Cobra MARINE™

Owner's Manual

The Cobra Electronics Corporation™ line of quality products includes:

CB Radios

microTALK® Radios

Radar/Laser Detectors

Safety Alert® Traffic Warning Systems

Handheld GPS Receivers

Mobile GPS Navigation Systems

HighGear® Accessories

CobraMarine™ VHF Radios

Power Inverters

Accessories

For more information or to order any of our products, please visit our website:
www.cobra.com

Printed in China Part No. 480-120-P

VHF MARINE RADIO
MR F55 EU

Our Thanks to You and Customer Assistance

Thank you for purchasing a CobraMarine™ VHF radio. Properly used, this 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.

NOTE
Your equipment will be black. White images are shown in this manual for illustration purposes only.

This equipment is intended for use in:

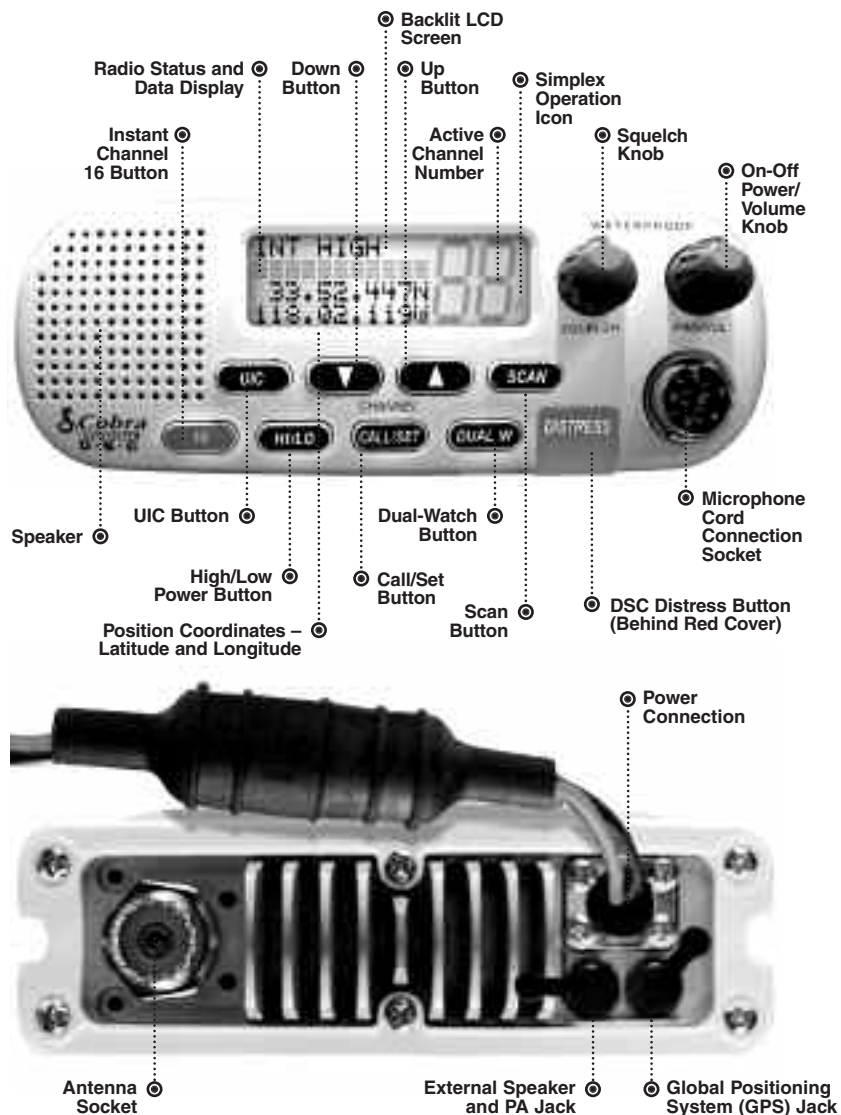|			
☑ AT	☑ FI	☑ LT	☑ PT
☑ BE	☑ FR	☑ LV	☑ SE
❑ CY	☑ GB	☑ LI	☑ CH
☑ CZ	☑ GR	☑ LU	❑ SI
❑ DE	☑ HU	☑ MT	☑ SK
☑ DK	☑ IE	☑ NL	❑ TR
☑ EE	☑ IS	☑ NO	
☑ ES	☑ IT	☑ PL	

For Warranty, Product Service and Accessory Information

Please contact your local dealer or distributor. See the enclosed leaflet that provides contact information for the CobraMarine™ international distributors.

Radio Status and Data Display

Down Button

Up Button

Backlit LCD Screen

Simplex Operation Icon

Active Channel Number

Squelch Knob

Instant Channel 16 Button

On-Off Power/ Volume Knob

INT HIGH
33.53.447N
118.42.113W

Speaker

UIC Button

High/Low Power Button

Position Coordinates – Latitude and Longitude

Call/Set Button

Dual-Watch Button

Scan Button

Microphone Cord Connection Socket

DSC Distress Button (Behind Red Cover)

Power Connection

Antenna Socket

External Speaker and PA Jack
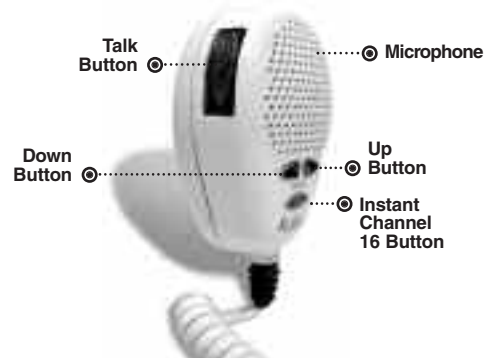
Global Positioning System (GPS) Jack

Microphone with Auxiliary Controls

Up/Down Buttons
Can be used instead of those on the transceiver.

Instant Channel 16 Button
Can be used instead of the one on the transceiver.

Talk Button

Down Button

Microphone

Up Button

Instant Channel 16 Button

Product Features

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

International/Canada/U.S.A. Channels
Allows operation on any of the three different channel maps established for these areas.

Instant Channel 16
Instant access to the priority Channel 16.

Digital Selective Calling (Class D DSC)
Allows sending a distress message at the touch of a button as well as specific station-to-station calls.

Scan
Lets you scan through all channels in the active channel map to find conversations in progress.

Dual-Watch
Lets you monitor two channels at once — Channel 16 and one user selectable channel.

Controls on the Microphone
Handy control buttons on the microphone let you operate single-handed at a distance from the radio.

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

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

Waterproof
Submersible to 1 metre of water for 30 minutes — meets JIS7 Standards.

Table of Contents

Important Safety Information

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

Warning and Caution 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 **CAUTION** statements in this manual.

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

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

General Precautions

The following **WARNINGS** and **CAUTIONS** will make you aware of RF exposure
hazards and how to assure you operate the radio within the recommended RF
exposure limits.

WARNINGS
Your radio generates electromagnetic RF (radio frequency) energy when
it is transmitting. To ensure that you and those around you are not exposed
to excessive amounts of that energy, DO NOT touch the antenna when
transmitting and KEEP yourself and all others on your vessel the required
distance away from the antenna while transmitting. SEE page 28 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 10% 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 Electronics Corporation™ authorized accessories.

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

NEVER connect the transceiver 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
recommended RF exposure limits or create other dangerous conditions.

CAUTIONS
AVOID using or storing the radio at temperatures below -20°C or above 50°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 1 metre away from
your vessel's magnetic navigation compass. CHECK your compass before
and after installation to be sure that it has not introduced any deviation.

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

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

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

Changes or modifications to your radio MAY VOID its compliance with
government rules and make it illegal to use.

Recommendations for Marine Communication

The frequencies your radio uses are set aside to enhance safety afloat and for vessel navigation and operational messages over a range suitable for nearshore voyages. If the 25 watt maximum output of your radio isn't sufficient for the distances you travel from the coast, consider installing more powerful radio equipment such as HF single side band or satellite radio for your vessel.

The 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 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.

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

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 kilometres. If there is no answer, switch to a higher power. This will conserve your battery and minimize interference to other users.

Calling Coast Stations

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

Calling Other Vessels

Call other vessels on Channel 16. You may also call on ship-to-ship channels when you know that the vessel is listening on a ship-to-ship channel.

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 2 minutes before calling again. After three 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 your station by your call sign, ship name 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

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.

- When the channel is quiet, press the **Talk** button and call the ship you wish to contact. (Hold the microphone at least 5 cm 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 pages 14 – 23.

For Example

The vessel Corsair calling the vessel Vagabond:

Corsair: "Vagabond, this is Corsair."

Vagabond: "Corsair, this is Vagabond. Reply 72 (or any proper working channel)."

Corsair: "72" or "Roger"

- After communications are completed, each vessel must sign off with its call sign or vessel name and switch to Channel 16.

NOTE
For best sound quality at the station you're calling, hold the microphone at least 5 cm from your mouth and slightly off to one 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). This radio follows Class D DSC with a dedicated Channel 70 receiver.

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 coastguard 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.

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 station with a distress and safety watch system. The range of the signal may vary, but under normal conditions should be approximately 20 nautical miles.

Maritime Mobile Service Identity (MMSI)

An MMSI is a nine 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 or your dealer must enter your maritime mobile service identity (MMSI) number. See page 45 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

In the U.S.A., the three sources for MMSI numbers are:

- BoatU.S.: 1-800-563-1536 – www.boatus.com/mmsi
- Maritel: 1-888-Maritel (1-888-627-4835)
- Sea Tow International: 1-631-765-3660 – www.seatow.com

In Canada, contact the nearest Industry Canada office. Addresses and telephone numbers are available from Radiocommunication Information Circular 66 (RIC-66).

Radiotelephone Calls

Boaters may make and receive radiotelephone calls to and from any number on the telephone network by using the services of public coast stations. Calls can be made — for a fee — between your VHF radio and telephones on land, sea and in the air. See pages 14 – 23 for the public correspondence (marine operator) channels.

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

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

Emergency Messages and Distress Procedure

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 coastguard 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, coastguard or coastguard auxiliary craft may be dispatched.

In any event, do communicate with the coastguard 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. If you are merely out of fuel, do not send an emergency message. Drop your anchor and call a friend or marina to bring the fuel you need or give you a tow.

Marine Emergency Signals

The three 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 PAN**
>
> The urgency signal **PAN PAN** is used when the safety of the vessel or person is in jeopardy. (This signal is properly pronounced pahn-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 times prior to the message.

If You Hear a Distress Call

You must give any message beginning with one 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 PAN — PAN PAN"
   or "SECURITE — SECURITE — SECURITE").

4. **Say:**
   "THIS IS [your vessel name or call sign]."

5. **Say:**
   "MAYDAY (or "PAN PAN" or "SECURITE")
   [your vessel name or call sign].

6. **Tell where you are:**
   (Your position or 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.

For medical problems such as crew hit by sailboat boom or heart trouble, make a PAN PAN call as above with the word medico added.

"PAN PAN MEDICO — PAN PAN MEDICO — PAN PAN MEDICO"

The coastguard will try to link you to a doctor who can give expert advice and evaluate the need for evacuation.

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

For Example

"Mayday — Mayday — Mayday"

"This is Corsair — Corsair — Corsair"

"Mayday Corsair"

"Point Lynas bears 220 degrees magnetic — distance 5 kilometres"

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

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

"Estimate we will remain afloat one-half hour"

"Corsair is an 8 metre sloop with blue hull and tan deck house"

"I will be listening on Channel 16"

"This is Corsair"

"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

Once your radio is connected to a GPS device and is properly set-up with your MMSI, simply lifting the red door, pressing the button and following screen instructions will automatically send a complete distress call on Channel 70. See the DSC operation section on pages 50 – 63 for further information and page 51 instruction on sending a specified DSC distress call.

VHF Marine Channel Assignments

Three sets of VHF channels have been established for marine use internationally, in Canada and in the U.S.A. Most of the channels are the same for all three maps, but there are definite differences (see table on the following pages). Your radio has all three maps built into it and will operate correctly in whichever area you choose. When shipped from the factory, your radio will be set to the International Channel Map. (See page 38 for instructions on how to change the Channel Map.)

In many countries or areas, several additional recreational channels are available. To use any of these, they must be programmed into your radio by your local dealer or distributor.

The following is a brief outline of the channel assignments in the International Channel Map.

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

Intership Safety
Channel 6
Ship-to-ship safety messages and for search and rescue messages to coastguard ships and aircraft.

On-Board Communication
Channel 15
Used for communication between parts of large ships.

Non-Commercial
Channels 68, 72
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 8, 9, 10, 11, 17, 67, 88, 88A
Working channels for working ships only. Messages must be about business or needs of the ship. Use Channels 8, 67, 88 and 88A only for ship-to-ship messages.

Public Correspondence (Marine Operator)
Channels 1, 2, 3, 4, 5, 7, 23, 24, 25, 26, 27, 28, 60, 61, 62, 63, 64, 65, 66, 78, 82, 84, 85, 86, 87, 88
For calls to marine operators at public coast stations. You can make and receive telephone calls through these stations.

Port Operations
Channels 4, 5, 7, 12, 14, 18, 19, 20, 21, 22, 61, 62, 63, 64, 65, 66, 69, 71, 73, 74, 77, 79, 80, 81, 82, 83
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.

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.

NOTE
The U.S.A. and Canada impose restrictions on the use of many channels within their territorial waters. These are noted in the channel assignment chart. If operating your vessel in U.S.A. or Canadian waters, consult the national communication authority or a knowledgeable local radio operator for further guidance.

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

Channel	Use
01	Public Correspondence (marine operator)
01A	Port Operations and Commercial, VTS in selected areas
02	Public Correspondence (marine operator)
03	Public Correspondence (marine operator)
03A	**Government Only**
04	Public Correspondence (marine operator), Port Operations, Ship Movement
04A	**West Coast (coastguard only);** East Coast (commercial fishing)
05	Public Correspondence (marine operator), Port Operations, Ship Movement
05A	Port Operations, VTS in selected areas
06	Intership Safety
07	Public Correspondence (marine operator), Port Operations, Ship Movement
07A	Commercial
08	Commercial (intership only)
09	Boater Calling Channel, Non-Commercial (recreational)
10	Commercial
11	Commercial, VTS in selected areas
12	Port Operations, VTS in selected areas
13	Intership Navigation Safety (bridge-to-bridge.) In U.S. waters, large vessels maintain a listening watch on this channel.
14	Port Operations, VTS in selected areas
15	Environmental (receive only.) Used by class C EPIRB's.
15	International (on-board communication); Canada (EPIRB buoys only)
16	**International Distress, Safety and Calling**
17	State Controlled (U.S.A. only)

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

Channel	Use
18	Port Operations, Ship Movement
18A	Commercial
19	Port Operations, Ship Movement
19A	Commercial
20	International (port operations, ship movement); **Canada (coastguard only)**
20A	Port Operations
21	Port Operations, Ship Movement
21A	**U.S. (government only); Canada (coastguard only)**
22	Port Operations, Ship Movement
22A	U.S. and Canadian coastguard Liaison and Maritime Safety Information Broadcasts that are announced on Channel 16
23	Public Correspondence (marine operator)
23A	**Government Only**
24	Public Correspondence (marine operator)
25	Public Correspondence (marine operator)
26	Public Correspondence (marine operator)
27	Public Correspondence (marine operator)
28	Public Correspondence (marine operator)
60	Public Correspondence (marine operator)
61	Public Correspondence (marine operator), Port Operation, Ship Movement
61A	**U.S. (government only); Canada (coastguard only); West Coast (coastguard only);** East Coast (commercial fishing)
62	Public Correspondence (marine operator), Port Operations, Ship Movement
62A	**West Coast (coastguard only);** East Coast (commercial fishing)

Channel Number	Channel Map Int'l	Channel Map Canada	Channel Map USA	Frequency Transmit	Frequency Receive	Power Limits
63	•			156.175	160.775	
63A			•	156.175	156.175	
64	•	•		156.225	160.825	
64A		•	•	156.225	156.225	
65	•			156.275	160.875	
65A		•	•	156.275	156.275	
66	•			156.325	160.925	
66A		•	•	156.325	156.325	1 Watt CAN
67	•	•	•	156.375	156.375	1 Watt USA
68	•	•	•	156.425	156.425	
69	•	•	•	156.475	156.475	
70	•	•	•	RX only	156.525	
71	•	•	•	156.575	156.575	
72	•	•	•	156.625	156.625	
73	•	•	•	156.675	156.675	
74	•	•	•	156.725	156.725	
77	•	•	•	156.875	156.875	1 Watt CAN
78	•			156.925	161.525	
78A		•	•	156.925	156.925	

Channel	Use
63	Public Correspondence (marine operator), Port Operations, Ship Movement
63A	Port Operations and Commercial, VTS in selected areas
64	Public Correspondence (marine operator), Port Operations, Ship Movement
64A	**U.S. (government only);** Canada (Commercial Fishing)
65	Public Correspondence (marine operator), Port Operations, Ship Movement
65A	Port Operations
66	Public Correspondence (marine operator), Port Operations, Ship Movement
66A	Port Operations
67	U.S. (commercial.) Used for bridge-to-bridge communications in lower Mississippi River (intership only); Canada (commercial fishing), S&R
68	Non-Commercial (recreational)
69	International (intership, port operations, ship movement); U.S. (non-commercial, recreational); Canada (commercial fishing only)
70	**Digital Selective Calling (voice communications not allowed)**
71	International (port operations, ship movement); U.S. and Canada (non-commercial, recreational)
72	Non-Commercial (intership only)
73	International (intership, port operations, ship movement); U.S. (port operations); Canada (commercial fishing only)
74	International (Intership, Port Operations, Ship Movement); U.S. (port operations); Canada (commercial fishing only)
77	Port Operations (intership only.) Restricted to communications with pilots for movement and docking of ships.
78	Public Correspondence (marine operator)
78A	Non-Commercial (recreational)

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

◉ NOTE

Many of the plain numbered channels, such as 01, 02 and 03, transmit and receive on different frequencies. This is termed duplex operation. The rest of the plain numbered channels and all of the A channels, such as 01A, 03A, and 04A, transmit and receive on a single frequency, which is termed simplex operation. Your radio automatically adjusts to these conditions. When in simplex operation, the A icon will appear on the LCD (see illustration on page A2).

Channel	Use
79	Port Operations, Ship Movement
79A	Commercial (also non-commercial only in great lakes)
80	Port Operations, Ship Movement
80A	Commercial (also non-commercial only in great lakes)
81	Port Operations, Ship Movement
81A	**U.S. (government only; environmental protection operations)**
82	Public Correspondence (marine operator), Port Operation, Ship Movement
82A	**U.S. (government only); Canada (coastguard only)**
83	**Canada (coastguard only)**
83A	**U.S. (government only); Canada (coastguard only)**
84	Public Correspondence (marine operator)
84A	Public Correspondence (marine operator)
85	Public Correspondence (marine operator)
85A	Public Correspondence (marine operator)
86	Public Correspondence (marine operator)
86A	Public Correspondence (marine operator)
87	Public Correspondence (marine operator)
87	Public Correspondence (marine operator)
87A	Public Correspondence (marine operator)
88	Public Correspondence (ship to coast.) In U.S. only within 121 kilometres of Canadian Border.
88	Commercial Intership only
88A	Commercial Intership only

◉ NOTE

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

World City Time Zones

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
W112.50 to W097.50	-7	Denver
W097.50 to W082.50	-6	Chicago
W082.50 to W067.50	-5	New York
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

NOTE
See time offset on page 37 for more information on setting the time zone.

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

GPS Interface Cable

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

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 1 metre from the transceiver.
- The radio and all speakers need to be far enough from any magnetic compass to avoid deviation due to the speaker magnet.
- There needs to be free air flow around the heat-sink fins on the back of the transceiver.

Surface Mount

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

Surface Mounting Kit

To mount the transceiver on almost any flat surface:

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

Tilt Lock Knobs

Microphone Bracket

Microphone Bracket

To install the microphone bracket:

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

Flush Mount

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

To mount the transceiver flush in almost any flat surface:

Use Supplied Template

See page 67 for template.

1. Use the supplied template to mark and cut an opening in the flat surface. See page 67 for template.

Insert Transceiver

⚠️ **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.
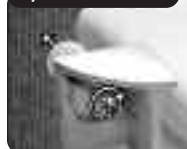
2. Insert the transceiver into the opening.

Attach Mounting Brackets

3. Attach the 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.

Adjust Screws

Power Connection Cables

− +
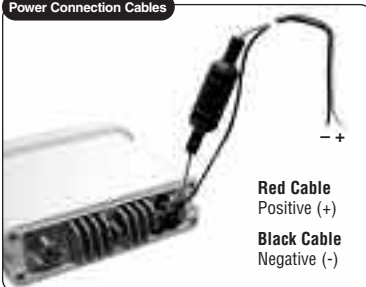
Red Cable
Positive (+)

Black Cable
Negative (-)

Electrical Power Connection

Your CobraMarine™ VHF radio is powered from the vessel's 13.8 volt negative ground direct current electrical system (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 power wire to a negative ground.
2. Attach the fused red power wire to the positive side of the power system.

⚠ **CAUTION**
A reverse polarity connection will damage the radio.

When replacing the fuse in your transceiver, use only the size and type originally provided.

NOTE
Please ensure that the radio is disconnected from the battery via an accessory switch or other means when not in use. 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	#14
Up to 3.0m	#12
Up to 5.0m	#10
Up to 6.0m	#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 Electronics Corporation™ suggests you purchase the best quality antenna, coaxial cable, and connectors you can. This is best accomplished with the guidance of a knowledgeable dealer who can assess the variables involved with your particular boat and preferences.

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.

Safe Maximum Permissible Exposure (MPE) Radius

To avoid health hazards from excessive exposure to RF energy, the U.S. FCC OET Bulletin 65 establishes an MPE radius of 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 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 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 3 m plus the 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 3 m MPE radius during radio transmissions. The antenna must be mounted so that its lowest point is at least 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 3 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 recommended permissible exposure. It is the radio operator's responsibility to ensure that MPE limits are heeded and that no one is within the MPE radius during transmissions.

Coaxial Cable Socket

Antenna Lead Attachment

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

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

External Devices and Connections

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

Microphone Socket

Microphone Attachment

Connect the **Microphone** to the cord socket located at the left side of the front of the transceiver.

To connect the microphone attachment:

1. Align the connector and push it firmly into the socket.

2. Tighten the captive nut to hold the connector in place.

3. Slide the waterproof sleeve over the nut until it seats in the recess around the socket.

External Speaker Jack:
See NOTE Below

External Speaker (not included)

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

To install an external speaker:

1. Connect the speaker lead to the standard jack on the back of the transceiver.

NOTE
The **External Speaker** on the back of the transceiver requires a 3.5 mm standard mono plug that is wired appropriately for the auxiliary speaker:

Tip of plug = External Speaker output
Sleeve = Ground

Global Positioning System (GPS) Device (not included)

Cobra Electronics Corporation™ strongly recommends that you obtain and connect a **GPS** device to your CobraMarine™ VHF radio. By having a **GPS** connected, your position will be continuously indicated on the LCD and, most importantly, it will be included automatically in any DSC distress message you may need to send. That will take the "search" out of "search and rescue."

GPS Connection

To install a GPS device:

1. Install the GPS device in a convenient location according to its manufacturer's directions.

2. Bond the NMEA out negative wire to the black wire of the GPS interface cable.

3. Bond the NMEA out positive wire to the red wire of the GPS interface cable.

NOTE
When bonding the wires, make sure connections are secure and properly insulated.

4. Connect the new combination cable to the GPS device and to the back of the transceiver.

NOTE
Satellite acquisition time is dependent on the GPS device.

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 or on the microphone. Press means a momentary press, then release; press and hold means to hold the button down.

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 37.

Error Tone

Double low-pitched beep indicates an invalid button press.

DSC Distress Alarm

High – low – high – low – high. Pause, then repeat. The volume of this alarm 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. Long pause, then repeat. 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**.

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. Turn the **On-Off Power/Volume** knob on the transceiver until you hear and feel a click.

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

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.

On-Off Power/ Volume Knob

To increase the volume:

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

To decrease the volume:

1. Turn the **On-Off Power/Volume** knob anticlockwise.

Squelch

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

Squelch Knob

To squelch your radio:

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

Turn Until Hissing Sound Starts

2. Turn the **Squelch** knob clockwise until the hissing sound stops.

Turning the **Squelch** knob further clockwise (higher bearier) will filter weak and medium strength signals until only the strongest signal can get through at the highest squelch setting.

Turn Until Hissing Sound Stops

To receive weaker signals:

1. Turn the **Squelch** knob anticlockwise (lower bearier).

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

Lower Bearier

Standby and Receive

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

Standby Mode

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.

Up/Down Buttons

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.

Channel 16 Button

b. Press the **Channel 16** button. This will take you directly to Channel 16.

Position Information:

If a GPS is connected, its position data will be displayed at the position coordinates portion of the LCD. If a GPS is not connected, either the last available input or zeros will be displayed as the position coordinates.

Position Entry Screen

After 4 hours of operation with no position input, the position entry screen will request a manual position entry. Use the **Up/Down** and **Call/Set** buttons to enter the position of your vessel. If no entry is made within 19½ hours after the position entry screen appears, 9's will be displayed as the default position coordinates.
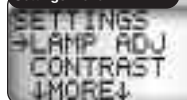
Set-Up Routines

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.

Call/Set Button

To enter the Settings menu:

1. Press and hold the **Call/Set** button. The **Settings** menu will appear on the LCD.

Settings Menu

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

When you are finished with changes, you can exit the **Settings** menu and return to **Standby** mode.

Up/Down Buttons

To exit the Settings menu:

1. Use the **Up/Down** buttons to scroll down to EXIT at the bottom of the menu.

2. With the arrow pointing to EXIT, press the **Call/Set** button to return the radio to **Standby** mode.

Exit

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**.

Lamp Adjustment

SETTINGS
↓LAMP ADJ
CONTRAST
↓MORE↓

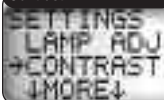**High/Medium/Low/Off**

↑HIGH
MEDIUM
LOW
OFF

To adjust the backlight level:

1. Enter the **Settings** menu and scroll to LAMP ADJ (lamp adjustment) with the **Up/Down** buttons.

2. Press the **Call/Set** button and observe the current backlight setting — HIGH, MEDIUM, LOW or OFF.

3. Use the **Up/Down** buttons to switch to the setting you want.

4. Press the **Call/Set** button to select the backlight setting.

5. Use the **Up/Down** buttons to scroll to EXIT.

6. Press the **Call/Set** button to return to the **Settings** menu.
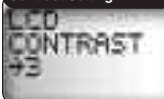
LCD Contrast

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.

Contrast

SETTINGS
LAMP ADJ
→CONTRAST
↓MORE↓

Contrast Setting

LCD
CONTRAST
→3

To change the contrast:

1. Enter the **Settings** menu and scroll to CONTRAST with the **Up/Down** buttons.

2. Press the **Call/Set** button and observe the current contrast setting — a number between 1 and 16.

3. Use the **Up/Down** buttons to change the number up or down.

4. Press the **Call/Set** button to select a contrast level.

5. Use the **Up/Down** buttons to scroll to EXIT.

6. Press the **Call/Set** button to return to the **Settings** menu.

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.

Key Tone

SETTINGS
↓LAMP ADJ
CONTRAST
↓MORE↓

↑BACK↑
↓KEY TONE
TIME OFFST
↓MORE↓
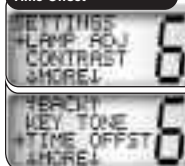
On/Off

KEYPRESS
TONE
→ON
OFF

To turn the confirmation tone on or off:

1. Enter the **Settings** menu and scroll to KEY TONE with the **Up/Down** buttons.

2. Press the **Call/Set** button and observe the current confirmation tone setting — ON or OFF.

3. Use the **Up/Down** buttons to switch to the setting you want.

4. Press the **Call/Set** button to select the setting.

5. Use the **Up/Down** buttons to scroll to EXIT.

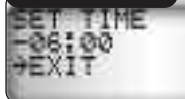**6.** Press the **Call/Set** button to return to the **Settings** menu.

Time Offset

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 Offset** uses your connected GPS to gather time inputs. For time inputs to be converted to local time, you need to enter the hour offset of your local time zone from Greenwich. (See the world city time zone chart on page 24.)

Time Offset

SETTINGS
↓LAMP ADJ
CONTRAST
↓MORE↓

↑BACK↑
KEY TONE
→TIME OFFST
↓MORE↓

Set Time

SET TIME
−06:00
→EXIT

To change the time offset:

1. Enter the **Settings** menu and scroll to TIMEOFST (time offset) with the **Up/Down** buttons.

2. Press the **Call/Set** button and observe the current setting.

3. Use the **Up/Down** buttons to change to the setting for your local time zone.

4. Press the **Call/Set** button to select the setting.

5. Use the **Up/Down** buttons to scroll to EXIT.

6. Press the **Call/Set** button to return to the **Settings** menu.

NOTE

If you leave the time offset at zero, the LCD will show the time as UTC. If you enter the hour offset for your time zone, the LCD will show the local time. In either event, DSC messages will always be based on UTC.

Setting Position and Time of Day

This allows you to manually set your position and time if you do not have a GPS connected. This might be used for emergency calls and other features that are part of this radio.

Manual

To set position and time:
1. Enter the **Settings** menu and scroll to MANUAL using the **Up/Down** buttons.
2. Press the **Call/Set** button to enter MANUAL position entry.
3. Use the **Up/Down** buttoms to select the digits for your position.
4. Press the **Call/Set** button to select and move to the next choice until you have entered your current position and time of day.

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

Three sets of VHF **Channel Maps** have been established for marine use internationally, in Canada and in the U.S.A. Most of the channels are the same for all three maps, but there are definite differences (see table on pages 14 – 23). Your radio has all three maps built into it and will operate correctly in whichever area you choose.

UIC Button

Active Channel Map
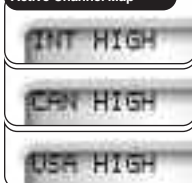
To set your radio for the area in which you will be using it:
1. From **Standby** mode, press and hold the **UIC** button. The radio will shift one channel map and the active channel map will show on the top line of the LCD.
2. Repeat step 1 to shift to the next channel map(s) in the sequence INT (International), CAN (Canada), USA then back to INT.

The radio will return to **Standby** mode each time the button is released.

Voice Transmission

Transmit mode gives you the ability to communicate with safety services, other vessels and shore stations. When you use this capability, be sure to follow the procedures and to observe the courtesies that govern its use so everyone benefits. (The information on pages 14 – 23 will help you select the proper channels.)

Before pressing the **Talk** button to transmit a message, you should select the appropriate channel and transmit power output.

Up/Down Buttons
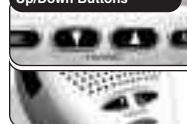
Channel 16 Buttons

Channels

You can transmit voice messages on most VHF **Channels**. Refer to the VHF marine channel assignments on pages 14 – 23 to select a channel according to the type of message you are going to send.

To change the channel you can choose from one of the following:

a. Press the **Up/Down** buttons. This will take you to the next higher or lower VHF channel. (When on Channel 88A, the next higher channel is Channel 1 and vice versa.) For rapid advance, press and hold the **Up** or **Down** buttons. (The confirmation tone will sound only for each button press, not during rapid advance.)

b. Press the **Channel 16** button. This will take you directly to Channel 16. Press and hold the **Channel 16** button to return to **Standby** mode.

Transmit Power Output

Your radio can **Transmit** selectively at 1 or 25 watts of power. Cobra Electronics Corporation™ 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 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.

High/Low Power

Some channels are restricted to use at a maximum of 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.

Low Power Setting

Transmit a Message

To 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.

5 cm from Mouth

3. With the microphone about 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.

Talk Button

NOTE

If the **Talk** button is held down for five 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.

Transmit Icon

Advanced Operation

Cobra Electronics Corporation™ 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 channel at once.

Channel 16

This function gives you quick access to calling **Channel 16** from any operational mode.

Channel 16 Buttons

To switch to Channel 16:

1. Press the **Channel 16** button to change to Channel 16.

To exit the **Channel 16** mode and return to the previous channel, press and hold the **Channel 16** button.

While at Channel 16 in the **Channel 16** mode, you can also press the **Up/Down** buttons to change to other channels. In that event, another press of the **Channel 16** button will switch your radio to Channel 16.

Dual-Watch

Dual-Watch gives you one button access to scan the two locations of most importance to you. Channel 16 will always be included as a scanned location. The remaining location 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 33 for squelch procedure.

To enter Dual-Watch mode:

Standby Mode

1. In **Standby** mode, use the **Up/Down** buttons to go to the channel you want to add as the second location to be scanned.

2. Press the **Dual-Watch** button.

Dual-Watch Button

Dual-watch will be indicated on the LCD and the radio will scan between Channel 16 and the second dual-watch location you selected. A signal on any one of the two 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** button. The radio will return to **Standby** mode.

Dual-Watch Mode

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 location and return to **Standby** mode.

b. Press the **Up/Down** buttons to resume scanning dual-watch locations.

If you do not press any buttons, your radio will automatically resume scanning dual-watch locations when the incoming transmission is complete.
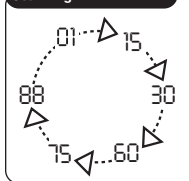
During Dual-Watch (while not receiving a transmission):

a. Press the **Talk** button to communicate on the last dual-watch location scanned and return to **Standby** mode.

Scanning

Scan

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

NOTE

The radio must be squelched for **Scan** mode to function.
See page 33 for squelch procedure.

Scan Button

To enter scan:

1. From **Standby** mode, press the **Scan** button.

The radio will immediately begin to scan the entire channel map selected in the active channel map. SCAN will show on the LCD.

Scan

To exit scan:

1. From **Scan** mode, press the **Scan** button.

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

During Scan (while receiving an incoming transmission), you can choose from the following:

a. Press the **Talk** button to remain on that channel and end scanning. This will return the radio to **Standby** mode.

b. Press the **Up/Down** buttons to resume scanning.

If you do not press any buttons within ten seconds, your radio will automatically resume scanning.

During Scan (while not receiving a transmission):

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

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.

This radio follows Class D DSC with a dedicated Channel 70 receiver.

These procedures use the **Settings** menu. Refer to page 35 for information on entering and exiting the **Settings** menu.

User MMSI Number

This nine digit number is similar to a telephone number in that it is a unique identifier for you and your vessel. DSC uses this number in every message it sends and receives. That is why your radio will not operate in the **DSC** mode until you enter your **MMSI Number**. You should enter it or have your dealer do so as soon as you receive it from one of the issuing agencies listed on page 9.

NOTE
Because it is important to correctly enter the MMSI number in the radio, the following procedure requires that the number be entered, then verified by entering it again. If the same number is entered both times, the system will accept it. If the two entries are different, an error message will appear with a prompt to try again.

User MMSI

User MMSI ID Entry

To enter your MMSI number:

1. Enter the **Settings** menu and scroll to USERMMSI with the **Up/Down** buttons.
2. Press the **Call/Set** button and the blinking cursor will appear at the first digit under USER MMSI ID ENTRY.
3. Use the **Up/Down** buttons to scroll through the number list to that digit of your number.
4. Press the **Call/Set** button to select the digit and the blinking cursor will move to the next digit of the number.
5. Repeat steps 3 and 4 until all nine digits of your MMSI number are entered.

NOTE
Press the **High/Low Power** button to backspace and erase the last selected number.

6. Check that you have entered the number correctly.
7. Press the **Call/Set** button.
8. Repeat steps 3 through 6 to verify the number by re-entering it.
9. Press and hold the **Call/Set** button to accept the number and return to the **Settings** menu.
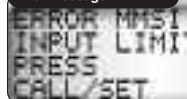
If You Incorrectly Enter Your MMSI Number

Error Message

You CANNOT re-enter your number. A second attempt to enter an MMSI number will result in an error message as shown.

Pressing the **Call/Set** button from the error message will return the radio to the **Settings** menu.

Call/Set Button

Once the error message appears, the radio will still operate in all non-DSC modes. But you will have to return the radio to your local dealer for reset before you can enter your MMSI number to use the radio in **DSC** mode.

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, for any reason, it is necessary to change the MMSI number in the radio, you can return it to your local dealer for reset.
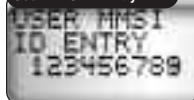
If You Transfer Your Radio to a Different Vessel

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.

User MMSI

User MMSI ID Entry

To view your MMSI number at any time:

1. Enter the **Settings** menu and scroll to USERMMSI with the **Up/Down** buttons.

2. Press the **Call/Set** button and the blinking cursor will appear at the first digit of your already entered number under USERMMSI ID ENTRY.

3. Press and hold the **Call/Set** button to return to the **Settings** 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.

Group MMSI

Group MMSI ID Entry

To enter a group MMSI number:

1. Enter the **Settings** menu and scroll to GROUP MMSI (group MMSI) with the **Up/Down** buttons.

2. Press the **Call/Set** button and the blinking cursor will appear at the first digit under GROUP MMSI ID ENTRY.

3. Use the **Up/Down** buttons to scroll through the number list to that digit of your number.

4. Press the **Call/Set** button to select the digit and the blinking cursor will move to the next digit of the number.

5. Repeat steps 3 and 4 until all nine digits of the group MMSI number are entered.

NOTE

Press the **High/Low Power** button to backspace and erase the last selected number.

6. Check that you have entered the number correctly.

7. Press and hold the **Call/Set** button to return to the **Settings** menu.

The group MMSI is established by modifying the MMSI assigned to one of the group members. The last digit of that member's MMSI number is dropped and a zero 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.

Position Reply

To set the position request reply type:

1. Enter the **Settings** menu and scroll to POS RPLY (position reply) with the **Up/Down** buttons.
2. Press the **Call/Set** button and observe the current setting — AUTO or MANUAL.
3. Use the **Up/Down** buttons to change the setting.

Auto/Manual/Exit

4. Press the **Call/Set** button to select the setting.
5. Use the **Up/Down** buttons to scroll to EXIT.
6. Press the **Call/Set** button to return to the **Settings** menu.

Individual Directory

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

Individual Directory

To enter or edit names and your MMSI numbers in the directory:

1. Enter the **Settings** menu and scroll to INDV DIR (individual directory) with the **Up/Down** buttons.
2. Press the **Call/Set** button to enter a memory location (1-10).
3. Use the **Up/Down** buttons to scroll through the memory locations to one you want to select.

Location 01

New Individual

4. Press the **Call/Set** button to select the memory location. The cursor will begin to blink at the first character under NAME.
5. Use the **Up/Down** buttons to scroll through the character list.
6. Press the **Call/Set** button to select a character. This will also move the blinking cursor to the next character under NAME.
7. Repeat steps 5 and 6 to enter additional characters — up to a maximum of nine — for the name.

NOTE
Press the **High/Low Power** button to backspace and erase the last selected character.

8. After entering the name, press and hold the **Call/Set** button to move the blinking cursor to the first character under MMSI.

Enter MMSI

9. Use the **Up/Down** buttons to scroll through the number list.
10. Press the **Call/Set** button to select the number and move the cursor to the next character under MMSI.
11. Repeat steps 9 and 10 until the nine digit MMSI is entered.

Next/Exit

12. Press and hold the **Call/Set** button to move to the next memory location or exit.
13. Select NEXT or EXIT with the **Call/Set** buttons.

If NEXT is selected, pressing the **Call/Set** button will move to the next memory location where another name can be entered by repeating steps 3 – 11.

If EXIT is selected, pressing the **Call/Set** button will return you to the **Settings** menu.

You can enter a total of ten names and MMSI numbers in the directory.

DSC Operation

Sending DSC calls is done from menus similar to the settings menu. Whereas entering the settings menu required a press and hold of the **Call/Set** button, the sending menus appear with a press of the **Call/Set** button or the **Distress** button.

All received DSC calls will sound one or another of the alarms to alert you to them. See pages 31 – 32 for descriptions of the different alarms. Pressing any button will turn **off** the alarm while maintaining the received call information on the LCD.

This radio follows Class D DSC with a dedicated Channel 70 receiver.

Sending Distress Calls

The ability to send and receive distress calls and their acknowledgements on Channel 70 can literally be a lifesaver for you or another mariner.

NOTE
The DSC call will:

■ Sound the distress alarm at all receiving stations.
■ Inform receiving stations of your identity (MMSI).
■ Inform receiving stations of your position if you have a GPS device connected or you have manually entered your position.
■ Optionally inform the receiving stations of the nature of the emergency.

  It will not provide the receiving stations with other distress information such as the nature of your problem, number of persons aboard, injuries, or the like. For that, you will have to communicate by voice on Channel 16 with the station that acknowledges your DSC distress call.
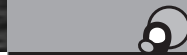
Distress Button

Send/Manual/Exit

To begin sending a DSC distress call:

1. From **Standby** mode, lift the red door on the transceiver and press the **Distress** button under it. This will open the **Distress** menu with the arrow pointing to SEND. You will have three choices:

■ Send the distress call automatically with the position provided by a connected GPS, or with old or no position information if a GPS is not connected.
■ Manually enter your position, then send the distress call.
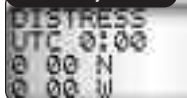■ Abort the distress call process and return to **Standby** mode.
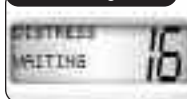
Distress Button

Manual

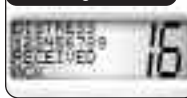**Position Entry Screen**

Exit

Transmit USA High

Distress Waiting

Distress Acknowledgement

2. Choose one of the following:

a. To send an unspecified DSC distress call:

  1) With the arrow pointing to SEND, press the **Distress** button again.

  2) Press and hold the **Distress** button for three (3) seconds as instructed on the LCD.

b. To send a specified distress call:

  1) Use the **Up/Down** buttons to move the arrow to NATURE.

  2) Press the **Call/Set** button to go to the nature of emergency selection screen.

  3) Use the **Up/Down** and **Call/Set** buttons to select the nature of your emergency.

  4) Press and hold the **Distress** button after the position is entered.

c. To abort the distress call process:

  If you pressed the **Distress** button by mistake or if you have not received an acknowledgement and want to discontinue the automatic resending of your distress message:

  1) Option One:

    a) Use the **Up/Down** buttons to move the arrow to EXIT.

    b) Press the **Call/Set** button to return to **Standby** mode.

OR **2)** Option Two: Momentarily press the UIC button to return to **Standby** mode.

The distress alarm will sound to let you know that the message is being sent. At the end of the transmission, the radio will maintain a watch on Channels 16 and Channel 70 for an acknowledgement. Press any button to turn **off** the alarm and return to **Standby** mode.

If an acknowledgement is received, the distress alarm will sound again and the responding party's MMSI number will show on the LCD.

If no acknowledgement is received, the radio will resend the message at approximately four minute intervals until an acknowledgement is received or you abort the distress call.

Receiving Distress Calls

If your vessel is within range of a DSC **Distress** call, the radio will receive the call, sound the distress alarm and switch to Channel 16.

Distress Info on LCD

When a distress call is heard:

1. Press any button to turn **off** the alarm and return to **Standby** mode.

2. Read and write down the distress information on the LCD (there may or may not be position data shown), then determine whether you should answer the call.

Distress Info on LCD

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

> **NOTE**
> Your radio will automatically switch to Channel 16 upon receiving a DSC distress call.

Regarding Distress Relay Calls

Your radio cannot send **Distress Relay** calls. Only large ships and shore stations with specially equipped radios can send these calls.

Receiving Distress Relay Calls

Your radio will respond to a received **Distress Relay** call in the same way as it will to a distress call.

Sending an All Ships Call

A DSC **All Ships** call is used for the same urgency and safety purposes as the Pan Pan and Securite voice calls as well as to send routine messages to all stations at once. It will reach all stations within range of your radio. If you have an urgent, but not life-threatening, situation or a safety warning to broadcast to all vessels in your area, this is the type of call to use. It should be used judiciously for routine calls.
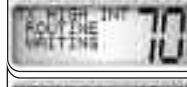
Standby Mode

To send an all ships call:

1. In **Standby** mode, select a channel on which you want to communicate for a routine call. (The radio will use Channel 16 for urgent and safety calls.)

2. Press the **Call/Set** button to enter the **Call Send** menu.

All Ships

3. Use the **Up/Down** buttons to scroll to ALLSHIPS.

4. Press the **Call/Set** button to move to the message type menu.

Urgency/Safety/Routine

5. Use the **Up/Down** buttons to select a message type — URGENCY, SAFETY or ROUTINE.

6. Press the **Call/Set** button to send the message.

7. Depending on the type of message you chose, the radio will automatically switch to a voice channel.

Urgency Waiting

a. After urgency and safety calls, the radio will switch to Channel 16 and wait for you to press the **Talk** button to send the urgent or safety message by voice.

b. After a routine call, the radio will switch to the channel you selected in step 1 and wait for you to press the **Talk** button to send the routine message by voice.

DSC equipped radios that receive your message will be automatically switched to Channel 16 or the channel you selected to hear your voice message.

Routine Waiting

To return to **Standby** mode without sending a message, use the **Up/Down** buttons to scroll to EXIT and press the **Call/Set** button.

Receiving an All Ships Call

All Ships calls sent by stations within range of your radio will sound the distress alarm on your radio and switch your radio to Channel 16.

All Ships Call

When an all ships call is heard:

1. Press any button to turn **off** the alarm and return to **Standby** mode.

2. Read and write down the MMSI of the vessel sending the call as well as the date and time of the call in case you will want to respond.

3. Listen to the voice message sent on the channel your radio was switched to by the incoming all ships call.

Sending a Geographical Call

Your radio cannot send **Geographical** calls. Only large ships and shore stations with specially equipped radios can send these calls.

Receiving a Geographical Call

Geographical calls are sent by specially equipped radios to all stations in a particular geographical area to alert only those stations of the call and not stations in unaffected areas. If you are in an area to which a **Geographical** call is made, it will sound the geographical alarm on your radio and switch your radio to the channel chosen by the sending station.

Geographical Call

When a geographical 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 in case you will want to respond.

3. Listen to the voice message sent on the channel your radio was switched to by the incoming geographical call.

4. Press one of the following three buttons to switch from geographical call receive to **Standby** mode: **Call/Set** button, **Channel 16** button, or **Talk** button.
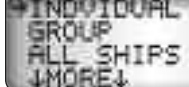

Sending an Individual Call

The DSC **Individual** call feature allows you to notify one, and only one, station that you want to communicate with that station. It does not alert all other stations within range that you will be sending a message as a voice call on Channel 16.
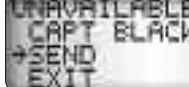
Standby Mode

Individual

Select Name

Individual Waiting

Send/Exit

To send an individual call:

1. In **Standby** mode, select a channel on which you want to communicate.

2. Press the **Call/Set** button to enter the **Call Send** menu.

3. Use the **Up/Down** buttons to scroll to INDIVIDUAL.

4. Press the **Call/Set** button to move to the individual directory.

5. Use the **Up/Down** buttons to select the name you want to call from the directory.

6. Press the **Call/Set** button to send the message or return to **Standby** mode if EXIT was chosen.

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

If the called radio does not send an "able to comply" response, your radio will wait eight seconds and resend the message.

If an "unable to comply" response or no reply is received, your radio will go to the **Unavailable** menu.

At the **Unavailable** menu, you can choose SEND or EXIT with the **Up/Down** buttons. If you choose SEND, your radio will restart the individual call. If you choose EXIT you will be returned to the individual location on the **Call Send** menu.

Caller Identified

Receiving an Individual Call

When another station makes an **Individual** call to your radio, the individual alarm will sound, the caller will be identified on the LCD and your radio will be switched to the channel selected by the caller. Press any button to turn **off** the alarm.

To receive an individual call:

1. Press the **Talk** button and greet the caller — almost as if you were answering the telephone.
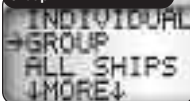
Sending a Group Call

Sending a **Group** call is very similar to sending an individual call, except that the group MMSI is used and the resend and DSC responses do not apply.
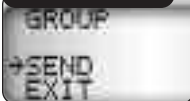
Standby Mode

To send a group call:

1. In **Standby** mode, select a channel on which you want to communicate.

2. Press the **Call/Set** button to enter the **Call Send** menu.

3. Use the **Up/Down** buttons to scroll to GROUP.

Group

4. Press the **Call/Set** button to move to the send or exit menu.

5. Use the **Up/Down** buttons to select SEND or EXIT.

6. Press the **Call/Set** button to send the message or return to the **Call Send** menu if EXIT was chosen.

Send/Exit

All radios will be switched to the channel selected in step 1. Press and hold the **Talk** button to send your voice message to everyone in the group.

Anyone in the group can now also transmit on that channel.

Group Waiting

Receiving a Group Call

When another station makes a **Group** call to your radio, the individual alarm will sound, the caller will be identified on the LCD and your radio will be switched to the channel selected by the caller, just as for an individual call. Press any button to turn **off** the alarm.

Caller Identified

To receive a group call:

1. Listen for the group voice message.

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

Call Log

The **Call Log** logs all DSC calls directed to the radio. It captures the caller's name, the type of call and their position.

Call Log

To review calls received while in DSC Standby mode:

1. From **Standby** mode, press the **Call/Set** button to enter the **Call Send** menu.

2. Use the **Up/Down** buttons to select CALL LOG.

3. Press the **Call/Set** button to enter **Call Log** mode.

4. Use the **Up/Down** button to move from message to message in the call log.

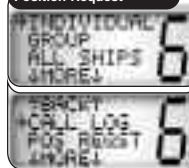**5.** Press the **Call/Set** button to return to **Standby** mode.

Sending a Position Request

Standby Mode

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.
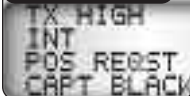
To request the position of another station:

1. In **Standby** mode, select a channel on which you want to communicate.

Position Request

2. Press the **Call/Set** button to enter the **Call Send** menu.

3. Use the **Up/Down** buttons to scroll to POS REQST (position request) on the menu.

4. Press the **Call/Set** button to enter the **Individual Directory** menu.

Individual Directory

5. Use the **Up/Down** buttons to scroll to the name of the station whose position you want to request.

Position Request

TX HIGH
INT
POS REQST
CAPT BLACK

Receiving a Position

POS REQST
CAPT BLACK
034.52.101N
142.22.157W

No Position Data

POS REQST
CAPT BLACK
NO POS DATA
→EXIT

6. Press the **Call/Set** button.

Your radio will send the position request and there will be one of three 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.

Choose one of the following:

a. If you receive a position:

The requested position with the station name and MMSI will show on your screen.

1) Press the **Call/Set** button to return to **Standby** mode after you have noted the station's position.

b. If the station you called cannot send its position:

NO POS DATA (no position data) will show on your screen.

1) Press the **Call/Set** button to return to the **Individual Directory** menu.

2) Use the **Up/Down** buttons to scroll to EXIT.

3) Press the **Call/Set** button to return to the **Call Send** menu.

4) Use the **Up/Down** buttons to scroll to EXIT.

5) Press the **Call/Set** button to return to **Standby** mode.

Resend the Request

POS REQST
NO REPLY CA
→RESEND
 EXIT

c. If the station you called chose not to reply:

NO REPLY will show on your screen.

You will have two choices:

■ RESEND the request.

■ EXIT the **Position Request** mode.

a. To resend your position request:

1) Use the **Up/Down** buttons to scroll to RESEND.

2) Press the **Call/Set** button.

b. To exit the Position Request mode:

1) Use the **Up/Down** buttons to scroll to EXIT.

2) Press the **Call/Set** button to return to the **Individual Directory** menu.

3) Use the **Up/Down** buttons to scroll to EXIT.

4) Press the **Call/Set** button to return to the **Call Send** menu.

5) Use the **Up/Down** buttons to scroll to EXIT.

6) Press the **Call/Set** button to return to **Standby** mode.

Receiving a Position Request

When you went through the DSC set-up process, you set a position request reply type. (See page 48 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 Request

POS REQUEST
GILLIGAN
MAR 08
11:20A

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 connected to your radio, or NO POS DATA (no position data), if you do not have a GPS device connected.

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

Position Request

POS REQUEST
GILLIGAN
MAR 08
11:20A

Reply/Exit

POS REQUEST
GILLIGAN
▶REPLY
EXIT

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.

a. If you choose to reply with your position:

1) Use the **Up/Down** buttons to select REPLY.

2) Press the **Call/Set** button to send your position.

3) Press any button to return to **Standby** mode.

b. If you choose not to reply:

1) Use the **Up/Down** buttons to select EXIT.

2) Press the **Call/Set** button to return to **Standby** mode without sending your position.
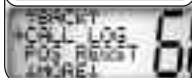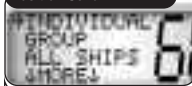
Sending a Position Send

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.
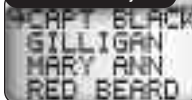
Standby Mode

Position Send

Individual Directory

Transmit Position

Send/Exit

To send a position send message:

1. In **Standby** mode, select a channel on which you want to communicate.

2. Press the **Call/Set** button to enter the **Call Send** menu.

3. Use the **Up/Down** buttons to scroll to POS SEND (position send).

4. Press the **Call/Set** button to enter the individual directory.

5. Use the **Up/Down** buttons to select the station to which you want to send your position.

6. Press the **Call/Set** button to send your position.

After your position is sent, the LCD will show POS SEND (position send). You will have two choices.

■ Resend your position to the same station.

■ Exit from **Position Send** mode.

a. To resend your position:

1) Use the **Up/Down** buttons to select SEND.

2) Press the **Call/Set** button to resend your position.

b. To exit from the position send mode:

1) Use the **Up/Down** buttons to select EXIT.

2) Press the **Call/Set** button to return to the **Call Send** 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.

Position Send

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	Ensure power connections are proper and secure
Will transmit at 1 watt, but not at 25 watts	Selected channel is limited to 1 watt / Insufficient power supply	Switch to another channel / Recharge battery
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 / Signal is blocked by terrain	Switch to high power (25 watts) or move closer / Move until you have a "line-of-sight" to the other station
DSC distress cannot be sent	MMSI (DSC self-identification) number is not entered	Enter your MMSI number

Specifications

Specifications

General	
Number of Channels	All International, Canadian and U.S.A.*
DSC	Class D
Channel Spacing	25 kHz
Modulation	5 kHz Max.
Input Voltage	13.8 VDC

Current Drain:
  Stand-by
  Receive
  Transmit
	
	200 mA
	300 mA
	5A @ High power 1A @ Low

Temperature Range	-20° C to 50° C
Unit Dimensions	15.9 cm x 5.7 cm x 18 cm
Unit Weight	1100 g
Receiver	
Frequency Range	156.050 to 163.275 MHz
Receiver Type	Double Conversion Super-Heterodyne

Sensitivity:
  20 dB Quieting
  12 dB Sinad
	
	0.3 uV
	0.2 uV

Adjacent Channel Selectivity	-60 dB
Intermodulation and Rejection	-60 dB
Spurious and Image Rejection	-60 dB
AF Output	4 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

* Programmable Recreation Channels available.
  Please contact your local dealer for details.

Flush Mount Template

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.

45mm

130mm