



STANDARD HORIZON

D41BD
Digital Depth Sounder

Owner's Manual





MARINE PRODUCTS LIMITED WARRANTY

Standard Horizon, a division of Yaesu U.S.A. (Standard Horizon) warrants to the original consumer purchaser (the Purchaser) only that each new Marine Product will be free from defects in materials and workmanship under conditions of normal use and service for a period of one (1) year from the date of delivery to the Purchaser. Standard Horizon's liability under this warranty shall be limited to repair or replacement of the defective product, at Standard Horizon's option, and under no circumstances shall Standard Horizon be liable for consequential, incidental, or other damages arising out of or in any way connected with a failure of the product to perform as set forth herein.

THIS LIMITED WARRANTY EXTENDS ONLY TO THE PURCHASER AND IS IN LIEU OF ALL OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

In the event of a defect, malfunction, or failure of the product to conform to specifications during the one-year warranty period, Standard Horizon will repair or replace, at its option and without charge to the Purchaser, the product which upon examination by Standard Horizon shall appear to be defective or not up to factory specifications. Standard Horizon will pay all labor charges incurred in providing such warranty service. To obtain warranty service, the defective product must be returned to Standard Horizon together with proof of the date of purchase. The Purchaser must pay any transportation expenses in returning the product to Standard Horizon. Standard Horizon will examine the product and respond to the Purchaser in approximately four (4) weeks from date of receipt of the product claimed to be defective.

This limited warranty does not extend to any product which has been subjected to misuse, neglect, accident, improper installation, or subject to use in violation of the maintenance or operating instructions, if any, furnished by Standard Horizon; nor does this warranty extend to products on which the serial number has been removed, defaced, or changed. Standard Horizon reserves the right to make changes or improvements to its products during subsequent production without incurring the obligation to install such changes or improvements on previously manufactured or sold products.

Some states do not allow limitations on the duration of the warranty or exclusions or limitations of incidental or consequential damages so these limitations or exclusions may not apply to you. This warranty gives you specified legal rights which vary from state to state.

CUSTOMER RECORD

Purchase Date:

Purchased From

Model No

Serial No.

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Specifications

- **Size**
Mount 2" (51mm) diameter hole
Depth behind face plate 3.75" (95mm) max.
Display: 3-character LCD
- **Backlighting**
Red colored diffused lighting for display.
- **Water Integrity**
Front will withstand direct water spray.
- **Depth/Alarm Range**
2.0→600 feet
0.6→184 meters
0.3→100 fathoms
(to 9.9 in tenths)
- **Sensitivity**
Better than 0.05mV RMS at 200 feet.
- **Transmit Power**
36 W RMS nominal at 13.6 VDC.
- **Transducer**
200 kHz 1900 pF/600 ω parallel.
- **Display Updating**
1 second.
- **Operating Voltage**
9.5 VDC to 16.5 VDC.
- **Operating Temperature**
0°C to 50°C (32°F to 122°F).
- **Current Drain**
150mA max, including internal buzzer.
- **Data Input/Output**
Single wire data output/Input.
Dual station mode outputs NMEA DPT sentence. Dual station inputs NMEA DPT sentence. In the linked mode a dual station pair also transfer function settings eg. Alarm on/off.
- **NMEA Output**
DPT.
- **NMEA Input**
DPT and DBT.
- **External Buzzer Output**
12VDC Buzzer, 100 mA max.
- **RF Interference**
<6 dB quieting on any marine radio channel (with 3 dB gain antenna) within one meter of the instrument. Complies with CE EMC standards EN50081-1 and EN50082-1.

Operation

Whenever power is applied the depth sounder is active and water depth is displayed. If the sonar signal does not show a bottom the display will indicate "-". This can occur if the water is aerated or the maximum depth is exceeded. Note: The maximum depth decreases as boat speed increases.

Alarms

Two types of alarms can be set; the Deep Alarm and the Shallow Alarm. The Deep Alarm can be set as high as 184 meters (605 feet) while the Shallow Alarm can be set as low as 0.3 meter (1 foot).

Whenever the water depth is greater than the Deep Alarm setting and the alarm is enabled an alarm will sound. The alarm repeats two short beeps and alternates DAL and the water depth on the display.

Whenever the water depth is less than the Shallow Alarm setting and the alarm is enabled an alarm will sound. The alarm repeats a single long beep and alternates SAL and the water depth on the display.

Alarms On/Off

Alarm settings are saved in memory.

To turn the alarm on, press the **alarm** switch **up**. An arrow on the lower right corner of the display will show (next to the Alarm Bell), to indicate that the alarms are on.



To turn the alarms off, press the **alarm** switch **down**. The arrow in the lower right corner will extinguish.



Note: The arrow will flash if alarms are turned ON but the shallow alarm is individually set to OFF. See next section.

Shallow Alarm

To set the shallow alarm:

1. Press the **alarm** switch **up** for three seconds.
The display will show:



2. After a few seconds the display will indicate the current Shallow Alarm depth setting.



3. Use the **alarm** switch **up** and **down** to change the value. If the **alarm** switch is held **up** or **down** for more than one second the reading will increase or decrease rapidly.
4. Five seconds after the last switch press, the alarm value will be saved to memory and the instrument will return to the depth sounder mode.

Note: If the reading is decreased to below 1.5 feet (or equivalent) the display will show OFF and the alarm will be disabled.

Deep Alarm

To set the deep alarm:

1. Press the **alarm** switch **down** for three seconds. The display will show:



2. After two seconds the display will indicate the current Deep Alarm depth setting.



3. Use the **alarm** switch **up** and **down** to change the value. If the **alarm** switch is held **up** or **down** for more than one second the reading will increase or decrease rapidly.
4. Five seconds after the last switch press, the alarm value will be saved to memory and the instrument will return to the depth sounder mode.

Note: If the reading is increased one step above 600 feet (or equivalent) the display will show OFF and the alarm will be disabled.

Instrument Setup

Keel/Surface Offset

An offset may be automatically added to or subtracted from the depth reading to compensate for the location of the transducer. This allows the instrument to indicate the water depth relative to the bottom of the keel or the surface of the water.

To set the keel/surface offset:

1. Turn the power off with the **Depth** switch
2. Apply power by switching the **Depth** switch while holding the **alarm** switch **up**.
3. When the unit is on, release the **alarm** switch. The display will indicate if the current offset is keel offset or waterline offset:

The display shows the letters 'HOF' in a large, black, digital font on a white background.

Hull Offset (Depth below the keel)

The display shows the letters 'SOF' in a large, black, digital font on a white background.

Surface Offset (Depth below the surface)

4. After 5 seconds the display will indicate the current offset.

The display shows the number '-1.5' in a large, black, digital font on a white background.

Note: A negative offset is used to display depth below the keel and a positive offset is used to display depth below the surface.

5. Use the **alarm** switch **up** and **down** to change the value. If the **alarm** switch is held **up** or **down** for more than one second the reading will increase or decrease rapidly.
6. The offset can be programmed in 0.1 unit steps from -9.9→9.9 feet (or equivalent). When programmed for a negative offset, '-' will be indicated on the left hand side of the display.
7. To display depth below the keel enter the vertical distance between the bottom of the keel and the depth transducer as a negative value.
8. To display depth below surface enter the vertical distance from the waterline to the depth transducer as a positive number (no negative sign).

9. Five seconds after the last switch press, the value will be saved to memory and the instrument will return to the depth sounder mode.

Transducer Setting

A Transducer Setting is provided to allow the D41 to be used with different transducer types. The default setting (0.0) is used for most transducers.

Some transducers 'ring' after the sonar transmit pulse (just like hitting a bell). This ringing can be interpreted as an echo from a shallow bottom. The setting is used to increase the required level that shallow echoes must meet before they will be displayed.

If the D41 gives repeated false readings of 1.5 to 3 feet depth while in deep water the transducer setting should be increased. Adjust it upward by 0.5 at a time and retest. The range of values is -0.9 to +2.5. If the value is set too high it could cause erratic readings in shallow water.

Changing the Transducer Setting

1. Turn the power off with the **Depth** switch
2. Apply power by switching the **Depth** switch while holding the **alarm** switch **up**. The display will show either **HOF** or **SOF** for 7 seconds. Continue to hold the switch.
3. The display will show **tdr**.

The display shows the letters 'tdr' in a large, black, digital font on a white background.

4. Release the key.
5. After 2 seconds the display will show the Transducer Setting value eg **0.0**
6. Use the **alarm** switch **up** and **down** to change the value.
7. To exit this mode, wait five seconds and the changes made will be stored in memory.

Units of Measure

To select the displayed unit

1. Turn the power off with the **Depth** switch
2. Apply power by switching the **Depth** switch while holding the **alarm** switch **down**.
3. When the unit is on, release the **alarm** switch. The display will indicate the current display unit with:



Feet



Meters



Fathoms

4. Use the **alarm** switch **up** and **down** to change the value.
5. Five seconds after the last switch press, the units will be saved to memory and the instrument will return to the depth sounder mode.

The display will now indicate the current water depth in the selected display unit.

Troubleshooting

No display:

1. Check DC power connections and DC polarity with voltmeter.
2. Check fuse.

No depth reading (--) at all depths:

1. Check transducer for growth or multiple coats of paint.
2. Check the transducer cable for cuts and sharp bends.
3. Check that the transducer connection behind the D41is firm and free of corrosion.

Erratic readings while moored:

1. Check transducer for growth or multiple coats of paint.

Maintenance

Your depth sounder is designed for years of trouble free operation assuming proper installation and care are provided. Following the operation and installation guidelines in this manual should ensure optimum performance of the instrument. In the unlikely event that the instrument shall fail to perform or shall need servicing, contact:-

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Factory Repair Facility
115 North Wright Brothers Drive
Salt Lake City, UT 84116

Telephone number (800) 366-4566
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