

LOWRANCE®



LWX-1



Sirius Audio & Weather Antenna
Installation & Operation Manual

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For user manuals and the most current information on this product, its operation and accessories, visit our web site:

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Installation

Thank you for purchasing the LWX-1 SIRIUS Audio/Weather Antenna. This manual documents installation, activation and how to use SIRIUS features with an HDS display unit.

This section covers the installation of the Lowrance LWX-1 and SIRIUS subscription activation.



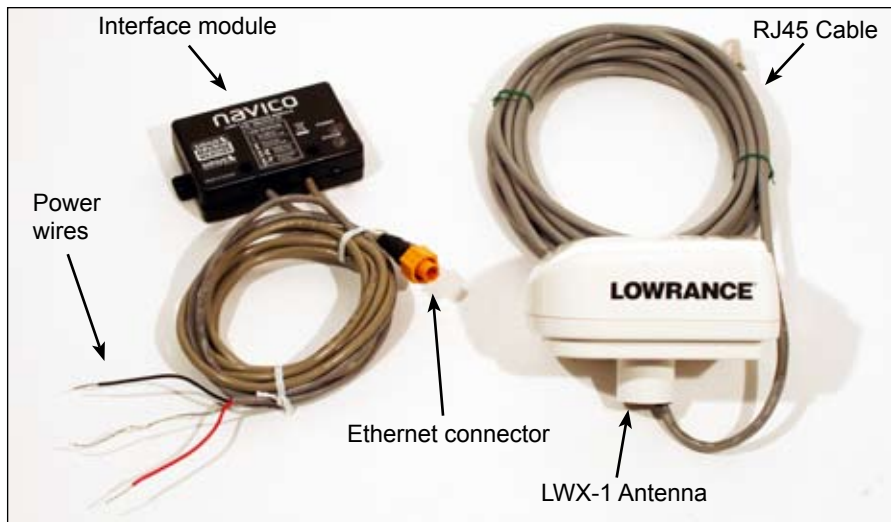
CAUTION: For the LWX-1 to work properly with your HDS product, you will need code version 2.0 or greater. Visit www.lowrance.com for instructions on how to download/install software updates.

LWX-1 package includes:

Main Components:

Main Components	
Antenna Receiver (AR) pre-configured for a mast mount	IM Power Cable
AR Interconnect Cable	IM Network Cable
Interface Module (IM)	

Mounting Components	
AR Gasket (1)	IM Mounting Screws (2)
AR Mounting Screws (4)	AR Screw Caps (5) — one extra



LWX-1 Installation Options

The LWX-1 can be mounted in three configurations:

1. Mast Mount
2. Flush Mount
3. AR Flush Mount

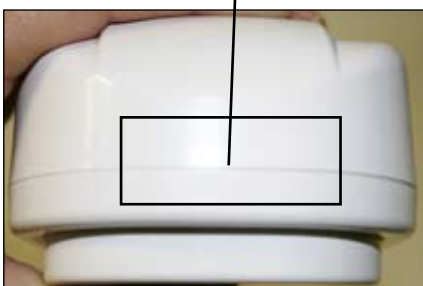
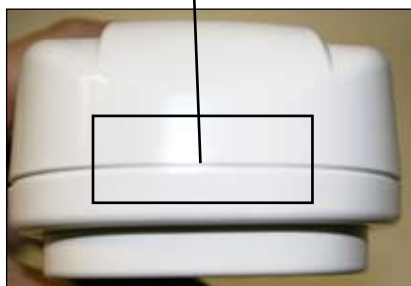
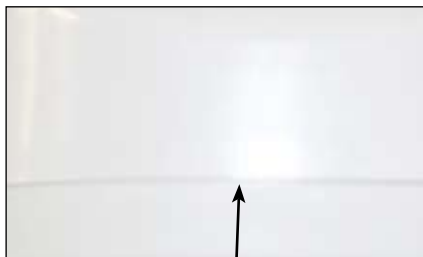
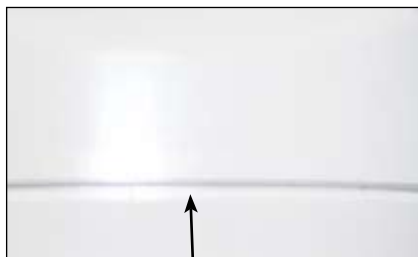


NOTE: When installing, make sure the RJ45 Interconnect cable will fit properly through any ratchet mounts or other boat hardware.



NOTE: Planning a cable route in advance could prevent multiple cable pulls, decreasing the chance of damaging the RJ45 connector.

WARNING



AR Bolts in place, but module is not tightly sealed.

AR Bolts are tightened securely; module is sealed tight.

Tightening AR bolts

No matter how the LWX-1 antenna is installed, you will have to loosen or remove the AR bolts. After mounting the LWX-1, make sure the AR bolts have been tightened securely. The AR bolts **MUST** be tightened to prevent water from getting into the LWX-1 housing.



Mast Mount Installation

The LWX-1 Antenna Receiver (AR) is shipped pre-configured for a mast mount.



Loosening LWX-1 AR Bolts.



Insert RJ45 Interconnect Cable into mast/pole mount.

To use LWX-1 Mast Mount Installation:

1. Loosen the four LWX-1 AR Bolts & Nuts. The circular mast boot on the bottom of the LWX-1 will loosen, allowing it to turn.
2. Insert the RJ45 Interconnect Cable into the mast/pole mount and route it to the Interface Module.
3. Move the LWX-1 antenna into the desired position and screw the mast boot onto the mast/pole. The LWX-1 mast mount is designed for occasional hand alignment, so hand-tighten as much as possible – DO NOT OVER-TIGHTEN.
4. With the LWX-1 installed, move it in to the desired position and re-tighten the four AR Bolt & Nuts.
5. Use the four white screw caps to cover the bolt holes on top of the LWX-1 cover .



Hand tighten LWX-1 onto mast mount.

Flush Mount Through-Deck Installation

You will route the RJ45 cable through the deck in this installation.



Remove AR Mast mount.



Use Mast mount panel as a template.

To use Flush Mount through-deck installation:

1. Remove the four LWX-1 AR Bolts & Nuts and then remove the preconfigured mast mount.
2. Use the mast mount panel as a template to mark where the mounting screws and RJ45 interconnect cable holes will be drilled.



WARNING: The LWX-1 AR cover and AR base are factory fitted.
DO NOT ATTEMPT TO SEPARATE THEM.

3. Drill the 1/32" starter holes for the mounting screws and a 1/2" hole for the RJ45 interconnect cable.
4. Insert the interconnect cable through the deck and pull it through.
5. Mount the LWX-1 to the deck using the four supplied machine screws.
6. Use the four white screw caps to cover the bolt holes on top of the LWX-1 cover.



*Insert Flush Mount
machine screw*

Flush Mount Above-Deck Installation

This installation differs from the Flush Mount through-deck Installation in that the cable is routed out of the back of the LWX-1 Antenna, instead of through the deck.



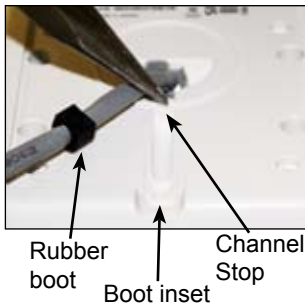
Breaking away the channel stop.



Insert rubber boot into boot inset.

To use Flush Mount above-deck installation:

1. With a pair of needle-nose pliers break away/remove the channel stop, so the interconnect cable can fit flush in the cable channel on the bottom of the LWX-1.
2. Insert the RJ45 interconnect cable into the cable channel.
3. Ensure the rubber boot on the Interconnect Cable is firmly in the AR Rubber Boot Inset so it is flush with the bottom of the LWX-1 Base.
4. Use the mast pound panel to mark where the machine screws will be drilled. Drill 1/32" starter holes.
5. Make sure the interconnect cable is secured in the cable channel and then mount the LWX-1 to the deck using the four supplied machine screws.
6. Use the four white screw caps to cover the bolt holes on top of the LWX-1 cover.



Interface Module Installation

We recommend the Interface Module be mounted below deck in a water tight area.

To install the Interface Module:

1. Open the interface module by unscrewing the two interface module housing screws on the top of the module.
2. Insert the RJ45 cable connector into the interface module RJ45 connector inside the module housing. The RJ45 connector will click into place when it is connected correctly.
3. Route the AR Interconnect Cable through the exit slot of the module (between the other two cables) and close the module.
4. Tighten the interface module housing screws.
5. Mount the module on a vertical surface using the supplied mounting screws. Make sure the cables exit downward.
6. Connect the interface module Power Cable to the vessel's power (8 to 16 VDC source).
7. Connect the module's ethernet connector directly to your HDS unit or Navico Expansion Port (NEP).



LWX-1 Status Indicators

LWX-1 status is shown by two LEDs on the Interface Module. The interface indicators are used to obtain connectivity with the end-user device, where more detailed problem diagnosis is available.

Power LED (Power Status)	
LED Off	No power to interface module
LED On (Solid Green)	Solid green (interface module powered)

Status LED (LWX-1 Antenna Status)	
LED Off	Interface module not powered
	Antenna disconnected
	Antenna malfunctioned and is inaccessible
LED On (Solid Green)	Antenna functioning correctly and is providing SIRI-US Data and Audio
LED On (blinks 3 times during power up)	Antenna functioning correctly; interface module ethernet cable not connected to device or device is not operational
LED On (blinks 3 times during power up then turns off)	Antenna not functioning correctly and interface module ethernet cable is not connected to device

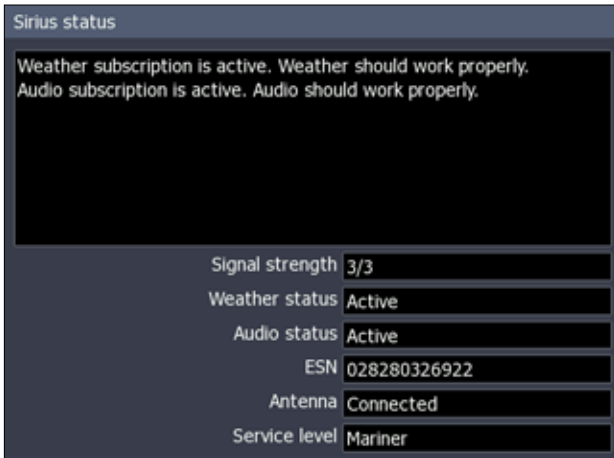
LED Troubleshooting	
LED On (blinks 3 times during power up then turns off)	Ethernet loop back connector should be connected to the Internet module ethernet cable and the LWX-1 should be power cycled. If the blinking during power-up does not recur, then the ethernet cable is functioning and the end-user device should be checked.
Diagnostic report	When the ethernet cable is connected to a device, the end-user can request a LWX-1 Diagnostics Report to perform further diagnosis.

SIRIUS Activation

Activating the LWX-1

You must have a SIRIUS subscription to use the LWX-1 module. Individual weather and audio subscriptions are available. You can also purchase a subscription that includes both weather and audio.

FIGURE 1



Signal strength, ESN and antenna status shown on the SIRIUS status screen

Before calling SIRIUS to activate a subscription for your LWX-1 make sure the following conditions are met:

- The LWX-1 and your display unit are turned on and connected via ethernet cable
- SIRIUS status info — antenna status and signal strength — is shown on your display unit screen (refer to your unit's operation manual to access the SIRIUS status screen)
- SIRIUS status screen shows signal strength of at least 1/3 with 2/3 or greater preferred (See FIGURE 1)
- Have the ESN — electronic serial number — for the LWX-1 readily available (ESN, a 12-digit number, can be found on the LWX-1 carton, LWX-1 antenna or via the SIRIUS status screen (see FIGURE 2)
- Credit card/billing information is available

FIGURE 2



To activate a SIRIUS subscription:

1. After the LWX-1 module is installed, locate the label on the front flap of the LWX-1 carton
2. Record your ESN number (SIRIUS ID) and contact SIRIUS at 1-800-869-5480. SIRIUS Marine Weather service can only be activated by phone.
3. Access SIRIUS status screen to make sure subscription (Weather Status, Audio Status, or both) is listed as Active. If your account is inactive, contact information for SIRIUS will be displayed.
4. Check the SIRIUS signal level (1 is weak; 3 is excellent) and make sure your antenna is listed as "Connected."



NOTE: *It may take several minutes for the activation signal to be received after subscription is activated.*

Place the ESN sticker for your LWX-1 antenna in the box below.

Place ESN sticker here



Contact SIRIUS at:

1-800-869-5480

Operation

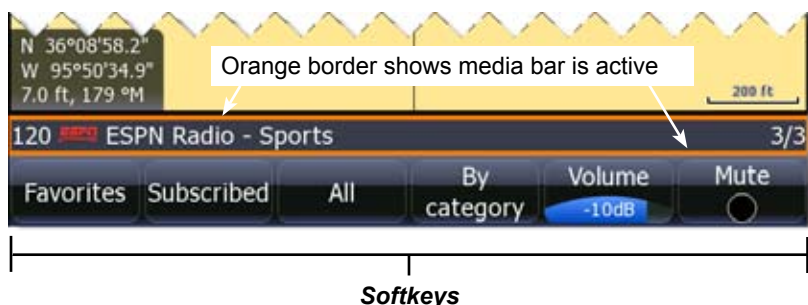
Manual Conventions

When you are instructed to press a button in this manual, the button will be shown in all caps and bold text like — **MENU**, **EXIT**, **ENTER**, etc. If you are instructed to select an item from a menu, the item to be selected will be listed in bold like — **Brightness**, **Key beeps**, etc.

For example: Press **MENU**, select *Language* and press **ENTER**.

Softkeys

The instructions in this manual show how to adjust SIRIUS audio and weather features/settings using display unit menus. If you have an HDS unit with softkeys, you can get the same results using the softkeys.



Active Status

Controls what menu will appear when **MENU** is pressed. The media bar must be active for menu-driven adjustments to be made to SIRIUS audio; likewise, the page screen must be active for page screen menus to be accessible. When the media bar or page screen are active, they will have an orange border.

To switch active status between the media bar and page screen, press and hold **PAGES** for two seconds.

Audio

SIRIUS Audio

Turns on/off SIRIUS Audio. With Audio turned on a scrolling media bar will appear at the bottom of the display.

The media bar controls volume, channels and access to the Sirius Audio menu.



To turn on/off SIRIUS audio:

1. Press **MENU** twice
2. Select *Page* and press **ENTER**.
3. Highlight *Sirius audio* and press **ENTER**.



NOTE: To enable SIRIUS audio, the LWX-1 must be connected to an HDS unit via an ethernet cable.

The screenshot shows the 'Sirius status' screen. At the top, it says 'Weather subscription is active. Weather should work properly.' and 'Audio subscription is active. Audio should work properly.' Below this is a table of status information:

Signal strength	3/3
Weather status	Active
Audio status	Active
ESN	028280326922
Antenna	Connected
Service level	Mariner

Annotations include:

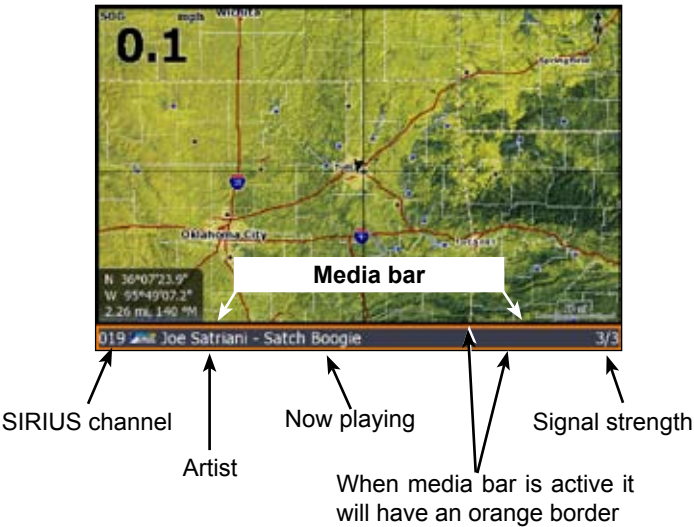
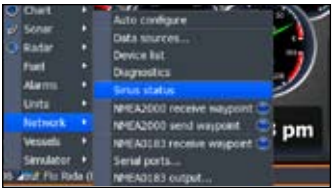
- 'Subscription Status' pointing to the top status messages.
- 'Signal strength' pointing to the 'Signal strength' row, with a legend on the right: 1/3 (weak), 2/3 (good), 3/3 (preferred).
- 'Subscription Status' pointing to the 'Weather status' and 'Audio status' rows.
- 'LWX-1 ESN (electronic serial number)' pointing to the 'ESN' row.
- A note at the bottom: 'There are three (subscription) service levels: Inland, Mariner and Voyager (www.sirius.com/marineweather)' pointing to the 'Service level' row.

SIRIUS Status

Displays status of SIRIUS antenna, weather/audio signal and subscription information.

To view SIRIUS status:

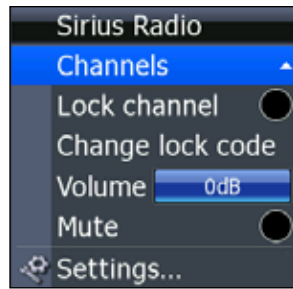
- 1. Press **MENU** twice.
- 2. Highlight *Network* and press **ENTER**.
- 3. Select *Sirius status* and press **ENTER**.



Media Bar Controls	
Pages	With the media bar on screen, you can make it active by holding down the Pages key for two seconds; the media bar has an orange border when it is active
Zoom In/Zoom Out	Zoom in decreases volume; Zoom out increases volume
Keypad Up/Down	Pressing the keypad up/down switches through Favorite channels; pressing the keypad left/right switches though all subscribed channels
Menu	Pressing the Menu key will open SIRIUS Audio menu when the media bar is active



NOTE: Media Bar controls work only when the Media Bar is active



SIRIUS Audio Menu

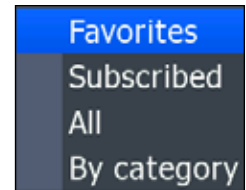
SIRIUS Audio Menu

Controls SIRIUS audio features. With the media bar active, you can access the Audio Menu by pressing **MENU**.

Channels

Allows you to view all available channels and access all subscribed channels by category or favorites. That makes it easier to access desired channels.

To access the Channels menu, select **Channels** from the SIRIUS Audio menu and press **ENTER**.



Channels menu

Listening to SIRIUS audio

You can select an audio channel to listen to from any of the Channel screens — Favorites, Subscribed, All or By Category.

To listen:

1. Use the keypad to select **Favorites**, **Subscribed**, **All**, or **By Category** from the Channels menu and press **ENTER**.
2. Highlight a desired audio channel and press **ENTER**.

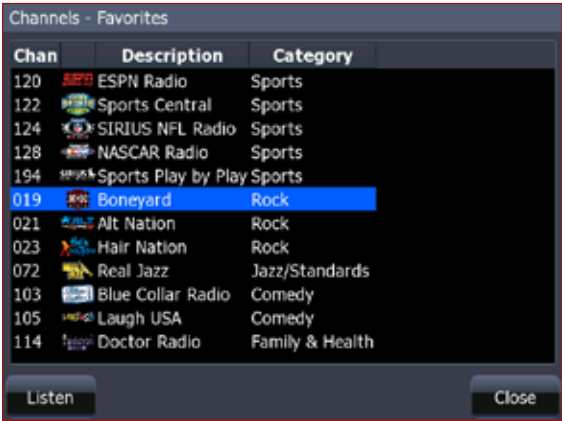


NOTE: You will not be able to select channels from the Favorites screen until channels have been added to the Favorites list.

Favorites

Used to access/listen to channels added to the favorites list. The favorites list groups your most desired channels in one place.

To access the Favorites, select **Favorites** from the Channels menu and press **ENTER**.



Favorites screen

Adding/removing Favorite channels:

1. Select **All** from the Channels menu and press **ENTER**.
2. Use the keypad to select a desired channel.
3. Highlight the desired channel and press the keypad left/right; or use the **MENU** key to make the selection.
4. Repeat Steps 2 and 3 to remove a channel from the Favorites list.

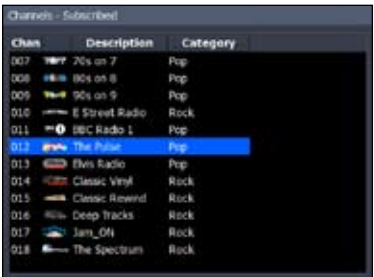


Channels added to Favorites

Subscribed Channels

List of channels included in your SIRIUS subscription. Allows you to access only channels you can use.

To access Subscribed Channels, highlight **Subscribed** on the Channels menu and press **ENTER**.



All Channels

Accesses list of all SIRIUS channels available. The All Channels list allows you to see all available channels, both subscribed and unsubscribed. You also can add channels to favorites.

To access the All Channels list, select **All** on the Channels menu and press **ENTER**.

By Category

Groups SIRIUS channels by category, allowing you to see all available channels from a desired genre.

To view channels by category:

- 1. Highlight **By Category** on the Channels menu and press **ENTER**.
- 2. Press the keypad left/right to toggle through SIRIUS audio categories.



Lock Channel

A parental control that prevents selected channels from being broadcast unless an unlock code is entered.

To Turn on/off Lock Channel:

- 1. Select **Lock Channel** from the SIRIUS Audio menu and press **ENTER**. A dialog box will appear.
- 2. Use the keypad to input the desired code and press **ENTER**.



NOTE: *You must start listening to a locked channel within 5 minutes of entering the lock code; otherwise, you will have to re-enter the lock code to access the channel.*

Change Lock Code

Used to lock individual channels so they can not be accessed without entering a code.

To change the lock code:

1. Select **Change Lock code** from the Sirius Audio menu and press **ENTER**.
2. Use the keypad to input the desired code and press **ENTER**.



Changing Lock code to default setting (0000)

1. Make sure the media bar is active and all menus are closed.
2. Press **ZIN, ZOUT, ZIN, ZOUT, ZIN, ENTER**.

Volume

To adjust SIRIUS Audio volume, highlight **Volume** on the Sirius Audio menu and press the keypad left/right.

Mute

Silences SIRIUS Audio. To mute audio, select **Mute** on the SIRIUS audio menu and press **ENTER**. Repeat this step to turn off mute.



NOTE: *You must have a Sirius weather and audio (optional) subscription to use the associated features in your unit.*

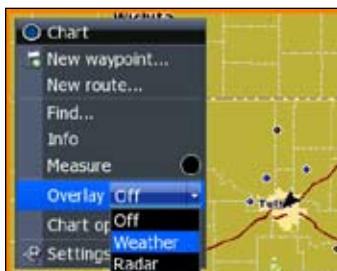
Weather

Overlay

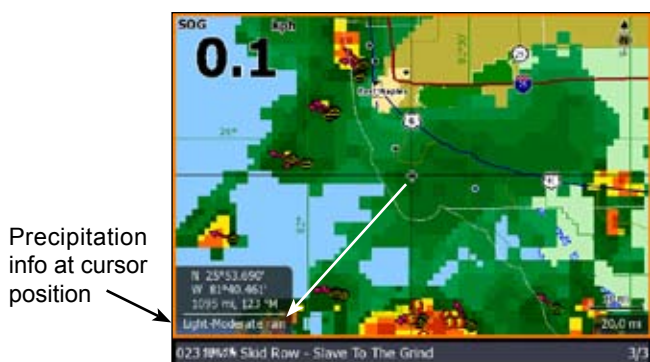
Used to display weather or radar data on the Chart page.

Displaying Weather on Chart page:

1. From the Chart page press the **MENU** key. The Chart menu will appear.
2. Select **Overlay** and press **ENTER**.
3. Select **Weather** and press **ENTER**.
The Weather options menu will appear.



NOTE: The Overlay menu will only be visible when a radar is attached or when an LWX-1 is/has been connected to your HDS unit via ethernet.



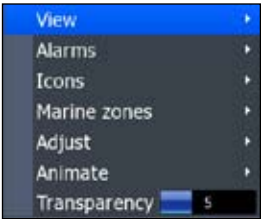
Weather data and Sirius Media bar shown on the chart page.

Precipitation Color Guide	
Green	Rain
Yellow Orange Red	Rain with increasing intensity from yellow to red
Purple	Rain/Snow mix
Blue	Snow
When moving the cursor over the colors, precipitation info will be shown in the lower left corner of the screen	

Weather options menu

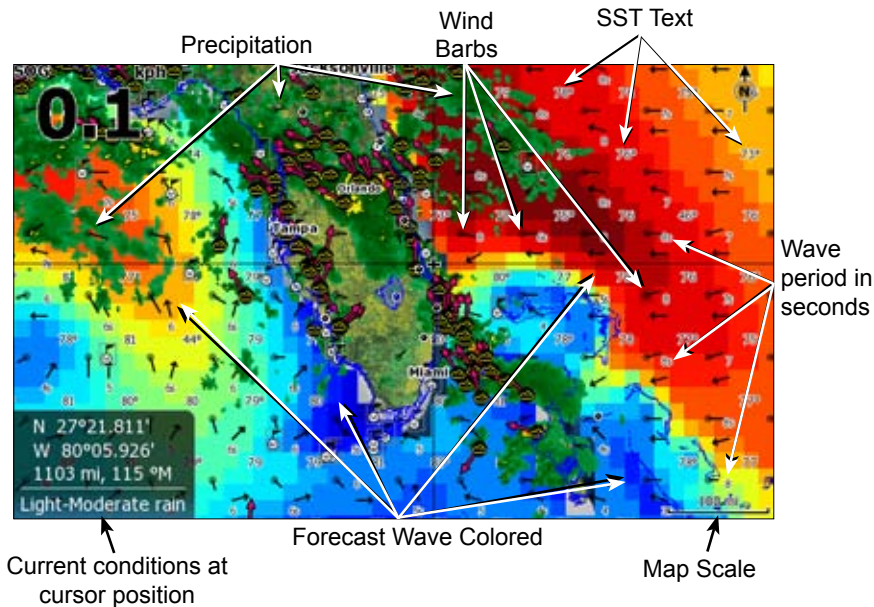
Controls the way weather data is displayed and how you will be alerted if severe weather approaches.

To access the Weather options menu, select *Weather options* from the Chart menu and press **ENTER**.

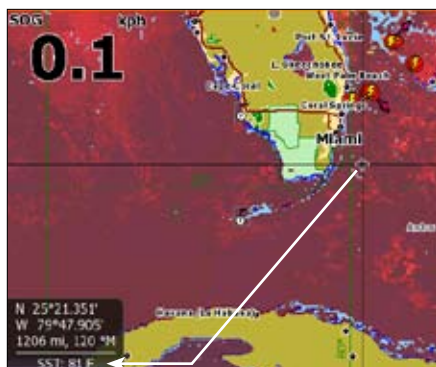


View

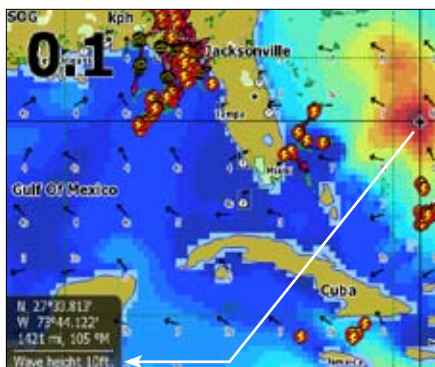
Turns on/off Precipitation, SST (Sea Surface Temp) colored, SST text, Forecast wave colored and Forecast wind barb graphic weather displays. To access the View menu, select *View* from the Weather options menu and press **ENTER**.



View Menu Features	
Precipitation	rain (green, yellow, orange or red — depending on severity); rain/snow mix (purple) and snow (blue)
SST Colored	sea surface temp range (dark blue to dark red)
SST Text	displays sea surface temp as text
Forecast Wave Colored	wave height range shown (dark blue to dark red); arrows show wind direction; wave period shown in seconds (5s = 5 seconds)
Forecast Wind Barbs	shows direction the wind is coming from (from barb to circle)



SST Colored: current SST at cursor position is 81 degrees Fahrenheit.



Forecast Wave Colored: wave height forecast at cursor position is 10 feet.



NOTE: It is not uncommon for clouds to block satellites that provide SST data, causing gaps in SST coverage.

Current Conditions

When Precipitation and SST Colored are displayed, the current conditions at the cursor position will be displayed in dialog box in the lower left corner of the screen. Forecast Wave Colored shows forecasted wave heights at the cursor position.

To turn on/off View options select the desired graphic display from the View menu and press **ENTER**.

Alarms

Enables/disables Lightning, Storm, Marine Zone and Watch boxes weather alarms. Alarms help you stay aware of nearby weather conditions without having to keep your eyes trained on the unit. You can also set alarm distance thresholds for Lightning and Storm alarms.

To access the Alarms menu, select **Alarms** from the Weather options menu and press **ENTER**.



Weather Alarms	
Lightning	Triggered when lightning strikes within a selected distance
Storm	Triggered when a storm moves within a selected distance
Marine Zone	Sounds an alarm when a severe weather alert is issued within the selected marine zone
Watch Boxes	Sounds an alarm if your vessel is inside a watch box or moves into a watch box

To turn on an alarm, highlight the desired alarm on the Alarms menu and press **ENTER**.

Lightning distance and Storm distance

Alarm thresholds that trigger an alarm when lightning or a storm moves within a selected distance.



To set alarm distances:

1. Highlight ***Lightning distance*** or ***Storm distance*** on the Alarms menu and press **ENTER**.
2. Use the keypad to input the desired distance.
3. Press **ENTER**.

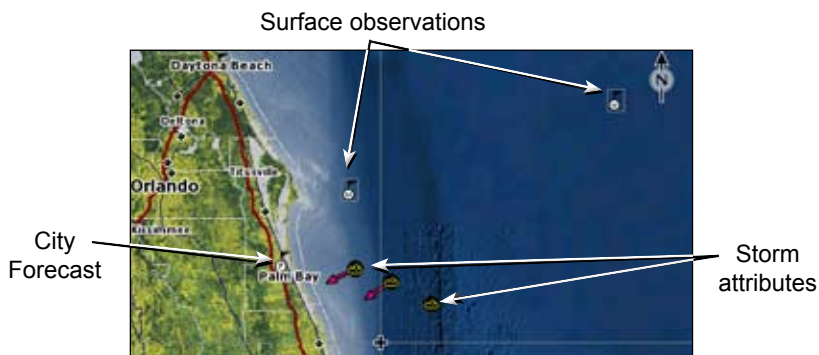
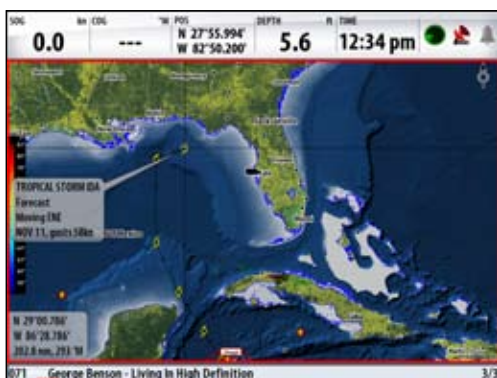


Chart screen with City forecasts, Surface observations and Storm attributes icons displayed

Icons

Turns on/off City forecasts, Lightning, Surface observations, Storm tracks, Storm attributes and Watch boxes weather icons. Center the cursor over any weather icon — except lightning — and press Enter to open the icon information screen.

Icon information	
City forecasts	displays forecast information for selected city 🏠
Lightning	shows where lightning strikes ⚡ have occurred
Surface observations	displays information about surface information like wind speed, temperature, precipitation, etc. 🌧️
Storm tracks	shows info on severity and past 🌀, present 🌀 and future 🌀 path of a storm
Storm attributes	changes icons based on conditions — regular cell ☁️, hail 🌨️, tornado 🌪️, etc.
Watch boxes	shown in center of the watch box ⚠️; displays weather watch information



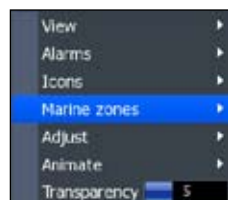
Tropical storm IDA shown on a Simrad NSE series unit.

To access the Icons menu, select **Icons** from the Weather options menu and press **ENTER**.

Marine Zone

Allows you to select a marine zone and then read the forecast for the selected zone.

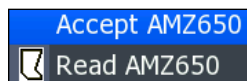
To access the Marine Zone menu highlight **Marine Zone** on Weather options menu and press **ENTER**.



NOTE: Once a marine zone is accepted, it will be your default zone until you change it. After accepting a zone, you no longer will have to select the zone before reading its forecast.

To select a marine zone:

1. Select **Choose** from the marine zone menu and press **ENTER**.
2. Press the **ZOOM OUT** key until the region containing the desired marine zone is shown on the screen.
3. Use the keypad to select the desired region. Press the **ZOOM IN** key to view marine zones within the selected region.
4. Use the keypad to select the desired marine zone and press **MENU**.
5. Select **Accept** or **Read** and press **ENTER**.



Selected marine forecast zone



Press Zoom in key to view marine zones within a selected region

To view accepted marine zone forecast:

1. From the Marine Zone menu, highlight **Read (marine zone name)** and press **ENTER**.
2. Use the keypad to scroll through the forecast and press **EXIT**.



Adjust

Used to select a range for the SST Colored and Wave Height color settings. To access the Adjust menu, select **Adjust** from the Weather options menu and press **ENTER**.

SST Range consists of cool and warm thresholds. The SST on screen colors automatically adjust to the range you select using dark blue for the selected cool threshold and dark red for the warm threshold. Temps between the cool and warm thresholds will vary in color.



Adjust menu

Wave Height uses minimum and maximum thresholds. Forecast Wave Color will automatically adjust to the thresholds you select. The minimum wave height will be shown in dark blue with wave heights at the maximum threshold shown in dark red.

To adjust SST or Wave Height:

1. Select *SST* or *Wave Height* from the Adjust menu and press **ENTER**.
2. Highlight the desired field (*Cool/Warm* or *Minimum/ Maximum*) and press **ENTER**.
3. Use the keypad to input the desired SST range (Cool/Warm) or Wave Height range (Minimum/Maximum) values.
4. Select *Save* and press **ENTER**.



Animate

Replays the track and development of a storm from a selected time period. That allows you to observe how a storm is developing and where it may be headed next.

After selecting a time period to animate, you can have the storm animation move at manual, low, medium and high speeds.



To select Time period or Speed:

1. Highlight *Animate* on the Weather Options menu and press **ENTER**.
2. Select *Time period* or *Speed* and press **ENTER**.
3. Choose the desired time period or speed and press **ENTER**.



—Animate time readout; scenario shows storm location 30 minutes ago

Transparency

Controls the transparency of the weather overlay, allowing you to view important navigation information like the shoreline, while a storm is passing through. Transparency does not affect weather icons.



Transparency set to minimum.



Transparency set to 10.

To make adjustments, highlight **Transparency** on the Weather Options menu and press the keypad left/right.

SIRIUS Subscription Levels			
Weather Content	Inland	Mariner	Voyager
Weather Radar w/ Precip type	✓*	✓	✓
City Forecast	✓	✓	✓
Storm Attributes (speed and direction)	✓*	✓	✓
Lightning	✓*	✓	✓
Weather Warnings and Watchboxes	✓	✓	✓
Weather Observations and Buoys		✓	✓
Tropical Storm Tracks with Windfields	✓	✓	✓
Marine Zone Forecasts		✓	✓
High Resolution Sea Surface Temps		✓	✓
Forecast Wind and Waves		0-3 hour	0-48 hour
SIRIUS Channel Art	✓	✓	✓
SIRIUS audio can be added to Inland and Mariner weather data subscriptions. Audio is included in Voyager subscriptions. * “ * Viewable within 80-mile radius of vessel in Vessel Mode, but can be viewed within 80-mile radius of the cursor position in Browse Mode. The viewing is restricted to approximately 10nm seaward from shorelines. Visit www.sirius.com/marineweather for subscription details.			

How to Obtain Service...

...in the USA:

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

1-800-324-1356.

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. To order Lowrance 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; or consult your telephone directory for listings.

2) U.S. customers visit our web site www.lei-extras.com.

3) Canadian customers: Lowrance 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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