call mode and return the radio to the idle screen.

■ All radios switch to the channel selected in step 1. Press and hold the **Talk** button to send a voice message to everyone in the group.

■ Anyone in the group can transmit on the channel.

Advanced Operation

Receiving A Group Call

When another station makes a Group call to the radio, the **Individual** alarm sounds, the caller is identified on the LCD, call information is placed in the **Call Log**, and the radio is switched to the channel selected by the caller, similar to an Individual call. Press any button to turn Off the alarm.

```
  GROUP RECEIVE
BOAT GROUP
RECEIVED:    0:19
TYPE: ROUTINE
STOP ALRM ANY KEY
```

```
  GROUP RECEIVE
BOAT GROUP
RECEIVED:    0:24
TYPE: ROUTINE
 OK |QUIT|PAUS
```

To Receive A Group Call:

1. Listen for the group voice message.

2. Press the **Talk** button and respond only if appropriate.

Sending A Position Request

Position Request mode enables a DSC radio to obtain the position (latitude and longitude) of a station that has a GPS device connected to the DSC radio at that station. In most cases, a reply will be forthcoming. If for some reason, your request is not acknowledged in five (5) minutes, the user will be prompted to Resend the request or exit the menu.

Up/Down Buttons

Soft Keys

```
POSITION REQUEST
MANUAL
FRIENDS BOAT

EXIT| ▲ | ▼ |ENTR
```

```
 POSITION REQUEST
SAFETY
URGENCY

EXIT| ▲ | ▼ |ENTR
```

```
 POSITION REQUEST
FRIENDS BOAT
TRANSMIT?

EXIT           ENTR
```

To Request The Position Of Another Station:

1. Press the **CALL soft key** and scroll to `POSITION REQUEST` with the **Up/Down soft keys** or the **channel Up/Down buttons** and press the **ENTR soft key**.

2. Using the **Up/Down soft keys** or the c**hannel Up/Down buttons** to highlight a previously entered directory entry or use the **MANUAL** entry option.

3. Press the **ENTR** key.

4. Press the **ENTR** soft key to send the Position Request Call.

5. The radio will show the `WAITING FOR ACK` screen while waiting for the acknowledgement from the called radio. And will show the `ACKNOWLEDGED` screen after the called radio responds.

Sending A Position Request continued

```
POSITION REQUEST
FRIENDS BOAT
WAITING FOR ACK
ELASPED TIME 0:25
EXIT         REPT
```

```
POSITION REQUEST
ACKNOWLEDGED
FRIENDS BOAT
ELAPSED TIME 0:42
EXIT| ▲ |▼
```

6. After the called radio acknowledges the call, use the Down soft key to view the called radios current position.

7. Press the EXIT soft key to exit the Position Request mode and return the radio to the Call Menu.

NOTE

Your radio will send the **Position Request** and there will be one (1) of three (3) possible responses:

■ You will receive the position.

■ You will receive a no position data response, meaning the station you queried is not connected to a **GPS** device and cannot send its position.

■ You will receive a no reply response, meaning the operator of that station has chosen not to reply to your request.

If You Receive A Position:
The requested position with the station name and MMSI will show on your screen.

Press the **Enter** button to return to **Standby** mode after you have noted the station's position.

NOTE

If the radio is connected properly to your chartplotter, you will see the requested position of the other vessel indicated on the display.

Receiving A Position Request

When you went through the DSC set-up process, you set a position request reply type. (See page **42** to change your setting.) Depending on the setting you chose, when a **Position Request** message is received, your radio will enter either:

■ The **Auto Reply** mode.

■ The **Manual Reply** mode.

```
POSITION REPLY
FRIENDS BOAT

REPLIED:   0:23
          QUIT
```

When The Radio Is In Auto Reply Mode:

A position request will sound the **Position Request** alarm and show the name of the requesting station on the LCD. Your radio will automatically respond. It will send your position, if you have a **GPS** device connected to your radio, or NO POS. DATA (no position data), if you do not have a **GPS** device connected.

Press any button to silence the alarm and exit the display.

When The Radio Is In The Manual Reply Mode:

A position request message will sound the **Position Request** alarm and show the name of the requesting station. You can choose to:

■ Reply and send your position.

■ Exit without sending your position.

If You Choose to Reply with Your Position:
1. Press the **ENTR** soft key.

If You Choose Not to Reply with Your Position:
2. Press the **EXIT** soft key.

Sending A Position Send

Position Send uses your connected GPS in similar fashion to the **Position Request** function, except that you initiate the activity to let another station know where you are.

```
   POSITION SEND
MANUAL
FRIENDS BOAT

EXIT| ▲ | ▼ |ENTR
```

```
   POSITION SEND
ROUTINE
SAFETY

EXIT| ▲ | ▼ |ENTR
```

```
   POSITION SEND
TRANSMIT POSITION
TO FRIENDS BOAT?

EXIT          ENTR
```

```
   POSITION SEND
FRIENDS BOAT
TRANSMITTED
ELASPED TIME 0:30
EXIT
```

To Send A Position Send Message:

1. Press the **CALL soft key** and scroll to POSITION SEND with the **Up/Down soft keys** or the **channel Up/Down buttons** and press the **ENTR soft key**.

2. Using the **Up/Down soft keys** or the **channel Up/Down buttons** to highlight a previously entered directory entry or use the **MANUAL** entry option.

3. Press the **ENTR** key.

4. Press the **ENTR soft key** to send the Position **SEND** Call.

5. Press the **EXIT** soft key to exit the Position Send mode and return the radio to the Call Menu.

Receiving A Position Send

When another station sends you its position in **Position Send** mode, the **Individual Alarm** will sound and the station's name and position will be shown on the LCD. Press any button to turn **Off** the alarm and return to **Standby** mode.

Call Log and Distress Log

Call Waiting functions similarly to the Caller ID function on your telephone. It will capture the caller's MMSI identification number and any other data included in a DSC message.

NOTE
Each **Call Log** memory can hold up to 20 messages. Once the memory becomes full, each new call will erase the oldest call information on a first-in, first-out basis.

NOTE
The **Envelope** Icon will be displayed when calls are received and placed into any of the call logs.

All Messages Viewed

Unread Messages

■ The envelope Icon will be shown closed to indicate unread messages.

■ The envelope Icon will be shown open to indicate that all messages have been read.

To Review Call Log Messages Received While In DSC Standby Mode:

1. Press the **CALL soft key** and scroll to CALL WAITING with the **Up/Down soft keys** or the **channel Up/Down buttons** and press the **ENTR** soft key.

2. Using the **Up/Down soft keys** or the **channel Up/Down buttons** to highlight DISTRESS LOG or RECEIVED CALLS logs.

3. Press the **ENTR** key.

4. Using the **Up/Down soft keys** or the **channel Up/Down buttons** to highlight a log entry.

5. Press the **ENTR** key to view the log entry.

6. Press the **EXIT soft key** to exit the Position Send mode and return the radio to the DSC CALL LOGS Menu.

To Delete Call Log Information:

1. Press the **CALL soft key** and scroll to CALL WAITING with the **Up/Down soft keys** or the **channel Up/Down buttons** and press the **ENTR** soft key.

2. Using the **Up/Down soft keys** or the **channel Up/Down buttons** to highlight DELETE CALL LOGS.
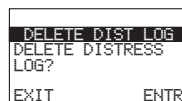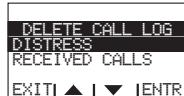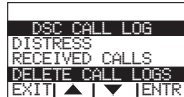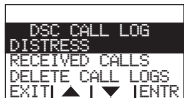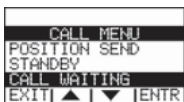
To Delete Call Log Information continued**:**

3. Press the **ENTR** key.

4. Using the **Up/Down soft keys** or the **channel Up/Down buttons** to highlight DISTRESS or RECEIVED CALLS log entry.

5. Press the **ENTR** key and confirm delete by pressing the **ENTR** key.

6. Press the **EXIT** soft key to exit the Position Send mode and return the radio to the DELETE CALL LOGS Menu.

Test Call

The **Test Call** feature allows the user to confirm that the radio is fully operational and that the DSC call functions are working properly.
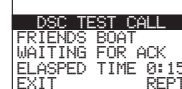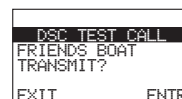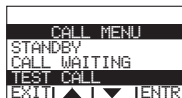
1. Press the **CALL soft key** and scroll to TEST CALL with the **UP/Down soft keys** or the **channel Up/Down buttons** and press the **ENTR** soft key.

2. Using the **Up/Down soft keys** or the **channel Up/Down buttons** to highlight a previously entered directory entry or use the **MANUAL** entry option.

3. Press the **ENTR** key.

4. Press the **ENTR soft key** to send the Test Call.

5. The radio will tune to the voice channel previously selected.

6. Press the **EXIT soft key** to exit the Test Call mode and return the radio to the Call Menu.

Alarm In

Allows connection to the alarm output of your chart plotter to alert you when an arrival, off-course, etc.alarm has been activated.
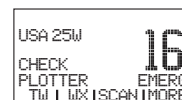
1. Connect the **Blue** wire on the back panel wire harness to the Alarm Output of your plotter (see the operators manual of your plotter for connection and use details).

2. When your plotter outputs the alarm signal (the plotter grounds the alarm output), your CobraMarine radio will activate the Alarm screen and sound a loud alarm tone.

3. Pressing any key on your CobraMarine radio will silence the alarm.

Maintenance And Troubleshooting

Maintenance

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

- Keep the radio clean by wiping with a soft cloth and mild detergent. Rinse with fresh water. 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, rinse it in fresh water at least once a day to prevent build-up of salt deposits, which could interfere with button operation.

Troubleshooting

Problem	Possible Cause(s)	Solution(s)
No display on LCD when radio is turned **On**	Improper power connection	Insure power connections are proper and secure
Will transmit at one (1) watt, but not at 25 watts	Selected channel is limited 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	Readjust volume and squelch
No answer to calls	Out of range of other station	Switch to high power (25 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 International, U.S.A. and Canadian Channels
Channel Spacing	25 kHz
Modulation	5 kHz Max.
Input Voltage	13.8 VDC
Current Drain: Stand-by Receive Transmit	20 mA 200 mA 5A @ High power 1A @ Low
Temperature Range	-20˚ C to 55˚ C
Unit Dimensions	6.25" x 3.0" x 6" (15.9 cm x 5.7 cm x 18 cm)
Unit Weight	2 lbs., 12.0 oz. (1100 g)
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
AF Output	2.5 Watts @ 8 Ohms
Transmitter	
Frequency Range: TX	156.025 to 157.425 MHz
RF Output Power	1 and 25 Watts
Spurious Emissions	-60 dB High -55 dB Low
Microphone Type	Electret
Frequency Stability	+/-10 ppm
FM Hum and Noise	40 dB

NOTE
The typical usage for this marine radio is 10% transmitting, 10% receiving incoming signals, and 80% in standby mode.

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.

Channel Assignments (English)

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.

Asignación de canales de VHF para radiocomunicación marítima

Existen tres (3) juegos de canales VHF para uso marítimo en los EE.UU., Canadá y el resto del mundo (internacional). La mayoría de los canales coinciden en los tres (3) mapas, pero sin duda existen diferencias (consulte las tablas en las páginas siguientes). El radio incorpora los tres (3) mapas y funcionará correctamente en cualquiera de las tres áreas.

A continuación presentamos en forma resumida las asignaciones de canales del Mapa de canales para EE.UU.

Asignaciones de canales (Español)

Auxilio, seguridad y llamadas
Canal 16
Para ser oídos por otra estación (llamadas) o en casos de emergencia (auxilio y seguridad).

Llamadas
Canal 9
Llamadas de carácter general (excepto casos de emergencia) para embarcaciones no comerciales. Se le pide encarecidamente a la tripulación de las embarcaciones recreativas usar este canal para reducir la congestión del canal 16.

Seguridad entre embarcaciones
Canal 6
Para mensajes de seguridad entre embarcaciones y para mensajes de búsqueda y rescate enviados a barcos y aviones de la guardia costera.

Enlace con la guardia costera
Canal 22A
Para hablar con las guardias costeras estadounidenses y canadienses (excepto casos de emergencia) tras haber establecido contacto por el canal 16.

No comerciales
Canales 68,* 69, 71, 72, 78A, 79A,* 80A*
Canales activos para pequeñas embarcaciones. Los mensajes deberán estar relacionados con necesidades de las embarcaciones, como por ejemplo, informes de pesca, atraques y agrupamientos. Use el canal 72 solamente para mensajes entre embarcaciones.

Comerciales
Canales 1A, 7A, 8, 9, 10, 11, 18A, 19A, 63A, 67, 72, 79A, 80A, 88A*
Canales activos para embarcaciones activas solamente. Los mensajes deberán estar relacionados con la actividad comercial o las necesidades de la embarcación. Use los canales 8, 67, 72 y 88A solamente para mensajes entre embarcaciones.

Channel Assignments (English)

Sea Tow Automated Radio Check (ARC)
Channels 24, 25, 26, 27, 28, 84*
Tune your radio to the proper channel for your area (see seatow.com/arc). Conduct a radio check as you normally would. Upon releasing the mic the system will replay your transmission letting you hear how you sound.

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 10
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.

Asignaciones de canales (Español)

Sea Tow Control de radio automatizado (ARC)
Canales 24, 25, 26, 27, 28, 84*
Sintonice su radio en el canal correcto para su área (ver seatow.com/arc). Llevar a cabo una comprobación de la radio como lo haría normalmente. Al soltar el micrófono el sistema se volverá a reproducir la transmisión que le permite escuchar cómo suena.

Operaciones portuarias
Canales 1A, 5A, 12, 14, 18, 19, 20A, 21, 22, 63A, 65A, 66A, 73, 74, 75, 76, 77*, 79, 80, 81, 82
Usados para dirigir el movimiento de las embarcaciones dentro de áreas portuarias, esclusas o canales. Los mensajes deberán estar relacionados con maniobras operacionales, movimientos y seguridad de las embarcaciones.

Navegación
Canales 13, 67
Estos canales están disponibles para todas las embarcaciones. Los mensajes deberánestar relacionados con la navegación, incluidas las maniobras para pasar o alcanzar otrasembarcaciones. Éstos también son los principales canales activos para la mayoría de las esclusas y puentes levadizos. Usted deberá transmitir mensajes cortos y mantener la potencia de salida en un vatio como máximo.

Control marítimo
Canal 17
Para comunicarse con embarcaciones y estaciones costeras operadas por entidades gubernamentales locales o estatales. Los mensajes deberán estar relacionados con regulación y control, asistencia o actividades de navegación.

Llamadas selectivas digitales
Canal 70
Este canal está reservado para solicitudes de auxilio, seguridad y llamadas de carácter general que usen solamente técnicas de llamadas selectivas digitales. Las comunicaciones verbales están prohibidas; el radio no puede transmitir mensajes de voz por este canal.

Meteorología
Canales Wx 1 a 10
Canales de recepción únicamente para difusión de información meteorológica NOAA y canadiense. Usted no puede transmitir por estos canales.

NOTA
* El uso de estos canales está dedicado a las aplicaciones que aparecen en la lista, en ciertas partes del país o para ciertos tipos de usuario solamente. Consulte las normas de la FCC o a un operador de radio con experiencia antes de usarlos.

Channel Number	Channel Map			Frequency		Power Limits
Número de canal	USA	Int'l	Canada	Transmit	Receive	Límites de potencia
	EE.UU.	nternac	Canadá	Transm.	Recepción	
01		●	●	156.050	160.650	
01A	●			156.050	156.050	
02		●	●	156.100	160.700	
03		●	●	156.150	160.750	
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 1 vatio EE.UU. y Canadá
14	●	●	●	156.700	156.700	
15	●			Rx Only	156.750	
15			●	156.750	156.750	1 watt CANADA 1 vatio Canadá

Channel Use (English)	Uso de canales (Español)
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo)
Port Operations and Commercial, VTS in selected areas	Operaciones portuarias y comerciales; VTS en áreas selectas
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo)
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo)
Public Correspondence (Marine Operator), Port Operations, Ship Movement	Correspondencia pública (operador marítimo) operaciones portuarias, movimiento de embarcaciones
West Coast (Coast Guard Only); East Coast (Commercial Fishing)	**Costa occidental (guardia costera solamente); Costa oriental (pesca comercial)**
Public Correspondence (Marine Operator), Port Operations, Ship Movement	Correspondencia pública (operador marítimo) operaciones portuarias, movimiento de embarcaciones
Port Operations, VTS in selected areas	Operaciones portuarias; VTS en áreas selectas
Intership Safety	Seguridad entre embarcaciones
Public Correspondence (Marine Operator), Port Operations, Ship Movement	Correspondencia pública (operador marítimo) operaciones portuarias, movimiento de embarcaciones
Commercial	Comerciales
Commercial (Intership Only)	Comercial (entre embarcaciones solamente)
Boater Calling Channel, Non-Commercial (Recreational)	Canal de llamada de la tripulación, no comercial (recreativo)
Commercial	Comerciales
Commercial, VTS in selected areas	Comercial; VTS en áreas selectas
Port Operations, VTS in selected areas	Operaciones portuarias; VTS en áreas selectas
Intership Navigation Safety (Bridge-to-Bridge). In U.S. waters, large vessels maintain a listening watch on this channel.	Seguridad marítima entre embarcaciones (de puente de mando a puente de mando). En aguas estadounidenses, las grandes embarcaciones se mantienen vigilantes con sus radios sintonizados en este canal
Port Operations, VTS in selected areas	Operaciones portuarias; VTS en áreas selectas
Environmental (Receive Only).	Medioambiental (recepción solamente). Usado por radiobalizas de localización de siniestros (EPIRB) clase C
Canada (EPIRB Buoys Only); International (On-Board Communication)	Canadá (boyas de EPIRB solamente); Internacional (comunicación de a bordo)

Channel Number	Channel Map			Frequency		Power Limits
Número de canal	USA EE.UU.	Int'l nternac	Canada Canadá	Transmit Transm.	Receive Recepción	Límites de potencia
16	●	●	●	156.800	156.800	
17	●	●	●	156.850	156.850	1 watt CANADA 1 vatio Canadá
18		●		156.900	161.500	1 vatio Canadá y Internac
18A	●		●	156.900	156.900	
19		●		156.950	161.550	
19A	●		●	156.950	156.950	
20	●	●	●	157.000	161.600	1 watt CAN 1 vatio Canadá
20A	●			157.000	157.000	
21		●		157.050	161.650	
21A	●		●	157.050	157.050	
21B			●	RX only	161.650	
22		●		157.100	161.700	
22A	●		●	157.100	157.100	
23		●		157.150	161.750	
23A	●			157.150	157.150	
23B			●	RX Only	161.750	
24	●	●	●	157.200	161.800	
25	●	●	●	157.250	161.850	
25B			●	RX only	161.850	

Channel Use (English)	Uso de canales (Español)
International Distress, Safety and Calling	Llamadas, seguridad y solicitud de auxilio internacional
Search and Rescue	Búsqueda y rescate
Port Operations, Ship Movement	Operaciones portuarias, movimiento de embarcaciones
Commercial	Comerciales
Port Operations, Ship Movement	Operaciones portuarias, movimiento de embarcaciones
Commercial	Comerciales
Canada (Coast Guard Only); International (Port Operations, Ship Movement)	Canadá (guardia costera solamente); Internacional (operaciones portuarias, movimiento de embarcaciones)
Port Operations	Operaciones portuarias
Port Operations, Ship Movement	Operaciones portuarias, movimiento de embarcaciones
U.S. (Government Only); Canada (Coast Guard Only)	EE.UU. (entidades gubernamentales solamente); Canadá (guardia costera solamente)
Coast Guard Only – Weather Broadcasts	Solamente Guardacostas – Transmisiones Meteorológicas
Port Operations, Ship Movement	Operaciones portuarias, movimiento de embarcaciones
U.S. and Canadian Coast Guard Liaison and Maritime Safety Information Broadcasts that are announced on Channel 16	Enlace entre las guardias costeras y canadienses, y difusión de información sobre seguridad marítima anunciada por el canal 16
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo)
Coast Guard Only	Solamente Guardacostas
Coast Guard Only	Solamente Guardacostas
Sea Tow Automated Radio Check Service Public Correspondence (Marine Operator), Port Operations, Ship Movement	Sea Tow Servicio de radio automatizado del control Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
Sea Tow Automated Radio Check Service Public Correspondence (Marine Operator), Port Operations, Ship Movement	Sea Tow Servicio de radio automatizado del control Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
Safety: Continuous Marine Broadcast (CMB) service by MCTS Canada	Seguridad: Transmisión Marítima Continua (CMB) servicio por MCTS Canadá

| Channel Number | Channel Map | | | Frequency | | Power Limits |
Número de canal	USA EE.UU.	Int'l nternac	Canada Canadá	Transmit Transm.	Receive Recepción	Límites de potencia
26	●	●	●	157.300	161.900	
27	●	●	●	157.350	161.950	
28	●	●	●	157.400	162.000	
28B			●	RX only	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	
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 1 vatio Canadá

Channel Use (English)	Uso de canales (Español)
Sea Tow Automated Radio Check Service Public Correspondence (Marine Operator), Port Operations, Ship Movement	Sea Tow Servicio de radio automatizado del control Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
Sea Tow Automated Radio Check Service Public Correspondence (Marine Operator), Port Operations, Ship Movement	Sea Tow Servicio de radio automatizado del control Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
Sea Tow Automated Radio Check Service Public Correspondence (Marine Operator), Port Operations, Ship Movement	Sea Tow Servicio de radio automatizado del control Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
Safety: Continuous Marine Broadcast (CMB) service by MCTS Canada	**Seguridad: Transmisión Marítima Continua (CMB) servicio por MCTS Canadá**
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo)
Public Correspondence (Marine Operator) Port Operation, Ship Movement	Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
U.S. (Government Only); Canada (Coast Guard Only); West Coast (Coast Guard Only); East Coast (Commercial Fishing)	**EE.UU. (entidades gubernamentales solamente); Canadá (guardia costera solamente); Costa occidental (guardia costera solamente);** Costa oriental (pesca comercial)
Public Correspondence (Marine Operator), Port Operations, Ship Movement	Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
West Coast (Coast Guard Only); East Coast (Commercial Fishing)	**Costa occidental (guardia costera solamente);** Costa oriental (pesca comercial)
Public Correspondence (Marine Operator), Port Operations, Ship Movement	Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
Port Operations and Commercial, VTS in selected areas	Operaciones portuarias y comerciales; VTS en áreas selectas
Public Correspondence (Marine Operator), Port Operations, Ship Movement	Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
U.S. (Government Only); Canada (Commercial Fishing)	**EE.UU. (entidades gubernamentales solamente);** Canadá (pesca comercial)
Public Correspondence (Marine Operator), Port Operations, Ship Movement	Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
Port Operations	Operaciones portuarias
Public Correspondence (Marine Operator), Port Operations, Ship Movement	Correspondencia pública (operador marítimo), operaciones portuarias, movimiento de embarcaciones
Port Operations	Operaciones portuarias

Channel Number	Channel Map			Frequency		Power Limits
Número de canal	USA EE.UU.	Int'l nternac	Canada Canadá	Transmit Transm.	Receive Recepción	Límites de potencia
67	●	●	●	156.375	156.375	1 watt USA 1 vatio Canadá
68	●	●	●	156.425	156.425	
69	●	●	●	156.475	156.475	
70	●	●	●	RX only	156.525	
71	●	●	●	156.575	156.575	1 watt USA 1 vatio EE.UU
72	●	●	●	156.625	156.625	
73	●	●	●	156.675	156.675	
74	●	●	●	156.725	156.725	
75	●	●	●	156.775	156.775	1 watt 1 vatio
76	●	●	●	156.825	156.825	1 watt 1 vatio
77	●	●	●	156.875	156.875	1 watt USA 1 vatio EE.UU
78		●		156.925	161.525	
78A	●		●	156.925	156.925	
79		●		156.975	161.575	

Channel Use (English)	Uso de canales (Español)
Internship Navigation Safety (Bridge-to-Bridge). In U.S. waters, large vessels maintain a listening watch on thias channel.	Seguridad marítima entre embarcaciones (de puente de mando a puente de mando). En aguas estadounidenses, las grandes embarcaciones se mantienen vigilantes con sus radios sintonizados en este canal.
Non-Commercial (Recreational)	No comercial (recreativo)
U.S. (Non-Commercial, Recreational); Canada (Commercial Fishing Only); International (Intership, Port Operations, Ship Movement)	**EE.UU. (entidades gubernamentales solamente); Canadá (guardia costera solamente); Costa occidental (guardia costera solamente); Costa oriental (pesca comercial)**
Digital Selective Calling (Voice communications not allowed)	Llamadas selectivas digitales (las comunicaciones verbales están prohibidas).
U.S. and Canada (Non-Commercial, Recreational); International (Port Operations, Ship Movement)	EE.UU. y Canadá (no comercial, recreativo); Internacional (operaciones portuarias, movimiento de embarcaciones).
Non-Commercial (Intership Only)	No comercial (entre embarcaciones solamente).
U.S. (Port Operations); Canada (Commercial Fishing Only); International (Intership, Port Operations, Ship Movement)	EE.UU. (operaciones portuarias); Canadá (pesca comercial solamente); Internacional (comunicaciones entre embarcaciones, operaciones portuarias, movimiento de embarcaciones).
U.S. (Port Operations); Canada (Commercial Fishing Only); International (Intership, Port Operations, Ship Movement)	EE.UU. (operaciones portuarias); Canadá (pesca comercial solamente); Internacional (comunicaciones entre embarcaciones, operaciones portuarias, movimiento de embarcaciones).
Port Operations (Intership Only)	Operaciones portuarias (entre embarcaciones solamente).
Port Operations (Intership Only)	Operaciones portuarias (entre embarcaciones solamente).
Port Operations (Intership only). Restricted to communications with pilots for movement and docking of ships.	Operaciones portuarias (entre embarcaciones solamente). Restringido a comunicaciones con pilotos para el movimiento y atraque de embarcaciones.
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo).
Non-Commercial (Recreational)	No comercial (recreativo).
Port Operations, Ship Movement	Operaciones portuarias, movimiento de embarcaciones.

Channel Number	Channel Map			Frequency		Power Limits
Número de canal	USA EE.UU.	Int'l nternac	Canada Canadá	Transmit Transm.	Receive Recepción	Límites de potencia
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	
83B			●	RX only	161.775	
84	●	●	●	157.225	161.825	
85	●	●	●	157.275	161.875	
86	●	●	●	157.325	161.925	
87	●	●	●	157.375	157.375	
88	●	●	●	157.425	157.425	
88A	●			157.425	157.425	

Channel Use (English)	Uso de canales (Español)
Commercial (Also Non-Comercial only in Great Lakes)	Comercial (en los Grandes Lagos también no comercial)
Port Operations, Ship Movement	Operaciones portuarias, movimiento de embarcaciones
Commercial (Also Non-Commercial only in Great Lakes)	Comercial (en los Grandes Lagos también no comercial)
Port Operations, Ship Movement	Operaciones portuarias, movimiento de embarcaciones
U.S. (Government Only); Canada (Coast Guard Only)	EE.UU. (entidades gubernamentales solamente); Canadá (guardia costera solamente)
Public Correspondence (Marine Operator) Port Operation, Ship Movement	Correspondencia pública (operador marítimo) operaciones portuarias, movimiento de embarcaciones
U.S. (Government Only); Canada (Coast Guard Only)	EE.UU. (entidades gubernamentales solamente); Canadá (guardia costera solamente)
Public Correspondence (Marine Operator) Port Operation, Ship Movement	Correspondencia pública (operador marítimo) operaciones portuarias, movimiento de embarcacione
U.S. (Government Only); Canada (Coast Guard Only)	EE.UU. (entidades gubernamentales solamente); Canadá (guardia costera solamente)
Coast Guard Only – Weather Broadcasts	Solamente Guardacostas – Transmisiones Meteorológicas
Sea Tow Automated Radio Check Service Public Correspondence (Marine Operator) Port Operation, Ship Movement	Sea Tow Servicio de radio automatizado del control Correspondencia pública (operador marítimo) operaciones portuarias, movimiento de embarcaciones
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo)
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo)
Public Correspondence (Marine Operator)	Correspondencia pública (operador marítimo)
Public Correspondence (Ship to Coast). In U.S. only within 75 miles of Canadian Border.	Correspondencia pública (entre embarcación y costa). En los EE.UU., solamente dentro de los casi 121 kilómetros (75 millas) de la frontera canadiense
Commercial Intership only	Comercial entre embarcaciones solamente

VHF Marine Channel Assignments (English)

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).

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.

Asignación de canales de VHF para radiocomunicación marítima (Español)

NOTA
Muchos de los canales de números simples, como 01, 02 y 03, transmiten y reciben en diferentes frecuencias. A esto se le llama operación dúplex. El resto de los canales de números simples y todos los canales A, como 01A, 03A y 04A, transmiten y reciben en una sola frecuencia, a la que se le llama operación simple (simplex). Su radio se ajusta automáticamente a estas condiciones. Cuando esté en operación simple, el icono A aparecerá en la pantalla de cristal líquido (vea la ilustración de la página A3).

NOTA
Todos los canales vienen programados previamente de fábrica conforme a los reglamentos internacionales y a los de la FCC (EE. UU) e Industry Canada (Canadá). No pueden ser alterados por el usuario, así como tampoco pueden cambiarse los modos de operación entre simple y dúplex.

World City Time Zones

In order to set correct local time as compared to different World City Time Zones, enter the hour "offset" as listed below. The correct local time appears on the VHF for Cities all over the world. See page 43 for setup information.

Longitudinal Zone	Offset	City
E172.50 to W172.50	-12	IDLW (International Date Line West)
W172.50 to W157.50	-11	Nome
W157.50 to W142.50	-10	Honolulu
W142.50 to W127.50	-9	Yukon STD
W127.50 to W112.50	-8	Los Angeles STD
W112.50 to W097.50	-7	Denver STD
W097.50 to W082.50	-6	Chicago STD
W082.50 to W067.50	-5	New York STD
W067.50 to W052.50	-4	Caracas
W052.50 to W037.50	-3	Rio de Janeiro
W037.50 to W022.50	-2	Fernando de Noronha
W022.50 to W007.50	-1	Azores Islands
W007.50 to E007.50 GMT	+0	London
E007.50 to E022.50	+1	Rome
E022.50 to E037.50	+2	Cairo
E037.50 to E052.50	+3	Moscow
E052.50 to E067.50	+4	Abu Dhabi
E067.50 to E082.50	+5	Maldives
E082.50 to E097.50	+6	Dhuburi
E097.50 to E112.50	+7	Bangkok
E112.50 to E127.50	+8	Hong Kong
E127.50 to E142.50	+9	Tokyo
E142.50 to E157.50	+10	Sydney
E157.50 to E172.50	+11	Solomon Islands
E172.50 to W172.50	+12	Auckland

Flush Mount Template / Plantilla para montaje empotrado

Use the supplied template to mark and cut an opening in the flat surface.

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.

Use la plantilla suministrada para marcar y cortar el agujero en la superficie plana.

PRECAUCIÓN
Antes de cortar, compruebe que no haya instrumentos o cables en el área detrás de la superficie plana, que puedan resultar dañados durante el proceso.

Customer Service

Declaration of Conformity

Declaration of Conformity

We Cobra Electronics Europe Limited of
Dungar House
Northumberland Avenue
Dun Laoghaire
County Dublin, Ireland

declare under our sole responsibility that the products **VHF Marine Radios:**

MR F57B E, MR F57W E

to which this declaration refers, conform with the following relevant standards or other standardising documents when properly installed and maintained and used for their intended purpose

EN60950-1:2006/A2:2013

EN50385:2002

EN301 025-2 V1.5.1 (2013-09)

EN301 025-3 V1.5.1 (2013-09)

EN 300 698-1 V1.4.1 (2009-12) Annex B

EN 301 843-1 V1.3.1 (2012-08)

EN301 843-2 V1.2.1 (2009-09)

**IEC61108-1 Ed2:2003
(Clauses 4.3.7 & 4.3.8)**

**IEC 62238 Ed1 2003
referencing ITU-R M493-13**

according to the regulations in DIRECTIVE 1999/5/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.
This product also complies with Commission Regulation (EC) No 278/2009 of 6 April 2009 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies and with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. This product also complies with Commission Regulation (EC) No 278/2009 of 6 April 2009 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for no-load condition electric power consumption and average active efficiency of external power supplies.

Dublin, Ireland
February 2015

MARK CLOSE
General Manager Cobra Group EMEA

CE Marking

CE MarkingThis radio is marked $C \in 0168$ adjacent to the serial number.

That means that this radio:

1. Complies with the essential requirements of the European Radio and Telecommunication Terminal Directive 1999/5/EC.

2. May operate in some non-harmonised frequency bands and/or may be subject to licensing conditions in the country of use.

The user should be sure to check that the model and programming of this radio complies with his or her national licensing requirements.

The Cobra line of quality products includes:

CB Radios

microTALK® 2-Way Radios

Radar/Laser Detectors

Mobile GPS Navigation Systems

HighGear® Accessories

Power Inverters

Accessories

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order any of our products,
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