

# Operations Manual



 **HUMMINBIRD**  
**VHF RADIO**

## What You Need

Your Humminbird VHF radio requires the connection of a VHF marine band antenna. These antennas are readily available through marine distributors and come in a variety of shapes, materials, and mounting types.

A high Quality antenna will maximize your transmit range and reception clarity, and compliment your Humminbird VHF radio.

You can use your Humminbird VHF radio with any other quality marine band antenna . If you intend to use a previously installed antenna, check it before installing your radio to make sure all connections are tight and free of corrosion.

Note: Do not operate the Humminbird VHF radio without an antenna, or with a "CB" antenna. Attempting to do so may damage the unit. Humminbird is not responsible for damages caused by operation without an antenna or with an inappropriate antenna.

In addition to the antenna options listed previously, Humminbird offers the following optional accessory for your VHF radio.

<u>Accessory</u>	<u>Part No.</u>	<u>Use</u>
Speaker adapter Cable	SAC-R	Allows connection of External speaker

For more information on these accessories, contact your local Humminbird dealer or call our toll-free Customer Support Hotline.

## OBTAINING APPROPRIATE LICENSES

Before operating your Humminbird VHF radio, you must apply for the appropriate licenses. For your convenience, the product box includes license applications that you can fill out and mail as instructed on each application.

### Ship Station License

Any craft equipped with a VHF/FM transceiver (such as your Humminbird VHF radio) is considered a Ship Station, and must carry a current Ship Station License. It is unlawful to operate an unlicensed Ship Station. Your license will state the call sign, which is your craft's identification for radio purposes.

Be sure to complete and mail the Ship Radiotelephone License application (FCC Form 506A), provided with your Humminbird VHF radio. You may obtain an interim Ship's Stations license by appearing in person at your local FCC Field Office.

### Operator's License

In the U.S., you may need to apply for a Restricted Radiotelephone Operator Permit, or higher grade license, before operating your Humminbird VHF radio. (The operator's license is not required for voluntary equipped vessels on domestic voyages. To apply, complete and mail FCC Form 753, provided with your Humminbird VHF radio. An interim permit is automatically granted upon submission of the application. Other countries may have specific licensing requirements.

## Installing The VHF Radio

### Installation Location

The first step in installing the Humminbird VHF radio is to determine the best mounting location. The gimbal mount included with your radio offers mounting capabilities for the top or bottom of a shelf, the bulkhead, or overhead. The radio can be tilted up or down on its mount to allow maximum ease of viewing and operation.

To choose the best location for installation, consider the following:

- The mounting surface must be adequately supported to protect the radio from excess wave shock and vibration.
- The mounting area should allow at least 2" clearance at the back of the unit for connectors and air flow.
- Do not mount the radio within 12" of your compass (due to the magnet in the built-in speaker). Similarly, if you are mounting an auxiliary speaker, keep it away from the compass.
- Any depth sounder will create some degree of radio interference (which Humminbird depth sounders are designed to minimize) through the antenna cable. To further minimize potential interference, route the antenna and transducer cables as far away from each other as possible- for example, on opposite sides of the boat. A "rubber duckie" antenna is less prone to interference than longer-range, cabled antennas.
- Keep all cable runs away from electrical pumps, depth sounders, generators, and other electronic instruments.
- Do not mount vertically- water may collect in the speaker grille and distort sound.
- Interference may also be created by the alternator, bilge pump and other devices. If this causes a problem- connect the radio to an alternative power source.

When mounting your antenna, refer to the instructions included with it to determine the best antenna location. The antenna should be located away from metal objects. Mounting the base of the antenna higher than the depth sounder will reduce the potential for interference. Mounting the antenna as high above the water line as possible ensures the greatest range of reception and transmission.

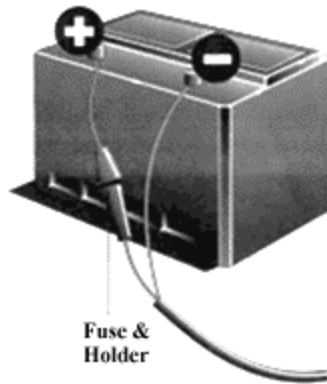
### Installing the Gimbal Mount and Radio

After you have determined the best location for your VHF radio, proceed as follows:

1. Set the gimbal mount on the mounting surface.
2. Mark 1/16" starting holes for the mounting screws.
3. At least 6" behind the bracket, mark a 3/4" hole to run the cables through.
4. Set the gimbal mount aside and drill the holes as marked.
5. Mount the bracket, using the mounting hardware supplied with your VHF radio.
6. To connect the power cable to the 12-volt DC power source, wire the VHF radio through your fuse panel with the supplied 6-amp fuse. If your boat does not have a fuse panel, you can wire the power cable to the battery with the 6-amp fuse and fuse holder (also supplied) in the positive wire, as shown to the right.

Note: Do not use any power cable other than the one provided with your VHF radio.

7. Pull the power cable, antenna cable, and cable for the auxiliary speaker (if used) up through the  $\frac{3}{4}$ " hole behind the gimbal bracket, leaving the connector ends above the mounting surface.



8. Connect the cables to the appropriate cable plugs at the back of the VHF radio.
9. To "dress" the  $\frac{3}{4}$ " hole and hold the power cable securely, push any excess cable down into the hole, and install the hole cover provided with your VHF radio.
10. Mount the VHF radio on the gimbal bracket by loosening the mounting knobs and slipping the unit into the bracket. Be sure to keep the rubber washers between the bracket and the unit. Tighten the knobs to hold the radio in the operating position.

#### Installing the Microphone Holder

Finally, install the microphone holder near the VHF radio, on any vertical surface:

1. Position the microphone holder near the VHF radio on any vertical surface.
2. Mark  $\frac{1}{16}$ " starting holes for the mounting screws.
3. Set the microphone mount aside and drill the starting holes as marked.
4. Mount the microphone holder, using the screws supplied with your VHF radio.
5. Place the microphone in its holder.

#### Installing the Antenna

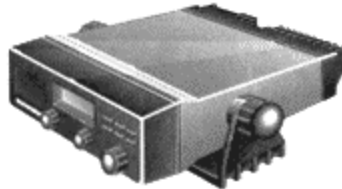
If you have not already done so, install your antenna according to the instructions included with it. For additional tips on mounting locations, see "Installation Location" earlier in this manual.

**Note:** Do not operate the Humminbird VHF radio without a 50-ohm marine band antenna.

Attempting to do so may damage the unit. Humminbird is not responsible for damages caused by operation without an antenna or with an inappropriate antenna.

## TESTING THE INSTALLATION

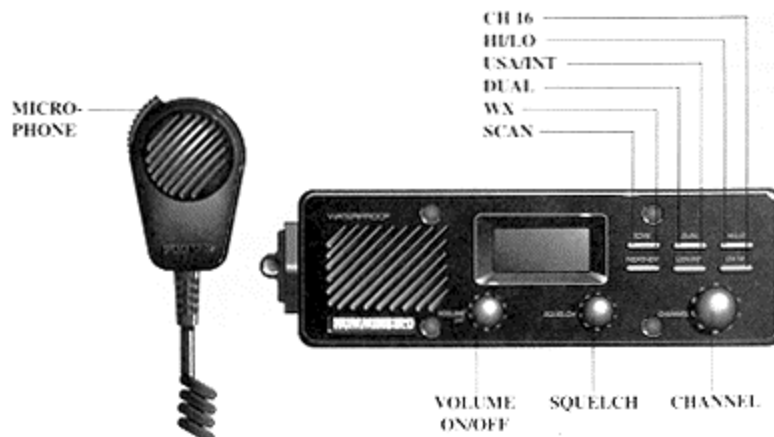
After connecting your antenna to the Humminbird VHF radio, you're ready to verify that it is properly installed and powered up.



Turn the radio volume knob to the right. The LCD screen should light up and display the number 16 (for the preselected Channel 16). Pick up the microphone; press the button on the microphone and keep it pressed as you look at the LCD screen. If the "T" transmission symbol blinks at the left of the channel indicator, the unit is properly powered up and capable of transmission.

Complete information on operating the Humminbird VHF radio is provided later in this manual. First, spend a few minutes with the following pages to acquaint yourself with the radio controls.

## HUMMINBIRD VHF RADIO CONTROLS



All features of your Humminbird VHF radio are controlled by the front panel knobs and buttons, plus the microphone button.



VOLUME ON/OFF turns power to the radio on and off, and controls the volume of both the built-in speaker and any auxiliary speaker connected to the radio. When power is first turned on, the radio is automatically set to Channel 16 (emergency and calling) in the USA frequency band.



SQUELCH eliminates background noise when the radio is not receiving a signal and controls the sensitivity of the scan function.



CHANNEL selects the channel to use for transmission and reception in the current frequency band (selected with the USA/INT and WX buttons). Turning the knob to the right advances through the channels in ascending order, and turning it to the left selects channels in descending order. Note that some channels have a specific purpose; be sure to see the “Table of Marine Channels” that appears later in this manual.



SCAN scans all channels for signals in the selected frequency band. Pressing SCAN causes the radio to begin scanning from the lowest channel, and to lock in on the first channel for which a signal is detected. When a signal is no longer present on that channel, scanning resumes. There are several ways to channel scan: Press the scan BUTTON again, press the microphone button once, or turn the CHANNEL knob. Scanning is also cancelled if you press the CH 16 button.



DUAL enables the “dual watch” function, which lets you monitor Channel 16 while receiving on any other channel. The radio switches immediately to Channel 16 of the last-selected frequency band (USA/INT) when a call is detected, then switches back when the Channel 16 call is completed. To cancel dual watch, press the DUAL button again.



HI/LO selects the power level for transmission. HI transmits at the maximum legal wattage for each channel, usually 25 watts; LO transmits at 1 watt. Use LO for in-port or short-range communications, HI for longer range communications. The current HI/LO selection is indicated on the LCD screen. Holding the HI/LO button down while transmitting will override the low transmit default on USA channels 13 and 67, and International channels 15 and 17.



WX selects the Weather frequency band (Weather Channels 0 through 9), as shown by the WX indicator that appears on the LCD screen. Note that the Weather channels are receive-only; pressing the microphone button when you are in this frequency band turns off the speaker, but transmits nothing. To return to the USA or International band, press WX again.



USA/INT selects the USA or International frequency band, which each provide access to Channels 01 through 88 (see "Table of Marine Channels" later in this manual), Use the USA frequency band in domestic waters or for communications within 14 miles of the U.S. coastline, and the International frequency band for communication beyond 14 miles outside of the U. S. coastline. The current USA/INT selection is indicated on the LCD screen.



CH 16 switches the radio immediately to Channel 16 in the last frequency band selected (USA/INT).



The microphone button controls whether you are receiving or transmitting. Depress the microphone button and speak clearly into the selected channel. When the microphone button is not depressed, the radio remains ready to receive signals.

Note: Your DC-25 complies with new FCC regulations, which require the radio to disable the transmitter after 3 minutes of continuous transmission. This should only occur if the microphone button is stuck down. During this time, the speaker will emit a repeated beeping tone and the channel number on the LCD will flash. Click your microphone button several times in an attempt to free the stuck button. If the button doesn't clear, or if the problem occurs again, please return the radio to the Humminbird factory or to an authorized service center.

## THE LCD SCREEN

The Humminbird VHF radio's LCD screen keeps you informed of the current state of the communications set-up.

HI or LO indicates whether you are set to transmit at the maximum legal wattage for the current channel, or at the lower 1 watt of power.

The T transmission symbol blinks when you are transmitting (that is, when the microphone button is depressed).

The large numeral appearing at the center of the screen shows the current channel selection.

SCAN appears when the scan function is enabled.

DUAL appears when the dual watch function is enabled.

WX illuminates when you are receiving in the Weather frequency band.

USA illuminates when the USA frequency band is selected.

## OPERATING THE VHF RADIO

The controls, switches, and displays on the Humminbird VHF radio function as described in the previous pages. The following examples are provided to further acquaint you with communication operations.



Note: Do not operate the Humminbird VHF radio without a 50 ohm marine band antenna.

Attempting to do so may damage the unit. Humminbird is not responsible for damage caused by operation without an antenna or with an inappropriate antenna.

### Setting Up for Communications

To begin operating your Humminbird VHF radio, follow the steps below:

1. Turn the VOLUME ON/OFF knob to the tight to turn power on.

The LCD screen indicates that Channel 16 (USA) is selected.

2. Turn the SQUELCH knob all the way to the left, and adjust the VOLUME ON/OFF knob until the desired volume level is reached.
3. Turn the SQUELCH knob to the right just until the background noise disappears. This is the optimum point for receiving signals with a minimum of background noise.

The radio remains silent at this point until a signal is received.

4. If you need to communicate in the International frequency band (for use 14 miles or more outside the U. S. coastline), press the USA/INT button. To communicate in the USA frequency band (in domestic waters or within 14 miles of the U. S. coastline), skip this step- USA is protected when the radio is powered up.
5. If you are in port, press the HI/LO button to set the radio for 1-watt transmission (the LO indicator appears on the LCD screen). This will keep your radio from unnecessarily interfering with other radios, in the immediate area if you begin to transmit. If you are in open water, skip this step to remain in HI mode, which allows transmission at the maximum legal wattage for the current channel.

You can now proceed with any of the operation described in the following pages. Note that you should typically have the VHF radio ready to receive on Channel 16, either by leaving it set to Channel 16 when idle or by using the dual watch function as described on the following page. Channel 16 is the only channel used for establishing calls from marine VHF radios.

Note: Some channels have specific functions assigned to them. Be sure to familiarize yourself with the "Table of Marine Channels" that appears later in this manual before transmitting on any channel.

### Receiving Weather Transmissions

To receive weather transmissions with your VHF radio, press the WX button to select the Weather frequency band. Rotate the CHANNEL knob left or right until the desired channel number appears on the LCD screen.

To leave the weather band, press the WX button to select the Weather frequency band. Rotate the CHANNEL knob left or right until the desired channel number appears on the LCD screen.

To leave the Weather band, press the WX button again. You are returned to the last channel you selected before switching to Weather.

### Using Dual Watch

When you are receiving on another channel, use the VHF radio's dual watch function to monitor Channel 16 for emergency calls.

To use this function, select any channel for receiving (for example, a weather channel). Then, press the DUAL button. The radio remains tuned to the channel you selected, but will switch to Channel 16 immediately if a signal is detected.

To cancel dual watch, press the Dual button again.

## Placing a Call

Before beginning transmission, select the channel to use and monitor it to make sure you will not interrupt any transmission in progress. (Each channel has a specific purpose; be sure to see the "Table of Marine Channels" later in this manual).

To place a call, press the CH 16 button to select Channel 16. Depress the microphone button and call the party you want to contact. Give your call sign; if you have no call sign, identify yourself by vessel name and license name. Speak into the microphone clearly and at a normal voice level.

Specify the channel for the receiver to tune to. Release the microphone button and wait for a reply. After the receiver confirms, tune to the specified channel.

Release the microphone button whenever you need to receive from the other party. To resume speaking to the other party, depress the microphone button and again, speak at a normal voice level.

**Note:** You must give your call sign at the end of any transmission that lasts for more than 3 minutes. Break and give your call sign at least once every fifteen minutes during long ship-to-shore calls. Limit unanswered calls to no more than 30 seconds, and do not repeat a call for more than two minutes.

Return to Channel 16 when the call is finished, or use the dual watch function to monitor Channel 16 while you receive on another channel.

(For instructions on distress calls, see "Placing an Emergency Call" later in this manual).

## Answering a Call

Calls from other craft should come in only on Channel 16. When you are set to receive on Channel 16, you will hear any call made on that channel in your area. If a call is made on Channel 16 while you are using the dual watch function, the VHF radio will switch immediately to Channel 16 and you will hear the call.

To answer the call, depress the microphone clearly, at a normal voice level. Release the microphone button to receive from the caller. The caller will normally specify the channel for you to switch to; if not, specify a channel yourself.

Rotate the CHANNEL knob left or right until the specified channel number is displayed. You will receive transmissions from the caller as long as the microphone button is not depressed. To reply to the caller, depress the microphone button and again, speak at a normal voice level.

## Scanning

To use the VHF radio's scan feature, press the SCAN button. The radio immediately begins scanning channels in the currently selected frequency band and will stop at the first channel for which a signal is detected. Scanning resumes from that channel when a signal is no longer present.

To cancel scanning, press the SCAN button again, or use the microphone button or CHANNEL knob. Scanning is also canceled if you press the CH 16 button.

Note: If you receive a distress message and are sure the caller is not in your vicinity, wait a short time for others to acknowledge the call.

### Placing an Emergency Call

To place an emergency call, press the CH 16 button to select Channel 16 (emergency and calling channel).

Depress the microphone button and broadcast your emergency call. Speaking into the microphone clearly and at a normal voice level, say "Mayday-Mayday-Mayday." Then give your call sign; if you have no call sign, identify yourself by vessel name and license name. State your location, including any landmarks or navigational aids. State the nature of your emergency (such as injuries or the condition of your craft), and identify the assistance you need.

Finally, state that you will remain on Channel 16, repeat your craft name and call sign, and say "Over."

Release the microphone button and wait for a response. If none is received shortly, depress the microphone button again and resume the emergency call.

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