SWALE OCEANOGRAPHIC

Receivers for Pingers & Transponders.

STI-350 - Surface Receiver

The STI-350 is a small battery operated directional receiver that's designed to track both underwater pingers and transponders from the surface. An LCD display provides navigation data to the operator while sealed switches allow easy access to control functions of the deck box.

When operating in passive mode, the STI-350 can locate standard acoustic beacons that operate from 25 to 45kHz. The STI-350 displays signal strength and bearing to the selected acoustic beacon. A built-in electronic compass provides additional directional support in keeping the operator on course.

The STI-350 can also track and locate transponders designed to work with the receiver. These transponders allow divers to mark targets underwater and re-locate them up to 750 metres away. The STI-350 provides accurate range and bearing to the transponder to within 1m.

The STI-350 includes Surface Transponder Interrogator, Battery Charger, Pole Assembly, Directional Hydrophone, Cable Assembly, and Operations Manual.

DPR-275 Diver Receiver for pinger

The **DPR-275** is extremely rugged, reliable, and intended for use in a hostile marine environment. RJE's extensive back- ground allowed it to design a diver pinger receiver that will provide years of operation with a minimal amount of maintenance. Using digital signal processing, the DPR-275 can track and locate any underwater acoustic beacons operating between 5 to 80 kHz. Rechargeable batteries provide up to eight hours of continuous use.

A highly sensitive directional hydrophone allows the diver to hone-in on a beacon's acoustic signal from up to 1,200 metres away (37kHz/162.5dB source). Large control knobs allow the operator to access the DPR-275's functions, even with thick gloves. When the DPR-275 is pointed in the direction of an acoustic beacon, the unit generates an audio tone through an underwater headset providing the necessary feedback for relocation. To back up the audio tone, a signal strength meter provides additional feedback to the location of the beacon.

The DPR-275 includes an underwater headset, battery charger, and storage case.

DTI-300A Diver Receiver for pingers & transponders

The **DTI-300A** is a small battery operated acoustic receiver that can track and locate underwater acoustic beacons and a unique family of acoustic transponders. It is ergonomically designed to be operated by a diver and uses a LCD display to provide navigation data. Sealed switches allow the diver access to the control and utility functions of the receiver.

When operating in the passive mode, the DTI-300A can locate standard acoustic beacons which operate from 25 to 45kHz. The DTI-300A display provides the operator signal strength and bearing to the selected acoustic beacon. A built-in electronic compass provides additional directional support to keep the diver on course.

The DTI-300A can also track and locate transponders designed to work with the receiver. The ATT-400 transponder allows divers to mark targets underwater and relocate them up to 750 metres away. Once an ATT-400 has been interrogated, the DTI-300A provides accurate range and bearing to the transponder to within 1 metre. Because the ATT-400 can be programmed to operate on eight (8) different channels, the DTI-300A can relocate eight different locations simultaneously.

VADR - Vehicle Acoustic Directional Receiver

The ***VADR*** acoustic directional receiver is a small but rugged passive pinger receiver used to assist operators of ROVs and AUVs in tracking acoustic sound sources from 25kHz to 40kHz. In addition, they can function as an acoustic transponder interrogator and provide accurate range and bearing to targets marked with a line of custom acoustic transponders.

The VADR receiver's small size and rugged design allows for easy mounting on a ROV or AUV. Electronics and a highly directional hydrophone are contained in the pressure housing and are externally powered by the subsea vehicle through a 5-pin bulkhead connector. In addition, all telemetry data for controlling the VADR receivers and output data is accessed through this same connector.

A RS232 data interface is used to access the directional indication, range to target, and other operational information and control functions of the VADR receivers using an ASCII data string. Software is also provided to allow the operator easy access to control and receive the necessary directional information to track the acoustic sound source.

For tracking an acoustic sound source, like a "Black Box" beacon, the operator selects the proper frequency through the *SEEKER* software. The VADR receiver begins to look for that acoustic signal through a directional hydrophone which is mounted into 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. In addition, the ROV operator can also change the mode of the VADR receiver to track and locate acoustic transponders. This option allows the ROV operator to mark locations or equipment underwater with accuracies within one metre. Because the system is now operating as a transponder interrogator, the feedback to the ROV operator is more accurate as range and bearing data is delivered to the *SEEKER* software. Each transponder can be programed to reply on eight different frequencies allowing the marking of multiple locations within an operational range of up to 1000m.

Specifications

	STI-350	**DTI-300A**	**DPR-275**	**VADR**
Passive Mode				
Receiver Bandwidth	25 to 45kHz (1kHz steps)	25 to 45kHz (1kHz steps)	5 to 80kHz (1kHz steps)	25 to 40kHz (100Hz steps)
Receiver Sensitivity				-100dB ref 1µPa @ 1 metre
Active Mode				
Transmit Frequency	26kHz	26kHz		26kHz
Receive Frequency	27,28,29,30,31,32,33,34kHz	27,28,29,30,31,32,33,34kHz		27,28,29,30,21,32,33,34kHz
Acoustic Output	180db (coded)	190db (coded)		180db (coded)
System Range	750m	750m		1000m
Compass	Electronic	Electronic	Analogue	
Accuracy	<0.5° to 1.5° RMS	<0.5° to 1.5° RMS		
Repeatability	± 0.3°	± 0.3°		
Transducer/Hydrophone	Directional		Directional (30 °)	Directional (see below)
Display	LCD	LCD	LCD & LED	PC via RS-232 and software
Information	Range or Signal Strength, Compass Bearing, Bearing Indicator to Target, Channel Indicator, Low Battery,.	Range or Signal Strength, Compass Bearing, Bearing Indicator to Target, Channel Indicator, Low Battery	Frequency, Signal Strength Meter, Low Battery	
Control Switches	Sealed Switches	Sealed Piezo-ceramic		
Battery	Rechargeable	Rechargeable	Rechargeable	
Operational Life	8 hours	6 hours	8 hours	
Depth Rating	n/a	100m	200m	1000m / 6000m
Housing	Waterproof to IPX4	Delrin	Delrin	Anodized Aluminium
Size (LxWxH)	28 x 25 x 13cm	33 x 18 x 7cm	Ø10.4 x L26.0cm	1000m:.Ø11.4 x L26.0cm 6000m: Ø12.7 x L28.0cm
Weight (air / water):	2.9kg	5kg / -0.19kg	2.0kg / 0.19kg	1000m; 3.8kg / 3.2kg 6000m: 6.8kg / 5.5g
Other:	Inc 3m pole assy & cable	For use with ATT-400 transponders	Cable & pole assy option (PRS-275)	Beam: 40 ± 5° conical. Bearing: 4 BINS: Left / right, 3, 8, 20 or > 20 Accuracy 5° (bins 1 & 2) Resolution 2°

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