Our Thanks to You and Customer Assistance

Our Thanks to You

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

How Your CobraMarine VHF Radio Works

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

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.

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.
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**Radio Controls and Indicators**

- **Backlit LCD Screen**
  - ON/OFF/Volume Control
  - Squelch Control
  - Wrist Strap Connector
  - Call/Enter Button
  - Wrist Strap Connector
  - Battery Clip
  - Scan Button
  - Battery Clip

**Product Features**

- **Power Settings**
  - Selectable power settings produce 1, 3 or 5 watts of output power for near or distant calling.
- **International/Canada/USA Channels**
  - Allows operation on any of the three (3) different channel maps established for these areas.
- **Submersible to JIS7 Standards**
  - Waterproof to 1 m [3.3 ft] of water for 30 minutes.
- **Button/Key Lock**
  - Prevents accidental setting changes when button lock is set.
- **Channel Scan/Memory Scan**
  - Use to scan through unlimited channels or memory locations to find conversations in progress.
- **Instant Channel 16**
  - Provides instant access to priority Channel 16.

**Backlit LCD (Liquid Crystal Display) Screen**

- **Transmit and Receive Icons**
  - Low/Medium/High Power Icons
  - Call Tone Icon
  - Memory Channel Icon
  - Memory Channel Icon
  - Simplex Operation Icon
  - Battery Power Icon
  - Roger Beep Icon
  - UIC Active Channel Map Icons
  - Tri-Watch Icon
  - Button Lock Icon
  - Scan Icon
  - Key Tone Icon
  - Power Level Icon

**Tri-Watch**

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

**Lithium-Ion Rechargeable Battery Pack**

- Provides extended operating time compared to alkaline batteries with no memory effect.

**220V/12V Rapid Charger Included**

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

**Locking Desktop Charger**

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

**Call Tones (Selectable)**

- 10 selectable call tones.
Radio Controls and Indicators

- Speaker/Microphone External Cover
- ON/OFF/Volume Control
- Squelch Control
- Wrist Strap Connector
- Battery Clip
- Instant Channel 16 Button
- SCAN Button
- Call/Enter Button
- Wrist Strap Connector
- ON/OFF/Volume Control
- Speaker/Microphone

Backlit LCD Screen

- Backlit LCD Screen
- Antenna
- Channel Up Button
- Push to Talk Button
- Channel Down Button
- Backlight/Key Lock Button
- Power Level Button
- Channel Preset Button
- Tri-Watch Button
- Speaker

Product Features

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

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

- Instant Channel 16
  Provides instant access to priority Channel 16.
Product Features

Product Features (continued)

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

**Unlimited Memory Channels**
Allows programming of unlimited VHF memory channels.

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

**Illuminated Buttons**
Allows high visibility of all function buttons.

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

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

**Automatic Transponder Identification System (ATIS)**
Capable of operating within the Automatic Transponder Identification System. ATIS includes data at the end of a transmission for station identification.

**Rapid-Charge Locking Desktop Charger**
Allows charging of batteries at home, car or boat. Vertical or horizontal mounting.

**Cobra Exclusive Rewind-Say-Again™**
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.
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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.
Important Safety Information

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

WARNINGS
Your CobraMarine 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 (beyond recommended allowable limits for occupational use):

ALWAYS hold the radio, especially the antenna, at least 5.1 cm [2 in.] away from you when you are transmitting.

NEVER allow the antenna to touch any part of your body when transmitting.

KEEP the radio and antenna at least as far from bystanders as from yourself.

DO NOT operate the radio without the supplied antenna or a Cobra Electronics Corporation™ authorized replacement attachment. In addition to the RF energy exposure hazard, doing so may 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 icon shows on the LCD screen.

ALWAYS use only Cobra Electronics Corporation authorized accessories (antennas, batteries, belt clips, etc.).

DO NOT operate the radio where RF energy generated during transmission may cause electromagnetic interference or incompatibility with other devices or systems. This includes aircraft, blasting sites and hospitals.

TURN OFF the radio in explosive atmospheres and where signs are posted prohibiting radio transmissions.

Failure to observe any of these warnings may cause you to exceed recommended RF exposure limits or create other dangerous conditions.
**Important Safety Information**

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

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

**KEEP** your radio at least 0.9 m (3 ft) away from your vessel's magnetic navigation compass.

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

This radio is supplied with an LiON (Lithium-Ion) rechargeable battery pack.
- Use only the Cobra charger to recharge LiON battery in the radio.
- Do not short circuit the battery pack.
- When replacing the battery, dispose of the old battery properly. The LiON battery may explode if disposed of in a fire.

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

If you will be going far offshore, you should consider adding even 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 do not know where you are, the coastguard will have difficulty finding you if you are 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

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 ship's radio license and a marine radio operator's 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 Radio Licensing Centre run by Royal Mail in the UK. In other countries, contact the relevant national postal or 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. FCC (Federal Communications Commission) for licensing and operating information.

Radio Call Sign
A radio call sign is included as part of the ship's radio license in the UK. Other countries may have different practices; contact your local regulatory authority for information.

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

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

Power
Try 1 watt first if the station being called is within a few kilometers. 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 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 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

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 radio at least 5.1 cm [2 in.] 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 listings 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 the best sound quality at the station you are calling, hold the radio at least 5.1 cm [2 in.] from your mouth and slightly off to one side. Speak in a normal tone of voice.

NOTE

"Over and Out"

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

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. These services can provide you with detailed information and procedures to follow.

**NOTICE**

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

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, 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. Use Channel 16 to communicate your emergency message. Make sure you transmit on high power. 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 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.
Emergency Messages and Distress Procedure

Marine Distress Procedure

Speak slowly — clearly — calmly.

1. Make sure your radio is On.

2. Select Channel 16.

3. Press Talk button and say:
   “MAYDAY — MAYDAY — MAYDAY.”
   (Or “PAN — PAN — PAN.”
   or “SECURITE — SECURITE — SECURITE.”)

4. Say:
   “THIS IS [your vessel name or call sign],” repeated three (3) times.

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

6. Tell where you are:
   (what navigational aids or landmarks are nearby).

7. State the nature of your distress.

8. State the kind of assistance needed.

9. Give number of persons aboard and conditions of any injured.

10. Estimate present seaworthiness of your vessel.

11. Briefly describe your vessel (length, type, color, hull).

12. Say:
    “I WILL BE LISTENING ON CHANNEL 16.”

13. End message by saying:
    “THIS IS [your vessel name or call sign]. OVER.”

14. Release Talk button and listen. Someone should answer.
    If not, repeat the call, beginning at step 3 above.
Emergency Messages and Distress Procedure

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 kilometers”
“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.
VHF Marine Channel Assignments

Three (3) 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 (3) maps, but there are definite differences (see table on the following pages). Your radio has all three (3) maps built into it and will operate correctly in whichever area you choose. When shipped from the factory, your radio will be set to the International Channel Map. (See page 36 for instructions on how to change the Channel Map.)

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.
## VHF Marine Channel Assignments

<table>
<thead>
<tr>
<th>Channel Number</th>
<th>Channel Map</th>
<th>Frequency Transmit</th>
<th>Frequency Receive</th>
<th>Power Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>USA</td>
<td>156.050</td>
<td>160.650</td>
<td></td>
</tr>
<tr>
<td>01A</td>
<td>USA</td>
<td>156.050</td>
<td>156.050</td>
<td></td>
</tr>
<tr>
<td>02</td>
<td>USA</td>
<td>156.100</td>
<td>160.700</td>
<td></td>
</tr>
<tr>
<td>03</td>
<td>USA</td>
<td>156.150</td>
<td>160.750</td>
<td></td>
</tr>
<tr>
<td>03A</td>
<td>USA</td>
<td>156.150</td>
<td>156.150</td>
<td></td>
</tr>
<tr>
<td>04</td>
<td>USA</td>
<td>156.200</td>
<td>160.800</td>
<td></td>
</tr>
<tr>
<td>04A</td>
<td>USA</td>
<td>156.200</td>
<td>156.200</td>
<td></td>
</tr>
<tr>
<td>05</td>
<td>USA</td>
<td>156.250</td>
<td>160.850</td>
<td></td>
</tr>
<tr>
<td>05A</td>
<td>USA</td>
<td>156.250</td>
<td>156.250</td>
<td></td>
</tr>
<tr>
<td>06</td>
<td>USA</td>
<td>156.300</td>
<td>160.950</td>
<td></td>
</tr>
<tr>
<td>07</td>
<td>USA</td>
<td>156.350</td>
<td>156.350</td>
<td></td>
</tr>
<tr>
<td>07A</td>
<td>USA</td>
<td>156.350</td>
<td>156.350</td>
<td></td>
</tr>
<tr>
<td>08</td>
<td>USA</td>
<td>156.400</td>
<td>156.400</td>
<td></td>
</tr>
<tr>
<td>09</td>
<td>USA</td>
<td>156.450</td>
<td>156.450</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>USA</td>
<td>156.500</td>
<td>156.500</td>
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</tr>
<tr>
<td>11</td>
<td>USA</td>
<td>156.550</td>
<td>156.550</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>USA</td>
<td>156.600</td>
<td>156.600</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>USA</td>
<td>156.650</td>
<td>166.650</td>
<td>1 watt USA and CAN</td>
</tr>
<tr>
<td>14</td>
<td>USA</td>
<td>156.700</td>
<td>156.700</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Rx Only</td>
<td>156.700</td>
<td>156.750</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>USA</td>
<td>156.750</td>
<td>156.750</td>
<td>1 watt CAN and INT</td>
</tr>
<tr>
<td>16</td>
<td>USA</td>
<td>156.800</td>
<td>156.800</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>USA</td>
<td>156.850</td>
<td>156.850</td>
<td>1 watt USA and CAN</td>
</tr>
</tbody>
</table>
VHF Marine Channel Assignments

<table>
<thead>
<tr>
<th>Channel</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>01A</td>
<td>Port Operations and Commercial, VTS in selected areas</td>
</tr>
<tr>
<td>02</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>03</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>03A</td>
<td>Government Only</td>
</tr>
<tr>
<td>04</td>
<td>Public Correspondence (Marine Operator), Port Operations, Ship Movement</td>
</tr>
<tr>
<td>04A</td>
<td>West Coast (Coastguard Only); East Coast (Commercial Fishing)</td>
</tr>
<tr>
<td>05</td>
<td>Public Correspondence (Marine Operator), Port Operations, Ship Movement</td>
</tr>
<tr>
<td>05A</td>
<td>Port Operations, VTS in selected areas</td>
</tr>
<tr>
<td>06</td>
<td>Intership Safety</td>
</tr>
<tr>
<td>07</td>
<td>Public Correspondence (Marine Operator), Port Operations, Ship Movement</td>
</tr>
<tr>
<td>07A</td>
<td>Commercial</td>
</tr>
<tr>
<td>08</td>
<td>Commercial (Intership Only)</td>
</tr>
<tr>
<td>09</td>
<td>Boater Calling Channel, Non-Commercial (Recreational)</td>
</tr>
<tr>
<td>10</td>
<td>Commercial</td>
</tr>
<tr>
<td>11</td>
<td>Commercial, VTS in selected areas</td>
</tr>
<tr>
<td>12</td>
<td>Port Operations, VTS in selected areas</td>
</tr>
<tr>
<td>13</td>
<td>Intership Navigation Safety (Bridge-to-Bridge). In U.S. waters, large vessels maintain a listening watch on this channel.</td>
</tr>
<tr>
<td>14</td>
<td>Port Operations, VTS in selected areas</td>
</tr>
<tr>
<td>15</td>
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<td>17</td>
<td>State Controlled (U.S.A. Only)</td>
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# VHF Marine Channel Assignments

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<th>Channel Number</th>
<th>Channel Map USA</th>
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<th>Frequency Receive</th>
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### VHF Marine Channel Assignments

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<tr>
<th>Channel</th>
<th>Use</th>
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<tbody>
<tr>
<td>18</td>
<td>Port Operations, Ship Movement</td>
</tr>
<tr>
<td>18A</td>
<td>Commercial</td>
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<td>19</td>
<td>Port Operations, Ship Movement</td>
</tr>
<tr>
<td>19A</td>
<td>Commercial</td>
</tr>
<tr>
<td>20</td>
<td>Canada (Coastguard Only); International (Port Operations, Ship Movement)</td>
</tr>
<tr>
<td>20A</td>
<td>Port Operations</td>
</tr>
<tr>
<td>21</td>
<td>Port Operations, Ship Movement</td>
</tr>
<tr>
<td>21A</td>
<td>U.S. (Government Only); Canada (Coastguard Only)</td>
</tr>
<tr>
<td>22</td>
<td>Port Operations, Ship Movement</td>
</tr>
<tr>
<td>22A</td>
<td>U.S. and Canadian coastguard Liaison and Maritime Safety Information Broadcasts that are announced on Channel 16</td>
</tr>
<tr>
<td>23</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>23A</td>
<td>Government Only</td>
</tr>
<tr>
<td>24</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
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<td>25</td>
<td>Public Correspondence (Marine Operator)</td>
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<td>26</td>
<td>Public Correspondence (Marine Operator)</td>
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<td>Public Correspondence (Marine Operator), Port Operation, Ship Movement</td>
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<td>62A</td>
<td>West Coast (Coastguard Only); East Coast (Commercial Fishing)</td>
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# VHF Marine Channel Assignments

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<th>Channel Number</th>
<th>Channel Map USA</th>
<th>Int’l</th>
<th>Frequency Transmit</th>
<th>Frequency Receive</th>
<th>Power Limits</th>
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</tr>
<tr>
<td>66A</td>
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<td>156.325</td>
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## VHF Marine Channel Assignments

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

<table>
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<tr>
<th>Channel Number</th>
<th>USA</th>
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<th>Canada Transmit</th>
<th>Receive</th>
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</table>

**NOTE**

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

VHF Marine Channel Assignments

<table>
<thead>
<tr>
<th>Channel</th>
<th>Use</th>
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</thead>
<tbody>
<tr>
<td>78</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>78A</td>
<td>Non-Commercial (Recreational)</td>
</tr>
<tr>
<td>79</td>
<td>Port Operations, Ship Movement</td>
</tr>
<tr>
<td>79A</td>
<td>Commercial (Also Non-Commercial only in Great Lakes)</td>
</tr>
<tr>
<td>80</td>
<td>Port Operations, Ship Movement</td>
</tr>
<tr>
<td>80A</td>
<td>Commercial (Also Non-Commercial only in Great Lakes)</td>
</tr>
<tr>
<td>81</td>
<td>Port Operations, Ship Movement</td>
</tr>
<tr>
<td>81A</td>
<td>U.S. (Government Only; Environmental Protection Operations)</td>
</tr>
<tr>
<td>82</td>
<td>Public Correspondence (Marine Operator), Port Operation, Ship Movement</td>
</tr>
<tr>
<td>82A</td>
<td>U.S. (Government Only); Canada (Coastguard Only)</td>
</tr>
<tr>
<td>83</td>
<td>Canada (Coastguard Only)</td>
</tr>
<tr>
<td>83A</td>
<td>U.S. (Government Only); Canada (Coastguard Only)</td>
</tr>
<tr>
<td>84</td>
<td>Public Correspondence (Marine Operator)</td>
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<td>86</td>
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<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>87</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>87A</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>88</td>
<td>Public Correspondence (Ship to Coast). In U.S. only within 75 miles of Canadian Border.</td>
</tr>
<tr>
<td>88A</td>
<td>Commercial Internship only</td>
</tr>
</tbody>
</table>

NOTE

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

In some countries, additional channels are available. These can be programmed on the radio by the local dealer or distributor.
Included in this Package

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

- Radio
- Wrist Strap
- Drop-In Battery Charger
- Flexible Antenna
- Battery Charger Power Cord
- LION Battery Pack
- Operating Instruction Manual
- Spring-Loaded Belt Clip
- Alkaline Battery Tray

For connection to 12-volt and AC power sources.

Alkaline batteries not included.
Antenna, Wrist Strap and Belt Clip

Antenna Installation
The flexible antenna is shipped separately in the package and must be attached before you use the radio.
1. Align the base of the antenna with the socket in the top of the radio.
2. Screw it all the way into the socket. Be sure that the seal seats properly.

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

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

Belt Clip
Use the spring-loaded belt clip to carry the radio on your person.
1. Press open the belt clip, slide it over the belt and release the clip.
2. Insert the round guide on the back of the radio into the guide channel on the back of the belt clip. The radio must be upside-down, as shown, to remove it from the belt clip.
3. Once the knob is inserted all the way into the belt clip channel, the radio swings free but remains secure.
The radio is shipped with a sealed Lithium-Ion (LiION) battery pack (P/N CM 110-010) that is rechargeable.

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

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

**Installing the Battery Pack**

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

The Cobra-provided lithium-ion (LiON) battery pack may be charged at home, in a car or in a boat using the appropriate 12V DC or 220V AC power cord with the charger.

1. Insert one (1) of the power cords into the back of the drop-in charger.
2. Insert the other end of the power cord into the appropriate 12V DC or 220V AC power source.
3. Remove the spacer from the charger and insert the entire radio into the charger. The metal charge contacts on the radio will contact the mating prongs in the charger to transfer the charging current.
4. Observe that the red light on the front of the charger glows to indicate that the battery pack is properly seated and the charger is operating.
5. Allow the batteries to charge for three (3) to four (4) hours before use. The light will change back to green when the battery is fully charged.

**WARNING**

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

**NOTE**

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

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

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

**NOTICE**
Lithium-ion (LiION) batteries are toxic. Please dispose of properly. Some marine suppliers accept old battery packs for recycling and some municipal waste disposal agencies have special provisions for battery disposal.

**Alkaline Batteries**
There is an alkaline battery tray (P/N CM 110-011) provided with this radio. The alkaline battery tray is provided as a backup or “Emergency” power source should the battery pack run low on power and needs to be recharged. The radio will transmit at full power when using six (6) new AA Alkaline batteries.

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

Maintaining the Battery Charge

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

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

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

**NOTE**
Some radios with LiON batteries have AA or AAA battery packs which only allow low power transmit. The AA battery tray for the MR HH415 and a fresh set of alkaline batteries will allow for full power emergency transmissions.
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” various buttons (except “Push to Talk”) on the radio. “Press” means a momentary press of approximately one (1) second. “Press and Hold” means to hold the button down for approximately three (3) seconds.

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

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

Common Radio Functions
The following procedures define common operating functions of the radio when in the Marine Standby mode.

Power/Volume/Squelch Controls

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

Volume Control
Volume is controlled by turning the On/Off/Volume control.
- To increase the volume, turn the On/Off/Volume control clockwise.
- To decrease the volume, turn the On/Off/Volume control counterclockwise.
Squelch Control

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

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

NOTE

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

Radio Speaker and Microphone

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

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

Talk Button

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

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

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

Key Lock
To prevent accidental changes to your settings, you can lock all of the following buttons:
- Channel Up Button
- Channel Down Button
- SCAN Button
- MEM/ESC Button
- H-M-L Button
- 16 Button
- TRI-WATCH Button
- Call/Enter/Setup Button
- Preset Button
- REW Button

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

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

**Channel Up/Down Button**

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

**To Change Channels:**

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

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

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

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

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

**SCAN Button**

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

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

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

**NOTE**

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

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

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

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

Call /Enter/Setup Button
The *Call/Enter/Setup* button has multiple functions. It is generally used in the following ways:
- Press and release to transmit your unique *Call Tone* signal to another radio.
- Press and hold to enter any *Setup* menu.
- Functions as an *ENTER* button when making a selection in any *Setup* menu.
Preset Button

The Preset button will store all of the settings displayed on the LCD (i.e., Channel, Power Level, Memory Mode, etc...) into memory as your personal default radio settings.

To Set Personal Default Settings:
Press and hold the Preset button. This will store whatever settings are displayed on the LCD.
After changing any of the settings you can recall your default settings by pressing and releasing the Preset button.

NOTE
Initial power-on of the radio and first-time press of Preset button will display the Initial Preset Screen.
“HOLD To SAVE” will flash across the screen until the Preset button is depressed and held to save your personal default radio settings.
Setup Mode Programming

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

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

**Marine (VHF) Mode Programming**

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

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

**International/Canada/USA Channel Maps**

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

To Set Channel Map Operating Area:

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

**NOTE**
One (1) or two(2) of the channel maps might have been disabled for sales of this radio in some countries.
VibrAlert® Mode

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

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

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

To Set Call Tone:

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

**NOTE**

Call Tones are not usually used for Marine VHF communications. We allow you to turn it On for your unique communication needs.
Roger Beep Mode
In Roger Beep mode, your listener will hear an audible tone when you release the Talk button. This alerts your listener that you are finished talking and it is OK for them to speak.

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

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

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

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

The Automatic Transmission Identification System (ATIS) feature of this Cobra radio is used to identify marine vessels in some inland waterways of European countries that require ATIS transmission. An ATIS ID number is required to operate the ATIS feature. The ATIS ID number is derived from your vessel's call sign. You must enter your ATIS ID number into this radio before the ATIS system will become functional. Please consult your local dealer for questions about local ATIS requirements.

With this feature activated, the vessel's ATIS ID number is transmitted after every push of the Talk button.

To Set the ATIS ID Number:

**NOTE**

The ATIS ID is a 10 digit number that will always begin with the number "9." You will be asked to enter only the last nine digits. The first digit, "9," has been automatically entered for you.

1. With the radio turned Off; press and hold the Channel Down and SCAN buttons and simultaneously power On the radio.

2. The LCD will display and flash the ATIS icon. A dash (-), to the right of the digit 9, will be flashing for the next entry.

**NOTICE**

Remember, you only have one (1) attempt to set the ATIS ID number. Once this number has been entered, only your Cobra distributor with PC software can reset the ATIS ID number. You can also return the radio to Cobra for reprogramming.
3. Press the Channel Up/Down button to scroll through the specific ATIS digit being entered.

4. Pressing the Call/Enter/Setup button advances to the right, one (1) digit, for the next entry.

5. Repeat this input sequence until all nine digits have been entered. The ATIS icon will stop flashing when a successful ATIS ID entry has been made.

6. Press the Call/Enter/Setup button again, after all numbers have been entered, to save the ATIS ID number and return to the Marine Standby mode.
Standby/Receive and Transmit

Marine Standby and Receive (Rx) Mode

Marine Standby mode is the default mode for the radio whenever it is turned on. From this mode, you can change current settings by becoming familiar with the different key functions in Marine Standby mode. While in Marine Standby mode, the user will be able to transmit by pressing the Push to Talk (Talk) button. Signals in Receive (Rx) mode will be received on the selected channel(s).

**NOTE**

Coastguard alerts are broadcast on Channel 16.
Transmit (Tx) Mode

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

To Transmit a Message:

1. Check to see that your radio is set to a proper channel for the type of message you plan to send.
2. Toggle to the Low Power setting.
3. With the microphone about 5.1 cm [2 in.] from your mouth, press and hold the Talk button and speak into the microphone. The Transmit icon will appear on the LCD.
4. Release the Talk button when you are finished speaking. Your radio can only operate in either Transmit (Tx) or Receive (Rx) mode at any given time. You will not hear the response to your message unless the Talk button is released. If the Battery Power icon begins blinking on the LCD when the Talk button is pressed, the radio will NOT transmit.

NOTE

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

Channel 16 Mode
Channel 16 mode gives you quick access to calling on Channel 16 from any operational mode.

To Switch to Channel 16:
1. Press the Channel 16 button to change to Channel 16.
2. Press the Channel 16 button a second time and return to the last used Standby channel.
Advanced Operation

Tri-Watch Mode

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

NOTE
The radio must be squelched for Tri-Watch mode to function. See page 31 for Squelch procedure.

Tri-Watch Setup

To Program or Edit the Tri-Watch Channels:

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

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

2. Press Channel Up/Down button to select the desired Tri-Watch channel.

3. Press and release TRI-WATCH button or Call/Enter/Setup button to confirm entry.

4. Repeat steps 2 and 3 to program the remaining additional Tri-Watch memory channel.

5. After programming both Tri-Watch memory channels the radio will immediately engage Tri-Watch mode. (See page 46 for further details.)
Advanced Operation

Using Tri-Watch

Tri-Watch Scan Mode:

1. From Marine Standby mode, press the TRI-WATCH button. The TRI icon will appear on the LCD display and the radio will scan through the three (3) Tri-Watch memory channels.

2. A signal on any one (1) of the three (3) channels will stop the scan for 10 seconds to allow you to listen to the traffic on that location.

**NOTE**

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

3. Press the Channel Up/Down button to resume scanning the Tri-Watch channels or to change the scan direction.

4. To EXIT the Tri-Watch scan, press the TRI-WATCH button again. The TRI icon will disappear from the LCD and the radio will return to Marine Standby mode.
Advanced Operation

Memory Location Mode

Your radio has unlimited memory locations for storing your most frequently used channels. These memory locations can be selected individually or can be scanned. (See page 50 under Memory Location Scan.)

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

To Program Memory Locations:

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

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

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

Operating Your Radio

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

To Exit Memory Location Mode:
Press the MEM/ESC button to return the radio to Marine Standby mode. The last channel used in Marine Standby mode will now be displayed on the LCD and the MEM icon will disappear.

To Erase Stored Memory Locations:
1. Press and hold the MEM/ESC button for two (2) seconds. The memory location number will start flashing and the MEM icon will be turned On.
2. Use the Channel Up/Down button to advance to the memory location you want to erase.
3. Press the MEM/ESC button to select the memory location. The memory channel number will stop flashing and the channel number will start flashing.
4. Use the Channel Up/Down button to change to the channel to read “00” at the selected memory location.
5. Press the MEM/ESC button to erase that channel. Repeat steps 2 through 5 to erase as many additional memories as you want.
6. Press and hold the MEM/ESC button for two (2) seconds. This will return the radio to Memory mode.
7. Press and release the MEM/ESC button again to return to Marine Standby mode.
Advanced Operation

Channel Scan Mode

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

NOTE
The radio must be squelched for Channel Scan mode to function. See page 31 for Squelch procedure.

To Enter Channel Scan:

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

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

**NOTE**
The radio must be squelched for Memory Location Scan mode to function. See page 31 for Squelch procedure.

**NOTE**
If there are fewer than two (2) memory locations programmed in the radio, the Memory Location Scan option will not be available. To program at least two (2) memory locations, see page 47.
Advanced Operation

Operating Your Radio

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

Rewind-Say-Again™ Feature

Use the Cobra exclusive Rewind-Say-Again™ feature to replay or record the last 20 seconds of an incoming audio transmission.

Example 1:
When engine noise, music or conversation creates too much noise to hear an inbound message clearly, press the REW button to hear the message a second time.

Example 2:
When listening to an urgent distress message of an excited caller with confusing background noise, press the REW button to hear the message a second time and get life saving information. Use this feature to record call details including position coordinates, call signs, registration numbers and store details that will help authorities locate the distressed vessel.

NOTE
Hold in the Rewind button to turn the recording mode Off and save the currently recorded transmission.

Using Rewind-Say-Again

1. During audio transmission, press REW button to listen to 20 seconds of the last recorded audio transmission. The REW icon will flash during the playing back of the message and a 20-second countdown begins.

2. Press the TALK, REW or MEM/ESC button during playback to stop the playback transmission. The radio returns to Standby mode.
Using Rewind-Say-Again to Record Audio Transmission

1. Press and hold SCAN button for two (2) seconds to enter Record mode.
2. Press and hold Talk button to begin recording from radio microphone. If Talk button is released, recording stops. While recording, a 20-second countdown begins on display. When 20-second countdown time has ended, recording stops and two (2) beep tones will be heard.
3. Press and hold the SCAN button again for two (2) seconds or press MEM/ESC button to cancel recording and return to last operation.

NOTE
When using radio in Record mode, the REW feature is turned Off to prevent “recording over” previous message.
**Maintenance**

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

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

**Troubleshooting**

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

### General

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Channels</td>
<td>All International, Canadian and U.S.A. Channels</td>
</tr>
<tr>
<td>Channel Spacing</td>
<td>25 kHz</td>
</tr>
<tr>
<td>Modulation</td>
<td>5 kHz Max.</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>7.2 VDC</td>
</tr>
<tr>
<td>Battery Life:</td>
<td>LiON: 14 hours @ 5 watts, 23.5 hours @ 1 watt</td>
</tr>
<tr>
<td></td>
<td>Alkaline: 20 hours @ 5 watts, 35 hours @ 1 watt</td>
</tr>
<tr>
<td>Current Drain:</td>
<td></td>
</tr>
<tr>
<td>Standby</td>
<td>40 mA, 1.8 A @ High Power, 700 mA @ Low Power</td>
</tr>
<tr>
<td>Receive (Rx)</td>
<td>200 mA</td>
</tr>
<tr>
<td>Transmit (Tx)</td>
<td>1.8 A @ High Power, 700 mA @ Low Power</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-20°C to 50°C</td>
</tr>
<tr>
<td>Radio Dimensions</td>
<td>4.8&quot; x 2.4&quot; x 1.4&quot; (123 mm x 62 mm x 36 mm) not including antenna</td>
</tr>
<tr>
<td>Radio Weight</td>
<td>0 lbs 8 oz. (228 g) without batteries</td>
</tr>
</tbody>
</table>

### Receiver

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>156.050 to 163.275 MHz</td>
</tr>
<tr>
<td>Receiver Type</td>
<td>Double Conversion Super-Heterodyne</td>
</tr>
<tr>
<td>Sensitivity:</td>
<td></td>
</tr>
<tr>
<td>20 dB Quieting</td>
<td>0.35 uV</td>
</tr>
<tr>
<td>12 dB Sinad</td>
<td>0.30 uV</td>
</tr>
<tr>
<td>Adjacent Channel Selectivity</td>
<td>-60 dB</td>
</tr>
<tr>
<td>Intermodulation and Rejection</td>
<td>-60 dB</td>
</tr>
<tr>
<td>Spurious and Image Rejection</td>
<td>-60 dB</td>
</tr>
<tr>
<td>AF Output</td>
<td>250 mW @ 8 Ohms</td>
</tr>
</tbody>
</table>

### Transmitter

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range (Tx):</td>
<td>156.025 to 157.425 MHz</td>
</tr>
<tr>
<td>RF Output Power</td>
<td>1, 3 or 5 watts</td>
</tr>
<tr>
<td>Spurious Emissions</td>
<td>-60 dB @ High Power, -55 dB @ Low Power</td>
</tr>
<tr>
<td>Microphone Type</td>
<td>Condenser</td>
</tr>
<tr>
<td>Frequency Stability</td>
<td>+/-10 ppm</td>
</tr>
<tr>
<td>FM Hum and Noise</td>
<td>40 dB</td>
</tr>
</tbody>
</table>
Trademark Acknowledgement

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Additional accessories for your Cobra radio can be purchased separately. Each accessory will enhance the use of the radio and also offer convenience the end user.

**Lapel Speaker/Microphone**

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

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

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later insertion of DOC