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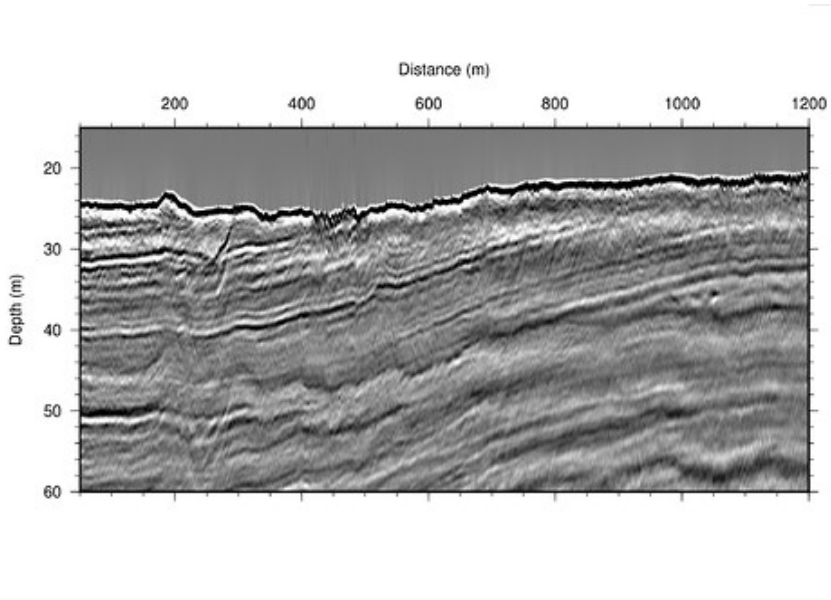
GeoEel Solid LH-16 Data Sheet

The GeoEel LH-16 has been designed to meet the requirements of the near surface marine engineering site investigations. The modular system comprises of 16 channel digitising cans, offering 16kHz sampling, which sit in line with the solid streamer sections.

The system retains the flexible modular construction of the GeoEel enabling users to tailor the number of channels to meet the project brief and deployment environment. With 1-2m hydrophone group intervals 16 channel streamer sections are easy to manage and store whilst also being a cost effective. The diameter of the streamer remains 44.5mm allowing the system to be deployed by hand off small vessels with a small tail buoy for tracking the streamers location with GNSS. For larger deployments the streamer sections support birds for active control.



In addition to the higher 16kHz sample rate the GeoEel LH-16 also boast a much higher data transfer rate to allow for up to quarter second shot intervals (with a 48 channel array) with sparker and boomer sources.

The GeoEel system can be run from a standard Laptop (with solid state drive for best right to disk performance) with Geometrics CNT-2 software installed. Multiple shot and gather windows, bar graph noise displays, windows for shot timing, gun energy, brute stack, tape status, spectral analysis. Auto-switching between storage devices, dual tape writing. Supports multiple printers. Full log kept of all parameter changes. Integrates navigation, gun, and bird data into SEG-D or SEG-Y header.

Features and Benefits

- Continuous recording with no shot interval limitations
- Accurate sub-microsecond timing accuracy synchronization to improve fidelity of your navigation and final processing
- Ultra-High resolution with sub-meter group intervals and up to 16KHz sampling rates which allows for the mapping of detailed shallow targets, complex seabed features and sub-bottom features.
- Ease of deployment and scalable nature reduces operational costs, generating higher quality insights
- Adaptable to suit your project needs and can be developed for future demands as projects evolve
- Widely used by the industry verified for over 20 years and widely supported by our team of experienced engineers and technicians-

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Product Dimensions

Physical	Dimensions (L x W x H)	Weight
(instrument only)	variable x 44.5mm x 44.5mm	156kg/100m

Technical Specifications

A/D CONVERTER MODULES:	Preliminary, subject to change
Channels:	16 per A/D module
Sample intervals:	1/16, 1/8, 1/4, 1/2, 1, 2 ms
Programmable gain:	x1, x4, x10, x40, x100
Anti-alias filter:	Stop band attenuation of 105 dB above Nyquist
Maximum input range:	1.45 Vrms
Resolution:	24 bits including sign
Input impedance:	127 kOhms, paralleled by 2.2 nF
Dynamic range:	>120 dB typical @ 16 Khz
Common mode rejection:	>110 dB
Total Harmonic Distortion:	< 0.001 typical at 100 Hz, full scale input, 0 dB gain.
Record length:	Up to 30,000 samples
Dead time:	10 ms with max average data rate of 2.1 M samples/s (dead time is 15% of recording time with 160 channels @ 16 kHz).
Continuous recording mode:	Available, with GPS synchronisation
Noise floor:	TBD
QC tests:	Leakage and capacitance of hydrophone elements, noise, DC offset, harmonic distortion and gain similarity
Power consumption:	225 mW/channel
Calibration oscillator:	1-250 Hz, 0.3 ?V to 600 mVrms
Dimensions:	DIA: 44 mm; L: 330 mm
Weight:	900 g
Packaging material:	Titanium
Connectors:	38-pin custom Glenair

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HYDROPHONE SECTIONS:	-
Number of channels:	16 per section
Group interval:	0.92, 1.5625, 3.125, or 6.25m
Hydrophones per group:	1 to 6, depending on group interval
Group sensitivity:	194 + 1.5 dB re 1 V/mPa
Low cut filter:	10 + 0.5 Hz (100 and 50 m); 15 + 1 Hz (25 m and 12.5 m).
Hydrophone type:	Proprietary polymer
Bird coil:	ION Model-578 compatible
Operation depth:	30 m
Strain member:	Zylon
Working load:	560 kg
Minimum bend radius:	1 m
TOW CABLE:	-
Weight:	0.5 kg/m
Strain member:	Kevlar
Working load:	900 kg
Diameter:	18.5 mm
STRETCH AND VIBRATION ISOLATION SECTIONS:	-
Length:	10, 25 or 50 meters
Diameter:	41 mm (stretch) or 44.5 mm (isolation)
Ballast fluid:	Gel (stretch only)
Stretch ratio:	15% (stretch only)
Bird coil:	ION Model-578 compatible (vib section only).
Working load:	560 kg
Strain member:	Zylon (isolation), Vectran (stretch)
STREAMER POWER SUPPLY UNIT:	-
Power Requirements:	115/230 VAC, 3/1.5 Amp max, 50/60 Hz
Voltage to Streamer:	36-60 VDC
I/O Communications:	I/O Communications: 100Base TX Fast Ethernet, IEEE 802.3 compliant
Trigger Requirements:	Isolated input, positive or negative TTL

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Testing:	Cable leakage and resistance
Optional Auxiliary Inputs:	8 analog channels with 24-bit resolution
Ethernet Connection:	RJ-45
Trigger Connection:	BNC

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