



# STANDARD HORIZON

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## D41BB & D41BC Digital Depth Sounder

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### Owner's Manual

- Standard 2 Inch Installation
- Dual Station Operation
- Reads in Feet Fathoms or Meters
- Adjustable Prop or Surface Offset
- Shallow and Deep alarms





## MARINE PRODUCTS LIMITED WARRANTY

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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:

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Purchased From

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Model No

---

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Serial No.

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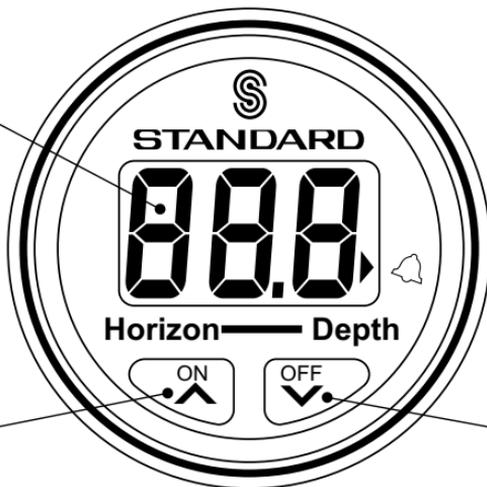
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# Specifications

- **Size**  
Mount 2" (51mm) diameter hole  
Depth behind face plate 3.75" (95mm) max.  
Display: 3-character LCD
- **Color**  
Black or chrome bezel.
- **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  $\omega$  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.

Display is backlit for  
Night Operation



Alarm On/  
Change Value Up

Alarm Off/  
Change Value Down

## 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  (ON) key. 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  (OFF) key. 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  key for three seconds. The display will show:

*Press for 3 Seconds*



2. After a few seconds the display will indicate

the current Shallow Alarm depth setting.



3. Use the  and  keys to change the value. If either key is held depressed for more than one second the reading will increase or decrease rapidly.
4. When the alarm is set, exit by pressing both the  and  keys simultaneously. Alternatively, if no keys are pressed for a period of 5 seconds the normal depth display will resume.



*Press simultaneously to exit*

**Note: If the reading is decreased to below 1.5 feet (or equivalent) the display will show OFF and the alarm will be disabled. The alarm can also be disabled by pressing both the  and  keys for 5 seconds. The word OFF will be displayed but the alarm depth will be retained for future use.**

### Deep Alarm

To set the deep alarm:

1. Press the  key for three seconds. The display will show:



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

*Press for 3 Seconds*



3. Use the  and  keys to change the value. If either key is held depressed for more than one second the reading will increase or decrease rapidly.
4. When the alarm is set, exit by pressing both the  and  keys simultaneously.

- When the alarm is set, exit by pressing both the  $\wedge$  and  $\vee$  keys simultaneously. Alternatively, if no keys are pressed for a period of 5 seconds the normal depth display will resume.



Press simultaneously to exit

## 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:

- Apply power while holding down the  $\wedge$  key.



Hold down during power up

- When the unit is on, release the  $\wedge$  key. The display will indicate if the current offset is keel offset or waterline offset:



Hull Offset (Depth below the keel)



Surface Offset (Depth below the surface)

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



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

- Use the  $\wedge$  and  $\vee$  keys to change the value. If either key is held depressed for more than one second the reading will increase or decrease rapidly.

**Note:** If the reading is increased one step above 600 feet (or equivalent) the display will show OFF and the alarm will be disabled. The alarm can also be disabled by pressing both the  $\wedge$  and  $\vee$  keys for 5 seconds. The word OFF will be displayed but the alarm depth will be retained for future use.

- 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.
- To display depth below the keel enter the vertical distance between the bottom of the keel and the depth transducer as a negative value.
- To display depth below surface enter the vertical distance from the waterline to the depth transducer as a positive number (no negative sign).
- To exit this mode, press and hold both the  $\wedge$  and  $\vee$  keys simultaneously. Alternatively, if no keys are pressed for a period of 5 seconds normal depth display will resume.



Press simultaneously

The display will now indicate the current water depth.

### 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. Apply power while holding down the  $\wedge$ ON key. The display will show either **HOF** or **SOF** for 7 seconds. Continue to hold the key down.
2. The display will show **tdr**.



3. Release the key.
4. After 2 seconds the display will show the Transducer Setting value eg **0.0**
5. Use the  $\wedge$  and  $\vee$  keys to change the value.
6. To exit this mode, press and hold both the  $\wedge$  and  $\vee$  keys simultaneously.

## Units of Measure

To select the displayed unit

1. Apply power while holding down the  $\vee$  key.



*Hold down during power up*

2. When the unit is on, release the  $\vee$  key. The display will indicate the current display unit with:



*Feet*

*Meters*



*Fathoms*

3. Use the  $\wedge$  and  $\vee$  keys to change the value.
4. To exit this mode, press and hold both the  $\wedge$  and  $\vee$  keys simultaneously. Alternatively, if no keys are pressed for a period of 5 seconds normal depth display will resume.



*Press simultaneously*

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.

### Erratic readings while moving:

1. Cavitation (air) under the face of the transducer. Review installation and reinstall if necessary.

### Erratic readings only while engine is running:

1. Re-route power and transducer cables away from engine, ignition wires and battery cables.
2. Add feed-through filter capacitor on the positive terminal of the ignition coil.
3. Add an alternator whine filter to alternator.
4. Replace spark plug wire with resistive type.

## 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:-

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

Telephone number (800) 366-4566  
Fax number (801) 359-4122



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