VADR Acoustic Directional Receiver for Subsea Vehicles

- **Small size and rugged design**
- **Mounts easily on ROV or AUV**
- **Compatible with ATT 400 series acoustic transponders to mark locations/equipment within 1 meter**
- **Access and Control Software provides operator with tracking formation for sound source**

VADR

SPECIFICATIONS

Pinger Receiver Mode:
Receive Bandwidth: 8 to 45kHz in 100Hz increments
Receiver Sensitivity: -100dB ref 1µPa @ 1 meter

Transponder Mode:
Receive Frequencies: 25, 27, 28, 29, 30, 31, 32, 33, 34kHz
Interrogation Frequency: 26kHz
Acoustic Output: 190dB ref 1µPa @ 1m
Acoustic Signal: Coded
System Range: up to 750m (2,461ft)

Directional Hydrophone:
Beam Width: 40 ± 5 degrees Conical
Bearing Indication: 4 BINS: Left/Right, 3, 8, 20 or > 20°
Bearing Accuracy: 5 degrees nominal in BINS 1 and 2
Bearing Resolution: 2 degrees

Control Interface:
RS232: 9600 Baud, No Parity, 8 Data Bits, and 1 Stop Bit
Connector: 5 pin Underwater Pluggable
Interface Software: Microsoft OS, Provided
Input Voltage: 18 to 32VDC, 24VDC nominal

Mechanical/Environmental:
Housing: Aluminum Hard Coat Anodized

Depth Rating: VADR6000M:6,000m (19,685ft)

Weight:
VADR6000M:4.9kg (11lbs) in air / 907g (2lbs) in water

Dimensions:
VADR6000M:12.7cm(Ø) x 28.0cm(L) (5.00in(Ø) x 11.0in(L))

Operating temp range: -18°C to 43°C (0°F to 110°F)

The **VADR** (Vehicle Acoustic Directional Receiver) is used to assist operators of ROVs and AUVs in tracking acoustic sound sources from 8kHz to 45kHz. The VADR receiver can function as an "acoustic transponder interrogator" and provide accurate range and bearing to targets marked with a line of custom acoustic transponders. It is operational to 6,000m (19,685ft) depth.

The VADR receiver's electronics and directional hydrophone are contained in the pressure housing and are externally powered by a subsea vehicle through a 5-pin bulkhead connector. All telemetry data for controlling the VADR receiver, as well as output data, is accessed through the same connector.

A RS232 data interface is used to access the directional indication, range to target, operational information and control functions of the VADR receiver using an ASCII data string.

For tracking an acoustic sound source, like a "Black Box" beacon, the operator selects the proper frequency through the VADR software. The VADR receiver begins to look for that acoustic signal through a directional hydrophone which is mounted on the front of the pressure housing. Once received, the signal is processed by the electronics and fed to the software. Then bearing data and signal strength is provided to the ROV operator for navigating the ROV to the target area.

Specifications are subject to change without notice

RJE International, Inc.
15375 Barranca Parkway, Suite I-112, Irvine, CA 92618
949-727-9399 | Sales@RJEInt.com | RJEInt.com

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