OceanEcho

Underwater Acoustic Projector & Data Recorder

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High-performance acoustic projector-receiver system based on the proven AMAR G4 data acquisition system

Transmit and record underwater sound simultaneously

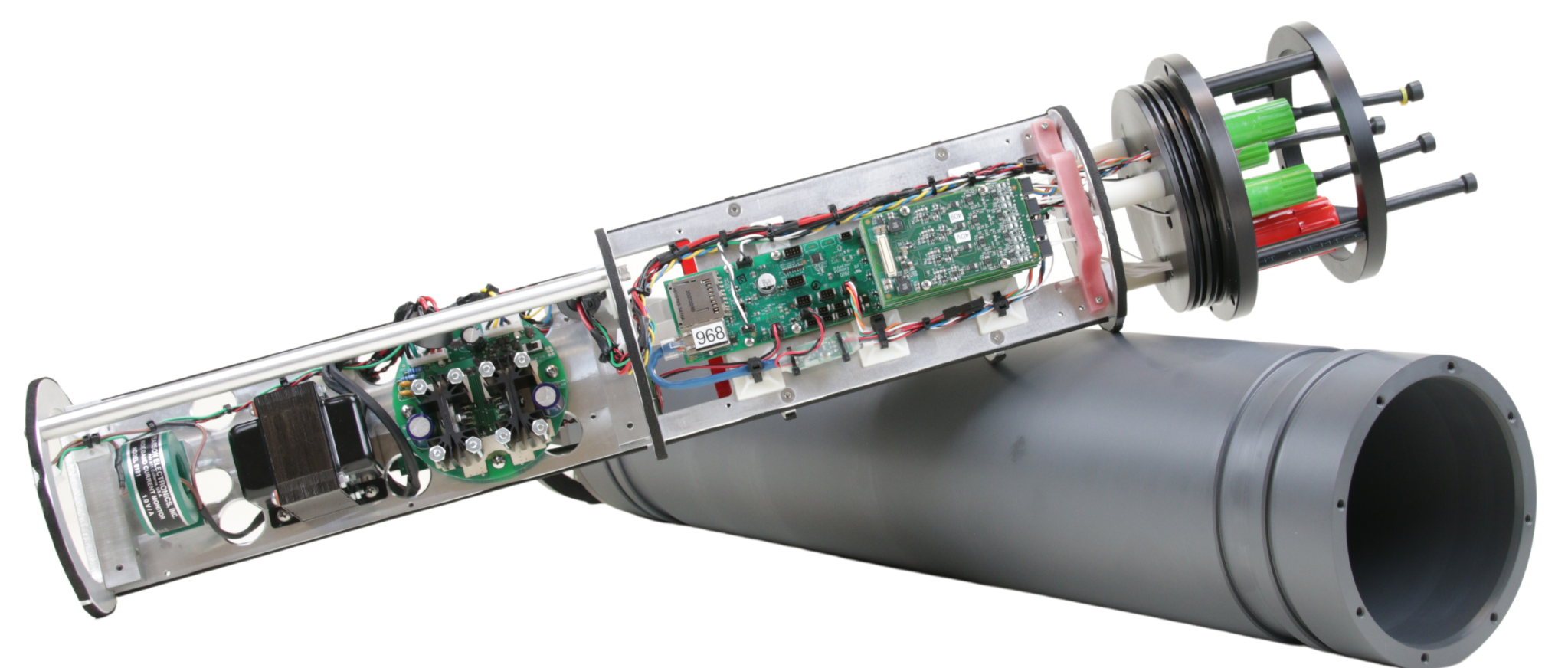**4 to 16 acoustic channels at up to 512 ksps**

10 TB memory on removable SD cards

OceanEcho makes it easy to switch between active transmission and passive listening. Compatible with a variety of acoustic sources at various frequencies, source levels and directivity patterns, this system supports multiple receive channels and a variety of hydrophone responses. Upload one or more WAV files for projector playback, with advanced scheduling options.

Potential Applications:

- Sound source for ocean sound propagation or acoustic tomography experiments
- Sound source for acoustic locating & navigation
- Sound source for time synchronization
- Active/passive system for measuring biomass
- Active/passive system for acoustic communications
- Active/passive system for acoustic profiling instruments

Specifications

Environmental		
	Maximum depth:	250 m
	Operating temperature:	−5 to 50 °C
	Storage temperature:	−18 to 55 °C

Physical			
	Dimensions (D x L):	6.5 x 35.7 in	
	Material:	PVC, anodized aluminum 316 stainless steel, Titanium	
	Approx. weight in air*:	56.0 lbs	25.4 kg
	Approx. weight in seawater*:	22.1 lbs	10.0 kg

Projector		
	Input audio format:	16-bit WAV
	Input sample rates:	8, 16, 32, 48, 75, 125, 250, 375, 500 ksps
	Supported sample rates:	8000, 16000, 32000, 48000, 75000, 125000, 250000, 375000, 500000 ksps
	Playback:	Advanced scheduling options supporting multiple WAV files
	Transducer:	-GTI M18C-4.0 (Integrated with OceanEcho HF - 1000 Hz to 100 kHz) -GTI C-BASS (Integrated with OceanEcho LF - 80 Hz to 250 Hz) Others upon request
	Optional built-in current and voltage monitors to determine transducer source level (Only available on OceanEcho HF)	

Hydrophone & Arrays		
	Customizable options from various manufactures	
	Example sensitivities:	-164 dB re 1 V/µPa @ 1 kHz -210 dB re 1 V/µPa @ 1 kHz
	Acoustic sensors:	Omnidirectional hydrophones / Small linear arrays Directional hydrophones / Small spatial arrays Vector sensors

Communications	
	Wired Comms Box to connect via Ethernet Activation plug to turn on and off AMARlink configuration software

Memory & Timing		
	Removable flash memory:	Up to 10 TB on 512 GB SD cards
	Data format:	WAV, CSV

Power		
	Operating voltage:	24 VDC (24V only for projector model)
	External battery packs:	48 or 96 D-cells, alkaline
	AC power adaptor:	110-240 V, 50-60 Hz, 0.5 A (except projector)

Acoustic Channels		
	Sample rates:	8, 16, 32, 64, 128, 256, 512 ksps sampled synchronously
	Channel gain:	Fixed gain optimized to match hydrophone

Oceanographic Sensors			
	Sensor options:	Oxygen / Salinity Acidity/pH / Depth Turbidity / Orientation (roll-pitch-yaw) Temperature / Others available upon request	
	Four analog channels:	Sample rate:	1 sps
		Resolution:	10 bits
		Voltage:	0 to +5 V
	Three serial channels:	(Unavailable when more than 4 acoustic channels are used) One RS-232 and Two configurable as RS-232, RS-422, RS-485, or 3.3 V logic level	

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ISO 9001 Certified