

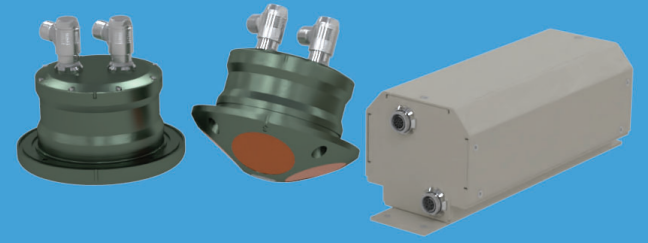
Getting Started with the ExplorerDVL

Step 1

Verify all parts are present

The standard DVL includes:

- ExplorerDVL and Electronics Chassis
- Transmit and Receive Cables
- Shipping case
- Spare Parts Kit
- Software and Documentation download instructions
- Check packing slip for additional options



Step 2

Download the Software and Documentation

See Deployment Guide for details:

- Install TRDI Toolz software
- Install other included software as needed
- Download ExplorerDVL manuals



Step 3

Communication and Power Setup

See the reverse side of this guide for detailed instructions.



Step 4

Read the Integration Guide



Key Features:

- Phased array transducers deliver increased performance
- Piston array transducers deliver increased depth rating
- Compact design ideally suited for next generation littoral platforms
- Self-contained or remote configuration options
- Flexible design facilitates easy sensor communication
- Proven bottom-tracking algorithms and performance
- Upgradable to include ADCP (Acoustic Doppler Current Profiling) capability

Applications:

- Autonomous Underwater Vehicles (AUV)
- Remotely Operated Vehicles (ROV)
- Unmanned Surface Vehicles (USV)
- Coastal Gliders
- Towed Vehicles
- Diver Consoles
- Submersibles

For export purposes, sensors are available in both licensefree and export-licensed long-term accuracy.

Step 3 Communication and Power Setup - Detailed Instructions

Step 3 A Wiring the Power/Comm and Sensor Interface Cables

The Input Power / Communications Interface Connector (J3) uses a DB37M (Amp 747375-2) connector:

DB37 Pin #	Available Signal	Serial Communication Modules			
		2 RS232 and 2 RS422	3 RS232 and 1 RS422	4 RS232 no RS422	
1	RX1A	RX1A	RX1A	RX1	
2	RX1B	RX1B	Unused	Unused	
3	TX1A	TX1A	TX1A	TX1	
4	TX1B	TX1B	TX1B	Unused	
5	COMM 1_2	COMM 1_2	COMM 1_2	COMM 1_2	
6	RX2A	RX2A	RX2	RX2	
7	RX2B	Unused	Unused	Unused	
8	TX2A	TX2A	TX2	TX2	
9	TX2B	Unused	Unused	Unused	
10	Unused	Unused	Unused	Unused	
11	RX3A	RX3	RX3	RX3	
12	RX3B	Unused	Unused	Unused	
13	TX3A	TX3	TX3	TX3	
14	TX3B	Unused	Unused	Unused	
15	COMM 3_4	COMM 3_4	COMM 3_4	COMM 3_4	
16	RX4A	RX4	RX4	RX4	
17	RX4B	Unused	Unused	Unused	
18	TX4A	TX4	TX4	TX4	
19	TX4B	Unused	Unused	Unused	
20	Unused	Unused	Unused	Unused	
21	TRIG_IN Voltage	TRIG_IN Voltage	TRIG_IN Voltage	TRIG_IN Voltage	
22	Unused	Unused	Unused	Unused	
23	TRIG_OUT Voltage	TRIG_OUT Voltage	TRIG_OUT Voltage	TRIG_OUT Voltage	
24 to 32	Unused	Unused	Unused	Unused	
33	CHAS_GRND	CHAS_GRND	CHAS_GRND	CHAS_GRND	
34	VDC +	VDC +	VDC +	VDC +	
35	VDC +	VDC +	VDC +	VDC +	
36	VDC -	VDC -	VDC -	VDC -	
37	VDC -	VDC -	VDC -	VDC -	

The Sensor Interface Connector (J4) uses a DB9F (Amp 747150-2) connector:

Pin	Signal
1	CSS1
2	CSS0
3	SCLK
4	MISO
5	MOSI
6	GND
7	VDD1
8	ROMDAT
9	CSS2

Only connect the Teledyne RDI sensor module, if used, to the 9-pin connector (J4) of the electronics enclosure.

COM 1 is reserved for communicating to and controlling the ExplorerDVL ONLY. This port will not support sensors. Ports 2, 3, 4 and the SPI bus port are for sensors.

Trigger In and Out lines must each be referenced to pin 5 COMM 1_2.

TRDI defines the RS422 signal state (0 or 1) as the difference in voltage between the "A" and "B" line. The ExplorerDVL system uses 1 when the 422A line is greater than the 422B line, thus the "A" line is non-inverting with respect to the board level logic convention and the "B" line is inverting.

- 422A = 422+
- 422B = 422-

Step 3 C Setting Up the Communications

To establish communications with the ExplorerDVL:

1. Connect and power the system as shown in Steps 3A and 3B.
 2. Start the *TRDI Toolz* software (installed in Step 2).
 3. Select **New Serial Connection**.
 4. Enter the ExplorerDVL's communication settings.
- For **Serial** comms select the COM Port the cable connected to and set the Baud Rate to 115200.



5. Click the **Connect** button. Once connected, the button will change to **Disconnect**.
6. Click inside the terminal window and then click the Break (⚡) button located at the bottom left of the terminal window. The wakeup banner below will be displayed.

ExplorerDVL
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Firmware Version: 57.01



Refer to the Integration Guide for further information.

Step 3 B Connecting the Power/Comm Cable

1. Place the ExplorerDVL transducer face down on a soft surface.
2. Connect the Transmit and Receive cables to the electronics housing and transducer:
 - Pull the outer barrel back to release the locking mechanism.
 - Insert the cable connector into the receptacle, matching the red dots until the keyed portions are properly aligned.
 - Push straight onto the receptacle to complete the connection and then push the barrel down to lock the connector.
 - Test the cable is properly locked by pulling up lightly on the right angle portion of the connector; if the cable does not disconnect, than it is locked.
3. Connect the I/O cable to the computer's communication port.
4. Connect +12 to 28 VDC power. The power supply should be able to source at least 1.5 to 2 Amps.

