Getting Started with the WorkHorse Proteus

Step 1

Verify all parts are present

The Proteus ADCP includes:

- Monitor or Sentinel Proteus ADCP
- Ethernet Test Cable
- Shipping Case
- Spare Parts Kit
- Software and Documentation download instructions

5-meter Ethernet test cable is located under the shipping case foam.
Optional cables longer than 25 meters are shipped in a separate box.

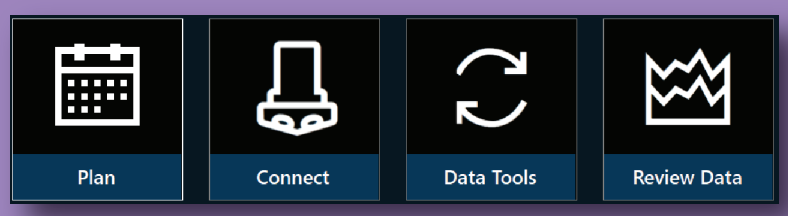
Step 2

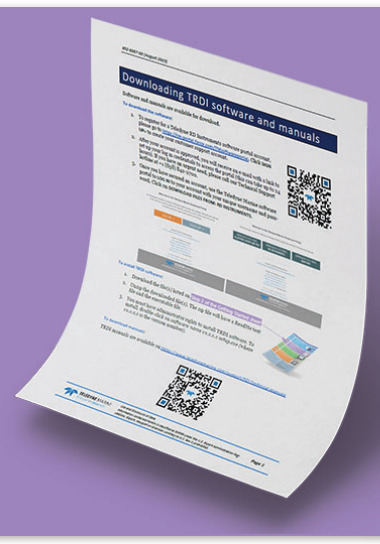
Download the Software

Software Portal: https://teledynemarine.my.site.com/TMsoftwareportal/s/

See the download instruction sheet for details:

- Install ADCP Utilities





Step 3

Communication and Power Setup

See the reverse side of this guide for detailed instructions.

Step 4

Read the Deployment Guide

Use the QR code to open the deployment guide or use the TRDI support page to download all Workhorse Proteus documentation.
https://www.teledynemarine.com/support/RDI/technical-manuals

What's New in The Workhorse Proteus

Proteus can unlock a new understanding of waves, turbulence, and the changing currents below the surface. Its technical advantages deliver the most data possible with a single instrument, helping you analyze and act with ease and confidence, knowing you have gathered the best possible information about the environment.

- **Proteus Advanced Doppler Sonar Platform (ADSP)**—The ADSP board expertly handles the fast sampling of water velocity profiling pings, classic bottom tracking, new boundry detection capabilities and water column processing, passing raw information to the Catalyst board.
- **Catalyst Processor Fast processing**—Catalyst builds on RDI's 40-year proven bin mapping algorithm by using dynamic tilt measurements from a new AUV/ASV-suitable Attitude and Heading Reference system (AHRS). Catalyst enables superior transformation into the earth coordinate system and ensemble averaging for high precision velocity profiles.
- **Five Beams for direct measurement of ocean's vertical velocity**—Vertical profiling with high-precision velocities and high-resolution echo for sediment, biological, and wave measurement applications under wideranging conditions. Expands your research and collaboration capabilities.
- **Multiple Communication Options**—combined serial and ethernet on single instrument. Easy to integrate and communicate with your electronics platform.

Options

- **Bottom Track** – Use your Proteus ADCP from moving boats and ships with the Bottom Track Upgrade. Once the Bottom Track Upgrade is added, a Proteus ADCP can measure both water depth and boat velocity over the ground.
- **Waves** – This upgrade allows using the Proteus as a wave gauge.
- **External Battery** – External batteries increase the deployment length for Sentinel ADCPs. Use an External Battery with a Monitor ADCP to provide backup power or for self-contained deployments.

WORKHORSE
proteus

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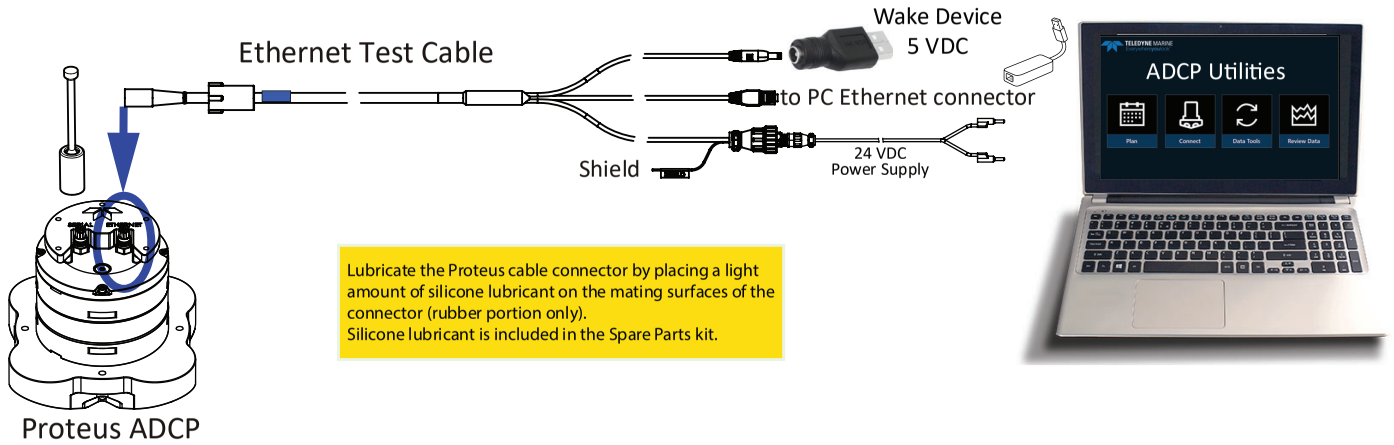
Step 3 Communication and Power Setup - Detailed Instructions

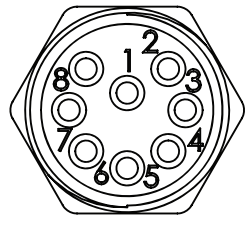
Step 3A Ethernet Cable Connection Overview



Lubricate the Proteus cable connector by placing a light amount of silicone lubricant on the mating surfaces of the connector (rubber portion only).
Silicone lubricant is included in the Spare Parts kit.

SERIAL CONNECTOR

PIN	SIGNAL
1	V IN -
2	V IN +
3	RS232 IN / RS422 IN A
4	RS232 OUT / RS 422 OUT B
5	COMM RTN
6	EXT SENSOR RS232 OUT / RS422 OUT A
7	EXT SENSOR RS232 IN / RS422 IN B
8	TRIG IN



MCBH 8 PIN CONN
FACE VIEW

ETHERNET CONNECTOR

PIN	SIGNAL
1	V IN -
2	V IN +
3	ETH TX+
4	ETH TX-
5	SENS1 GND
6	ETH RX+
7	ETH RX -
8	ETH WAKE UP

The Ethernet and Serial cables have different color heat shrink labels to match the correct connector:
Serial = Red
Ethernet = Blue

Step 3B Connecting the Ethernet Test Cable

1. Remove the dummy plug and connect the Ethernet test cable to the Proteus Ethernet connector.
2. Connect a dummy plug on the unused Serial connector.
3. Connect the Ethernet cable from the Workhorse Proteus directly to the PC's Ethernet connector or use a USB to Ethernet adapter.
4. Connect +24VDC to the cable. On power up, the system runs a self-test, and the LED will blink (see the Deployment Guide for a description of the LED blink patterns).
5. Connect the Wake device to the Ethernet wake line barrel connector. Connect to a USB 5VDC power source. Any USB power source can be used, for example a computer or laptop, a power bank phone backup device, a generic USB power charger adapter.

See the Deployment guide for details.

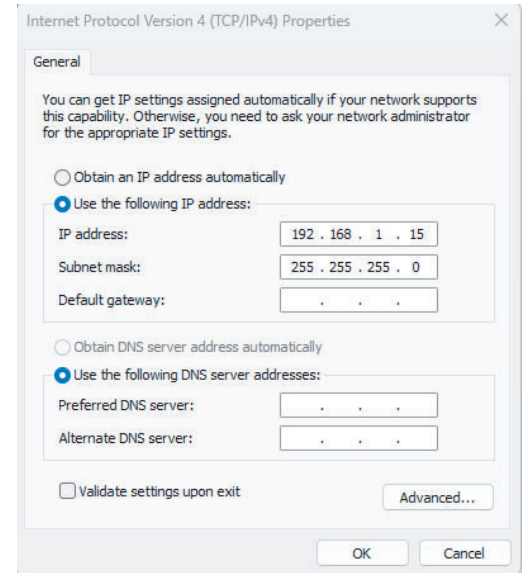
Step 3C Configuring the IP Address

The default Ethernet connection uses a Manual/Static IP address.

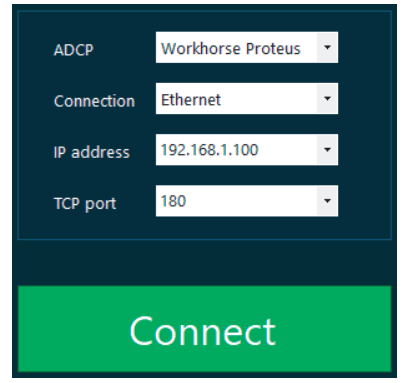
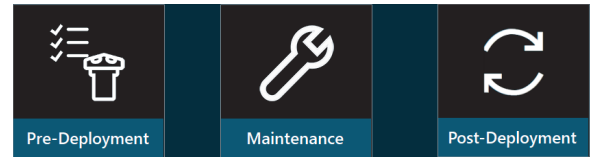
1. Go to the PC's Control Panel, Network and Sharing Center.
2. Click on **Change adapter settings** in the left-hand column.
3. Highlight **Internet Protocol Version 4 (TCP/IPv4)** and select **Properties**.
4. Select **Use the Following IP address** and enter the address and gateway as needed. Note that the last number here (15) can be any of several numbers – but not 100. What you are doing here is giving the PC an address on this subnet, while reserving the address 100 for the Workhorse Proteus ADCP.
5. Uncheck the **Internet Protocol Version 6 (TCP/IP v6)** box.
6. Click **OK** and then **Close**. After some time, the original screen showing no internet connections will change to show an "Unidentified network" and the red X is gone. If it still shows the red X, disconnect and then connect the Wake device.

Ethernet Wakeup:

- Unplug the Wake device. Wait a few seconds and then reconnect it to a 5VDC USB power source. The connection should change to Unidentified network.
- If the ADCP power was cycled, disconnect the Wake device, apply power to the ADCP and wait for the self-test to complete. Once the LED shows the self-test completed, then connect the Wake device.



Step 3D Setting Up the Ethernet Communications

To establish communications with the Workhorse Proteus:

1. Start ADCP Utilities.
2. Click the **Connect** button on the Home page.
3. Select **Workhorse Proteus**.
4. Select **Ethernet**.
5. Enter the **IP address** as set in step 3C.
6. Enter the TCP Port **180**.
7. Click the green **Connect** button.
8. See the ADCP Utilities software help file and Deployment guide for more information on the Pre-Deployment, Maintenance, and Post-Deployment pages.