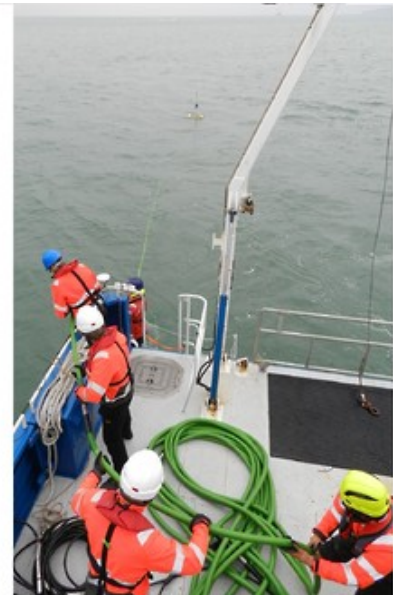
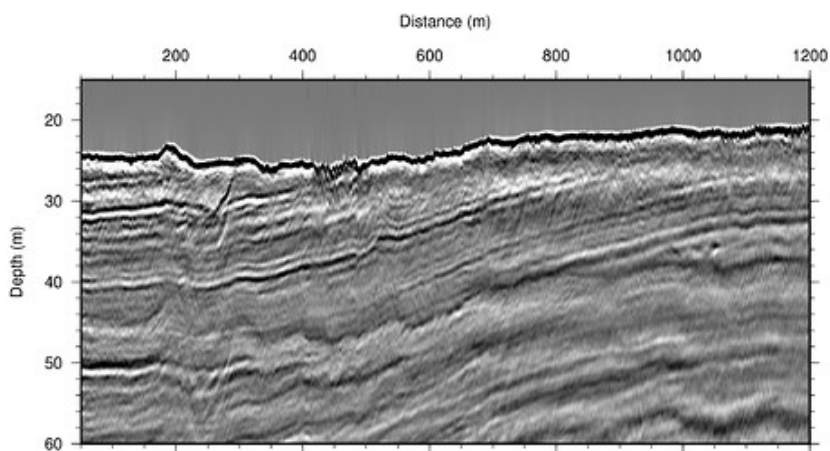


## GeoEel Solid LH-16 Data Sheet

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.

### Product Dimensions

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

### Technical Specifications

<b>A/D CONVERTER MODULES:</b>	Preliminary, subject to change
<b>Channels:</b>	16 per A/D module
<b>Sample intervals:</b>	1/16, 1/8, 1/4, 1/2, 1, 2 ms
<b>Programmable gain:</b>	x1, x4, x10, x40, x100
<b>Anti-alias filter:</b>	Stop band attenuation of 105 dB above Nyquist
<b>Maximum input range:</b>	1.45 Vrms
<b>Resolution:</b>	24 bits including sign
<b>Input impedance:</b>	127 kOhms, paralleled by 2.2 nF
<b>Dynamic range:</b>	>120 dB typical @ 16 KHz
<b>Common mode rejection:</b>	>110 dB
<b>Total Harmonic Distortion:</b>	< 0.001 typical at 100 Hz, full scale input, 0 dB gain.
<b>Record length:</b>	Up to 30,000 samples
<b>Dead time:</b>	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).
<b>Continuous recording mode:</b>	Available, with GPS synchronisation
<b>Noise floor:</b>	TBD
<b>QC tests:</b>	Leakage and capacitance of hydrophone elements, noise, DC offset, harmonic distortion and gain similarity
<b>Power consumption:</b>	225 mW/channel
<b>Calibration oscillator:</b>	1-250 Hz, 0.3 ?V to 600 mVrms
<b>Dimensions:</b>	DIA: 44 mm; L: 330 mm
<b>Weight:</b>	900 g
<b>Packaging material:</b>	Titanium
<b>Connectors:</b>	38-pin custom Glenair
<b>HYDROPHONE SECTIONS:</b>	-
<b>Number of channels:</b>	16 per section
<b>Group interval:</b>	0.92, 1.5625, 3.125, or 6.25m
<b>Hydrophones per group:</b>	1 to 6, depending on group interval
<b>Group sensitivity:</b>	194 + 1.5 dB re 1 V/mPa
<b>Low cut filter:</b>	10 + 0.5 Hz (100 and 50 m); 15 + 1 Hz (25 m and 12.5 m).
<b>Hydrophone type:</b>	Proprietary polymer
<b>Bird coil:</b>	ION Model-578 compatible

<b>Operation depth:</b>	30 m
<b>Strain member:</b>	Zylon
<b>Working load:</b>	560 kg
<b>Minimum bend radius:</b>	1 m
<b>TOW CABLE:</b>	-
<b>Weight:</b>	0.5 kg/m
<b>Strain member:</b>	Kevlar
<b>Working load:</b>	900 kg
<b>Diameter:</b>	18.5 mm
<b>STRETCH AND VIBRATION ISOLATION SECTIONS:</b>	-
<b>Length:</b>	10, 25 or 50 meters
<b>Diameter:</b>	41 mm (stretch) or 44.5 mm (isolation)
<b>Ballast fluid:</b>	Gel (stretch only)
<b>Stretch ratio:</b>	15% (stretch only)
<b>Bird coil:</b>	ION Model-578 compatible (vib section only).
<b>Working load:</b>	560 kg
<b>Strain member:</b>	Zylon (isolation), Vectran (stretch)
<b>STREAMER POWER SUPPLY UNIT:</b>	-
<b>Power Requirements:</b>	115/230 VAC, 3/1.5 Amp max, 50/60 Hz
<b>Voltage to Streamer:</b>	36-60 VDC
<b>I/O Communications:</b>	I/O Communications: 100Base TX Fast Ethernet, IEEE 802.3 compliant
<b>Trigger Requirements:</b>	Isolated input, positive or negative TTL
<b>Testing:</b>	Cable leakage and resistance
<b>Optional Auxiliary Inputs:</b>	8 analog channels with 24-bit resolution
<b>Ethernet Connection:</b>	RJ-45
<b>Trigger Connection:</b>	BNC