

# Z-Boat 1800-T

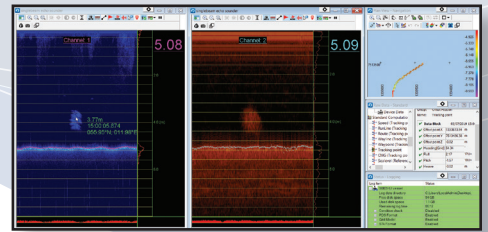
Guided by Trimble, Powered by Teledyne

## Unmanned Survey Vehicle

The Teledyne Z-Boat 1800-T™, designed and manufactured by Teledyne Oceanscience, is a high-resolution shallow water hydrographic unmanned survey vehicle with an Odom Echotrac E20 Singlebeam Echosounder and dual antenna Trimble BX992 GNSS heading receiver. Each sensor is integrated into a compact, portable, and cost-effective package. The combination of Trimble's precise heading and positioning/guidance paired with Teledyne's accurate/precise sonars allow for best in class data collection under harsh conditions. Collect survey data in previously inaccessible areas. Both sensors can also be removed and mounted on other vehicles of opportunity to maximize data collection capabilities. All data are remotely viewable in real time, giving the operator full control and confidence.

Teledyne Odom Hydrographic's ECHOTRAC E20 singlebeam is a compact and robust echosounder designed for all surveying environments. The dual channel function gives you the flexibility to survey from very shallow to deep sea, from 10kHz to 250kHz. The Trimble BX992 provides precise heading, supports all available constellations, and is RTK capable (<2cm on Z-Axis). The unit has a small footprint and offers lower weight and more stability. A single interface cable is plug and play and comes with serial, ethernet, and PPS options.

Trimble Marine Construction software also allows for remote viewing of Z-Boat operations or processed data.



## PRODUCT FEATURES

- Precise Trimble GNSS positioning and guidance
- Real-time 2D survey for inspection and identification of obstructions
- Cost effective method for ad hoc surveys
- Increased safety and reduced cost: replaces dangerous diver inspection and expensive survey boat time
- Up to 4.5m/s (14.75fps) performance
- Optional Trimble Marine Construction (TMC) software
- All-in-one simple cable: Serial, Ethernet, PPS connections
- Two man portable for easy and rapid mobilization



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# Z-Boat 1800-T Guided by Trimble, Powered by Teledyne



## TECHNICAL SPECIFICATIONS

PHYSICAL	
Boat Length	1.8 m
Boat Width	1 m
Boat Height	1.1 m
Weight of Base Boat	27 kg
Payload Weight	9 kg
Hull Material	UV-Resistant ABS
Propulsion	Dual brushless 24V DC outdrives
REMOTE	
Navigation Remote	RC Transmitter with Vehicle Telemetry
Navigation Remote Frequency	2.4GHz Spread Spectrum
Navigation Remote Range	1200 m
Data Telemetry Range- 5GHz SISO	up to 1200 m
Data Telemetry Range- 4GLTE	Worldwide
PERFORMANCE	
Typical Survey Speed	3-3.5 knots
Top Speed	4.5 knots
Battery Endurance	Up to 4 hours at survey speed
Battery Chemistry	NiMH
Position and Orientation Solution	Integrated Trimble BX992 with Trimble GNSS Industry standard RTK corrections compatible (Separate radio required) Additional positioning options available
E20 SPECIFICATIONS	
Operating Frequency	HF channel 10 to 250kHz, optimized for 50-250kHz LF channel 10 to 250kHz, optimized for 10-50kHz
Channels	Dual
Accuracy and Resolution	200kHz 1cm resolution and 2cm +/- 0.1% of depth accuracy
	33kHz 5cm resolution and 10cm +/- 0.1% of depth accuracy
	12kHz 15cm resolution and 15cm +/- 0.1% of depth accuracy
Depth Range <sup>1</sup>	200kHz 0.5 to 250m
	33kHz 1.0 to 1,000m 12kHz 3.0 to 1,000m
Max Ping Rate	50Hz
Pulse Type	CW

<b>Output Power</b>	Typically max output power varies between 1 and 3kW, depending on transducer
<b>Input Power</b>	10-30VDC, 100-230VAC <sup>3</sup> , max 100W
<b>Data Output</b>	Via LAN interface: For each channel the measured depth and full amplitude-time echogram, passed through auxiliary sensor data, s7k data protocol. Via serial port: For each channel the measured depth
<b>Interfaces</b>	3 serial connectors (RS-232): <ul style="list-style-type: none"> <li>• Input: GPS position and time, heave, motion, heading</li> <li>• Output: depth</li> </ul> 1 Ethernet LAN connector 1 sync connector
<b>Dimensions H x W x D</b>	83.0mm x 300.0mm x 221.0mm
<b>Weight</b>	5.7kg (excl. external cables and transducers)

<sup>1</sup>The depth values are based on the performance of TC2122 for 200 and 33kHz, and HM210/12-8/20 for 12kHz. Stated depth ranges may be impacted by environmental conditions, vehicle installation, and motion

### OTHER AVAILABLE INSTRUMENTATION

- Teledyne Odom Hydrographic MB2
- Teledyne RD Instruments velocity profilers
- HD video cameras
- Robotics options available



Trimble BX992 GNSS Receiver



Odom Hydrographic E20 Singlebeam Echosounder