Cobra MARINE®

Owner's Manual

SUBMERSIBLE

Cobra MARINE

SAME ⚠
EMERGENCY
USA 25WHI
R ON MEM
LOC 21:12
41540920N CH CH
087473590W 19 68

REWIND
LOCAL MODE
HI/LO
MEM SCAN
TRI WATCH
16/9

VOL/SQL
OFF
CHANNEL
SELECT

MR-F80
D·S·C

PA/ESC
WX/ENTER

DISTRESS
CALL
SETUP

CHANNEL

VHF MARINE RADIO
MR F80B

Nothing Comes Close to a Cobra®

Our Thanks to you and Customer Assistance

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

How Your CobraMarine VHF Radio Works

This radio is a VHF transceiver for fixed mounting on your boat. It gives you 2-way vessel-to-vessel and vessel-to-shore station communications, primarily for safety and secondarily for navigation and operational purposes. With it, you can call for help, get information from other boaters, talk to lock or bridge tenders and make radiotelephone calls to anywhere in the world through a marine operator.

Besides 2-way communications, in the U.S.A., the radio can provide quick access to receive all NOAA (National Oceanographic and Atmospheric Administration), including two Canadian weather channels for alerting you to weather emergencies with a tone on a weather channel you can select for your area.

Customer Assistance

Customer Assistance

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

For Assistance in the U.S.A.

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

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

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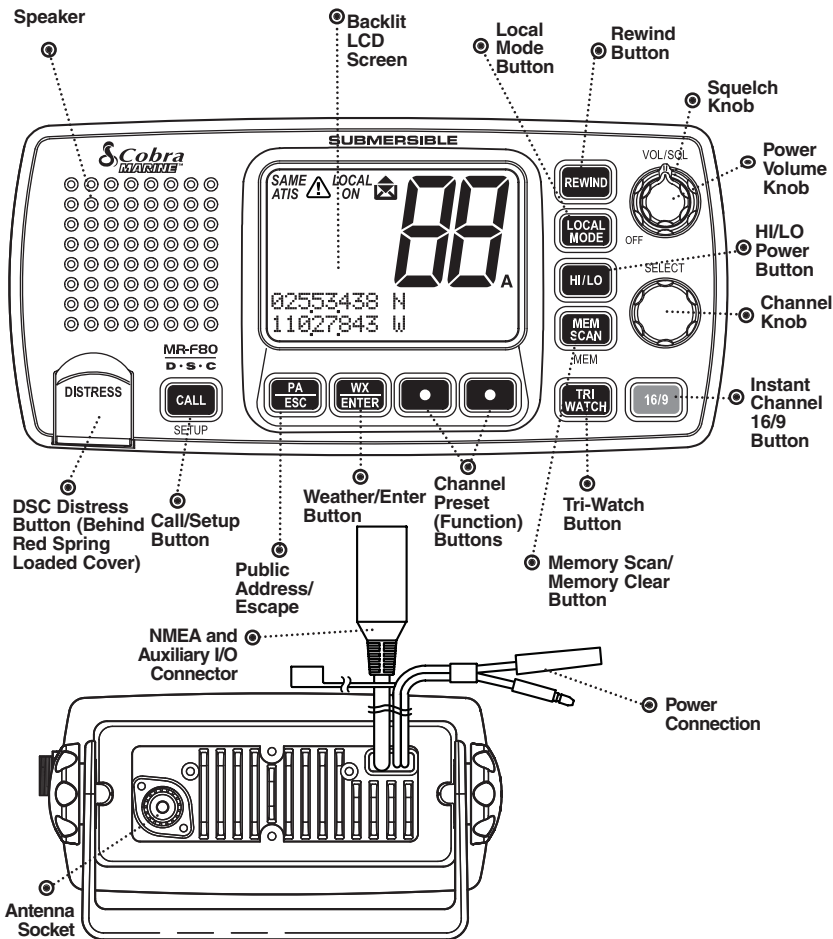Faxes can be received at 773-622-2269 (fax).

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

For Assistance Outside the U.S.A.
Contact Your Local Dealer

A1 **English**

Speaker

Backlit LCD Screen

Local Mode Button

Rewind Button

Squelch Knob

Power Volume Knob

HI/LO Power Button

Channel Knob

Instant Channel 16/9 Button

DSC Distress Button (Behind Red Spring Loaded Cover)

Call/Setup Button

Public Address/ Escape

Weather/Enter Button

Channel Preset (Function) Buttons

Tri-Watch Button

Memory Scan/ Memory Clear Button

NMEA and Auxiliary I/O Connector

Power Connection

Antenna Socket

Product Features

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

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

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

Emergency Weather Alert with SAME
Can alert you with an audible tone and visual alarm if threatening weather is nearby. The SAME alerts provide you with additional alerts for specific local areas.

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

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

Cobra Exclusive Rewind-Say-Again™ Digital Voice Recorder
A dedicated button allows user to replay up to the last 20 seconds of audio. Press the dedicated rewind button and Cobra VHF will replay the last 20 seconds of the audio from your VHF.

PA (Public Address)
Allows operator instant access to public address system by pressing button.

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

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

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

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

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

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

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

Product Features

Waterproof

Submersible to 3.28 ft (1 m) of water for 30 minutes — meets JIS7 Standards.

Local Mode (Range X-Tend)

A dedicated button that allows user to lower unnecessary noise interference from random RF noise in highly populated areas.
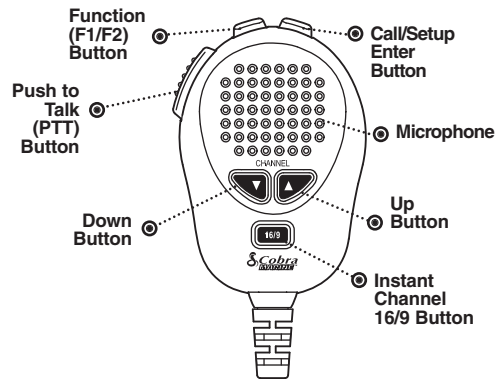
Distress Call Button

Allows sending a distress message at the touch of a button as well as specific station-to-station calls.

NMEA Port for GPS, Chartplotter and DSC Interfacing

The NMEA "IN" input in this radio will receive GPS position information from all GPS devices (e.g., Chartplotters, GPS sensors) sending out their position information using the standard NMEA 0183 protocol. This position information from the GPS is then sent by the MR F80 when sending out DSC emergency transmissions. This unit also has an NMEA "OUT" output. This allows the radio to send out position information received from other VHF radio units. This enables position polling and other advanced integration.

Microphone/Speaker with Auxiliary Controls

Function (F1/F2) Button

Push to Talk (PTT) Button

Down Button

Call/Setup Enter Button

Microphone

Up Button

Instant Channel 16/9 Button

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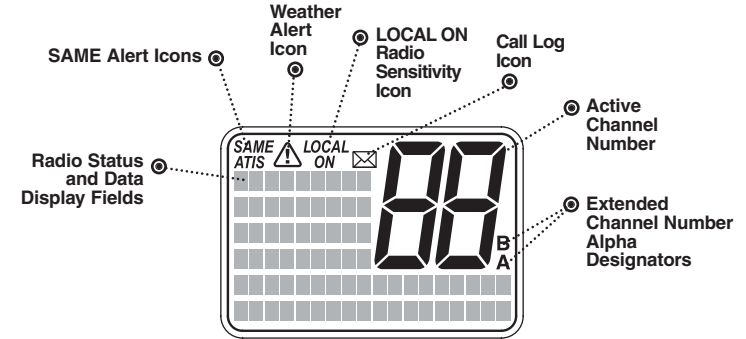Can be used instead of those on the transceiver.

Instant Channel 16/9 Button
Can be used instead of the one on the transceiver.

Function Button
Allows the user to "toggle" between selected working channel and favorite "Pre-Set" channels to access your most frequently used channels directly from the microphone.

Backlit LCD (Liquid Crystal Display) Screen

SAME Alert Icons

Weather Alert Icon

LOCAL ON Radio Sensitivity Icon

Call Log Icon

Active Channel Number

Radio Status and Data Display Fields

Extended Channel Number Alpha Designators

Important Safety Information

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

Warning and Notice Statements

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

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

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

Safety Training Information

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

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

- FCC OET Bulletin 65 Edition 97-01 Supplement C, Evaluating
  Compliance with FCC Guidelines for Human Exposure to Radio
  Frequency Electromagnetic Fields.

- American National Standards Institute (C95.1-1992), IEEE Standard
  for Safety Levels with Respect to Human Exposure to Radio Frequency
  Electromagnetic Fields, 3 kHz to 300 GHz.

- American National Standards Institute (C95.3-1992), IEEE
  Recommended Practice for the Measurement of Potentially
  Hazardous Electromagnetic Fields — RF and Microwave.

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

WARNINGS
Your radio generates electromagnetic RF (radio frequency) energy when it is transmitting. To ensure that you and those around you are not exposed to excessive amounts of that energy, **DO NOT** touch the antenna when transmitting and **KEEP** yourself and all others on your vessel the required distance away from the antenna while transmitting. See page 30 in the antenna requirements section for further information.

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

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

ALWAYS use only Cobra authorized accessories.

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

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

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

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

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

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

NOTICE

AVOID using or storing the radio at temperatures below -4°F (-20°C) or above 140°F (60°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 3 ft (0,9 m) away from your vessel's magnetic navigation compass. CHECK your compass before and after installation to be sure that it has not introduced any deviation.

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

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

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

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

Recommendations for Marine Communication

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

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

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

FCC Licensing Information

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

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

The radio is capable of Class-D DSC (Digital Selective Calling) operation.

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

Station License

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

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

International Station License

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

Radio Call Sign

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

Canadian Ship Station License

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

User Responsibility and Operating Locations

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

NOTE

This device complies with part 15 of the FCC Rules. Operation is subject to the following two (2) conditions: 1. This device may not cause harmful interference, and 2. This device must accept any interference received, including interference that may cause undesired operation.

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

VHF Marine Radio Procedures

Maintain Your Watch

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

Power

Try 1 watt first if the station being called is within a few miles. Try a second call after waiting two (2) minutes. If there is no answer, switch to a higher power. This will conserve your battery and minimize interference to other users by avoiding repeated calls.

Calling Coast Stations

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

Calling Other Vessels

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

Initial Calling on Channel 16 or 9

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

Voice Calling

Limits on Calling

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

Change Channels

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

Station Identification

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

Prohibited Communications

You **MUST NOT** transmit:

- False distress or emergency messages.

- Messages containing obscene, indecent or profane language.

- General calls, signals or messages (messages not addressed to a particular
  station) on Channel 16, except in an emergency or if you are testing your radio.

- When you are on land.

Voice Calling

To Call Another Vessel or Shore Installation (e.g. Lock or Bridge Tender):

- Make sure your radio is On.

- Select Channel 16 and listen to make sure it is not being used.

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

- When the channel is quiet, press the **Talk** button and call the vessel you wish
  to call. (Hold the microphone/speaker a few inches from your face and speak
  directly into it in a normal tone of voice — clearly and distinctly.) Say "[name
  of station being called] THIS IS [your vessel's name or call sign]."

- Once contact is made on the calling channel, you must switch to a proper
  working channel. See the channel listing on page 14 through 15.

For Example

The vessel Corsair calling the vessel Vagabond:

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

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

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

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

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

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

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

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

NOTE

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

Digital Selective Calling (DSC)

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

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

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

Maritime Mobile Service Identity (MMSI)

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

For your CobraMarine radio to operate in the **DSC** mode, you must enter your Maritime Mobile Service Identity (MMSI) number. See page 62 for instructions on how to enter your number.

MMSI Numbers are available in the U.S.A. from these Sources:

- Boat U.S.: 800-563-1536 – www.boatus.com/mmsi

- Maritel: 888-Maritel (888-627-4835)

- Sea Tow International: 631-765-3660 – www.seatow.com

In Canada, Contact:

Industry Canada Spectrum Management Office (only available on the Internet): http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/vwGeneratedInterE/sf01742e.html

To Obtain an MMSI Number Outside the U.S.A.:

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

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

Radiotelephone Calls

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

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

Emergency Messages and Distress Procedure

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

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

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

Marine Emergency Signals

The three (3) spoken international emergency signals are:

MAYDAY

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

PAN

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

SECURITE

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

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

If You Hear a Distress Call

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

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

Marine Distress Procedure

Speak slowly — clearly — calmly.

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

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

"Mayday — Mayday — Mayday"

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

"Mayday Corsair (or IL 1234 AB)"

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

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

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

"Estimate we will remain afloat one-half hour"

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

"I will be listening on Channel 16"

"This is Corsair (or IL 1234 AB)"

"Over"

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

Marine Distress Procedure – DSC

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

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

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

VHF Marine Channel Assignments

Three (3) sets of VHF channels have been established for marine use in the U.S.A., Canada and the rest of the world (International). Most of the channels are the same for all three (3) maps, but there are definite differences (see table on pages 16-23). Your radio has all three (3) maps built into it and will operate correctly in whichever area you choose.

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

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

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

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

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

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

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

Public Correspondence (Marine Operator)

Channels 24, 25, 26, 27, 28, 60, 61, 84, 84A, 85, 85A, 86, 86A, 87, 87A, 88*

For calls to marine operators at public coast stations. You can make and receive telephone calls through these stations.

Port Operations

Channels 1A*, 5A*, 12*, 14*, 18, 19, 20A, 21, 22, 63A*, 65A, 66A, 73, 74, 75, 76, 77*, 79, 80, 81, 82

Used for directing the movement of ships in or near ports, locks or waterways. Messages must be about operational handling, movement and safety of ships.

Navigational

Channels 13, 67

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

Maritime Control

Channel 17

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

Digital Selective Calling

Channel 70

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

Weather

Channels Wx 1 Thru 9

Receive-only channels for NOAA and Canadian weather broadcasts. You cannot transmit on these channels.

NOTE

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

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

VHF Marine
Channel Assignments

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

VHF Marine
Channel Assignments

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

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

Channel Number	Channel Map			Frequency		Power Limits
	USA	Int'l	Canada	Transmit	Receive	
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	●	●	●	156.525	156.525	DSC Use Only
71	●	●	●	156.575	156.575	
72	●	●	●	156.625	156.625	
73	●	●	●	156.675	156.675	
74	●	●	●	156.725	156.725	
75		●		156.775	156.775	1 watt Only INT
76		●		156.825	156.825	1 watt Only INT
77	●	●	●	156.875	156.875	1 watt USA and CAN

VHF Marine
Channel Assignments

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

VHF Marine
Channel Assignments

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

NOTE

Many of the plain numbered channels, such as 01, 02 and 03, transmit on one frequency and receive on another. 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).

VHF Marine Radio Protocols

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

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

NOAA Weather Channels and Alert

Monitoring the weather will probably be a frequent use of your radio. NOAA provides continuous, around-the-clock broadcasts of the latest weather information. Taped weather messages run every four (4) to six (6) minutes and are revised every two (2) or three (3) hours, or as needed. The Coast Guard also announces weather and other safety warnings on Channel 16 and DSC Channel 70. Smart boaters keep an eye on safety and an ear to the radio — and never let the weather catch them unaware.

NOAA Emergency Weather Alert

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

Test

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

Weather Frequency/Channel

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

World City Time Zones

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

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

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
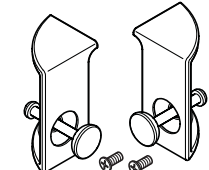
Transceiver Surface Mount Kit
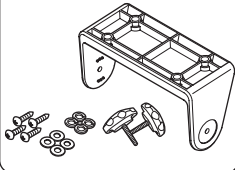
Microphone
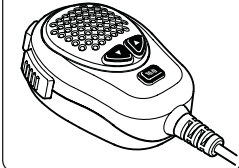
Mic Mounting Kit
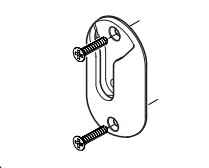
Operating Instruction Manual

MR F80B

Warning Sticker

WARNING
This equipment is designed to generate a digital maritime distress and safety signal to facilitate search and rescue. To be effective as a safety device, this equipment must be used only within communication range of a shore-based VHF marine channel 70 distress and safety watch system. The range of the signal may vary out under normal conditions should be approximately 20 nautical miles.

Power/Interface Cables
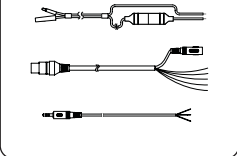
NOTE
Cobra Accessory Harness CM 140-001 is an **optional** wire harness that is used to interface the MR F80 radio with the Cobra MC 600C Series chartplotters.

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 should be as short as possible.

The antenna must be mounted at least 3 ft (0,9 m) 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 horizontal surface.

Surface Mounting Kit

Tilt Lock Knobs
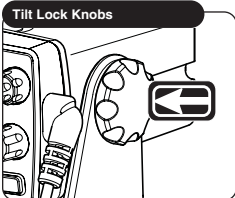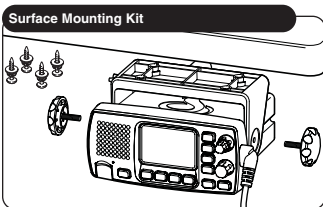
**To Mount the Transceiver
on Almost any Flat Surface:**

1. Use the mounting bracket as a template to drill holes for the mounting screws.

2. Attach the mounting bracket to the chosen surface with the mounting bracket screws and washers.

3. Attach the transceiver to the mounting bracket with the Tilt Lock knobs.

4. Tilt the transceiver to a convenient angle and tighten the Tilt Lock knobs.

Microphone Bracket Mounting Kit

Microphone Bracket Mounting Kit

To Install The Microphone Bracket Mounting Kit:

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

Flush Mount

A Flush Mount 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 final pages for template.

1. Use the supplied template (VHF Radio MRF80) to mark and cut an opening in the flat surface. See page 82 for template.

Insert Transceiver

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

2. Insert the transceiver into the opening.

Attach Mounting Brackets
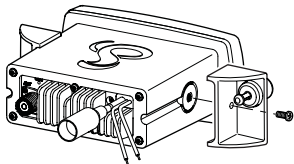
3. Attach the mounting brackets to the sides of the transceiver with the adjusting screw flanges facing the back of the flat surface.

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. Do not overtighten.
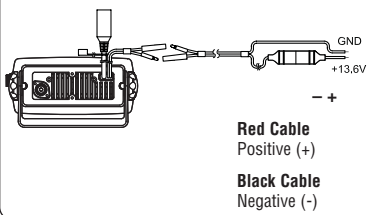

Adjusting Screws
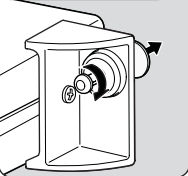
Warning Sticker

Warning Sticker

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

Power Connection Cable

GND
+13.6V
− +

Red Cable
Positive (+)

Black Cable
Negative (-)

Electrical Power Connection

Electrical power is supplied to the transceiver by two (2) bullet-type connectors coming from a 13.8-volt DC voltage source (12-volt nominal). The positive lead must be attached to a fused connector.

To Connect to a Power Source:

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

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

NOTE
Cobra Accessory Harness CM 140-001 is an **optional** wire harness that is used to interface the MR F80 radio with the Cobra MC 600C Series chartplotters.

NOTICE
A reverse polarity connection will damage the radio.

Antenna Requirements and Attachment

Antenna Requirements

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

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

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

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

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

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

WARNING
Do not transmit when anyone is within the MPE radius of the antenna unless that person or persons are shielded from the antenna by a grounded metallic barrier. This is especially important on vessels with antennas mounted as described in B where no one may be within 9 ft (2,8 m) horizontally from the base of the antenna during transmissions.

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

Coaxial Cable Socket
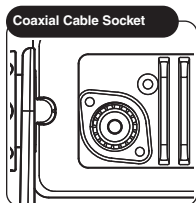
Antenna Lead Attachment
Once the antenna is installed, the Coaxial Cable Lead can be attached to the coaxial cable socket at the back of the transceiver.

NOTICE
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.

NMEA Communication Cable

Your CobraMarine Radio is set up with an NMEA communication port that allows the radio to communicate with other electronic equipment such as a GPS Chartplotter, Depth Sounder, Auto Pilot, DSC VHF Radio, Radar and Personal Computer with the ability to display information. This capability allows for the operator to do Position Polling and Position Requests directly from the radio. The NMEA input and output leads are directed through the NMEA communication port.
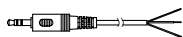

NMEA Cable

BLACK/WHITE (SPEAKER -)
ROSE RED (PA SPEAKER +)
ORANGE (SPEAKER +)
ALARM IN = BLUE/WHITE STRIPE
NMEA OUT - = PURPLE
NMEA OUT + = GRAY
NMEA IN - = GREEN
NMEA IN + = WHITE
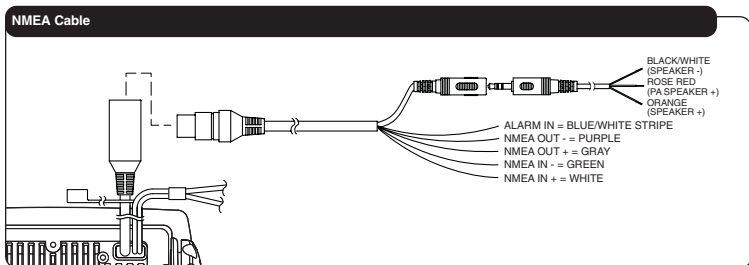
External Speaker (Not Included)

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

To Install an External Speaker:

1. Connect the **speaker positive** (+) wire to the orange wire coming out of the standard speaker/PA wire harness.
2. Connect the **speaker negative** (-) wire to the black/white wire coming out of the standard speaker/PA wire harness.

Public Address Speaker (Not Included)

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

To Install a Public Address Speaker:

1. Connect the PA **speaker positive** (+) wire to the rose red wire coming out of the standard speaker/PA wire harness.

2. Connect the PA **speaker negative** (-) wire to the black/white wire coming out of the standard speaker/PA wire harness.

Speaker/PA Cable

Global Positioning System (GPS) Device (Not Included)

Cobra Electronics 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."
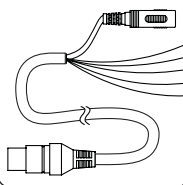
To Install a GPS Device:

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

2. Bond the NMEA **out negative** (-) wire of your GPS to the NMEA **in negative** (-) wire (green) of the MR F80 NMEA/IO interface cable.

3. Bond the NMEA **out positive** (+) wire of your GPS to the NMEA **in positive** (+) wire (white) of the MR F80 NMEA/IO interface cable.

NMEA/IO Cable

NOTE

When bonding the wires, make sure connections are secure and properly insulated to prevent electrical arching.

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.

CobraMarine Chartplotter MC 600C Series

Your CobraMarine VHF radio is set up to connect directly to your chartplotter with a custom accessory cable that eases the installation.

The chartplotter uses a state-of-the-art electronic chart system, designed as a custom navigation aid. All calculations and information necessary for the navigation are performed and displayed on the chartplotter quickly and accurately providing all of the capabilities of a conventional GPS, but with the added benefit of a powerful electronic chart display.

Wiring the chartplotter to the transceiver is made easy with a custom-made optional Accessory Cable harness P/N CM 140-001. This cable has a molded 8-pin connector that plugs directly into the appropriate connectors on the MR F80 and the MC 600C Series.

To Install the Chartplotter:

1. Install the chartplotter in a convenient location according to the chartplotter owner's manual.

2. Connect NMEA **out positive** (+) wire to NMEA **in positive** (+) wire coming from the chartplotter.

3. Connect NMEA **out negative** (-) wire to NMEA **in negative** (-) wire coming from the chartplotter.

4. Plug 8-pin rubber connector into transceiver.

MR F80 to Chartplotter Connection
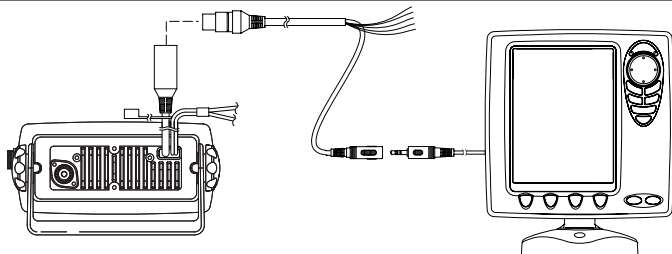
Getting Started

Refer to the foldout at the front of this manual to identify the various controls and indicators on your radio.

Throughout this manual you will be instructed to press, or to press and hold buttons on the transceiver or on the microphone/speaker. 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 or Volume Up/Down buttons.

Confirmation Tone

A 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 42.

Error Tone

Three (3) medium-pitch tones indicate an invalid button press (error).

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.

DSC Geographical Alarm

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

DSC Position Request Alarm

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

DSC Individual Alarm

Medium-loud, continuous, medium-pitched, three (3) beep groups — sounds when an Individual call is received. Press any button to turn it Off.

Weather Alarm

Medium-loud, continuous, medium-pitched series of one-half second beeps spaced one-half second apart — sounds when weather alert is turned On and NOAA sends a 1050 Hz weather alert tone on the selected weather channel. Press any button to turn it Off.
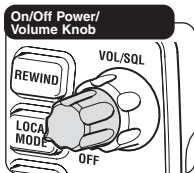
Power On-Off – Volume/Squelch

On-Off

Transceiver power can be turned On or Off by using the On/Off — Volume rotary concentric knob located at the upper right-hand side of the radio.
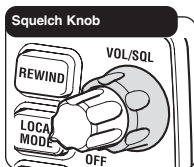

On/Off Power/ Volume Knob

Volume

Volume is controlled by turning the On/Off Volume rotary concentric knob. The radio speaker is located on the left side of the display.

To increase the volume, turn the **Rotary** knob clockwise.

To decrease the volume, turn the **Rotary** knob counterclockwise.

Getting Started

Squelch Knob

Squelch

Squelch control is controlled by turning the inner (back) rotary concentric knob located directly behind the On/Off – Volume knob. With the power On, turn the knob counterclockwise till you hear a hissing sound, then turn the knob clockwise till the hissing stops. This will establish a "Baseline" squelch.

By turning the knob further in a clockwise direction, you will filter weak and medium-strength signals. By turning the knob further in a counterclockwise direction from your baseline setting, you will receive weaker signals.

Squelch control filters weak signals and radio frequency (RF) noise so that you will clearly hear the signals you want.

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

Channel Select Knob
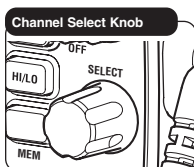
Channel Select Using Radio Knob

Allows for the manual selection of all the VHF marine channels that have been established for use in the U.S.A., Internationally and in Canada.

NOTE
This knob will also allow scrolling in many of the setup and advanced operation menus.

When the Channel Select knob on the radio is turned in a clockwise rotation, higher numbered VHF marine channels can be accessed. When the Channel Select knob on the radio is turned in a counterclockwise direction, lower numbered VHF marine channels can be accessed.

Channel Select Using Microphone

By pressing microphone Channel Up button, higher numbered VHF marine channels can be accessed. By pressing the microphone Channel Down button, lower numbered VHF marine channels can be accessed.
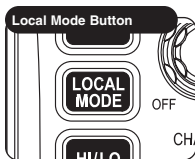
Local Mode Button

Local Mode Button

The radio features a **Local Mode** button that decreases radio sensitivity when operating inside populated areas.

When the **Local Mode** button is On, the power of an inbound receive (Rx) signal is reduced without distorting the waveform. Reducing an inbound signal power prevents "noise interference" from random RF Noise in populated marinas, cities and commercial areas. When the **Local Mode** button is On, the "Local On" icon displays.

When the **Local Mode** button is Off, the radio receives a full signal with an extended operational range.

Channel Preset Buttons
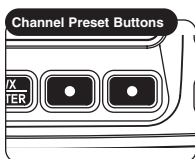
Channel Preset (Function) Buttons

Use the **Channel Preset** buttons for direct access to favorite channels in the **Standby** mode and as selection keys in the Setup mode.

When a **Channel Preset** button is pressed and released, the radio goes directly to the assigned preset channel. If no preset channels are assigned, three (3) error tones sound. After the button is released the radio returns to the **Standby** mode.

When a **Channel Preset** button is pressed and held for more than two (2) seconds, the working channel will be assigned to the button.