XTREME160

Operations Manual

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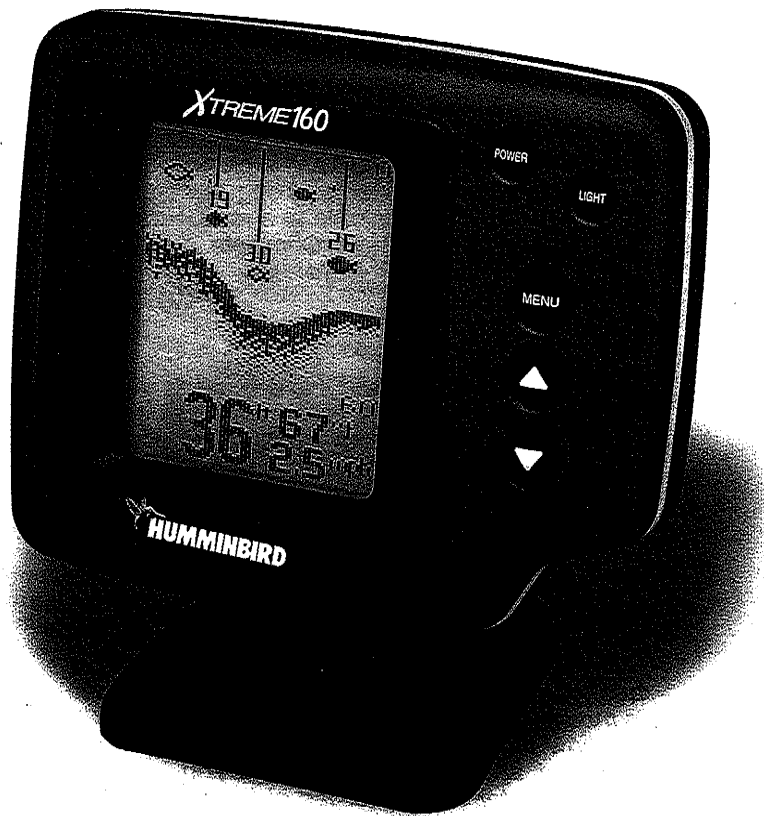
Thank you for choosing Humminbird, America's #1 name in fishfinders. Humminbird has built its reputation by designing and manufacturing top-quality, thoroughly reliable marine equipment. Your Humminbird is designed for trouble-free use in even the harshest marine environment.

In the unlikely event that your Humminbird does require repairs, we offer an exclusive Service Guarantee - free of charge during the first year after purchase, and available at a reasonable rate after the one-year period. Complete details are included at the end of this manual.

We encourage you to read this operations manual carefully in order to get full benefit from all the features and uses of your Humminbird product. Also, to register your purchase and help us learn more about you, pleas fill out the warranty registration card at the back of this manual.

Warning! This device should not be used as a navigational aid to prevent collision, grounding, boar damage, or personal injury. When the boat is moving, water depth may change too quickly to allow time for you to react. Always operate the boat at very slow speeds if you suspect shallow water or submerged objects.

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HOW SONAR WORKS

Sonar uses sound waves to determine the presence and location of underwater objects. The time measured between the transmission of the sound wave, and the reception of any reflection can be used to determine distance. Analysis of the reflected signal can also be used to determine location, size, composition, etc.
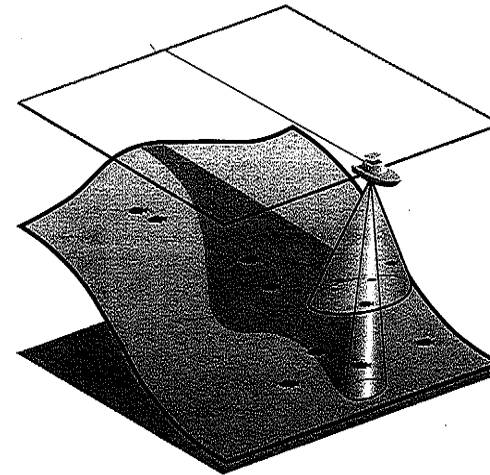
Humminbird products consist of two primary components: the sonar unit and the transducer. The sonar unit contains the transmitter and receiver, as well as the user controls and display. The transducer is mounted beneath the water surface and converts electrical energy from the transmitter into mechanical pulses or sound waves. The transducer also receives the reflected sound waves and converts them back into electrical signals for display on the sonar unit.

The transmit and receive cycle is very fast. A sound wave can travel from the surface to a depth of 240' and back again in less than 1/4 of a second; so it is unlikely that your boat can "outrun" this sonar signal.

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A number of variables affect the nature of information which can be derived from the sonar return. Sonar signals generated at a higher frequency have the advantage of greatly increased sonar resolution, however, the distance (depth) a high-frequency signal can travel is relatively short. A low frequency signal can travel great distances, but provides poor sonar resolution.

The shape of the transmitted sonar signal greatly affects the information available as well. A wide beam has a large area of coverage but limited resolution of detail. A narrow beam has excellent detail, but within a limited area of coverage.

The *XTREME 160* is a dual frequency, Dual Beam fishfinder. This means that there are two separate sonar signals generated—each optimized for a particular purpose. The center beam is transmitted at a frequency of 200 kHz in a 20 degree (narrow) symmetrical pattern for greater depth capability and excellent detail. Information from this center beam is used to draw the graphic representation of the bottom on the display.

NOTE: Actual depth capability depends on such factors as bottom hardness, water conditions, and transducer installation. Units will typically read to deeper depths in fresh water than in salt water.

The wide beam is generated at a frequency of 83 kHz in a 53 degree (wide) symmetrical pattern for greater area of coverage. Information from the wide beam is used to accurately detect the presence and location of fish.

The combination of the two beams and dual frequencies, provides the combination of a large area of coverage and a high level of detail.

After spending a few minutes with your *XTREME 160* on the water, you will be confident in the unit's ability to accurately portray the underwater terrain and suspended targets.

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USING THE *XTREME 160*
SIMULATOR OPERATION

The *XTREME 160* is completely automatic and easy to use. Simply press the POWER button and the unit will locate and track the bottom from 3' to 600' changing ranges as necessary, display any structure or suspended fish and work at speeds from 0 to over 70 mph.

If POWER is the only button you use, you will benefit from the advanced automatic bottom tracking of the *XTREME 160*. However, if you choose to experiment with the many features and controls the *XTREME 160* offers, you can customize the presentation of information to suit your particular needs.

SIMULATOR OPERATION

The *XTREME 160* contains a simulator which allows you to use the unit as if you are on the water. The Simulator is invaluable for learning how to operate the many features of the *XTREME 160*. There are two ways to enable the simulator: if the unit is powered off, press and hold the POWER button for approximately 3 seconds until a continuous chirp is heard. The Simulator can also be enabled by selecting the Simulator option on the start-up screen after you normally power-up the unit. When this screen is shown, simply press the DOWN ARROW until "Simulator" is highlighted. When the screen times-out, the unit will be in simulator mode.


```
▪ START-UP
▪ OPTIONS
▪ SIMULATOR
▪ DIAGNOSTIC
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USING THE *XTREME 160*
WHAT YOU SEE ON-SCREEN

When in simulator operation, the *XTREME 160* responds to control inputs as if it is in actual operation, so feel free to experiment with the many features and functions to customize the *XTREME 160* for your particular operation. To exit Simulator mode, power the unit off.

WHAT YOU SEE ON-SCREEN

Your *XTREME 160* uses a 64 x 128 matrix Super-Twist LCD display. This type of display provides outstanding viewability in all light conditions over a wide range of temperatures.

NOTE: When in simulator mode, the word "simulator" occasionally scrolls across the display indicating that the information on-screen is not real sonar data.

At initial power-up, the depth range, sensitivity, and other user adjustments are set at their factory settings. After the initial use, the *XTREME 160* will remember the user settings. There are several elements on-screen which are common to all modes of operation. The large digital number at the lower left of the display is the depth of the water directly beneath the transducer location.

USING THE XTREME 160
WHAT YOU SEE ON-SCREEN

The initial screen layout takes one of two basic forms depending on whether the optional Temp/Speed accessory is installed. Figure A shows the default view when the Temp/Speed accessory is not installed. The digital depth number shows the depth of water directly beneath the transducer location.The range of the graphic display is shown to the right of the graphic information. The upper number is 0 indicating the surface of the water, the lower number is one of the 9 ranges available which best matches the depth of the water. As the depth of the water changes, the range changes as necessary in order to retain a bottom representation on-screen.

When in Auto mode, the horizontal line at the top of the graphics area is the 0 line which represents the surface of the water. Occasionally there will be a gap in this line. This gap indicates that the unit is updating the display even if the bottom is not visible on-screen, or if the bottom information is not changing.

The graphic representation of the bottom may vary considerably depending on the composition and regularity of the bottom surface (see Interpreting the On-screen Information). Any sonar return which is determined to be not a part of the bottom is shown between the surface and the bottom. If this return is determined to be a fish, one of several fish shapes is drawn which indicate size, depth, and location of the fish (see Interpreting the On-screen Information).

Figure A

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INTERPRETING THE ON-SCREEN INFORMATION

Figure B shows a typical view you can expect to see on-water. New sonar information appears on the right side of the graphic area of the display and moves to the left as new information is displayed. The *XTREME 160* automatically selects the appropriate depth range to show the depth of water beneath the transducer. This range is selected so that the bottom representation is typically shown about ⅔ down the display.

Figure B
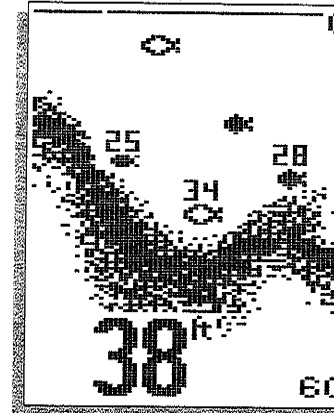
The graphic depiction of the bottom provides the user with an effective tool for understanding the composition of the bottom. If the bottom is hard and smooth, the bottom depiction is narrow and dense. If the bottom is soft mud or sand, the depiction will be thick and less dense. This indicates that much of the signal is absorbed by the soft bottom. If the bottom is rocky or rugged in composition, the depiction is of varying density and textured in appearance.

Wave action also affects the bottom depiction. Remember that the information drawn is a distance measurement, so if the boat is moving up and down over flat bottom, the bottom depiction often appears in regular variations which match wave timing.

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Structure is defined as any object physically attached to the bottom. The sonar configuration of the XTREME 160 is optimized to give the most accurate depiction of bottom structure possible. Grass, trees, stumps, wrecks or other debris are accurately displayed, however the depiction of these objects varies with boat speed and direction. The best way to learn to interpret structure is to operate the XTREME 160 over a variety of known conditions and experiment with user functions to best represent those conditions on-screen.

Sonar targets which are not p h y s i c a l l y attached to the bottom may take one of many shapes. Surface clutter is the layer of water near the surface which is rich in algae and other growth, and often is aerated by wind or wave action. This area of water interferes with sonar transmission and often appears on-screen as regular clusters of individual dots near the "0" line.

Surface Clutter

Rocky Bottom

Hard Bottom

Soft Bottom
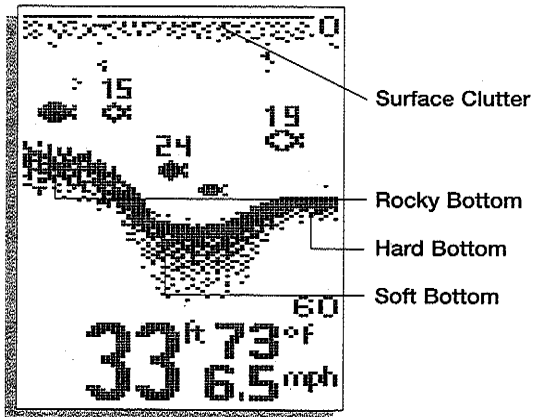
Thermocline

Second Return
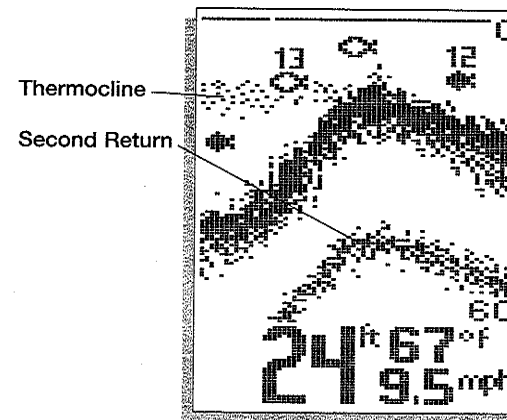
Thermoclines are sharp differences in water temperature. These are easily identified by the continuous nature of the return.

When a sonar signal is reflected off the bottom back to the transducer, there is often enough energy left in the signal to be reflected off the surface of the water back to the bottom a second time. Second returns appear as a slightly weaker bottom representation exactly twice the depth of the primary bottom return. The second return is most likely to occur in shallow water and in areas of relatively hard bottom.

The *XTREME 160* uses advanced signal processing to further evaluate any sonar return between the surface and the bottom. For instance, a small school of bait fish usually appears as a dense cluster of individual dots. If the return meets certain additional criteria, a fish symbol will be assigned. There are three different size fish symbols used to indicate the intensity of the sonar return. While signal intensity is a good indicator of relative fish size, different species of fish have different sonar characteristics, so it is not always possible to distinguish fish size

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USING THE *XTREME 160*
CONTROL FUNCTIONS

between varying species. The signal intensity is "normalized" for depth so that a small fish close to the boat does not appear as a large fish symbol.

ID+ adds an additional piece of information to help the user locate fish. On selected fish symbols, the digital depth of the designated fish is drawn to help locate the fish vertically. This is especially helpful in setting bait depths or for downrigger operation.
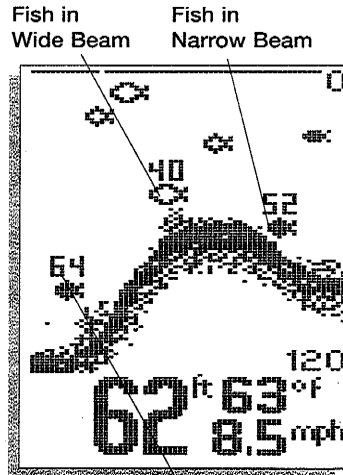
A further method of differentiation of fish symbols indicates which of the two sonar beams the fish is detected in. This gives you a reliable indicator of side to side location relative to boat movement. Fish symbols which are hollow are detected in the Wide beam. Solid fish symbols represent fish which are detected in the Narrow beam, and these fish are directly under the boat.

Fish in Wide Beam   Fish in Narrow Beam

ID+ Fish Depth

CONTROL FUNCTIONS

The *XTREME 160* uses a simple 5-button keypad for all user input. When any button is pressed, an audible "chirp" confirms the control input. In the event that a particular button has no function or is inappropriate for the situation, an audible "error", or multiple chirps, will be heard.

POWER

LIGHT

MENU

▲

▼

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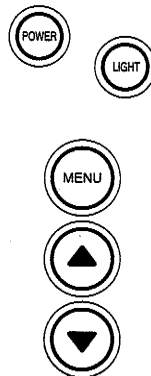
POWER, powers the *XTREME 160* up for normal operation. When the unit is on, POWER turns the unit off. POWER can also be used to go directly into Simulator mode. With the unit powered off, press and hold POWER for several seconds until a continuous chirp is heard.

LIGHT controls the unit's 3-position display backlight. With the unit powered on, pressing LIGHT once will turn the backlight on "high". Pressing LIGHT a second time will turn the backlight on "low", and pressing a third time will turn the backlight off. The backlight is very effective for low-light and nighttime operation. When the backlight is on, the *XTREME 160* will consume more power than with the backlight off. This is important when using the *XTREME 160* in a portable configuration powered by a separate battery, or when powering the unit from a trolling motor battery.

NOTE: When powering the unit from a battery such as in portable applications, avoiding use of the backlight prolongs battery life.

The three lower buttons, MENU, UP ARROW, and DOWN ARROW work together to control the *XTREME 160* menu-controlled user functions.

Menu Heading

MENU brings a menu on-screen for adjustment. In normal operation, pressing MENU repeatedly will cycle through all available menu headings. When the desired menu heading is displayed, the full menu appears after a short pause. A menu remains

USING THE *XTREME 160*
CONTROL FUNCTIONS

on-screen for several seconds allowing user adjustment by means of the ARROW keys. If no adjustment is made in the allotted time, the menu disappears. If you need the menu to remain on-screen longer to study the adjustment options, press and hold MENU—the menu will remain on-screen indefinitely. Once you release the menu button, the screen will time out.

Once a menu times out, it is still considered the active menu. Pressing MENU will bring up the last used menu.

Full Menu

The UP ARROW and DOWN ARROW make adjustments to menu functions. On the left side of every menu there are UP ARROW and DOWN ARROW symbols. The symbols indicate which ARROW button has a function in a particular situation. Either one or both ARROW buttons can be used to adjust the menu function. A hollow ARROW symbol means that the corresponding ARROW button has no function. Pressing that button will result in no adjustment and the "error" audible will be heard. A solid ARROW symbol means that the corresponding ARROW button can be used to affect the menu adjustment.
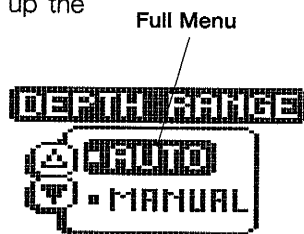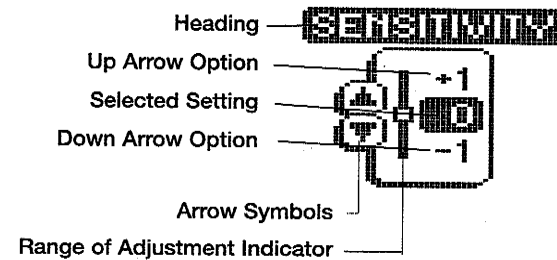
The ARROW buttons often can be used when no menu is on-screen. In these situations, pressing the ARROW button affects the function of the active (last-used) menu. This is a short-cut to menu operation. The menu appears on-screen while the adjustment is made and 'times out'. A frequently used menu can be adjusted very quickly using this technique.

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After an adjustment is made to a menu function, the menu "times out" after a few seconds and the unit returns to normal operation.

Figure F

Heading

Up Arrow Option

Selected Setting

Down Arrow Option

Arrow Symbols

Range of Adjustment Indicator

All menus use the same basic layout as shown in Figure F. The heading at the top describes the menu function (see Control Functions for more details on individual functions). The UP ARROW and DOWN ARROW symbols to the left of the menu indicate which buttons are available for adjustment. In menus which have numerous possible settings such as depth range, a range of adjustment indicator shows the total range available and the current setting. Within the menu are the options available. The selected option or current setting is highlighted in the black box. If no adjustment is made, this will be the selected setting. Pressing one of the ARROW buttons while the menu is on-screen selects another option.

Several of the menus are multi-step. In some situations if an adjustment is made, additional options become available for further adjustment. Examples of these multi-step menus are Depth Range, Depth Alarm and Zoom. See the detailed description of each function for further explanation.
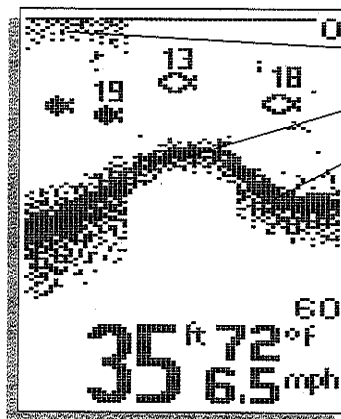
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USING THE XTREME 160
CONTROL FUNCTIONS

Menu Functions

Sensitivity

The Sensitivity function controls the sensitivity of the sonar receiver. The XTREME 160 automatically adjusts the level of receiver sensitivity based on a number of factors including the depth of the water and the level of noise present. Noise can be caused by other electronic devices, engines, trolling motors, propeller cavitation and hydrodynamic flow among others.
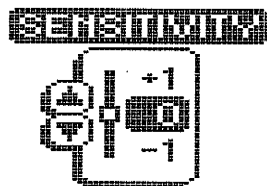
The user has the option of biasing this Sensitivity adjustment either higher or lower based on personal preference. You can select one of 11 sensitivity bias settings from -5 to +5. A bias setting of 0 (Factory Setting) has no effect on the automatic sensitivity control. Increasing the bias (+1 through +5) causes the unit to display the information from progressively smaller sonar returns. By decreasing the sensitivity bias (-1 through -5), the unit effectively filters small sonar returns.

High Sensitivity
Low Sensitivity
Sensitivity at 0

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In murky or muddy water, it is often advantageous to reduce the sensitivity bias. This prevents the display from being cluttered with sonar returns from debris or suspended particles. In very clear or very deep water, it may be desirable to increase the sensitivity bias since even the smallest sonar return may be of interest to the user.

To adjust Sensitivity, press MENU repeatedly until the Sensitivity heading is displayed. When the Sensitivity menu appears, use the UP ARROW to increase the sensitivity bias, or the DOWN ARROW to reduce sensitivity bias. By holding either ARROW button depressed, the unit will sequence through the available settings until you release the button or the end of the adjustment range is reached. If additional time is needed to study a menu, press and hold the MENU button and the menu will remain on-screen indefinitely.

If a setting limit is reached, the ARROW symbol attached to the menu appears to be hollow which indicates that the related button has no further function. Also, the audible "error" consisting of multiple chirps will be heard.

After an adjustment is made, the menu disappears and the new sensitivity setting begins to affect new sonar information as it flows on-screen. If additional adjustment is needed, the UP ARROW or DOWN ARROW can be pressed without having to first press MENU.

USING THE *XTREME 160*
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Depth Range

The Depth Range function controls the vertical distance displayed on the graphic area of the display. There are 9 different depth ranges available. The top of the range is always 0, or the surface of the water. Ranges of 0–15', 0–30', 0–60', 0–120', 0–180', 0–240', 0–360', 0–480', and 0–600' are available. The range which positions the bottom depiction closest to the bottom of the graphic area of the display, will best utilize the available display resolution.
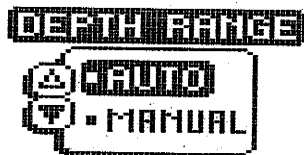
The *XTREME 160* automatically adjusts the depth range depending on the depth of the water. The unit tries to maintain the bottom depiction about 2/3 down the total range (for example, in 20' of water, the 0-30' range would be selected). This provides the best display resolution and therefore the best target separation possible.
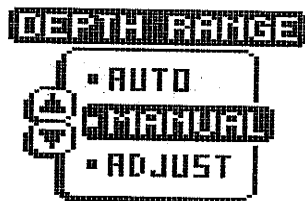
The Depth Range can be adjusted manually. Press MENU repeatedly until the Depth Range menu is visible. The two options available are "Auto" (Factory Setting) and "Manual". Pressing the DOWN ARROW enables "Manual" depth range control and an additional menu will appear which allows the user to adjust the current depth range setting. If no further button is pressed, the current depth range is selected as the desired range and the unit returns to normal operation.

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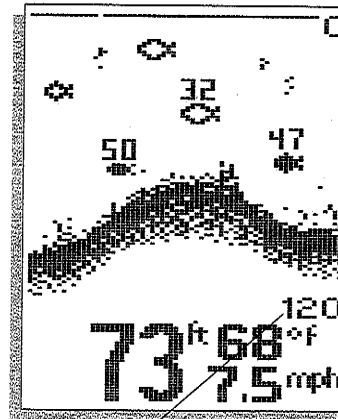
Depth Range

Using "Manual" Depth Range control, the user can view sonar information from the area near the surface in great detail. If a depth range other than the current range is desired, pressing the DOWN ARROW to highlight "Adjust" will allow selection of one of the 9 available ranges. Simply press and hold the UP or DOWN ARROW button to scan through the available options. If a setting limit is reached, the audible "error" or multiple chirps will be heard and no further adjustment is allowed.

When "Manual" range is used, the unit no longer adjusts the Depth Range to the most appropriate range for bottom display. Often, the bottom may not be visible on-screen. The digital depth readout always determines the depth of the bottom, even if it is not visible on-screen.
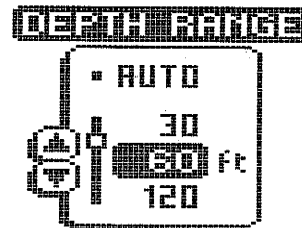

When a Depth Range is selected manually and the Depth Range menu is still active (most recently used), further adjustment of the depth range can be achieved by simply pressing the appropriate UP or DOWN ARROW button. The button press will bring the Depth Range menu on-screen and allows immediate adjustment of the range.

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CONTROL FUNCTIONS

To return to "Automatic" Depth Range control, press the MENU button until the Depth Range menu appears on-screen and use the UP ARROW to select AUTO. The XTREME 160 returns to Automatic operation.
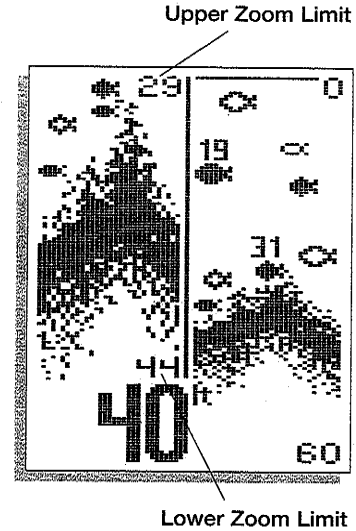
Zoom

Zoom is similar to Depth Range in that it controls the range of information displayed in the graphics area of the display. Zoom, however, allows selection of ranges beneath the surface so any area of water between the surface and the bottom can be enlarged to provide more detailed information. By using the full display to show a small area of coverage, the effective display resolution is increased, and the unit's ability to separate targets which are very close together is enhanced.
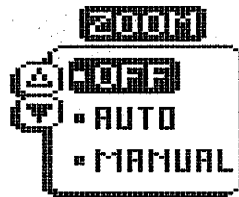
There are four different Zoom ranges available; 7 1/2', 15', 30', and 60'. These ranges are not directly user controlled but are instead dependent on the current depth range. In shallow water, when the 15' or 30' range is in use, the Zoom range is 7 1/2'. If the 60' or 120' range is in use, the Zoom range is 15', if a 180'-480' depth range is in use, the Zoom range is 30', and if the 600' range is in use, the Zoom range is 60'.

Upper Zoom Limit

Lower Zoom Limit

ZOOM
- OFF
- AUTO
- MANUAL

The *XTREME 160* shows Zoom range in conjunction with the full depth range. The Zoom range is shown on the left side of the screen and full range information is shown on the right side of the display. Zoom can either operate automatically, in which the Zoom range is constantly adjusted to show the bottom, or manually, in which the user controls the location of the Zoom range.

"Automatic" Zoom is especially helpful when looking for structure or bottom detail. The "Automatic" Zoom keeps the bottom in view even in quickly changing terrain. "Manual" Zoom provides detailed information of any area from the surface to the bottom. In "Manual" Zoom, the Zoom range does not move as the terrain changes.
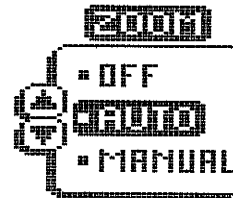
To operate Zoom, Press MENU repeatedly until the Zoom menu is on-screen. Three options are available: "Off" (Factory Setting), "Auto" (Automatic bottom tracking Zoom), and "Manual" (User controlled Zoom range). Press the DOWN ARROW once to highlight Auto. When the menu disappears, the graphics area of the screen will be divided in half. Full range information on the right, Zoom information on the left. The digital depth readout is unaffected by Zoom.

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USING THE *XTREME 160*
CONTROL FUNCTIONS

Pressing the DOWN ARROW again to highlight "Manual" activates Manual Zoom. The menu further expands to show the current Zoom range, and allows user adjustment of this range.

When the range is shown in the menu, the upper number represents the top of the current Zoom range. The lower number represents the bottom of the Zoom range. The UP and DOWN ARROW buttons can be used to move this range. The upper number can never be less than 0 (the surface of the water), and the lower number can never be greater than the active depth range. The difference between the two numbers (the Zoom range) is preset and determined by the active depth range.

Once "Manual" Zoom is selected, the display will appear the same as in "Auto" Zoom, but the zoom range does not change automatically. If further adjustment of the zoom range is necessary, pressing either ARROW button while Zoom is active will move the Zoom range up or down. The Menu returns briefly to show the numeric values as the adjustment is made.
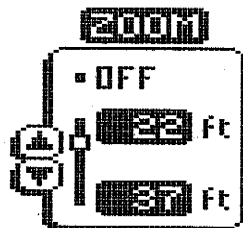
To disable Zoom, press the MENU button until the Zoom menu is on-screen. Use the UP ARROW to highlight Off, and let the menu time out.

When the unit is powered off, the Zoom menu returns to Zoom Off.

Depth Alarm

The *XTREME 160* contains an audible alarm to warn you of shallow water depths. The alarm is adjustable from 3' to 99' of depth. When the alarm is enabled, an audible alarm is sounded if the water beneath the boat is equal to or less than the selected alarm depth. Upon activation, the alarm sounds continuously for about 5 seconds, and then intermittently to remind you that you are still in shallow water.
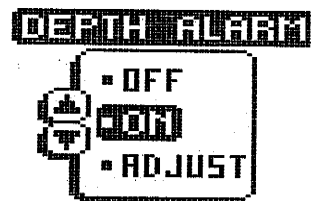
To enable Depth Alarm, press MENU repeatedly until the Depth Alarm menu is on-screen. The Factory Setting is "Off". Use the DOWN ARROW to highlight On. The menu will expand to show the current Depth Alarm setting. Use the UP or DOWN ARROW to set the desired depth for alarm activation.
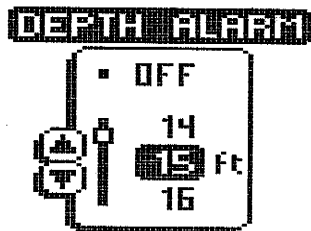
Once the menu times out, the Depth Alarm is enabled. To further adjust the setting, simply press the UP or DOWN ARROW. The menu appears briefly to indicate the setting. If the alarm is sounding and you want to disable it, use the MENU button to bring the Depth Alarm menu on-screen, and the UP ARROW to highlight "Off".

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USING THE *XTREME 160*
CONTROL FUNCTIONS

Fish Alarm

The Fish Alarm alerts you to the presence of fish, or other targets not connected to the bottom. The Fish Alarm has 3 different settings which correspond to the 3 different size fish symbols shown on-screen.

To enable Fish Alarm, press the MENU button repeatedly until the Fish Alarm menu appears on-screen. The menu shows two options, "Off" (Factory Setting) and "On". Use the DOWN ARROW to highlight "On" and the menu further expands to show the 3 alarm options. The selected setting will be "Large fish only". With this setting, the *XTREME 160* alarms on only those targets which are represented by the large fish symbols (see Interpreting the On-Screen Information). Pressing the DOWN ARROW again highlights "large and medium fish" and pressing a third time highlights "large, medium, and small fish). With this setting, any fish symbol appearing on-screen activates the Fish Alarm.
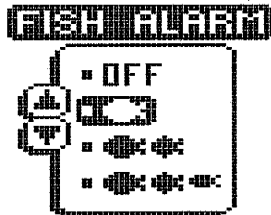
Set for large fish only
Set for large and medium fish
Set for all fish
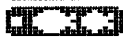
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Once the Fish Alarm is enabled, the *XTREME 160* emits an audible beep when the selected size fish symbol appears on-screen. To disable the Fish Alarm, press MENU until the Fish Alarm menu appears on-screen. Use the UP ARROW to highlight "Off", and let the menu time out.

Triplog

Triplog provides a running log of information based on input from the Temp/Speed sensor. Since Triplog requires information from the Temp/Speed sensor to operate, if this sensor is not detected by the *XTREME 160*, the Triplog menu will not appear as an option.

To enable Triplog, press MENU repeatedly until the Triplog menu is on-screen. The Factory Setting is "Hide" which is selected. Use the DOWN ARROW to select "Show" and the full-screen Triplog will appear.

Triplog provides seven pieces of information; the current digital depth, water surface temperature, current boat speed, the distance traveled since the *XTREME 160* was powered up or reset, the average speed, the total time elapsed since power-up or reset, and the input voltage from your boat's electrical system.

USING THE *XTREME 160*
CONTROL FUNCTIONS

The time, speed, and distance calculations are useful for tracking your progress on a trip. The input voltage is useful for determining the condition of the charging system of the boat. When used in a portable application or whenever the *XTREME 160* is operated from a battery source, the voltage number can be used to determine battery life. The *XTREME 160* will operate at voltages from 10 to 20 VDC. Voltages in excess of 20 or less than 10 VDC will cause the unit to power off.
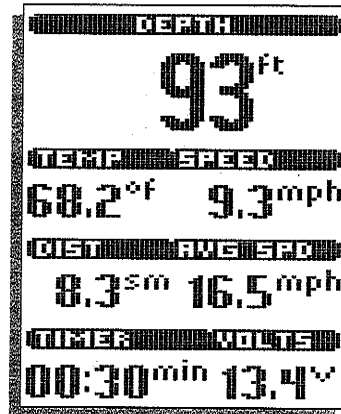
Once Triplog is enabled, pressing MENU to bring the Triplog menu on-screen now shows an additional option, "Reset". By selecting Reset, the timer and distance log resets to 0 and the Triplog will begin to calculate elapsed time, distance traveled, and average speed from the time of reset.

To disable Triplog, press the MENU button until the Triplog menu is on-screen. Use the UP ARROW to select Hide and let the menu time out. The Triplog continues to operate and log time and distance even when it is not visible on-screen. The Triplog resets at power off.

Options

The Options Menu is actually a series of linked menu functions which are used initially to select user preferences. Once user preferences are selected, it is unlikely that these functions need to be accessed during the normal operation of the product.

The Options menu works differently than other menu functions in that all of the options must be cycled through in order to return to normal operation. There are six Option menus: Units, Fish ID, Numeral size, Bottom Black, Diagnostic and Reset.

Press MENU until the Options menu is on-screen. There are two choices, Hide (Factory Setting) and Show. Use the DOWN ARROW to highlight Show and the first Options menu appears.

Units
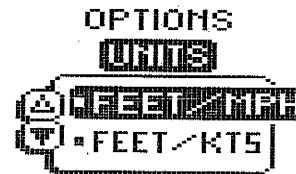
The Units function allows the user to select the units of measurement for the speed readout. Both MPH or statute miles per hour and KTS or nautical miles per hour are available. Use the ARROW buttons to highlight the desired selection. The *XTREME 160* remembers this selection even when the unit is powered off. Press MENU to go to the next menu.

Fish ID

The next Option menu is Fish ID. There are three selections available; Off, ID+ ON, and Adjust. The factory setting is ID+ On. With Fish ID Off, sonar returns are displayed as "raw" information. There is no interpretation made by the unit. Selecting ID Off, will also disable the fish alarm.
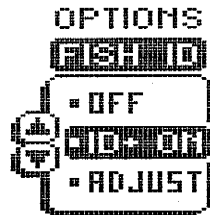
ID+ On enables the *XTREME 160* to interpret the raw sonar data and, using a variety of techniques, depict appropriate target returns as one of three different size fish symbols. Further identification shows whether the fish is in the wide or narrow beam. The *XTREME 160* will also attach The depth beneath the surface to the selected fish symbol.
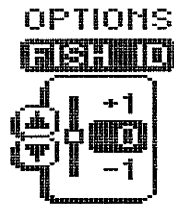
Selecting Adjust and making incremental changes enhances the fishfinder's ability to identify sonar returns as fish symbols.

Increasing the value to a number greater than zero, will show more fish symbols on-screen. In this case smaller sonar returns will be depicted as fish symbols. This is useful for identifying many smaller sonar returns (such as baitfish) as fish symbols.

Decreasing the value to a number less than zero will show fewer fish symbols on-screen. In this case smaller sonar returns will be disregarded. This is useful for eliminating many small sonar returns when seeking larger species of fish.
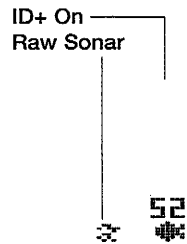
ID+ On

Raw Sonar

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The *XTREME 160* remembers this selection even when the unit is powered off. Press MENU to go to the next menu.

Numeral Size

```
      OPTIONS
NUMERAL SIZE

  (△) BIG
  (▽) ■ SMALL
```
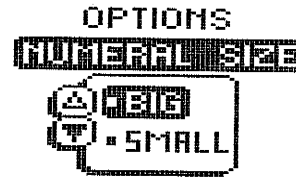
Numeral Size is the next Option menu. Two options are available: Big and Small. The factory setting is Big. With this setting, the digital depth and speed and temp numerals are drawn large enough to be readable from across the boat. The big numerals occupy space on the display which could be used for the graphics area. Hence, the small numerals option. With small numerals selected, a greater amount of the display area is available for the graphic view. This effectively increases the display resolution of the unit.

Use the UP and DOWN ARROW buttons to highlight the desired selection, then press MENU to advance to the next menu.

Numeral Size settings are remembered when powered off.

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Bottom Black

The next Option menu is Bottom Black. There are two selections available; Off and On. The factory setting is Off. With this setting, the *XTREME 160* displays the bottom using Structure ID. This allows the user to determine the texture or relative hardness of the bottom. Selecting Bottom Black "ON", will cause the unit to blacken in the display below the bottom.

This gives the user easiest recognition of the bottom location, even from a great distance.

The *XTREME 160* remembers the Bottom Black setting when powered off.
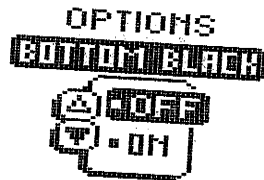
Bottom Black View
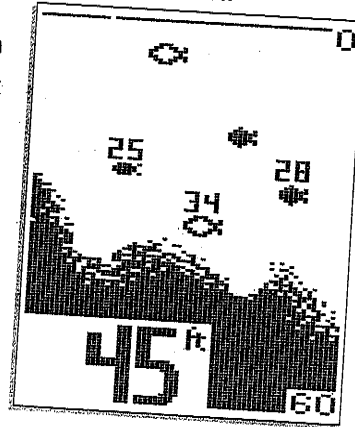
Diagnostic

OPTIONS

DIAGNOSTIC
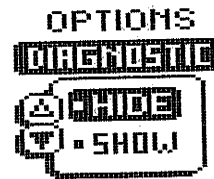
△ HIDE

▽ ■ SHOW

Diagnostic is the next Option menu. Two options are available: Hide and Show. The factory setting is Hide. Selecting Show brings up the Diagnostic screen. See the Using Diagnostic section for more information.

Reset

OPTIONS

RESET

△ NO

▽ ■ YES
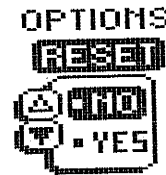
The final Option is Reset. With so many User Options available to customize the *XTREME 160*, it is easy to configure the unit in such a way that it is detrimental to a particular use. By using the Reset function, all variable or user-controlled features of the *XTREME 160* are returned to the factory settings.

The Reset function is an important first step in trouble-shooting problems to ensure that a user selected setting is not the cause for the perceived problem.

Use the ARROW buttons to highlight "Yes" and the unit will return to factory settings. After making the selection, press MENU to end Options and return to normal operation.

ADVANCED FEATURES
USING DIAGNOSTIC

USING DIAGNOSTIC

The *XTREME 160* contains a powerful diagnostic tool which can aid in determining the cause of a problem. To enable Diagnostic, power the unit on and use the DOWN ARROW button to highlight the Diagnostic option on the initial screen. Diagnostic can also be accessed through the Options menu. (See Control Functions.)
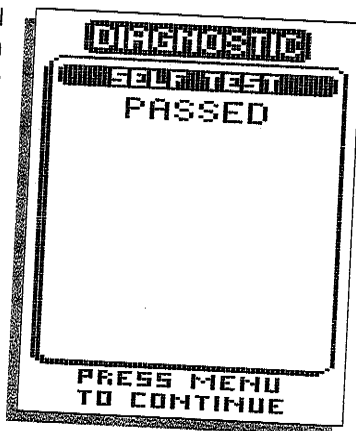
When selecting Diagnostic from the startup menu, the menu will time out and the first of two diagnostic screens will appear. Upon enabling diagnostic, the *XTREME 160* will perform a self-test. This test confirms the operation of all internal circuitry. At the conclusion of the test, one of two messages will appear; "passed" indicates that the internal test discovered no failures. "Failed" indicates that a significant internal problem was discovered and the unit will require factory service. In conjunction with the failed indication will be a code which indicates to the repair personnel where the problem is.

Press MENU to advance to the second Diagnostic screen.

The second Diagnostic screen evaluates external connections to the unit. The first category is Transducer input. If a transducer is detected, a message will indicate "connected".

ADVANCED FEATURES

USING DIAGNOSTIC
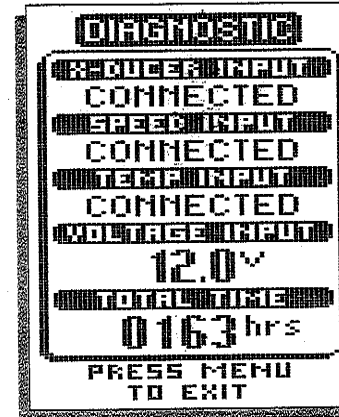
This is an excellent way to confirm transducer connection. If a transducer is connected directly to the unit, the connection will be indicated here. If a switch is used, use Diagnostic to confirm the connections from each transducer. If a series of dashed lines is shown, then no transducer is connected or there is a problem with the transducer or cable.

The next categories indicate the connection of boat speed sensor and surface water temperature sensor. These accessory sensors can be purchased independently or together as a single sensor (see Available Accessories). If the sensors are connected and working properly, a "connected" message will appear.

Note: This feature only works when the boat is in motion as the paddle wheel on the speed sensor must rotate to be detected.

The voltage input category is especially helpful in diagnosing input voltage problems. The current input voltage will be displayed. If voltage fluctuations or power supply in excess of 20 VDC or less than 10 VDC is suspected, use the diagnostic screen to confirm input voltage. Often, small outboard motors do not effectively regulate voltage when operated at high engine speeds.

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ADVANCED FEATURES
USING DIAGNOSTIC

Use Diagnostic while running the boat at high speeds to show the voltage gain. Also, if you are using the *XTREME 160* in portable configuration or from the trolling motor battery, Diagnostic can be used to evaluate the health of the battery by showing the current voltage.

The total time category indicates the total time the unit has been in use since shipped from the factory.

Note: It is normal for some hours to be indicated in the total time when the unit is new due to factory testing.

While this is often of interest to the user, it is primarily a diagnostic tool for the repair technician should service be required. Press MENU again to exit Diagnostic.

MAINTENANCE AND WARRANTY
MAINTENANCE

MAINTENANCE

Your Humminbird *XTREME 160* fishfinder is designed to provide you with years of trouble-free operation with virtually no maintenance. Follow the simple procedures below to ensure that your *XTREME 160* continues to deliver top performance.

If the unit comes into contact with salt spray, simply wipe the affected surfaces with a cloth dampened in fresh water. Do not use a chemical glass cleaner on the lens. Chemicals in the solution may cause cracking in the lens of the unit.

When cleaning the LCD protective lens, use a chamois and non-abrasive, mild cleaner. Do not wipe while dirt or grease is on the lens. Be careful to avoid scratching the lens.

If your boat remains in the water for long periods of time, algae and other marine growth can reduce the effectiveness of the transducer. Periodically clean the face of the transducer with liquid detergent. Pivoting the transducer up in the bracket may allow better access for inspection or cleaning.

If your boat remains out of the water for a long period of time, it may take some time to wet the transducer when returned to the water. Small air bubbles can cling to the surface of the transducer and interfere with proper operation. These bubbles will dissipate with time, or you may wipe the face of the transducer with your fingers after the transducer is in the water.

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MAINTENANCE AND WARRANTY
TROUBLESHOOTING

Never leave your XTREME 160 in a closed car or trunk—the extremely high temperatures generated in hot weather can damage the electronics.

TROUBLESHOOTING

Do not attempt to repair the *XTREME 160* yourself. There are no user serviceable parts inside, and special tools and techniques are required for reassembly to ensure the waterproof integrity of the housing. **Repairs should be performed only by authorized Humminbird technicians.**

Many requests for repair received by Humminbird involve units that do not actually need repair. These units are returned "no problem found". If you have a problem with your *XTREME 160*, consult the following troubleshooting guide before calling Customer Support or sending your unit in for repair. The *XTREME 160* contains several tools which can aid in determining if there is a problem and how to isolate and repair the problem in many cases.

1. Nothing happens when I turn the unit on.

Check the power cable connection at both ends. Be sure that the cable is connected correctly to a reliable power source—red lead to positive, black lead to negative or ground. Ensure that the power available at the mount is between 10 and 20 VDC. If the unit is wired through a fuse panel, ensure that the panel is powered. Often accessory fuse panels are controlled by a separate switch or the ignition

switch. Also, often a fuse can appear to be good when in fact is not. Check the fuse with a tester or replace it with a fuse known to be good.

Check the power connection to the *XTREME 160*. It is possible to force the power cable connector into the cable holder incorrectly. If the connector is reversed, the unit will not work. Examine the contacts on the back of the unit to ensure that there is no corrosion. Finally, ensure that the unit is firmly seated on the mount. The electrical contacts are not made until the unit is fully seated.

Ensure that the metal cable retainer is properly installed in the mount. If not, the power connected may push out when the unit is put on the mount.

2. There is no bottom reading visible on the display.

There are a number of possible causes for this condition. If the loss of bottom information occurs only at high boat speeds, then a transducer adjustment is needed. (refer to Transducer Installation). If the digital depth readout is working but there is no bottom visible on-screen, it is possible that the depth range has been adjusted manually to a range lower than what is needed to display the bottom. Also, in very deep water, it may be necessary to manually increase the sensitivity setting to maintain a graphic depiction of the bottom (See Control Functions).

If you are using a transducer switch to connect two transducers to the *XTREME 160*, ensure that the switch is in the correct position to connect a transducer which is in water, (If a trolling motor transducer is selected and the trolling motor is out of water, no sonar information will be seen.)

If none of the above solve the problem, inspect the transducer cable from end to end for breaks, kinks, or cuts in the outer casing of the cable. If the transducer is connected to the unit through a switch, temporarily connect it directly to the unit and try again. If none of these items identifies an obvious problem, the transducer itself is probably the problem. Be sure to include the transducer if returning the unit for repair.

3. When in very shallow water, I get gaps in the bottom reading and inconsistent digital depth indication.

The *XTREME 160* will work reliably in water 3' or deeper. The depth is measured from the transducer, not necessarily from the surface.

4. The unit comes on before I press POWER, and won't turn off.

Check the transducer cable—if the outer jacket of the cable has been cut and the cable is in contact with bare metal, you will need to repair the cut with electrical tape. If no problem is found with the cable, disconnect the transducer from the unit and see if the problem is corrected, to confirm the source of the problem.

5. I get gaps in the reading at high speeds.

Your transducer requires adjustment. If the transducer is transom-mounted, there are two adjustments available to you—height, and running angle. Refer to Transducer Installation, make small adjustments and run the boat at high speeds to determine the effect. It may take several tries to optimize high speed operation. This can also be a result of air or turbulence in the transducer location caused by rivets, ribs, etc.

6. My unit loses power at high speeds.

Your *XTREME 160* has an over-voltage protection which turns the unit off when input voltage exceeds 20 VDC. Some outboard motors do not effectively regulate the power output of the engine's alternator and can produce voltage in excess of 20 volts when running at high RPMs. The *XTREME 160* can display input voltage in the Diagnostic screen. Use this readout to determine if the voltage exceeds 20 VDC. Use a voltage regulator or conditioner that provides 12 VDC output over a wide range of input voltages. SureVolt™ from Humminbird is a recommended unit, providing 12 VDC out with inputs from 6 VDC to 23 VDC.

7. The screen begins to fade out. Images are not as sharp as normal.

Check the input voltage using Diagnostic. The *XTREME 160* will not operate on input voltages below 10 VDC.

MAINTENANCE AND WARRANTY

TROUBLESHOOTING

8. The display shows many black dots at high speeds and high sensitivity settings.

You are seeing noise or interference caused by one of several sources. Noise can be caused by other electronic devices. Turn off any nearby electronics and see if the problem goes away. Noise can also be caused by the engine. If engine noise is causing the interference, the problem will intensify at higher RPMs. Increase the engine speed with the boat stationary to isolate this cause. Propeller cavitation can appear as noise on-screen. If the transducer is mounted too close to the propeller, the turbulence generated can interfere with the sonar signal. Ensure that the transducer is mounted at least 15" from the prop.

MAINTENANCE AND WARRANTY
WARRANTY

HUMMINBIRD ONE YEAR FULL WARRANTY

First year repairs (from original date of purchase) on your *XTREME 160* unit will be made absolutely free. This does not include physical damage to the unit or its accessory items. Any modification or attempt to repair the original equipment or accessories by unauthorized individuals will void the warranty. Return the warranty registration card and retain your bill of sale for warranty verification. Accessories not manufactured under the Humminbird trade name are not covered by our warranty. **The customer is responsible for shipping charges to Humminbird.** Humminbird will provide ground UPS or Parcel Post shipping back to the customer free of charge. This warranty applies to the original purchaser only.

This warranty is in lieu of all other warranties expressed or implied and no representatives or persons are authorized to provide for any other liability in connection with the sale of our products. Humminbird reserves the right to perform modifications or improvements on its products without incurring the obligation to install the changes on units previously manufactured, sold, delivered, or serviced.

THIS IS A FULL WARRANTY AS DEFINED BY THE FEDERAL WARRANTY ACT, EFFECTIVE JULY 4, 1975.

MAINTENANCE AND WARRANTY
SERVICE POLICY

This Service Policy is valid in the United States only. This applies to Humminbird units returned to our factory in Eufaula, Alabama, and is subject to change without notice.

All repair work is performed by factory-trained technicians to meet exacting factory specifications. Factory serviced units go through the same rigorous testing and quality control inspection as new production units.

Even though you'll probably never need to take advantage of our incredible service guarantee, it's good to know that we back our units this well. We do it because you deserve the best. We will make every effort to repair your unit within three working days from the receipt of your unit. This does not include shipping time to and from our factory. Units received on Friday are usually shipped by Wednesday, units received Monday are usually shipped by Thursday, etc.

We reserve the right to deem any product unserviceable when replacement parts are no longer reasonably available or impossible to obtain.

After the original warranty period, a standard flat rate service charge will be assessed for each repair (physical damage and missing parts are not included). Please call our Customer Support Department to verify the service charge for your unit. If charges are not prepaid, the unit will be returned C.O.D. If you are experiencing problems related to bottom or depth readings, please send your transducer along with your unit when sending for repair.
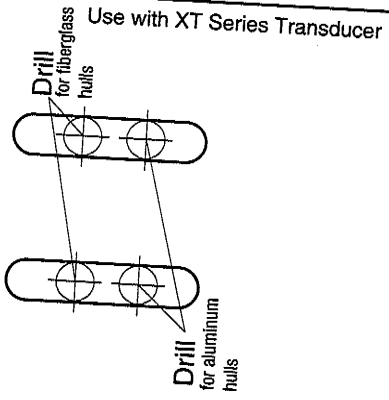
The Humminbird Customer Support number and address are listed inside the rear manual cover.

SPECIFICATIONS

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Operating Frequency . . . . . . . . . . . . . . . . . . 200 kHz
Power Output  . . . . . . . . . . . . . . . . 250 Watts (RMS)
 . . . . . . . . . . . . . . . . . . . . . 2000 Watts (Peak to Peak)
Area of Coverage  . . . . . . . . . . . . . . . 53° at -10 db
Power Requirement  . . . . . . . . . . . . . . . 10 - 20 VDC
Display . . . . . . . . . . . . . . . . . . . . . Super Twist LCD
LCD Matrix  . . . . . . . . . . . . . . . . . . . . . . . 128 x 64
Viewing Area  . . . . . . . . . . . . . . . . 2.90" H x 2.35" W
Mounting  . . . . . . . . . . . . . . Quick Disconnect Mount
Unit Size  . . . . . . . . . . . 6 3/4"H x 6 1/4"W x 4 1/4"D
Transducer (Standard)  . . . . . . . . . . . . . . . . XT-6-20
Transducer Cable Length  . . . . . . . . . . . . . . . . . 20'
Depth Ranges . . . . . . . . . . . 15', 30', 60', 120' 180',
 . . . . . . . . . . . . . . . . . . . . . 240', 360', 480', & 600'
Zoom Ranges . . . . . . . . . . . . . 7 1/2', 15', 30', & 60'
```

TOP

Use ⁵⁄₃₂" (4.0mm) drill bit

drill a set of two holes

Use with XT Series Transducer

Drill
for fiberglass
hulls

Drill
for aluminum
hulls

ALIGN ONE CORNER
WITH LOWER EDGE
OF TRANSOM

CUSTOMER RESOURCE CENTER

If you have any questions, call our Humminbird Customer Resource Center Hotline:

1-334-687-0503

Throughout the U.S. and Canada, hours are Monday-Friday, 8:15 a.m. to 5:00 p.m. Central time.

Or visit our web site: **www.humminbird.com** for _Product Support_ and troubleshooting guides.

If after reading "Troubleshooting" you determine your unit needs factory service, please attach a description of the problem and send it with the unit to the address below.

If you are including a check, please attach it to the unit.

Humminbird
Service Department
108 Maple Lane
Eufaula, AL 36027

Further information on Humminbird products can be found at:

www.humminbird.com