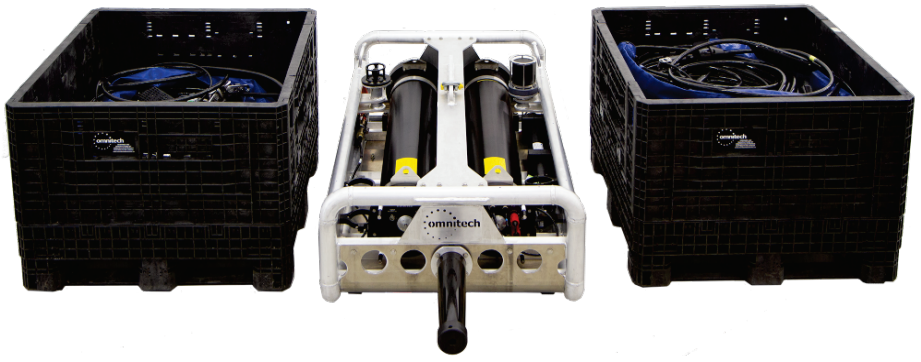
DARU-2515

DEEP WATER ACOUSTIC RECORDING UNIT



- *64 digital hydrophones at 12.5 ksps*
- *10+ weeks of continuous operation*
- *Input referenced noise below SS0*
- *540 m long array with spooling radus <1 m*
- *Depth rating of 2000 m*



DESCRIPTION

The DARU-2515 is an autonomous data recording unit for deep water deployments (up to 2000 m) and wide area surveillance. The system consists of a Digital Acoustic Surveillance Array (DASA) connected to a deployed platform containing batteries and controller electronics. A Data Collection Unit (DCU) and Battery Case contained in a deployment frame that is lowered to the seabed allows the system to operate and record continuously for more than 10 weeks or up to six months using an intermittent recording schedule.

Software in the DCU allows the operator to configure different operating states during a deployment and send system status information or health queries over an acoustic modem link. Auxillary sensors within the hydrophones and DCU measure and record several diagnostic properties including voltage, power-usage, battery level, hydrophone orientation, internal case temperature, pressure, and humidity.

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DARU-2515



SPECIFICATIONS

PARAMETER		SPECIFICATIONS	COMMENTS
LF HYDROPHONES			
Bandwidth		5 - 6000 Hz	-3 dB range, at 12.5 kSps
Sample Rate		3k, 5k, 10k, 12.5k	selectable during operation
Sample Resolution		24 bits	~19 bits noise free resolution
Dynamic Range		115.5 dB (typ.)	ADC only, excludes gain steps
Noise Floor	@ 10 Hz	< 35 dB re 1µPa/√Hz	Measured at 40 dB gain, based on worst case hydrophone sensitivity and minimum hydrophone capacitance. (equiv. - referred to input in µPa/√Hz)
	@ 100 Hz	< 29 dB re 1µPa/√Hz	
	@ 1000 Hz	< 28 dB re 1µPa/√Hz	
Maximum Unclipped Tonal Signal		205 dB	uPa(peak) @ 350 Hz, gain = 0 dB
Gain Matching @ 1k Hz		± 0.2 dB (typ.)	electronics only, not including transducer sensitivity variations
Selectable Gain Range		0 dB – 90 dB	in 10 dB steps calibrated @ 1kHz
HF HYDROPHONE			
Bandwidth		100 - 19000 Hz	-3 dB range
Sample Rate		40 kSps	





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