

GeoEel- Solid Data Sheet

Geometrics Solid™ GeoEel's elegant design offers superior performance for high resolution 2D seismic surveys.

The smallest-diameter solid design available (only 44.5 mm), the GeoEel Solid™ is easy to deploy, easy to transport and can be shipped by air.

Separate 8-channel modules coupled with a unique slim active section design yield ultra-low towing noise levels (under 4 microbar) and are largely immune to electronic interference, leakage and ground loops that plague analogue streamers. Communicates via 100 mbs Ethernet to the Geometrics CNT-2 controller, running field-proven software that is used on over 70 installations worldwide.



GeoEel deployment. Courtesy of Geometrics Inc.

Advantages of solid streamers;

- No bulge wave transmission along the length of the streamer.
- Up to 6 hydrophones per group.
- Offers higher resolution compared to competitors streamers due to the tight hydrophone group spacing.

- Low noise compared to fluid filled streamers.
- Extremely rugged and easy to handle.
- Environmentally friendly and non-flammable. Manufactured from solid polyurethane the GeoEel Solid™ presents no risk of leaking oil and can be shipped via air-freight.
- Superior Data Quality, solid core design eliminates bulge waves and noise sources common in other liquid filled streamers. Clean data with 5Hz-10KHz + without resonant frequency due to PVDF film with state of the art digitisers with unmatched signal quality
- Easy to use, 44.5mm diameter (vs Liquid/Gel 55mm), compact and modular design which is easy to use deploy by a small crew and vessel; possible to air ship the streamer for rapid deployment and low mobilization costs)
- A more lightweight system which is 1.6kg/m compared to other systems which are 2.4kg/m (no liquid components and no risk to leaks making more environmentally sustainable)
- Can be expanded to 3000+ channels at 8KHz frequency with a variety of configurations
- Components can be combined to 2D,3D and P-Cable configurations, which allows the same core components to be used 2D/3D UHR/UUHR reflection, as well as refraction surveys.

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:

Channels: 8 per A/D module.

Sample intervals: 1/8, 1/4, 1/2, 1, 2 ms.

Bandwidth: 5 Hz to 3 KHz.

Programmable gain: 0 dB, 8 dB, 18 dB, 30 dB, 42 dB.

Anti-alias filter: Set by sample interval, down 135 dB at stop-band.

Maximum input range: 1.59Vrms

Resolution: 24 bits including sign.

Dynamic range: 120dB Typical @ 1ms.

Record length: Up to 32,768 samples.

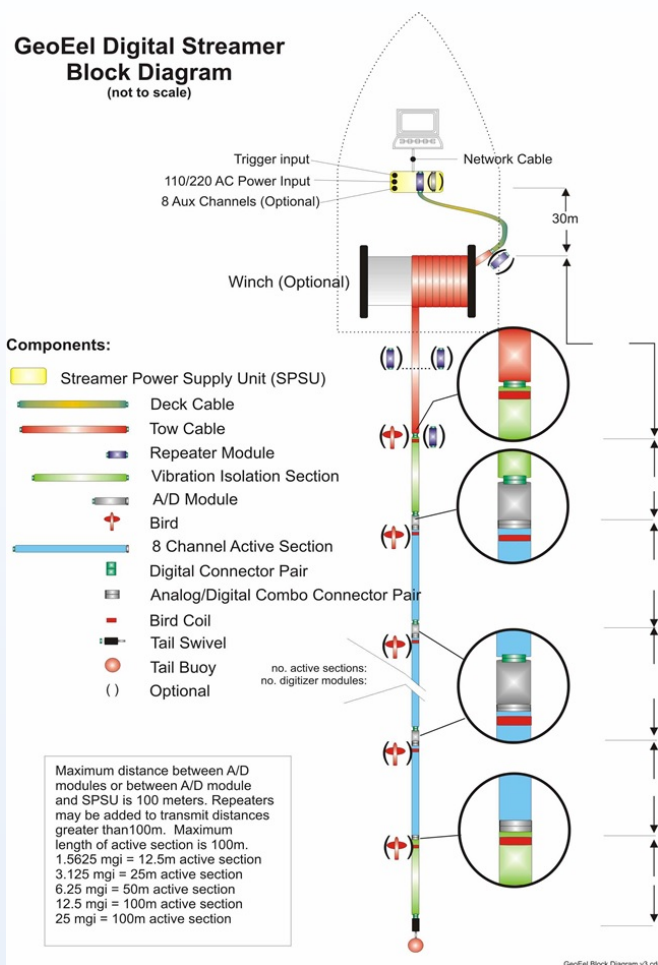
Continuous recording mode: Available, with GPS synchronization.

QC tests: Leakage and capacitance of hydrophone elements, noise, offset, harmonic distortion and gain similarity.

Hydrophone Sections:

Number of channels:	8 per section.
Group interval:	1.5625, 3.125, 6.25, or 12.5m.
Hydrophones per group:	4-6 (typical; up to 12 upon request).
Group sensitivity:	-194 + 1.5 dB re 1 V/mPa.
Low cut filter:	10 + 0.5 Hz (100 and 50m). 15 + 1 Hz (25m and 12.5m)
Hydrophone type:	Proprietary polymer.
Strain member:	Zylon
Working load:	635 kg.
Minimum bend radius:	1 m.

Gallery

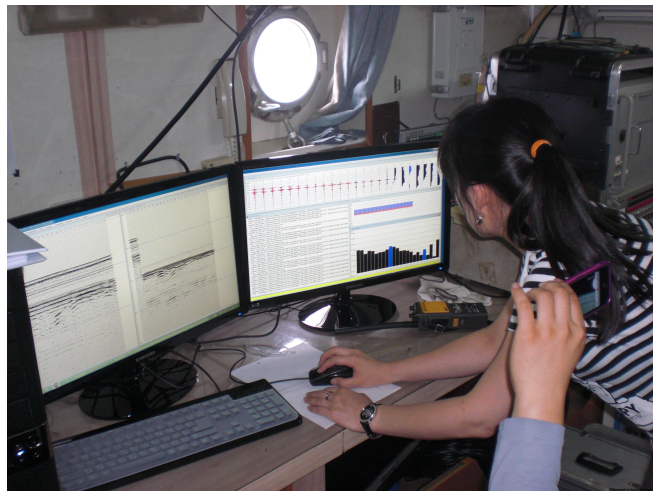


Adding fairing to GeoEel tow cable to reduce noise on the streamer due to cable strumming.

GeoEel block diagram showing all required components.



Locking A/D can termination to GeoEel Solid Section.



GeoEel data acquisition software.



GeoEel Termination with tail buoy

Videos

<https://youtu.be/8m1ltHKykrE>
<https://youtu.be/8m1ltHKykrE>