

LOWRANCE®


StructureScan™

Sonar Imaging

Operation Manual



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www.lowrance.com

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Softkeys

Instructions in this manual are based on HDS unit menus, not softkeys. If you have an HDS-8 or HDS-10, you can get the same results using the softkeys.



To use softkeys:

1. Touch the desired softkey to change settings, view a softkey menu or adjustment scrollbar.
2. Use the keypad to select menu items and make adjustments to scrollbars. Press  to close softkey menus.



NOTE: After making adjustments to options or settings, use the **EXIT** key to resume normal operation.

StructureScan

Consists of two powerful sonar views: Sidescan and Downscan. Used in conjunction with the built-in broadband sounder, StructureScan gives you an underwater panoramic view.



Sidescan

Sidescan

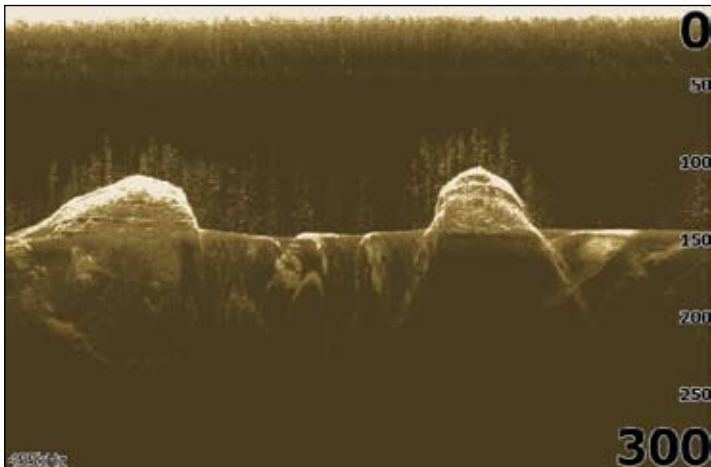
Broadcasts a sonar beam to each side of your boat allowing you to view structure, and terrain without having to drive your boat over the top of it.

You can use Sidescan to:

- Save waypoints at objects/locations off to side of the boat
- Review history
- Measure the size of underwater objects and the distance from one object/location to another object/location of interest using live Sidescan returns or Sidescan history
- Create sonar logs
- Use two frequencies: 455 kHz (more distance) and 800 kHz (better definition)

Downscan

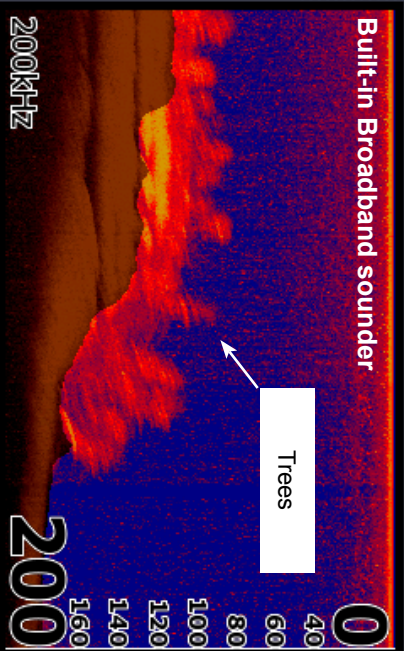
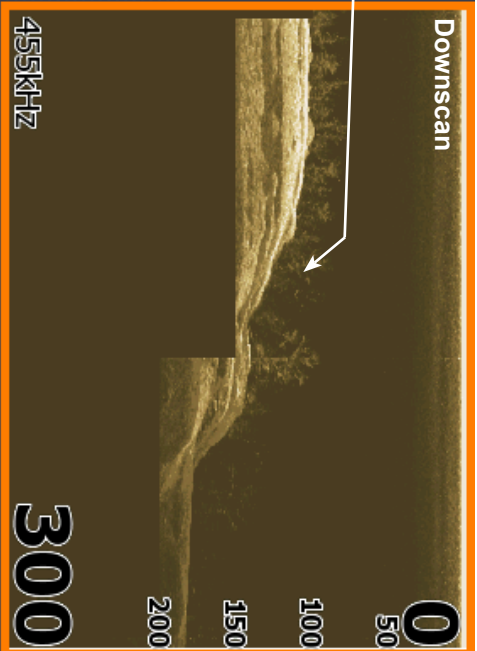
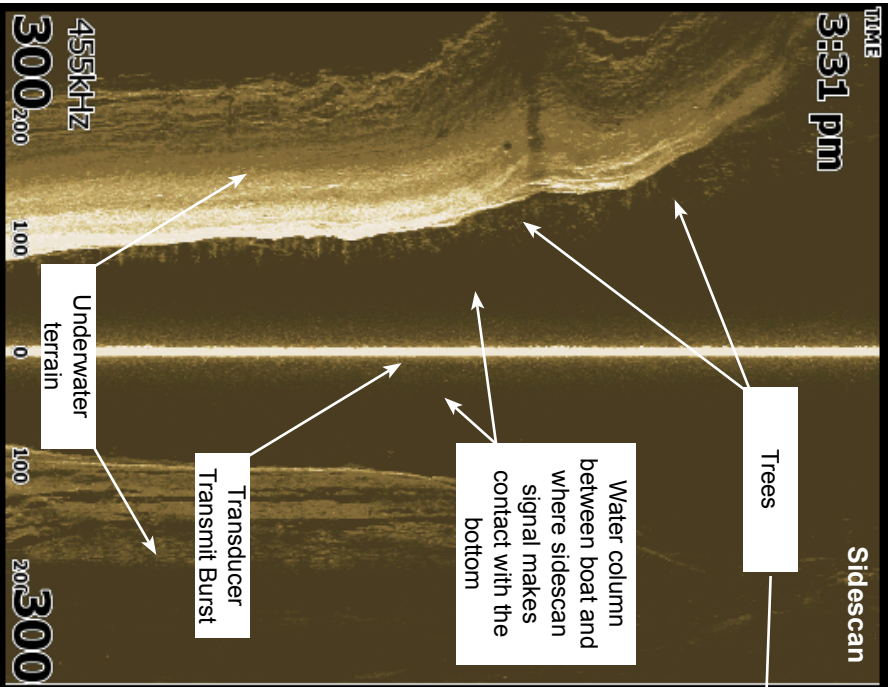
Uses the same technology as sidescan, but broadcasts the beam downward, giving you the same high resolution in a familiar right to left display.



Downscan

You can use Downscan to:

- See different view of objects/locations selected with cursor on Sidescan panel
- Save waypoints
- Review history and create sonar logs
- Use two frequencies: 455 kHz (more distance) and 800 kHz (better definition)
- Overlay Downscan imaging on the sonar page



Displaying Sidescan and Downscan

Sidescan and Downscan can be shown on the display individually or together in different split screen configurations.

To display Sidescan:

1. Press the **PAGES** key.
2. Use the keypad to rotate the carousel menu until *Structure* is selected.
3. Press **ENTER**.



To display Downscan:

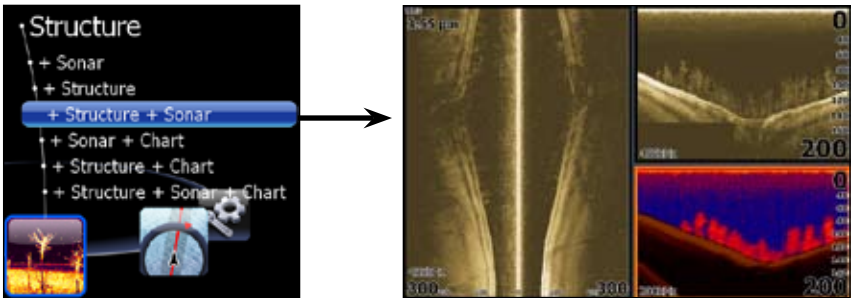
1. From the Sidescan onscreen display, press **MENU**.
2. Select *Structure Options* and press **ENTER**.
3. Highlight *View* and press **ENTER**.
4. Select *Down* and press **ENTER**.



NOTE: To access the StructureScan menu, press **MENU** from a StructureScan page or from an active StructureScan panel.

Screen Configurations

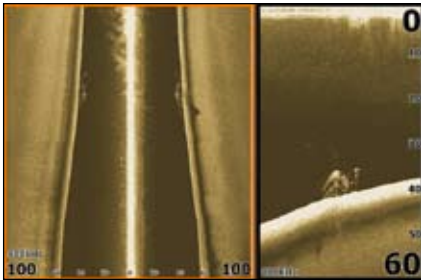
StructureScan can be shown with other pages in various screen configurations including: splitscreen, tri-screen (HDS-8/10 only) and quad screen (HDS-8/10 only).



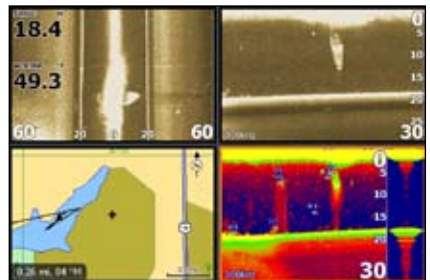
Selecting Structure + Sonar from the Structure menu displays a tri-screen with two StructureScan panels and a sonar panel.

To display a split, tri or quad screen:

1. Press the **PAGES** key.
2. Press the keypad left/right to rotate the carousel menu until *Structure* is selected.
3. Press the keypad up/down to select the desired combination of panels and press **ENTER**.



Structure + Structure Splitscreen



Structure + Structure + Sonar + Chart Quadscreen (HDS -8/10 only).



NOTE: To switch the active panel on a multi-screen display, hold down the Pages key until the orange border switches to the next panel. Repeat this step to rotate active status to the next panel.

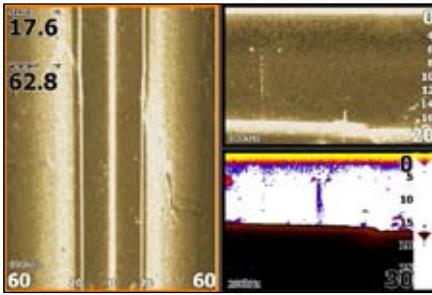
Overlay Downscan

Places downscan data on top of sonar data, making it easier to separate fish from structure.

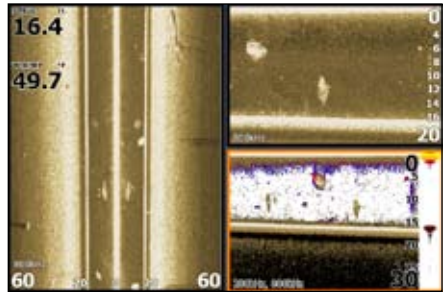
To turn on Downscan Overlay:

1. Press **MENU** twice.
2. Select *Sonar* and press **ENTER**.
3. Highlight *Overlay Downscan* and press **ENTER**.





Downscan overlay set to 0%.



Downscan overlay set to 85%

Overlay Transparency

Controls the transparency of Downscan overlay on the sonar page, allowing you to select an overlay level best suited for current water conditions.

To make adjustments to Overlay:

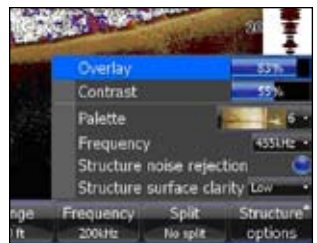
1. Make sure the sonar panel is the active panel. Press **MENU**.
2. Select *Adjust* and press **ENTER**.
3. Use the keypad to highlight *Overlay*.
4. Press the keypad left/right to decrease/increase overlay transparency.



StructureScan Options Softkey

If you have an HDS-8 or HDS-10, you will notice the Stop Sonar softkey is replaced with the Structure Options softkey when Overlay Downscan is turned on.

That gives you one-touch access to StructureScan display options and settings, including the Overlay adjustment scrollbar.



StructureScan Menu

Provides access to StructureScan features, settings and the StructureScan Options menu.

To access the StructureScan menu, press **MENU** from the StructureScan page.



Structure menu

Contrast

Controls the level of contrast used on the display.

To make adjustments, highlight **Contrast** on the StructureScan menu and press the keypad left/right to decrease/increase the contrast level.

Range

Used to adjust the width of a sidescan image and controls the section of the water column shown when downscan is the selected view.

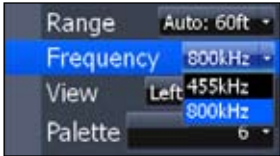
To select Range:

1. Select **Range** from the Structure menu and press **ENTER**.
2. Use the keypad to select the desired range and press **ENTER**.



Frequency

StructureScan supports two frequencies: 455 kHz and 800 kHz. You will be able to see farther when using 455 kHz frequency, but will; clearer images in either mode when operation the unit with the 800 kHz frequency.

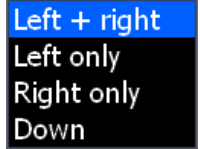


To adjust Frequency:

1. Select **Frequency** from the StructureScan menu and press **ENTER**.
2. Highlight the desired frequency and press **ENTER**.

View

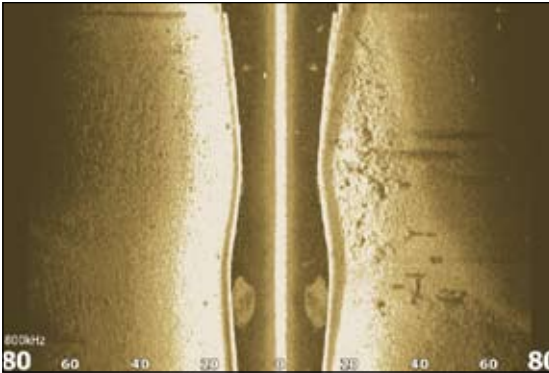
Selects the view your display unit will use when displaying StructureScan data. In a multi-panel display, you can select different views for each StructureScan panel.



View menu

To select a View:

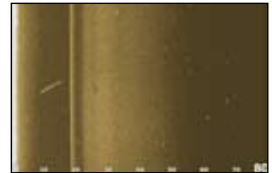
1. Select *View* from the StructureScan menu and press **ENTER**.
2. Highlight the desired option and press **ENTER**.



Left and Right selected on View menu.



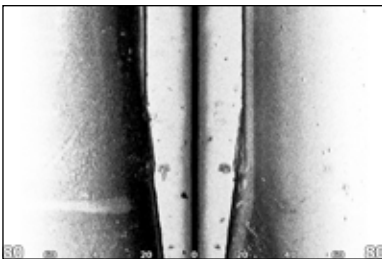
Left Only



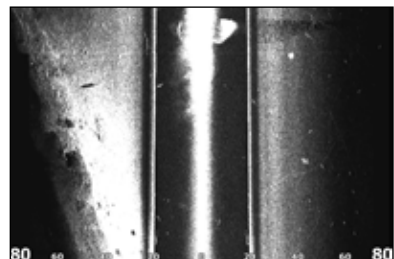
Right Only

Palette

Gives you control of the overall look and feel of the display by allowing you to select a palette with color and brightness levels geared toward your viewing preferences.



Palette No. 1



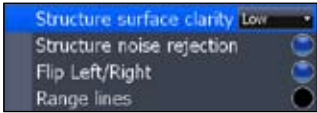
Palette No. 2

To select a Palette:

1. Select *Palette* from the StructureScan menu and press **ENTER**.
2. Use the keypad to select the desired palette and press **ENTER**.

Structure Options

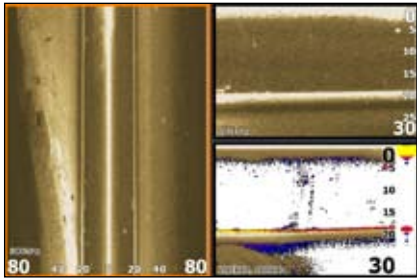
To make adjustments to StructureScan display settings, highlight **Structure Options** on the StructureScan menu and press **ENTER**.



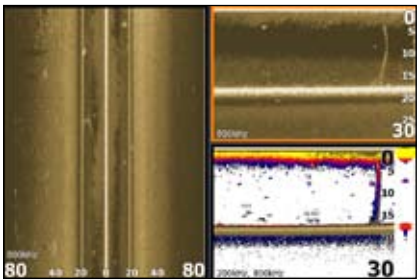
Structure Options menu

Structure Surface Clarity

Adjusts sensitivity near the surface of the water to reduce or eliminate onscreen clutter caused by wave action, boat wakes, temperature inversion, etc.



Structure Surface Clarity turned off.



Structure Surface Clarity on High.

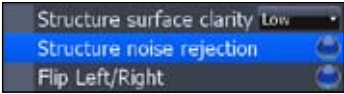
To adjust Surface Clarity:

1. Select **Structure Surface Clarity** from the Structure Options menu and press **ENTER**.
2. Use the keypad to select the desired setting and press **ENTER**.

Structure Noise Rejection

Reduces onscreen clutter caused by bilge pumps, engine vibration, air bubbles or other transducers on your boat.

To turn Structure Noise Rejection On/Off, highlight **Structure Noise Rejection** on the Structure Options menu and press **ENTER**.



Flip Left/Right

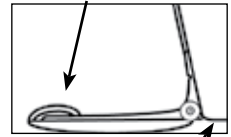
Controls the orientation of the sidescan/downscan onscreen display.

If the transducer is installed with the cabled end pointing away from the back of your boat or pointing away from the front of your trolling motor, you must turn on Flip Left/Right.

That will ensure that what is on the left or right side of your boat underwater, will be shown on the corresponding side of the screen on your display unit.

To turn on/off Flip Left/Right, highlight **Flip Left/Right** on the Structure Options menu and press **ENTER**.

Cabled end of transducer

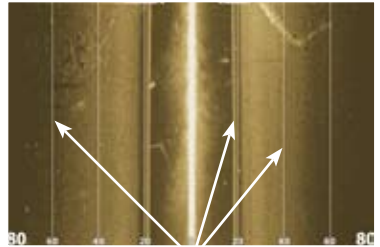


Back of the boat

Range Lines

Onscreen lines that make it easier to estimate depth of sonar targets (Downscan) or distance from sonar targets (Sidescan).

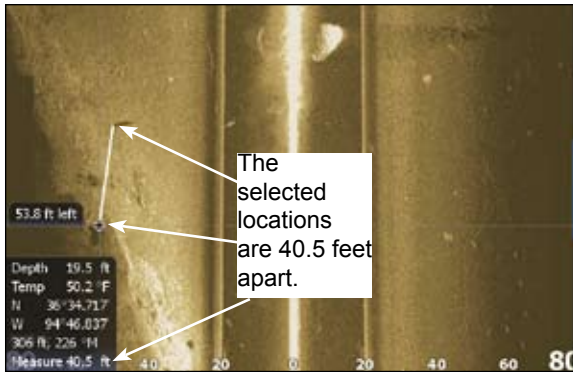
To turn on/off Range Lines, select **Range Lines** on the Structure Options menu and press **ENTER**.



Range Lines shown in Sidescan view.

Measure Distance

Measures the size of underwater objects and the distance from one object/location to another object/location.



To Measure Distance:

1. Press **MENU** from a Sonar or StructureScan page.
2. Highlight **Measure Distance** and press **ENTER**.
3. Use the keypad to move the cursor into the desired position.
4. To measure the distance from the selected location to another object or location press **ENTER** and move the cursor.
5. Press **EXIT** to return to normal operation.

Stop Sonar

Stops Sidescan and Downscan sonar from the scrolling, allowing you to get a closer look at onscreen objects or locations.

To pause/restart the chart, highlight **Stop Sonar** on the Structure menu and press **ENTER**.

Log sonar

Records sonar logs, allowing you to review sonar data later via an MMC or SD card.

To access the Sounder Logging menu, select **Log Sonar Data** from the Structure menu and press **ENTER**.



Log Sonar Menu	
Filename	Input the desired name for the sonar log file
Save to	Selects location where sonar log will be saved/stored; to save data to MMC/SD card, select Memory Card
Bytes	Controls number of bytes per sounding. More bytes yields better resolution/shorter logging time; conversely, fewer bytes produces longer sonar logs/lower resolution
Log All Channels	Logs StructureScan data and conventional sonar data simultaneously. When logging all channels, logs are saved in .S12 format instead of .slg format. <i>The .S12 file format is not compatible with non-HDS units.</i>
Time Remaining	Recording time left until memory storage runs out

To input a filename:

1. Highlight the Filename text box and press **ENTER**. A keyboard will appear on the screen.
2. Use the keypad to input the desired filename.
3. Select **OK** and press **ENTER**.



To adjust *Save to* or *Bytes per Sounding*:

1. Highlight *Save to* or *Bytes per Sounding* from the Sounder Logging menu and press **ENTER**.
2. Use the keypad to select the desired option and press **ENTER**.

To turn on/off *Log All Channels*:

1. Highlight *Log All Channels* on the Log Sonar menu.
2. Press **ENTER**.

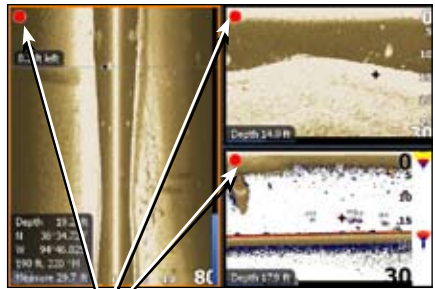
Start Logging

A sonar log is a recording of sonar activity displayed on the sonar page.

To record a sonar log, highlight the *Start Logging* button and press **ENTER**.

To stop logging:

1. Select *Stop* from the Sounder Logging menu and press **ENTER**.
2. Highlight the *Stop Logging* button and press **ENTER**.



Red circle indicates sonar log is being recorded; All Channels are being logged in this example

Source

Selects the transducer data that will be shown by a your display unit when there is more than one StructureScan transducer connected to an ethernet network.

To select a source:

1. Select *Source* from the Structure menu and press **ENTER**.
2. Highlight the desired option and press **ENTER**.

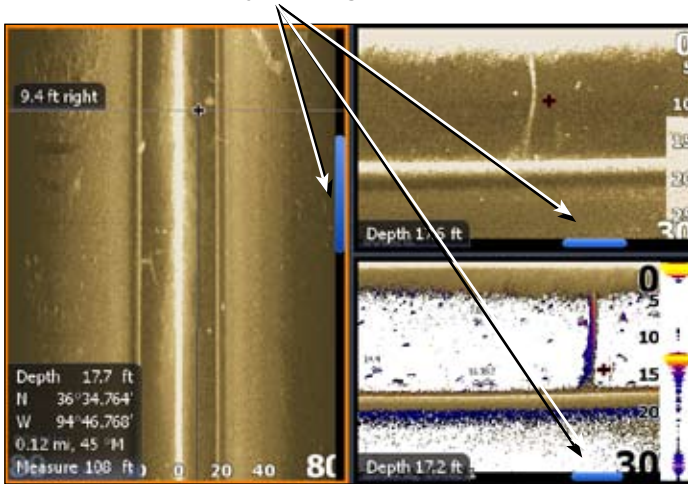
Settings

Opens the Sonar Settings menu.

Viewing Structure History

You can view Sidescan or Downscan history individually — by displaying them full screen — or simultaneously by adding them to a multi-panel screen.

Blue history tracking bars



To view history:

1. From a StructureScan page, press the keypad down (Sidescan) or to the left (Downscan and Sonar). The blue history tracking bar will appear helping you keep tabs on where you are in the history log.
2. To return to normal operation, press **EXIT**.

Save Waypoints

You can save waypoints using both Sidescan and Downscan views, allowing you to mark a desired object/location so you can revisit it later.

To save a waypoint:

1. Press the keypad to activate the cursor.
2. Move the cursor over the desired object/location and press **MENU**.
3. Select *New Waypoint at Cursor* and press **ENTER**.



NOTE: You can save a waypoint by moving the cursor into the desired position and pressing Enter or the Wpt key from the StructureScan or Sonar pages.

StructureScan Specifications	
Power Requirement	12 Volts
Voltage Input	10V - 17V
Transmit Power	WRMS: 500W RMS (800 kHz); 525W RMS (455kHz) WPK: 4000W (800kHz); 4200W (455kHz)
Current Drain	Max: .75A Typical: .60A Inrush: 4.7A pk
Fuse Type	External: 3A Fast Acting Internal: 3.5 Slo-Blo
Coverage Area	-3db and -10db
Transducer Cable	20 feet (6m)
Target Separation	1.5" (38.1mm)
Transducer Frequency	455kHz and 800kHz
Communication	Ethernet
Shared devices supported	3
Weight	LSS-1 (1.8lbs) Transducer (1.9lbs) Transducer with bracket (2.55lbs)

Sidescan Specifications	
Max Range	455kHz (500ft — 250 per side) 800kHz (300ft —150 per side)
Max Speed	35 mph (56 kmh)
Mark objects	15 mph (24 kmh)
Optimum speed	10 mph (16 kmh) or less

Downscan Specifications	
Max Depth	100 ft (800kHz); 300 ft (455kHz)
Max Speed	55 mph (88 kmh)
Mark objects	35 mph (56 kmh)
Optimum speed	10 mph (16 kmh) or less

StructureScan Troubleshooting		
Indicator	LED Status	Definition
Transducer LED	Off	Transducer not connected or cable/transducer is broken
Transducer LED	Green/ stays on	Transducer detected/locked on to bottom
Transducer LED	Green/flashing	Transducer detected/not locked on to bottom
Power LED	Off	No power or not switched on
Power LED	Red/stays on	Product in booting process
Power LED	Green/stays on	Product has power/operating
Power LED	Red/Green/slow flashing	Product in factory mode; ethernet communication working
Power LED	Red/Green fast flashing	Product in factory mode; no ethernet communication (cable unplugged or bad cable)
Ethernet LED	Off	No ethernet communication (cable unplugged, bad cable or remote unit not powered)
Ethernet LED	Yellow/Flashing-solid	Ethernet communication is working (link/active light)

StructureScan Troubleshooting Tips	
StructureScan not displayed	<ul style="list-style-type: none"> • Make sure LSS-1 is powered • Check unit software; must have at least version 2.5 • Make sure yellow wire is connected to switched power source • Check fuse
No Data	Check range or turn on auto range
Data washed out/same color	Turn down contrast; try different palettes
Signal fades at distances/depths more than 100 feet	Use 455 kHz frequency at deeper depths
Left/right data swapped on screen	Toggle the Flip Left/Right feature
No Source is displayed	<ul style="list-style-type: none"> • Make sure HDS unit and LSS-1 are powered and connected to ethernet network • Make sure all switches are powered • Check link/active light to see which units are not communicating

Disclaimer

As Navico is continuously improving this product, we retain the right to make changes to the product at any time which may not be reflected in this version of the manual. Please contact your nearest distributor if you require any further assistance.

It is the owner's sole responsibility to install and use the instrument and transducers in a manner that will not cause accidents, personal injury or property damage. The user of this product is solely responsible for observing safe boating practices.

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...in the USA:

Contact the Factory Customer Service Department. Call toll-free:

For Lowrance: 800-324-1356. For Eagle: 800-324-1354

8 a.m. to 5 p.m. Central Standard Time, M-F

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...in Canada:

Contact the Factory Customer Service Department. Call toll-free:

800-661-3983

905-629-1614 (not toll-free)

8 a.m. to 5 p.m. Eastern Standard Time, M-F

...outside Canada and the USA:

Contact the dealer in the country where you purchased your unit. To locate a dealer near you, see the instructions in paragraph number 1 below.

Accessory Ordering Information

LEI Extras™, Inc. is the accessory source for sonar and GPS products manufactured by Lowrance Electronics and Eagle Electronics. To order Lowrance or Eagle accessories, please contact:

1) Your local marine dealer or consumer electronics store. To locate a Lowrance dealer, visit the web site, www.lowrance.com, and look for the Dealer Locator. To locate an Eagle dealer, visit the web site, www.eaglesonar.com, and look for the Dealer Locator. Or, consult your telephone directory for listings.

2) U.S. customers: ~~LEI Extras Inc., PO Box 129, Catoosa, OK 74015-0129~~
~~Call toll free in the U.S., 800-324-0045, 8 a.m. to 5 p.m. Central Standard Time, M-F, or visit our web site www.lei-extras.com.~~

3) Canadian customers: Lowrance/Eagle Canada, 919 Matheson Blvd. E. Mississauga, Ontario L4W2R7 or fax 905-629-3118.

Call toll free in Canada, 800-661-3983, or dial 905 629-1614 (not toll free), 8 a.m. to 5 p.m. Eastern Standard Time, M-F.

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