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.

Besides two-way communications, the radio can provide quick access to receive all 10 NOAA (National Oceanographic and Atmospheric Administration) weather channels and alert you to weather emergencies on a weather channel you can select for your area.

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

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, 7 days a week 773-889-3087 (phone).

Customer Assistance Operators English and Spanish.
8:00 a.m. to 6:00 p.m. CT 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.
English and Spanish. productinfo@cobra.com (e-mail).

For Assistance Outside the U.S.A.
Contact Your Local Dealer
Dual Power
Selectable to 500 mW or 2 watts output power for near or distant calling.

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

Ten NOAA Weather Channels
Instant access to all of the national weather channels, 24 hours a day.

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

Waterproof
Meets JIS4 waterproof standards.

Channel Scan
Lets you scan through all channels to find conversations in progress.

Button Lock
Prevents accidental changes to your settings when you set this feature.

Instant Channel 16
Instant access to priority Channel 16.

Power Saver
Uses battery saver circuitry to extend the life of your batteries.

Keystroke Tones
Can be turned on or off.

Waterproof Pouch
Makes the unit completely waterproof (one pouch per radio included).

Four AAA Rechargeable NiMH Batteries included
Provides extended operating time compared to alkaline batteries with no memory effect (one set of batteries per radio included).

Adapter/Charger Included
Lets you charge the batteries right in the radio (one charger per radio included).
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Nothing comes close to a Cobra®
Important Safety Information

Before assembling and using your CobraMarine® VHF radio, please read these general precautions and warnings.

Warning and Caution Statements
To make the most of this radio, it must be assembled and used properly. Please read the assembly and operating instructions carefully before assembling and using it. Special attention must be paid to the WARNING and CAUTION statements in this manual.

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

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

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

WARNINGS
Your radio generates electromagnetic RF (radio frequency) energy when it is transmitting. To ensure that you and those around you are not exposed to excessive amounts of that energy:

ALWAYS hold the radio at least two inches (5 cm) away from you when you are transmitting.

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

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

DO NOT transmit more than 50% of the time the radio is in use.

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

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

CAUTIONS
Your radio is splashproof only when the batteries are properly installed.

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

KEEP your radio at least three feet (1 m) 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 four NiMH (Nickel-Metal Hydride) rechargeable batteries.

- Use only the Cobra® charger to recharge NiMH batteries in the radio.
- Do not short circuit the batteries.
- When replacing the batteries, dispose of the old batteries properly. NiMH batteries may explode if disposed of in a fire.

Changes or modifications to your radio MAY VOID its compliance with FCC rules and make it illegal to use.
Recommendations for Marine Communication

The frequencies your radio uses are set aside to enhance safety afloat and for vessel navigation and operational messages over a range suitable for nearshore voyages. If the two watts maximum output of your radio isn’t sufficient for the distances you travel from the coast, consider purchasing a CobraMarine™ hand held radio with up to five watts of output power or installing a Cobra® 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 U.S. Coast Guard does not endorse cellular telephones as substitutes for marine radios. They generally cannot communicate with rescue vessels and, if you make a distress call on a cellular telephone, only the party you call will be able to hear you. Additionally, cellular telephones may have limited coverage over water and can be hard to locate. If you don’t know where you are, the Coast Guard will have difficulty finding you if you’re using a cellular telephone.

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

FCC LICENSING INFORMATION

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

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 Information

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

International Station License

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

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., Illinois 1234 AB) be used as a call sign and be clearly visible on the vessel.

Canadian Ship Station License

This portable VHF radiotelephone is suitable ONLY for voluntary carriage onboard Canadian ships NOT subject to the Ship Station (Radio) Regulations, 1999. You may need a license if your vessel is operated in Canadian waters. Please 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 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 one half watt first if the station being called is within a few miles. 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 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.

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 minutes before calling again. After three calling periods, wait at least 15 minutes before calling again.

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

Station Identification
Identify, in English, your station by your FCC call sign, ship name, the state registration number, or other official number at both the beginning and end of each message.

Prohibited Communications
You MUST NOT transmit:

■ False distress or emergency messages.
■ Messages containing obscene, indecent or profane words or meaning.
■ General calls, signals, or messages (messages not addressed to a particular station) on Channel 16, except in an emergency or if you are testing your radio.
■ When you are on land.

Voice Calling

To call another vessel or a shore installation such as a lock or bridge tender:

■ Make sure your radio is on.
■ Select Channel 16 and listen to make sure it is not being used.

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

■ When the channel is quiet, press the Talk button and call the ship you wish to call. (Hold the microphone a few inches from your face and speak directly into it in a normal tone of voice — clearly and distinctly.) Say "[name of station being called] THIS IS [your vessel's name or call sign]."
■ Once contact is made on the calling channel, you must switch to a proper working channel. See the channel listing on page 12 – 13.

For Example

The vessel Corsair calling the vessel Vagabond:

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

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

NOTE
For best sound quality at the station you are calling, hold the radio at least two inches (5 cm) from your mouth and slightly off to one side. Speak in a normal tone of voice.
**Radiotelephone Calls**

Boaters may make and receive radiotelephone calls to and from any number on the telephone network by using the services of public coast stations. Calls can be made — for a fee — between your VHF radio and telephones on land, sea and in the air. See pages 12 – 21 for the public correspondence (marine operator) channels.

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

---

**CAUTION**

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

---

**Emergency Messages and Distress Procedure**

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

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

In any event, do communicate with the Coast Guard as soon as you experience difficulties and before your situation becomes an emergency. Use the emergency message procedures only after your situation has become grave or you are faced with a sudden danger threatening life or property and requiring immediate help. 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 give you a tow.

---

**Marine Emergency Signals**

The three spoken international emergency signals are:

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

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

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

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

**If You Hear a Distress Call**

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

If you hear a distress message from a vessel, stand by your radio. If it is not answered, YOU should answer. If the distressed vessel is not nearby, wait a short time for others who may be closer to acknowledge. Even if you cannot render direct assistance, you may be in a position to relay the message.
Marine Distress Procedure
Speak slowly — clearly — calmly.
1. Make sure your radio is on.
2. Select VHF Channel 16.
3. Press Talk button and say:
   “MAYDAY — MAYDAY — MAYDAY.”
   (Or “PAN PAN — PAN PAN — PAN PAN,”
   or “SECURITE — SECURITE — SECURITE.”)
4. Say:
   “THIS IS [your vessel name or call sign].”
5. Say:
   “MAYDAY (or “PAN PAN” or “SECURITE”)”
   [your vessel name or call sign].
6. Tell where you are:
   (your position or what navigational aids or landmarks are near).
7. State the nature of your distress.
8. State the kind of assistance needed.
9. Give number of persons aboard and conditions of any injured.
10. Estimate present seaworthiness of your vessel.
11. Briefly describe your vessel (length, type, color, hull).
12. Say:
    “I WILL BE LISTENING ON CHANNEL 16.”
13. End message by saying:
    “THIS IS [your vessel name or call sign] OVER.”
14. Release Talk button and listen. Someone should answer.
   If not, repeat the call, beginning at item 3 above.

For Example

“Mayday — Mayday — Mayday”
“This is Corsair — Corsair — Corsair” (or “Illinois 1234 AB” three times)
“Mayday Corsair (or Illinois 1234 AB)”
“Navy Pier bears 220 degrees magnetic — distance five 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 Illinois 1234 AB) is 26 foot sloop with blue hull and tan deck house”
“I will be listening on Channel 16”
“This is Corsair (or Illinois 1234 AB)”
“Over”

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

Three 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 maps, but there are definite differences (see table on the following pages). Your radio has all three maps built into it and will operate correctly in whichever area you choose.

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
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, 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*, 20A, 63A*, 65A, 66A, 73, 74, 77*
Used for directing the movement of ships in or near ports, locks or waterways. Messages must be about operational handling, movement and safety of ships.

Navigational
Channels 13, 67
Channels are available to all vessels. Messages must be about navigation, including passing or meeting other vessels. These are also the main working channels for most locks and drawbridges. You must keep your messages short and power output at no more than 1 watt.

Maritime Control
Channel 17
For talking to vessels and coast stations operated by state or local governments. Messages must be about regulation and control, boating activities or assistance.

Digital Selective Calling
Channel 70
This channel is set aside for distress, safety and general calling using only digital selective calling techniques. Voice communication is prohibited; your radio cannot transmit voice messages on this channel.

Weather
Channels Wx 1 thru 10
Receive-only channels for NOAA weather broadcasts. You cannot transmit on them.

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.
<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>••</td>
<td>156.050</td>
<td>160.650</td>
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<td>01A</td>
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<td>156.050</td>
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<td>02</td>
<td>••</td>
<td>156.100</td>
<td>160.700</td>
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<td>03</td>
<td>••</td>
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<td>156.150</td>
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</tr>
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<td>13</td>
<td>••</td>
<td>156.650</td>
<td>156.650</td>
<td>1 Watt USA and CAN</td>
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<tr>
<td>14</td>
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<td>156.700</td>
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</tr>
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<td>15</td>
<td>••</td>
<td>156.750</td>
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<td>1 Watt CAN and INT</td>
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<tr>
<td>16</td>
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<td>••</td>
<td>156.850</td>
<td>156.850</td>
<td>1 Watt USA and CAN</td>
</tr>
</tbody>
</table>

Channel Use:

- 01: Public Correspondence (Marine Operator)
- 01A: Port Operations and Commercial, VTS in selected areas
- 02: Public Correspondence (Marine Operator)
- 03: Public Correspondence (Marine Operator)
- 03A: Government Only
- 04: Public Correspondence (Marine Operator), Port Operations, Ship Movement
- 04A: West Coast (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 Use

<table>
<thead>
<tr>
<th>Channel Number</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>
</tr>
<tr>
<td>19</td>
<td>Port Operations, Ship Movement</td>
</tr>
<tr>
<td>19A</td>
<td>Commercial</td>
</tr>
<tr>
<td>20</td>
<td>Canada (Coast Guard Only); International (Port Operations, Ship Movement)</td>
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<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 (Coast Guard Only)</td>
</tr>
<tr>
<td>22</td>
<td>Port Operations, Ship Movement</td>
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<tr>
<td>22A</td>
<td>U.S. and Canadian Coast Guard Liaison and Maritime Safety Information</td>
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<td></td>
<td>Broadcasts that are announced on Channel 16</td>
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<td>23</td>
<td>Public Correspondence (Marine Operator)</td>
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<td>23A</td>
<td>Government Only</td>
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<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>U.S. (Government Only); Canada (Coast Guard Only); West Coast (Coast Guard Only); East Coast (Commercial Fishing)</td>
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<tr>
<td>62</td>
<td>Public Correspondence (Marine Operator), Port Operations, Ship Movement</td>
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<tr>
<td>62A</td>
<td>West Coast (Coast Guard Only); East Coast (Commercial Fishing)</td>
</tr>
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</table>

### Channel Map Frequency Power

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<th>Channel Number</th>
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<th>Canada</th>
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<td>156.950</td>
<td>161.550</td>
<td></td>
</tr>
<tr>
<td>19A</td>
<td></td>
<td></td>
<td></td>
<td>156.950</td>
<td>156.950</td>
<td></td>
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<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
<td>157.000</td>
<td>161.600</td>
<td>1 Watt CAN</td>
</tr>
<tr>
<td>20A</td>
<td></td>
<td></td>
<td></td>
<td>157.000</td>
<td>157.000</td>
<td></td>
</tr>
<tr>
<td>21</td>
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<td></td>
<td></td>
<td>157.050</td>
<td>161.650</td>
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</tr>
<tr>
<td>21A</td>
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<td>157.050</td>
<td>157.050</td>
<td></td>
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<td></td>
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<td>161.700</td>
<td></td>
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<td>157.200</td>
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<td>157.250</td>
<td>161.850</td>
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<td>157.300</td>
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<td>27</td>
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<td></td>
<td></td>
<td>157.350</td>
<td>161.950</td>
<td></td>
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<td></td>
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<td>160.625</td>
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<tr>
<td>61</td>
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<td></td>
<td></td>
<td>156.075</td>
<td>160.675</td>
<td></td>
</tr>
<tr>
<td>61A</td>
<td></td>
<td></td>
<td></td>
<td>156.075</td>
<td>156.075</td>
<td></td>
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<td>62</td>
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<td></td>
<td></td>
<td>156.125</td>
<td>160.725</td>
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<tr>
<td>62A</td>
<td></td>
<td></td>
<td></td>
<td>156.125</td>
<td>156.125</td>
<td></td>
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</tbody>
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### VHF Marine Channel Assignments

<table>
<thead>
<tr>
<th>Channel Number</th>
<th>Channel Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>63</td>
<td>Public Correspondence (Marine Operator), Port Operations, Ship Movement</td>
</tr>
<tr>
<td>63A</td>
<td>Port Operations and Commercial, VTS in selected areas</td>
</tr>
<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</td>
</tr>
<tr>
<td></td>
<td>Mississippi River (Intership Only); Canada (Commercial Fishing), S&amp;R</td>
</tr>
<tr>
<td>68</td>
<td>Non-Commercial (Recreational)</td>
</tr>
<tr>
<td>69</td>
<td>U.S. (Non-Commercial, Recreational); Canada (Commercial Fishing Only);</td>
</tr>
<tr>
<td></td>
<td>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>
</tr>
<tr>
<td>73</td>
<td>U.S. (Port Operations); Canada (Commercial Fishing Only);</td>
</tr>
<tr>
<td></td>
<td>International (Intership, Port Operations, Ship Movement)</td>
</tr>
<tr>
<td>74</td>
<td>U.S. (Port Operations); Canada (Commercial Fishing Only);</td>
</tr>
<tr>
<td></td>
<td>International (Intership, Port Operations, Ship Movement)</td>
</tr>
<tr>
<td>77</td>
<td>Port Operations (Intership only). Restricted to communications with pilots</td>
</tr>
<tr>
<td></td>
<td>for movement and docking of ships.</td>
</tr>
</tbody>
</table>

### Table

<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>63</td>
<td>USA</td>
<td>156.175</td>
<td>160.775</td>
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</tr>
<tr>
<td>63A</td>
<td>USA</td>
<td>156.175</td>
<td>156.175</td>
<td></td>
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<tr>
<td>64</td>
<td>USA</td>
<td>156.225</td>
<td>160.825</td>
<td></td>
</tr>
<tr>
<td>64A</td>
<td>USA</td>
<td>156.225</td>
<td>156.225</td>
<td></td>
</tr>
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<td>65</td>
<td>USA</td>
<td>156.275</td>
<td>160.875</td>
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<tr>
<td>65A</td>
<td>USA</td>
<td>156.275</td>
<td>156.275</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>USA</td>
<td>156.325</td>
<td>160.925</td>
<td></td>
</tr>
<tr>
<td>66A</td>
<td>USA</td>
<td>156.325</td>
<td>156.325</td>
<td>1 Watt CAN</td>
</tr>
<tr>
<td>67</td>
<td>USA</td>
<td>156.375</td>
<td>156.375</td>
<td>1 Watt USA</td>
</tr>
<tr>
<td>68</td>
<td>USA</td>
<td>156.425</td>
<td>156.425</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>USA</td>
<td>156.475</td>
<td>156.475</td>
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<td>70</td>
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<td>156.525</td>
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<td>71</td>
<td>USA</td>
<td>156.575</td>
<td>156.575</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>USA</td>
<td>156.625</td>
<td>156.625</td>
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</tr>
<tr>
<td>73</td>
<td>USA</td>
<td>156.675</td>
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<td></td>
</tr>
<tr>
<td>74</td>
<td>USA</td>
<td>156.725</td>
<td>156.725</td>
<td></td>
</tr>
<tr>
<td>77</td>
<td>USA</td>
<td>156.875</td>
<td>156.875</td>
<td>1 Watt USA and CAN</td>
</tr>
</tbody>
</table>
### VHF Marine Channel Assignments

<table>
<thead>
<tr>
<th>Channel Number</th>
<th>Channel Use</th>
</tr>
</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 (Coast Guard Only)</td>
</tr>
<tr>
<td>83</td>
<td>Canada (Coast Guard Only)</td>
</tr>
<tr>
<td>83A</td>
<td>U.S. (Government Only); Canada (Coast Guard Only)</td>
</tr>
<tr>
<td>84</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>84A</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>85</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>85A</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>86</td>
<td>Public Correspondence (Marine Operator)</td>
</tr>
<tr>
<td>86A</td>
<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 Intership only</td>
</tr>
</tbody>
</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).

**NOTE**

All the listed channels are pre-programmed at the factory according to the FCC (U.S.A.), international regulations and those of 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 VHF radio. The National Oceanic and Atmospheric Administration (NOAA) provides continuous, around-the-clock broadcasts of the latest weather information. Taped weather messages run every four to six minutes and are revised every two to three hours, or as needed. The Coast Guard also announces weather and other safety warnings on Channel 16. Smart boaters keep an eye on safety and an ear to the VHF 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 signal is sent on the weather channel you last used, your radio will switch from Standby mode to that weather channel. You will not hear the tone signal, but you will hear the weather alert message. The Weather Alert icon can be turned on or off by pressing the Mode button.

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

<table>
<thead>
<tr>
<th>Channel</th>
<th>RX Frequency MHz</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>162.550</td>
</tr>
<tr>
<td>2</td>
<td>162.400</td>
</tr>
<tr>
<td>3</td>
<td>162.475</td>
</tr>
<tr>
<td>4</td>
<td>162.425</td>
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<tr>
<td>5</td>
<td>162.450</td>
</tr>
<tr>
<td>6</td>
<td>162.500</td>
</tr>
<tr>
<td>7</td>
<td>162.525</td>
</tr>
<tr>
<td>8</td>
<td>161.650</td>
</tr>
<tr>
<td>9</td>
<td>161.775</td>
</tr>
<tr>
<td>10</td>
<td>163.275</td>
</tr>
</tbody>
</table>
**Wrist Strap, Belt Clip and Speaker/Microphone Jack**

The radio is shipped with a Wrist Strap and Belt Clip in the package. The Speaker/Microphone Jack can be used with additional accessories. Contact your local Cobra® dealer or Cobra® directly for optional accessories.

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

**Belt Clip**
Use the Belt Clip to carry your radio around with you. Simply squeeze the clip and place it where you prefer.

**External Speaker/Microphone Jack**
Your radio can be fitted with an optional External Speaker/Microphone (not included), freeing your hands for other tasks. Contact your local CobraMarine™ dealer or Cobra® directly for optional accessories.

To attach the external speaker/microphone:
1. Open the speaker/microphone tab on top of the radio.
2. Insert the plug into the speaker/microphone jack.

**Batteries and Adapter/Charger**

Your radio includes four rechargeable NiMH (Nickel-Metal Hydride) Batteries (part No. FA-BP) and a 12V DC Adapter/Charger in the package. Your adapter/charger is capable of recharging one radio with batteries installed in battery compartment.

You should fully charge the included rechargeable NiMH batteries before using your radio for the first time.

**Installing the Batteries**

To install or replace batteries:
1. Remove belt clip by releasing belt clip latch and sliding clip down.
2. Pull down on the battery door latch to remove the battery compartment cover.
3. Insert the rechargeable NiMH batteries (part No. FA-BP) according to polarity markings.
4. Replace battery compartment cover and belt clip.

**NOTE**

Your radio can also be operated with four standard AAA alkaline batteries. Always use high quality alkaline batteries. Position batteries according to polarity markings.

**NOTE**

Contact your local CobraMarine™ dealer or Cobra® directly for optional accessories.

**WARNING**

Only the rechargeable NiMH batteries (part No. FA-BP) can be recharged.
Batteries and Adapter/Charger

Charging the Batteries

To recharge the rechargeable NiMH battery pack in radio:
1. Insert NiMH batteries (part No. FA-BP) in the battery compartment. (See page 25 for installing batteries.)
2. Open the charge tab on the side of the unit.
3. Insert the plug into the charge jack.
4. Plug power supply into a 12 volt DC port.
A full charge will take approximately 15 hours. You can leave the unit in trickle charge indefinitely.

NOTE
Your radio can also be operated with four standard AAA alkaline batteries.

WARNING
Only the rechargeable NiMH batteries (part No. FA-BP) can be recharged.

Maintaining the Battery Charge

As you use your radio, the battery power icon will show the battery power remaining. When the icon shows only one or no segment, it is time to either charge or change the batteries.

Getting Started

Refer to the foldout on the front cover of this manual to identify the various controls and indicators on your radio.
Throughout this manual you will be instructed to press or to press and hold buttons on the radio. Press means a momentary press, then release; press and hold means to hold the button down.
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 five seconds after the button is released.

Power On-Off

The On-Off Power/Volume knob on the top of the radio is held in the off position by a click stop.

To turn your radio on:
1. Turn the On-Off Power/Volume knob clockwise until you hear and feel a click.
When the radio is powered on, a brief tone will sound, the display backlight will turn on, and the display will show all icons for two seconds. All buttons will be inoperative during these two seconds.
After two seconds, the radio will return to the settings in effect when it was last powered off, the LCD will show the appropriate icons, and all controls will be operative. The radio will then be in Standby mode.
When first turned on or after memory loss, the following defaults will be set:
■ Channel 1A
■ Transmit power high
■ Frequency channel map set to U.S.A.
■ Battery indicator set

To turn your radio off:
1. Turn the On-Off Power/Volume knob all the way counter-clockwise until you hear and feel a click.
**Volume**

The **On-Off Power/Volume** knob also controls the speaker **Volume**. The **Volume** adjustment applies only to what you hear from the speaker and does not affect the **Volume** of your outgoing messages, which is controlled by the circuitry of your radio.

To increase the volume:
1. Turn the **On-Off Power/Volume** knob clockwise.

To decrease the volume:
1. Turn the **On-Off Power/Volume** knob counter-clockwise.

**Power Saver**

Your radio has a unique circuit designed to extend battery life. If there are no transmissions within 10 seconds, the radio will automatically switch to **Power Save** mode and the **Save** icon will flash in the LCD. This will not affect the radio’s ability to receive incoming transmissions.

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

Three sets of VHF **Channel Maps** have been established for marine use in the U.S.A, Canada and the rest of the world (international). Most of the channels are the same for all three maps, but there are definite differences (see information on pages 14 – 21). Your radio has all three maps built into it and will operate correctly in whichever area you choose.

To set your radio for the area in which you will be using it:
1. From **Standby** mode, press and hold the **Weather/UIC** button for three seconds. The **U**, **I** or **C** icon will blink on the LCD.

Repeat step 1 to shift to the next channel map(s).

**Channels**

Your radio will receive and transmit VHF signals on the **Channel** indicated on the LCD. You can change the **Channel** at any time using the **Channel Up** and **Channel Down** buttons.

To change channels:
1. Press the **Channel Up** or **Channel Down** button.

You are on Channel 88, pressing the **Channel Up** button will advance to Channel 1. If you are on Channel 1, pressing the **Channel Down** button will advance to Channel 88.

You can hold the **Channel Up** or **Channel 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 radio is in the **Key Lock** mode, the channel will not change and the three beep error signal will sound.

**Transmit Power Output**

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

To toggle between the **High** and **Low** Power modes:
1. Press the **High/Low Power – Lock** button.

The LCD will show which mode is in effect.
Getting Started and Standby/Receive and Transmit

Backlight
The LCD will be illuminated by the Backlight whenever the Backlight/Monitor button is pressed. It will remain on for 10 seconds. If a button on the front panel is pressed while the Backlight is on, it will remain on for 10 seconds after that button is pressed.

Key Lock
To prevent accidental changes to your settings, you can Lock:
- Channel Up Button
- Channel Down Button
- High/Low Power Feature
- Mode Button
- Weather/UIC Button

To lock or unlock the buttons:
1. Press and hold the Hi/Lo Power-Lock button for three seconds. The 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 beep error message. Both the Backlight/Monitor button and the Talk button are active — you can receive or transmit a message with key lock on, but you cannot change the channel.

Standby/Receive and Transmit

Standby and Receive
Standby mode is the usual mode for the radio whenever it is turned on. From this mode, you can change your settings using the buttons on the front of the radio and switch to Transmit mode using the Talk button. Signals will be Received on the selected channel(s) and alerts broadcast by the Coast Guard and NOAA will activate the corresponding routines in your radio.

NOTE
Coast Guard alerts are broadcast on Channel 16 and you need to have weather alert turned on to receive NOAA alerts.

While in Standby mode, you will receive any messages sent on the channel to which you are tuned.

Transmit
Transmit 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 12 – 21 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 two inches (5 cm) 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 the Transmit or the Receive mode at any given time.

When the last segment disappears from the Battery Power icon, the battery outline of the icon will start to blink to indicate very little power is left. The radio will still transmit until the battery voltage drops below the minimum required to operate the radio.
NOAA All Hazards/Weather Radio and Alert

Weather Radio
NOAA broadcasts **Weather** information as described in the NOAA **Weather** channels section on page 22 of this manual. You can tune to these 10 channels at any time (only in the **Receive** mode).

**NOTE**
Only one or two of the weather channels will be operating in any given location. You will need to select the channel with the strongest signal in your location.

To listen to the weather channels:
1. From **Standby** mode, press the **Weather/UIC** button. The radio will enter the **Weather** mode and the icon will show on the LCD.
2. Press the **Channel Up** or **Channel Down** button to change the weather channels — hold the button for fast advance.
3. To exit the **Weather** mode and return to **Standby** mode, press the **Weather/UIC** button again.

Weather Alert
NOAA also broadcasts special **Weather Alerts** to warn of severe weather. These are preceded by a special signal that your radio can detect. However, you must set your radio to the weather channel that broadcasts a strong signal in the area where you are, and you must activate the **Weather Alert** mode on your radio to benefit from this signal.

To activate weather alert:
1. Press the **Mode** button until the **Weather Alert** icon flashes and the current **on** or **off** setting is displayed.
2. Press the **Channel Up** or **Channel Down** button to turn **Weather Alert** mode on or off.
3. **Alert** icon will continue to be displayed when weather alert is on.
   a. Press the **Mode** button to enter the new setting and proceed to other functions.
   b. Press the **Talk** button to enter the new settings and return to **Standby** mode.

Weather Alert Signal
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** signal is sent on the weather channel you last used, your radio will switch from **Standby** mode to that weather channel. You will not hear the tone signal, but you will hear the **Weather Alert** message. The **Weather Alert** icon can be turned **on** or **off** by pressing the **Mode** button.
Advanced Operation

Channel 16

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

To switch to Channel 16:

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

To exit the Channel 16 mode and return to whatever status existed before entering this mode, press the Channel 16 button a second time.

While at Channel 16 in the Channel 16 mode, you can also press the Channel Up and Channel Down buttons to change channels. In that event, another press of the Channel 16 button will switch your radio to Channel 16 and the sequence will start over at step 1.

If you press the Channel Up or Channel Down button when Key Lock mode is on, you will get a three beep error message and your radio will not change mode.

Channel Scan

During Channel Scan, the radio will rapidly switch from channel to channel. Whenever any activity is detected, 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 the Scan mode.

To enter channel scan:

1. Press the Mode button until the Scan icon flashes on the display.
2. Press the Channel Up or Channel Down button to begin scanning channels.

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.

NOTE

The radio’s operation will be suspended indefinitely until the Channel Up or Channel Down button is pressed while the Scan icon is flashing.

To exit channel scan:

1. From Scan mode, press the Talk button. This will return the radio to Standby mode on the last scanned channel.

Keystroke Tones

With Keystroke Tones turned on, your radio will sound beeps each time you press a button or change a setting.

To turn keystroke tones on or off:

When you turn on your radio for the first time, keystroke tones will be on.

1. Press the Mode button until the Keystroke Tones icon flashes on the display. The current on or off setting is displayed.
2. Press the Channel Up or Channel Down button to turn keystroke tones on or off.
3. When your desired Keystroke Tone mode setting is displayed, choose one of the following:

   a. Press the Mode button to enter the new setting and proceed to other functions.
   b. Press the Talk button to enter the new setting and return to Standby mode.

The setting you select will be saved when you turn your radio off and on again. When keystroke tones are on, the Keystroke Tone icon will be displayed.

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

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

b. Press the Channel Up or Channel Down button to resume scanning channels.

If you do not press any buttons within 10 seconds, your radio will automatically resume scanning channels.

During channel scan (while not receiving a transmission), you can choose from the following:

a. Press the Talk button to communicate on the last memory location scanned and return to Standby mode.

b. Press the Channel Up or Channel Down button to change scan direction.
**Maintenance**

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

- Keep the radio and adapter/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 build-up 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 compartment and store them in a separate package. This is especially so 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>Replace or recharge batteries</td>
</tr>
<tr>
<td>Batteries not installed properly</td>
<td>Remove batteries and reinstall according to polarity markings</td>
<td></td>
</tr>
<tr>
<td>NiMH 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 half watt, but not at two watts</td>
<td>Batteries are low</td>
<td>Replace or recharge batteries</td>
</tr>
<tr>
<td>Selected channel is limited to one watt</td>
<td>Switch to another channel</td>
<td></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</td>
<td>Re-adjust volume</td>
</tr>
<tr>
<td>No response to button press</td>
<td>Button Lock is on</td>
<td>Press and hold High/Low Power-Lock button</td>
</tr>
<tr>
<td>No answer to calls</td>
<td>Out of range of other station</td>
<td>Switch to two watts or move closer</td>
</tr>
<tr>
<td>Signal is blocked by terrain</td>
<td>Move until you have a “line-of-sight” to the other station</td>
<td></td>
</tr>
</tbody>
</table>

**Specifications**

<table>
<thead>
<tr>
<th>General</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range: TX</td>
<td>156.025 to 157.425 MHz</td>
</tr>
<tr>
<td>Frequency Range: RX</td>
<td>156.050 to 163.275 MHz</td>
</tr>
<tr>
<td>Number of Channels</td>
<td>All U.S., Canadian and International 10 NOAA Weather Channels</td>
</tr>
<tr>
<td>Channel Spacing</td>
<td>25 kHz</td>
</tr>
<tr>
<td>Modulation</td>
<td>16 KOF3E</td>
</tr>
<tr>
<td>Input Voltage</td>
<td>6 VDC</td>
</tr>
<tr>
<td>Battery Life: 5% TX, 5% RX, 90% Stand-by</td>
<td>Alkaline Batteries: 20 Hours @ 2 Watts, 24 hours @ ½ Watt</td>
</tr>
<tr>
<td>Current Drain:</td>
<td></td>
</tr>
<tr>
<td>Stand-by</td>
<td>10 mA</td>
</tr>
<tr>
<td>Receive</td>
<td>35 mA</td>
</tr>
<tr>
<td>Transmit</td>
<td>700 mA @ High power</td>
</tr>
<tr>
<td></td>
<td>200 mA @ Low</td>
</tr>
<tr>
<td>Temperature Range</td>
<td>-20°C to 60°C</td>
</tr>
<tr>
<td>Radio Dimensions W x D x H</td>
<td>2.13” x 1.2” x 8.77” (including antenna)</td>
</tr>
<tr>
<td></td>
<td>(54.1 mm x 30.5 mm x 222.8 mm)</td>
</tr>
<tr>
<td>Radio Weight</td>
<td>4 oz. (without batteries)</td>
</tr>
<tr>
<td></td>
<td>(113.5 g)</td>
</tr>
<tr>
<td>Receiver</td>
<td>Double Conversion Super-Heterodyne</td>
</tr>
<tr>
<td>Frequency Range</td>
<td>156.050 to 163.275 MHz</td>
</tr>
<tr>
<td>Sensitivity:</td>
<td>20 dB Quieting</td>
</tr>
<tr>
<td></td>
<td>0.35 uV</td>
</tr>
<tr>
<td></td>
<td>12 dB Sinad</td>
</tr>
<tr>
<td></td>
<td>0.30 uV</td>
</tr>
<tr>
<td>Adjacent Channel Selectivity</td>
<td>-50 dB</td>
</tr>
<tr>
<td>Intermodulation and Rejection</td>
<td>-60 dB</td>
</tr>
<tr>
<td>Spurious and Image Rejection</td>
<td>-50 dB</td>
</tr>
<tr>
<td>AF Output</td>
<td>250 mW @ 8 Ohms</td>
</tr>
<tr>
<td>Transmitter</td>
<td></td>
</tr>
</tbody>
</table>
Limited One-Year Warranty

For Products Purchased in the U.S.A.
Cobra® Electronics Corporation warrants that its CobraMarine™ VHF radio, and the component parts thereof, will be free of defects in workmanship and materials for a period of one year from the date of first consumer purchase. This warranty may be enforced by the first consumer purchaser, provided that the product is utilized within the U.S.A.

Cobra® will, without charge, repair or replace, at its option, defective radios, products or component parts upon delivery to the Cobra® Factory Service department, accompanied by proof of the date of first consumer purchase, such as a duplicated copy of a sales receipt.

You must pay any initial shipping charges required to ship the product for warranty service, but the return charges will be at Cobra®’s expense, if the product is repaired or replaced under warranty. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

Exclusions: This limited warranty does not apply:
1. To any product damaged by accident;
2. In the event of misuse or abuse of the product or as a result of unauthorized alterations or repairs;
3. If the serial number has been altered, defaced, or removed;
4. If the owner of the product resides outside the U.S.A.

All implied warranties, including warranties of merchantability and fitness for a particular purpose are limited in duration to the length of this warranty. Cobra® shall not be liable for any incidental, consequential or other damages; including, without limitation, damages resulting from loss of use or cost of installation.

Some states do not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations may not apply to you.

For Products Purchased Outside the U.S.A.
Please contact your local dealer for warranty information.

Product Service

If you have any questions about operation or installing your new CobraMarine™ VHF product, or if you are missing parts...

Please call Cobra® first! DO NOT RETURN THIS PRODUCT TO THE STORE!
See customer assistance on page A1.

If your product should require factory service, please call Cobra® first before sending your radio. This will ensure the fastest turn-around time on your repair. You may be asked to send your radio to the Cobra® factory. It will be necessary to furnish the following to have the product serviced and returned:

1. For warranty repair include some form of proof-of-purchase, such as a mechanical reproduction or carbon of a sales receipt. If you send the original receipt, it cannot be returned.
2. Send the entire product.
3. Enclose a description of what is happening with the radio. Include a typed or clearly printed name and address of where the radio is to be returned.
4. Pack radio securely to prevent damage in transit. If possible, use the original packing material.
5. Ship prepaid and insured by way of a traceable carrier such as United Parcel Service (UPS) or Priority Mail to avoid loss in transit to: Cobra® Factory Service, Cobra® Electronics Corporation, 6500 West Cortland Street, Chicago, Illinois 60707 U.S.A.
6. If the radio is in warranty, upon receipt of your radio, it will either be repaired or exchanged depending on the model. Please allow approximately three to four weeks before contacting Cobra® for status. If the radio is out of warranty, a letter will automatically be sent informing you of the repair charge or replacement charge.

If you have any questions, please call 773-889-3087 for assistance.
Order Form and Optional Accessories

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

Ordering From U.S.A.
Call 773-889-3087 for pricing or visit www.cobra.com.

For credit card orders, complete and return this order form to fax number 773-622-2269. Or call 773-889-3087 (Press 1 from the main menu) 8:00 a.m. to 6:00 p.m. CT, Monday through Friday.

Make check or money order payable to:
Cobra® Electronics, Attn: Accessories Dept.
6500 West Cortland Street, Chicago, IL 60707 USA

To order online, please visit our website: www.cobra.com