LOWRANCE

Pub. 988-0154-98B

EP-DDS
Skimmer® Transducer Installation Instructions

This document shows how to install the EP-DDS Skimmer Transducer and how to connect it to a NMEA 2000® network.

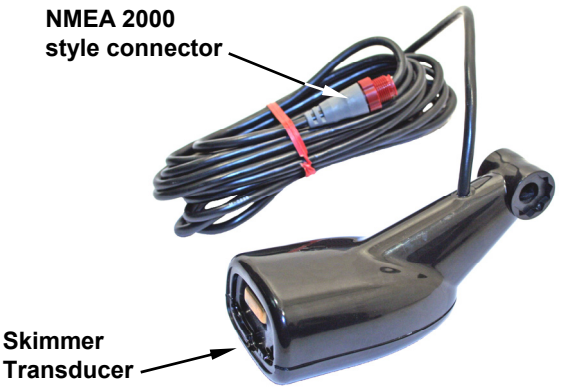
NMEA 2000 is the communication bus standard developed by the National Marine Electronics Association (NMEA) for use in boats. Lowrance has introduced a line of products that can communicate over a NMEA 2000 network (LowranceNet).

All Lowrance NMEA 2000 capable devices are either NMEA 2000 certified or certification is pending.

CAUTION:

> *Installing LowranceNET NMEA 2000 devices is* ***significantly different*** *from installing earlier Lowrance components without NMEA 2000 features. You should read all of the installation instructions before proceeding. Decide where you want to install all components before drilling any holes in your vessel.*

Some sonar or GPS display units may require a software upgrade to display NMEA 2000 data correctly. For free software upgrades or additional information on the LowranceNet NMEA 2000® network system, visit our web site, www.lowrance.com.



EP-DDS Skimmer Transducer.

The EP-DDS consists of a NMEA 2000 style cable connector and a skimmer transducer that converts depth and temperature readings to NMEA 2000 data format. When the device is plugged into a network backbone, display units on the network will be able to display digital depth and water temperature data from the transducer. The cable length from the connector to the transducer is 15 feet.

The NMEA 2000 style female to Lowrance blue female adapter cable allows users to add NMEA 2000 style connector devices to a Lowrance blue connector network.

The EP-DDS, like the other Electronic Probe (EP) sensors, is designed for use with a NMEA 2000 network. Your sensor, however, is also compatible with Lowrance blue connector networks. It can be added to a Lowrance blue connector network by using a NMEA 2000 style female-to-Lowrance blue female adapter cable. Your sensor *MUST* be connected to a NMEA 2000 network or it *WILL NOT* function.

Tools and Supplies

Your EP sensor packs with a T connector needed to attach it to a NMEA 2000 LowranceNet network. If this is the first sensor you are connecting, you may need to purchase a LowranceNET Node Kit.

For complete instructions on setting up a new NMEA 2000 network or expanding an existing one, see the NMEA 2000 document packed with your EP-DDS, "*Setup and Installation of NMEA 2000 Networks, General Information*," part number 988-0154-173. If that document is not available, it can be downloaded free from the Lowrance web site.

Connecting to a NMEA 2000 Network

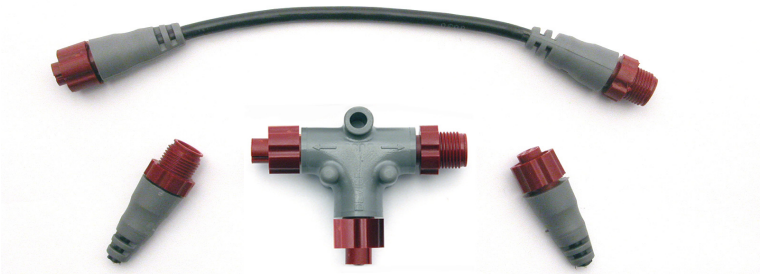
A NMEA 2000 network is a communications link between two or more devices that transfer NMEA 2000 information. LowranceNET is the NMEA 2000 networking system developed by Lowrance Electronics. A NMEA 2000 network functions like the phone wiring in a house. If, for example, you pick up a phone in the living room you will be able to hear the conversation someone is having on a phone in the bedroom.

A NMEA 2000 network is similar in that it allows multiple display units to receive data from a GPS antenna, or multiple sonar units to receive messages sent by a temp sensor. It also allows you to view information like engine diagnostics and fuel level data on digital gauges and display units.

Network Backbone and Network Nodes

A network bus backbone consists of network cabling, terminators and T connectors. Network nodes are made by fitting T-shaped connectors into the backbone (using the sockets on the sides) and attaching a network device to the bottom of the T.

T connectors on the backbone are the equivalent of phone jacks spread throughout a house. To pick up a phone and hear a conversation from another phone in the house, both phones have to be connected to the main phone line. In similar fashion, only sensors and display units plugged into the NMEA network can share information. The network backbone is like the phone wiring that runs throughout a home.



LowranceNET Node Kit for a NMEA 2000 network. Includes a 2-foot extension cable, T connector and two 120-ohm terminators.

It connects the network nodes, allowing them to communicate across the network. Connections found in the middle of the bus could have T connectors or backbone network cable plugged into one or both sides.

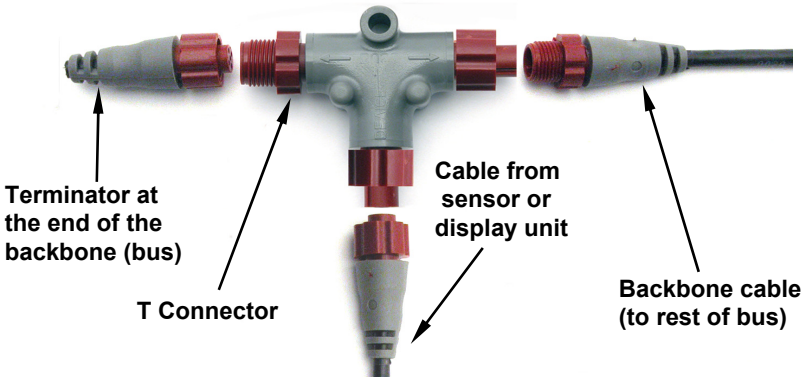
Connections at the end of a network will have the backbone cable plugged into one side and a terminator plugged into the other.

All T connectors on your network probably will be connected to a device. If you want to add another node to a working network, add another T connector. T connectors may be purchased from LEI (ordering information appears on the back page of this booklet). If you are adding a Lowrance or LEI NMEA 2000 sensor, it will come with a T connector.

Adding a Network Node

You can add a node to any existing connection, anywhere along the network backbone. This connection could be between a T connector and a terminator, between two T connectors, between a T connector and a backbone extension cable or between two extension cables. Wherever you want to add the new node, separate the sockets of the existing connection and install the T connector between them.

If you want to add a node at the end of the backbone (network bus) remove the terminator from the last connector. Install the new T connector and attach the terminator to the side of the connector.



NMEA 2000 network node located at the end of a NMEA 2000 backbone.

Installation

Preparations

You can install the EP-DDS in some other order if you prefer, but we recommend this installation sequence:

Caution:

You should read the entire installation section before drilling any holes in your vessel!

1. Select the approximate location and cable route for the transducer.

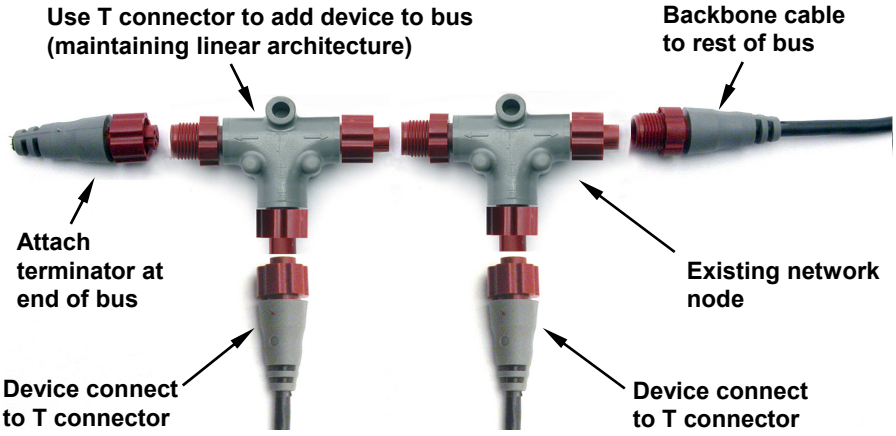
2. Decide how you will route the EP-DDS cable to the desired T connector on your NMEA 2000 network.

4. Install the transducer and route the transducer cable to the network backbone.

5. Connect the EP-DDS NMEA 2000 style connector to the desired T connector on the network. The EP-DDS is ready for use.

Transducer Installation

These instructions show how to install your Skimmer® transducer on a transom. The EP-DDS Skimmer transducer uses a two-piece, plastic kick-up mounting bracket. A kick-up bracket prevents the transducer from being damaged if it strikes an object while the boat is moving. If the transducer hits an object and kicks-up, the bracket can easily be pushed back into place without tools.



In this example, a new device is added to the NMEA 2000 bus by installing a T connector between a T connector and a terminator at the end of the backbone (network bus).

Read these instructions carefully before attempting the installation. Determine which of the mounting positions is right for your boat.

NOTE:

The following installation lists recommended tools and required supplies that you must provide (supplies listed here are *not* included):

Transom Installation

Tools: two adjustable wrenches, drill, #20 (0.161") drill bit, Phillips head screwdriver. Supplies: four, 1" long, #12 stainless steel slotted wood screws, *high quality, marine grade* above- or below-waterline sealant/adhesive compound.

Selecting a Transducer Location

1. The location must be in the water at all times, at all operating speeds.

2. The transducer must be placed in a location that has a *smooth flow* of water at all times.

3. The transducer should be installed with its face pointing straight down, if possible.

4. When mounting a transducer on the transom, make sure it doesn't interfere with the trailer or hauling of the boat. Also, do not mount it closer than approximately one foot from the engine's lower unit. This will prevent cavitation (bubble) interference with propeller operation.

5. If possible, route the transducer cable away from other wiring on the boat.

NOTE:

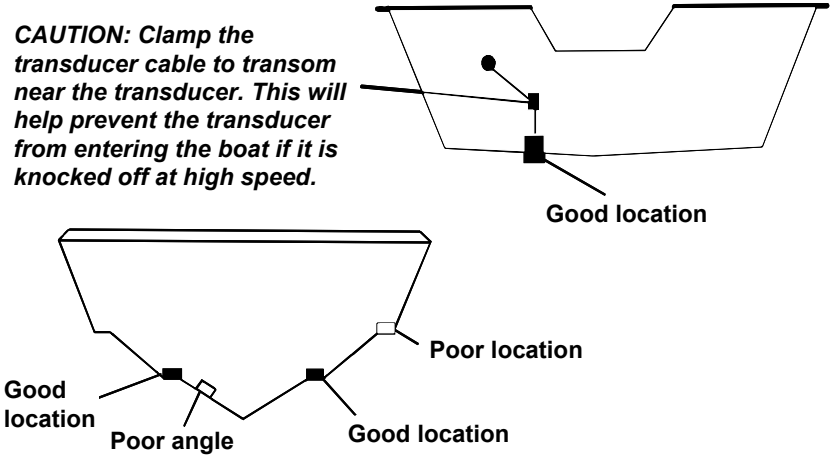
Some aluminum boats with strakes or ribs on the outside of the hull create large amounts of turbulence at high speed. Usually, these boats have large outboard motors capable of propelling the boat faster than 35 mph. A good transom location on aluminum boats is between the ribs closest to the engine.

How low should you go?

For most situations, you should install your Skimmer transducer so that its centerline is level with the bottom of the boat hull.

This will usually give you the best combination of smooth water flow and protection from bangs and bumps.

CAUTION: Clamp the transducer cable to transom near the transducer. This will help prevent the transducer from entering the boat if it is knocked off at high speed.



Good and poor transducer locations.

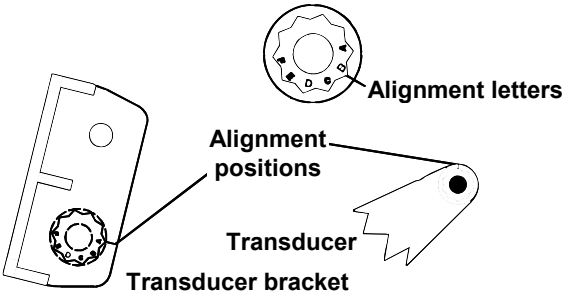
There are two extremes you should avoid. Never let the edge of the mounting bracket extend below the bottom of the hull. Never let the bottom – the face – of the transducer rise above the bottom of the hull.

Transom Transducer Assembly and Mounting

The best way to install this transducer is to loosely assemble all of the parts first, place the transducer's bracket against the transom and see if you can move the transducer so it is parallel with the ground. Your transducer comes with a two-piece plastic mounting bracket.

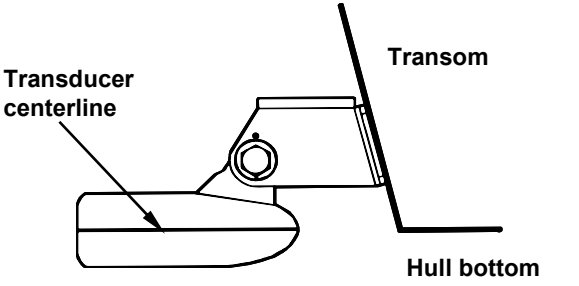
To install a two-piece transducer bracket:

Locate the four plastic ratchets in the transducer's hardware package. Press two ratchets into the sides of the plastic bracket and two on either side of the transducer as shown in the following illustrations. Notice there are letters molded into each ratchet.



Insert and align ratchets.

Place the ratchets into the bracket with the letter "A" aligned with the alignment mark molded into the bracket. Place the ratchets onto the transducer with the letter "A" aligned with the 12 o'clock position on the transducer stem. These positions set the transducer's coarse angle adjustment for a 14° transom. Most outboard and stern-drive transoms have a 14° angle.



Align transducer centerline with hull bottom.

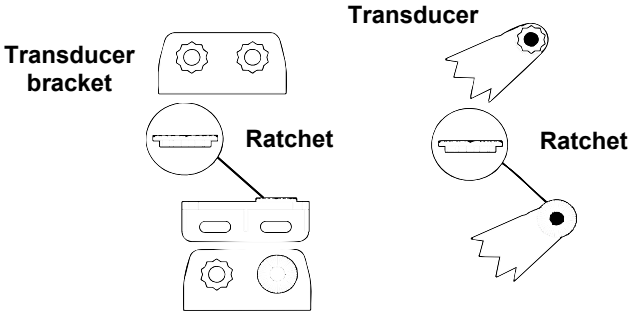
2. Aligning the transducer on the transom.

To align the transducer to the transom, side the transducer between the ratchets. Look at the transducer from the side and adjust it so that its face is parallel to the ground. The alignment letters on either side of the bracket need be the same.

If the transducer's face is not parallel with the ground, remove the transducer and ratchets from the bracket. Place the ratchets into the holes in the bracket with the letter "B" aligned with the dot stamped in the bracket. Reassemble the transducer and bracket and place them against the transom.

3. Assembling the transducer.

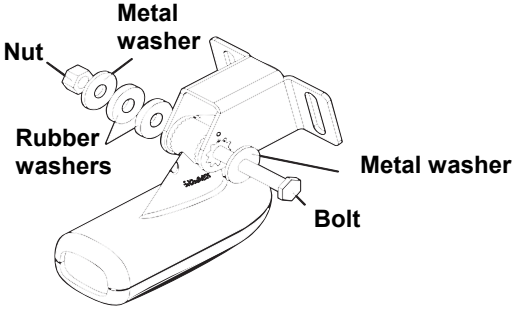
Once you determine the correct position for the ratchets, assemble the transducer. Don't tighten the lock nut at this time.



Add ratchets to bracket and transducer.

3. Assembling the transducer.

Once you determine the correct position for the ratchets, assemble the transducer. Don't tighten the lock nut at this time.

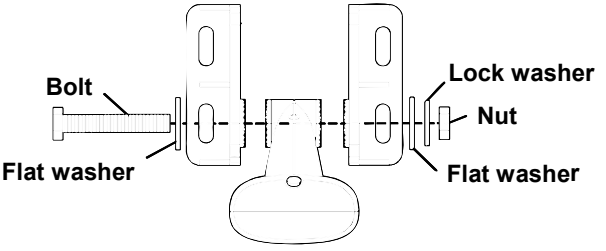


Assemble transducer and bracket.

4. Drilling mounting holes.

Hold the transducer and bracket assembly against the transom. The transducer should be roughly parallel to the ground. The transducer's centerline should be in line with the bottom of the hull.

Mark the center of each slot for the mounting screw pilot holes. You will drill one hole in the center of each slot. Drill the holes, using the #20 bit (for the #12 screws).



Assemble transducer and bracket.

5. Attaching transducer to transom.

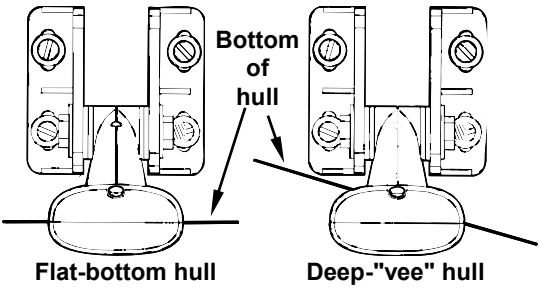
Attach the transducer to the transom. Slide the transducer up or down until it's aligned properly with the bottom of the hull. Tighten the bracket's mounting screws, sealing them with the sealant.

Adjust the transducer so it is parallel to the ground even if you have a Deep-"vee" hull. Tighten the nut until it touches the outer washer, then add 1/4 turn. *Don't over tighten the lock nut!* If you do, the transducer won't kick up if it strikes an object in the water.

Caution:

If you need to drill a hole in the transom to pass the connector through, the required hole size will be 11/16" (17.5mm). If you drill the hole, make sure it is located above the waterline. After installation, be sure to seal the hole with the same marine grade above- or below-waterline sealant used for the mounting screws.

6. Route the transducer cable through or over the transom to the NMEA 2000 network. Make sure you leave some slack in the cable at the transducer. If possible, route the transducer cable away from other wiring on the boat.



Align transducer centerline with hull bottom and attach transducer to transom. Rear view of Skimmer shown.

7. Make a test run to determine the results. If the bottom is lost at high speed, or if noise appears on the display, try sliding the transducer bracket down. This puts the transducer deeper into the water, hopefully below the turbulence causing the noise.

WARNING:

Clamp the transducer cable to the transom close to the transducer. This can prevent the transducer from entering the boat if it is knocked off at high speed.

DECLARATION OF CONFORMITY

The following product has been tested in accordance with the requirements of the Electromagnetic Compatibility Directive 2004/108/EC (repealing 89/336/EC) and found to comply in all respects with the requirements of this Directive.

Product:	**Lowrance EP-DDS** **Electronic Probe – Digital Depth Sounder**
Applicable Standard(s): (including Title)	**IEC 60945 (Fourth Edition 2002-08)** **Maritime Navigation and Radiocommunication Systems – General Requirements – Methods of Testing and Required Test Results. (EMC only: sections 9 & 10)**
Test Report No.:	**Professional Testing (EMI) Inc: Project 08063-10**

Signed on behalf of Navico UK Ltd, Unit 4: Ocivan Way, Margate, CT9 4NN, United Kingdom

as Authorised Representative of Lowrance Electronics, 12000 E. Skelly Drive, Tulsa, OK 74128, USA.

Signed:	D C Sheekey
Name:	**David Sheekey**
Title:	**Product Specialist**
Date:	**22nd January 2008**

* Simrad and Lowrance are brand names of Navico Norway AS of Lysaker, Norway

NAVICO
FULL ONE-YEAR WARRANTY

"We," "our," or "us" refers to NAVICO, the manufacturer of this product. "You" or "your" refers to the first person who purchases this product as a consumer item for personal, family or household use.

We warrant this product against defects or malfunctions in materials and workmanship, and against failure to conform to this product's written specifications, all for one (1) year from the date of original purchase by you. WE MAKE NO OTHER EXPRESS WARRANTY OR REPRESENTATION OF ANY KIND WHATSOEVER CONCERNING THIS PRODUCT. Your remedies under this warranty will be available so long as you can show in a reasonable manner that any defect or malfunction in materials or workmanship, or any non-conformity with the product's written specifications, occurred within one year from the date of your original purchase, which must be substantiated by a dated sales receipt or sales slip. Any such defect, malfunction, or non-conformity which occurs within one year from your original purchase date will either be repaired without charge or be replaced with a new product identical or reasonably equivalent to this product, at our option, within a reasonable time after our receipt of the product. If such defect, malfunction, or non-conformity remains after a reasonable number of attempts to repair by us, you may elect to obtain without charge a replacement of the product or a refund for the product. THIS REPAIR, OR REPLACEMENT OR REFUND (AS JUST DESCRIBED) IS THE EXCLUSIVE REMEDY AVAILABLE TO YOU AGAINST US FOR ANY DEFECT, MALFUNCTION, OR NON-CONFORMITY CONCERNING THE PRODUCT OR FOR ANY LOSS OR DAMAGE RESULTING FROM ANY OTHER CAUSE WHATSOEVER. WE WILL NOT UNDER ANY CIRCUMSTANCES BE LIABLE TO ANYONE FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, OR OTHER INDIRECT DAMAGE OF ANY KIND.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This warranty does NOT apply in the following circumstances: (1) when the product has been serviced or repaired by anyone other than us; (2) when the product has been connected, installed, combined, altered, adjusted, or handled in a manner other than according to the instructions furnished with the product; (3) when any serial number has been effaced, altered, or removed; or (4) when any defect, problem, loss, or damage has resulted from any accident, misuse, negligence, or carelessness, or from any failure to provide reasonable and necessary maintenance in accordance with the instructions of the owner's manual for the product.

We reserve the right to make changes or improvements in our products from time to time without incurring the obligation to install such improvements or changes on equipment or items previously manufactured.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

REMINDER: You must retain the sales slip or sales receipt proving the date of your original purchase in case warranty service is ever required.

NAVICO
12000 E. SKELLY DRIVE, TULSA, OK 74128
(800) 324-1356

How to Obtain Service...

...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

Lowrance Electronics and Eagle Electronics may find it necessary to change or end their shipping policies, regulations and special offers at any time. They reserve the right to do so without notice.

...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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