echo™ 200, 300, and 500 Series
Owner's Manual
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Introduction

WARNING
See the Important Safety and Product Information guide in the product box for product warnings and other important information.

Registering Your Device
Help us better support you by completing our online registration today.
• Go to http://my.garmin.com.
• Keep the original sales receipt, or a photocopy, in a safe place.

Contacting Garmin Product Support
• Go to www.garmin.com/support and click Contact Support for in-country support information.
• In the USA, call (913) 397.8200 or (800) 800.1020.
• In the UK, call 0808 2380000.
• In Europe, call +44 (0) 870.8501241.

Manual Conventions
In this manual, the term "select" is used to describe these actions.
• Highlighting a menu item and pressing ENTER.
• Pressing a key, such as ENTER or MENU.

When you are instructed to select menu items, small arrows may appear in the text. They indicate that you should highlight a series of items using ▲ and ▼, and select ENTER after each item. For example, for "select MENU > Pause/Rewind Sonar," select MENU, and then select ▲ or ▼ until Pause/Rewind Sonar is highlighted, and then select ENTER.

Entering Numerical Values
You can enter numerical values when setting alarms or setting an offset.
1 Select ▲ and ▼ to select the first numerical value.
2 Select ▼ or ENTER to advance to the next digit.
3 Repeat steps 1 and 2 to adjust all numerical values.

Getting Started

Turning on the Device Automatically
You can set the device to turn on automatically when the power is applied. Otherwise, you must select Off.
Select MENU > Setup > System > Auto Power > On.

Adjusting the Backlight
1 Select MENU > Setup > System > Backlight.
2 Select ▲ and ▼.

Adjusting the Color Scheme
For the echo 300 and 500 series devices, you can set the color scheme for all sonar screens.
1 Select MENU > Setup > Sonar Setup > Color Scheme.
2 Select a color scheme.

Setting the Color Mode
For the echo 300 and 500 series devices, you can set the sonar screen color mode for day or night use.
1 Select MENU > Setup > System > Color Mode.
2 Select Day or Night.

Selecting the Transducer Type
Before you can select the transducer type, you must know what kind of transducer you have.
You may need to set the transducer type to make the sonar function properly.
1 From a sonar view, select MENU > Setup > Sonar Setup > Transducer Type.
2 Select an option:
• If you have a 200/77 kHz, dual-beam transducer, select Dual Beam.
• If you have a 200/50 kHz dual-frequency transducer, select Dual Frequency.
• If you have a DownVü transducer, select DownVü.
• If you have another type of transducer, select it from the list.

Adjusting the Contrast
NOTE: This feature is not available on all models.
1 Select MENU > Setup > System > Contrast.
2 Select ▲ or ▼.
   TIP: Hold ▲ or ▼ to make large adjustments quickly.
3 Select ENTER.

Setting the Beeper
You can set when the device makes sounds.
1 Select MENU > Setup > System > Beeper.
2 Select an option:
• To have the device beep when you select an item and when an alarm is triggered, select On.
• To have the device beep only when alarms are triggered, select Alarms Only.

Menu Timeout
When a menu is open for 15 seconds and no selections are made, the menu closes and the previous screen is displayed.

Using Quick Adjust
After adjusting a setting and returning to a page, you can quickly return to the setting options.
Select ▲ or ▼.

<table>
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<tr>
<th>MENU</th>
<th>Displays or hides a list of options.</th>
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<td>Selects a menu item.</td>
</tr>
<tr>
<td>▲, ▼</td>
<td>Scrolls through options or changes settings.</td>
</tr>
<tr>
<td>←</td>
<td>Selects page options.</td>
</tr>
<tr>
<td>▲, ▼</td>
<td>Turns the device on or off and adjusts the backlight.</td>
</tr>
</tbody>
</table>
Pages

You can view sonar information in different formats using the Pages menu.

Selecting a Page
1. Select MENU > Pages.
2. Select a page.

TIP: For the echo 200 and 500 series devices, you can access the pages menu quickly by selecting ◄ or ► from any screen.

Full Screen Page
You can see a full-view graph of sonar readings from a transducer on the full screen page.

From the pages menu, select Traditional or DownVu.

From the split zoom page, select MENU > Setup > Sonar Setup > Split Size > Large.

Split Frequency Page
You can view two frequencies from the split frequency page.

NOTE: You must have a dual-beam transducer or a dual-frequency transducer to use the split frequency page.

Select MENU > Pages > Split Frequency.

Log Page Settings

Select MENU > Pages > Log.

Depth: Shows a graphic log of depth readings over time.

Depth Log Duration: Sets the time scale of the depth log. Increasing the duration shows depth variations over a longer period of time. Decreasing the duration shows more details over a shorter period of time.

Scale: sets the scale of the depth range. Increasing the depth-range scale shows more variations in depth. Decreasing the depth-range scale shows more detail in the variation. Auto adjusts the depth range to show all log values within the selected duration.

Temperature: Shows a graphic log of water temperature readings over time. Increasing the temperature-range scale shows more variations in temperature. Decreasing the temperature-range scale shows more detail within the variations. Auto adjusts the display to show all log values within the selected duration.

Flasher Page
The flasher page shows sonar information on a circular depth scale, indicating what is beneath your boat. It is organized as a ring that starts at the top and progresses clockwise. Depth is indicated by the scale inside the ring. Sonar information flashes on the ring when it is received at the depth indicated. The colors indicate different strengths of the sonar return.

Select MENU > Pages > Flasher.

Increasing the Width of the Zoom Screen
You can increase the width of the magnified portion of the split zoom page.
Numbers Page
You can view numeric information instead of a graphic from the numbers page.
Select MENU > Pages > Numbers.

Resetting the Odometer
Before you can reset the odometer, you must connect the device to a speed-wheel transducer.
From the Numbers page, select MENU > Reset Odometer.

Sonar
The full screen page, the split zoom page, the split frequency page, and the flasher page are visual representations of the area beneath your boat. You can customize these sonar views.
NOTE: Not all devices have these features.

DownVü Sonar View
NOTE: Not all models support DownVü sonar technology and transducers.
NOTE: To receive DownVü scanning sonar, you need a compatible chartplotter or fishfinder and a compatible transducer.
DownVü high-frequency sonar provides a clearer picture below the boat, providing a more detailed representation of structures the boat is passing over.

Traditional transducers emit a conical beam. The DownVü scanning sonar technology emits a narrow beam, similar to the shape of the beam in a copying machine. This beam provides a clearer, picture-like image of what is beneath the boat.

Sonar Frequencies
NOTE: The frequencies available depend on the transducer being used.

Adjusting the frequency helps adapt the sonar for your particular goals and the present depth of the water. Higher frequencies use narrow beam widths, and are better for high-speed operation and rough sea conditions. Bottom definition and thermocline definition can be better when using a higher frequency.

Lower frequencies use wider beam widths, which cover a larger area and can let the fisherman see more targets, but could also generate more surface noise and reduce bottom signal continuity during rough sea conditions. Wider beam widths generate larger arches for fish target returns, making them ideal for locating fish. Wider beam widths also perform better in deep water, because the lower frequency has better deep water penetration. They can be used to search for structures such as brush piles.

Viewing two frequencies concurrently using the split frequency view, allows you to see deeper with the lower frequency return and at the same time see more detail from the higher frequency return.

Selecting a Frequency
1 Select MENU.
2 Select Frequency or FREQ.
3 Select a frequency.

Adjusting the Range of the Depth Scale
You can adjust the range of the depth scale that appears on the right side of the screen. Automatic ranging keeps the bottom within the lower third of the sonar screen, and can be useful for tracking the bottom where there are slow or moderate terrain changes.

When the depth changes dramatically, like a drop off or cliff, manually adjusting the range allows a view of a specified depth range. The bottom is shown on the screen as long as the bottom is anywhere within the manual range established.
1 Select MENU > Range.
2 Select an option.
   • To allow the device to adjust the range automatically based on the depth, select Auto.
   • To increase or decrease the range manually, select Manual, and select ▲ or ▼.

NOTE: Setting the range on one page applies that setting to all pages.

Adjusting the Zoom
You can adjust the zoom manually by specifying the span and a fixed starting depth. For example, when the depth is 15 meters and a starting depth of 5 meters, the device displays a magnified area from 5 meters deep to 20 meters deep.

You also can allow the device to adjust the zoom automatically by specifying a span. The device calculates the zoom area from the bottom of the water. For example, if you select a span of 10 meters, the device displays an magnified area from the bottom of the water to 10 meters above the bottom.
1 Select MENU > Zoom.
2 Select Manual Zoom or Auto Zoom.
3 Select Span and select ▲ or ▼ to increase or decrease the magnification of the magnified area.
4 If necessary, select Depth to adjust the zoomed window up or down.

NOTE: The zoomed window tracks the bottom in auto mode only.

Locking the Screen to the Water Bottom
You can lock the screen to the water bottom. For example, if you select a span of 20 meters, the device shows an area from the water bottom to 20 meters above the bottom. The span appears on the right side.
1 From a sonar view, select MENU > Zoom > Bottom Lock.
2 Select a span.

Pausing the Sonar Screen
From a sonar view, select MENU > Pause/Rewind Sonar or MENU > Pause Sonar.

Opening the Sonar History
NOTE: Not all devices have this feature.
1 From a sonar view, select MENU > Pause/Rewind Sonar.
2 Select ▼ or ▲ to adjust the vertical line.
3 Select ▲ or ▼ to adjust the horizontal depth line.

Setting the Sonar Scroll Speed
You can set the rate at which the sonar scrolls from right to left. A higher scroll speed shows more detail, especially while moving or trolling. A lower scroll speed displays sonar information on the screen longer.
1 Select MENU > Setup > Sonar Setup > Scroll Speed.
2 Select a scroll speed.

NOTE: Setting the scroll speed on one page applies that setting to all the pages.
Showing and Adjusting the Depth Line
You can show and adjust a horizontal line on a sonar screen. The depth of the line is indicated on the right side of the screen.

NOTE: Showing a depth line on one page displays the depth line on all the pages.

1. Select MENU > Depth Line > On.
2. Select < or >.

Configuring the Appearance of Suspended Targets
NOTE: Configuring the appearance of suspended targets on one page applies that setting to all pages.

NOTE: This feature is not available on all transducers.

- Shows suspended targets as symbols.
- Shows suspended targets as symbols with target depth information.
- Shows suspended targets as symbols with background sonar information.
- Shows suspended targets as symbols with background sonar information and target depth information.

1. From a sonar view, select MENU > Setup > Sonar Setup > Fish Symbols.
2. Select an option.

Turning on the A-Scope
The a-scope is a vertical flasher along the right side of the full-screen sonar view. This feature expands the most recently received sonar data so that it is easier to see. It can also be helpful for detecting fish that are close to the bottom.

NOTE: This feature is not available on all transducers.

From the full screen page, select MENU > Setup > Sonar Setup > A-Scope > On.

Sonar Gain and Noise Settings
You can adjust the amount of gain and noise on a sonar screen.

The gain setting controls the sensitivity of the sonar receiver to compensate for water depth and water clarity. Increasing the gain shows more detail, and decreasing the gain reduces screen clutter.

NOTE: Setting the gain on one page applies the setting to all the pages.

Setting the Gain Manually
2. Select < until you begin to see noise in the water portion of the screen.
3. Select > to decrease the gain slightly.

Setting the Gain Automatically
NOTE: To set the gain on the split frequency page, you must set each frequency separately.

1. Select MENU > Gain.
2. Select an option:
   - To display higher-sensitivity, weaker sonar returns with more noise automatically, select Auto-High.
   - To display medium-sensitivity sonar returns with moderate noise automatically, select Auto-Med.
   - To display lower-sensitivity sonar returns with less noise automatically, select Auto-Low.

Setting Noise Rejection
You can decrease the appearance of weak sonar returns by increasing noise rejection.

NOTE: Setting noise rejection on one page applies that setting to all pages.

NOTE: To set noise rejection on the split frequency page, you must set each frequency separately.

1. Select MENU > Setup > Sonar Setup > Noise Reject.
2. Set the level of noise rejection.

Hiding Surface Noise
You can hide or display the sonar returns near the surface of the water. Hiding surface noise helps reduce screen clutter.

NOTE: Setting the surface noise to show or hide on one page applies that setting to all pages.

Select MENU > Setup > Sonar Setup > Surface Noise > Hide.

Adjusting the Contrast
You can control the range and intensity of colors by adjusting the brightness and contrast for DownVü transducers.

Contrast controls the range of colors between high intensity targets and low intensity noise. A high contrast setting displays a greater difference in coloring between noise and targets. A low contrast setting has more mid-tone colors.

1. Select MENU > Contrast.
2. Use the slider to increase or decrease the contrast.

Adjusting the Color Intensity
Brightness controls the intensity of the coloring. A higher brightness value makes targets easier to see by using higher intensity coloring. A lower brightness value hides background noise by using lower intensity coloring.

1. Select MENU > Brightness.
2. Select a manual value or select an option:
   - To display higher-sensitivity, weaker sonar returns with more noise automatically, select Auto-High.
   - To display medium-sensitivity sonar returns with moderate noise automatically, select Auto-Med.
   - To display lower-sensitivity sonar returns with less noise automatically, select Auto-Low.

Alarms
Select MENU > Setup > Alarms.

Battery: Sounds when the battery reaches a specified low voltage.

Deep Water: Sounds when the water depth is deeper than the specified depth.

Drift: Sounds when depth variations at your present location exceed the specified depth.

Fish: Sounds when the device detects a suspended target.
sets the alarm to sound when fish of all sizes are detected.
• sets the alarm to sound only when medium or large fish are detected.
• sets the alarm to sound only when large fish are detected.

**Shallow Water:** Sounds when the water depth is shallower than the specified depth.

**Water Temperature:** Sounds when the water temperature varies more than ± 2 °F (± 1.1 °C). Alarm settings are saved when the device is turned off.

**NOTE:** You must connect the device to a temperature-capable transducer to use this alarm.

### Sonar Numbers Settings
You can adjust which numbers are displayed on the full screen page, the split zoom page, and the split frequency page. You can also adjust the size of the numbers.

Select **MENU > Setup > Sonar Numbers**.

**Battery:** Displays the battery voltage.

**Number Size:** Sets the number size.

**Odometer:** Displays the odometer.

**NOTE:** The device must be connected to a water-speed wheel transducer to display the odometer.

**Water Speed:** Displays the water speed.

**NOTE:** The device must be connected to a speed-wheel transducer to show the water speed.

**Water Temperature:** Displays the water temperature.

**NOTE:** The device must be connected to a temperature transducer to show the water temperature.

### System Settings
Select **MENU > Setup > System**.

**Language:** Sets the on-screen language.

**System Information:** Allows you to view software information.

### System Unit Settings
Select **MENU > Setup > Units**.

**Depth:** Sets the depth units to feet (ft), meters (m), or fathoms (ftm).

**Distance:** Sets the distance units.

**Temperature:** Sets the temperature units to Fahrenheit (°F) or Celsius (°C).

**NOTE:** You must have a temperature-reading transducer connected to display the temperature.

**Water Speed:** Sets the water speed units.

**NOTE:** You must have a water-speed transducer connected to display the water speed.

### Restoring the Factory Default Settings
**NOTE:** This deletes all settings information you have entered.

1. Select **MENU > Setup > System Information > Factory Settings**.
2. Select an option.

### Setting the Keel Offset
You can enter a keel offset to compensate for the surface reading for the depth of a keel, making it possible to measure depth from the bottom of the keel instead of from the transducer location.

1. Select an option, based on the location of the transducer:
   • If the transducer is installed at the water line, measure the distance from the transducer to the keel of the boat. Enter this value in step 3 as a positive number.
   • If the transducer is installed at the bottom of the keel, measure the distance from the transducer to the water line. Enter this value in step 3 as a negative number.

### Setting the Water Temperature Offset
You can set the temperature offset to compensate for the temperature reading from a temperature-capable sensor.

1. Measure the water temperature using the temperature-capable transducer that is connected to the device.
2. Measure the water temperature using a different thermometer or temperature sensor that is known to be accurate.
3. Subtract the water temperature measured in step 1 from the water temperature measured in step 2. This is the temperature offset. Enter this value in step 6 as a positive number if the sensor connected to the device measures the water temperature as being colder than it actually is. Enter this value in step 6 as a negative number if the sensor connected to the device measures the water temperature as being warmer than it actually is.
4. Select **MENU > Setup > Calibration > Temperature Offset**.
5. Use the arrow keys to enter water temperature offset measured in step 3.

### Calibrating the Water Speed Sensor
1. Select **MENU > Setup > Calibration > Calibrate Water Speed**.
2. Follow the on-screen instructions.

**NOTE:** You must enter the top speed as measured by an external source, such as a GPS device. Do not enter the water speed value from a connected speed-wheel transducer.
Appendix

Specifications

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<th>Model</th>
<th>Measurement</th>
</tr>
</thead>
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<tr>
<td>Temperature Range</td>
<td>echo 101 and 151</td>
<td>From 5°C to 131°F (from -15°C to 55°C)</td>
</tr>
<tr>
<td></td>
<td>echo 201, 301, and 500 series</td>
<td>From 5°C to 131°F (from -15°C to 55°C)</td>
</tr>
<tr>
<td>Compass Safe Distance</td>
<td>echo 101 and 151</td>
<td>10 in. (250 mm)</td>
</tr>
<tr>
<td></td>
<td>echo 201 and 301</td>
<td>10 in. (250 mm)</td>
</tr>
<tr>
<td></td>
<td>echo 500 series</td>
<td>15.75 in. (400 mm)</td>
</tr>
<tr>
<td>Power Source Voltage Range</td>
<td>echo 101</td>
<td>From 10 to 20 V</td>
</tr>
<tr>
<td></td>
<td>echo 201, 301, and 500 series</td>
<td>From 10 to 28 V</td>
</tr>
<tr>
<td>Rated Current</td>
<td>All models</td>
<td>1 A</td>
</tr>
<tr>
<td>Fuse</td>
<td>All models</td>
<td>AGC/3AG - 3.0 A</td>
</tr>
<tr>
<td>Freshwater Depth*</td>
<td>echo 151</td>
<td>1600 ft (488 m) @ 77 kHz</td>
</tr>
<tr>
<td></td>
<td>echo 201, 201dv, 301, and 301dv</td>
<td>1750 ft. (533 m) @ 77 kHz</td>
</tr>
<tr>
<td></td>
<td>echo 500 and 500dv series</td>
<td>2300 ft. (701 m) @ 77 kHz</td>
</tr>
</tbody>
</table>

*Depth capacity is dependent on water salinity, bottom type, and other water conditions.

Cleaning the Outer Casing

**NOTICE**

Avoid chemical cleaners and solvents that can damage plastic components.

1. Clean the outer casing of the device (not the screen) using a cloth dampened with a mild detergent solution.
2. Wipe the device dry.

Cleaning the Screen

**NOTICE**

Cleaners containing ammonia will harm the anti-reflective coating.

The device is coated with a special anti-reflective coating which is very sensitive to skin oils, waxes, and abrasive cleaners.

1. Apply an eyeglass lens cleaner specified as safe for anti-reflective coatings to the cloth.
2. Gently wipe the screen with a soft, clean, lint-free cloth.

Software License Agreement

BY USING THE DEVICE, YOU AGREE TO BE BOUND BY THE TERMS AND CONDITIONS OF THE FOLLOWING SOFTWARE LICENSE AGREEMENT. PLEASE READ THIS AGREEMENT CAREFULLY.

Garmin Ltd. and its subsidiaries (“Garmin”) grant you a limited license to use the software embedded in this device (the “Software”) in binary executable form in the normal operation of the product. Title, ownership rights, and intellectual property rights in and to the Software remain in Garmin and/or its third-party providers.

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