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GeoEel- Solid Data Sheet

Geometrics SolidTM 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.

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- Low noise compared to fluid filled streamers.
- Extremely rugged and easy to handle.
- Environmentally friendly and non-flammable. Manufactured from solid polyurethane the GeoEel SolidTM 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

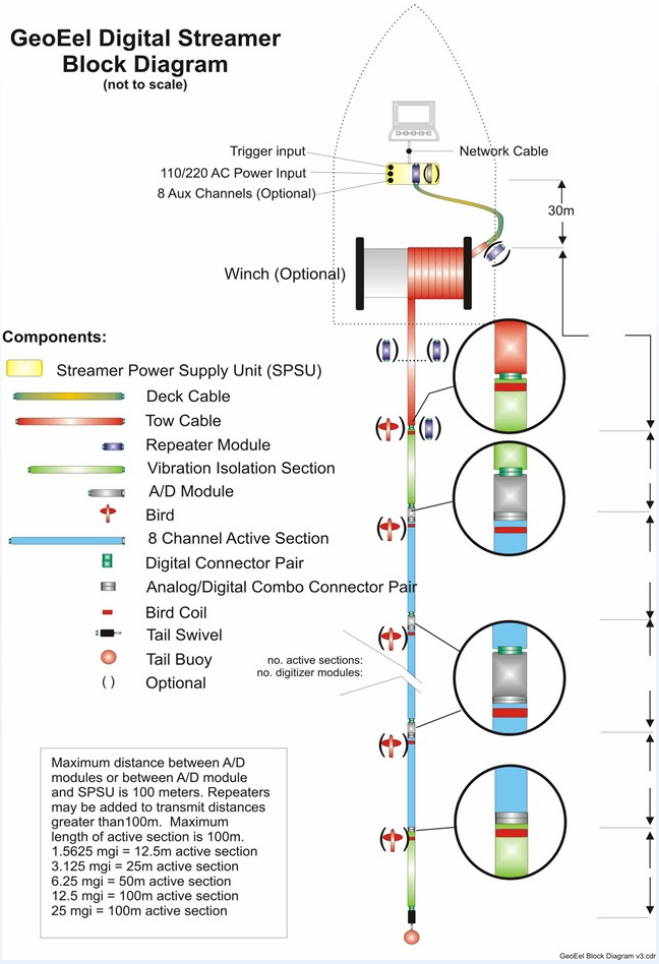
A/D Converter Modules:	
Channels:	8 per A/D module.
Sample intervals:	1/8, 1/4, 1/2, 1, 2 ms.
Bandwidth:	5 Hz to 3 KHz.
Programmable gain:	0 dB, 8 dB, 18 dB, 30 dB, 42 dB.
Anti-alias filter:	Set by sample interval, down 135 dB at stop-band.
Maximum input range:	1.59Vrms
Resolution:	24 bits including 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:	

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Number of channels:	8 per section.
Group inverval:	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.

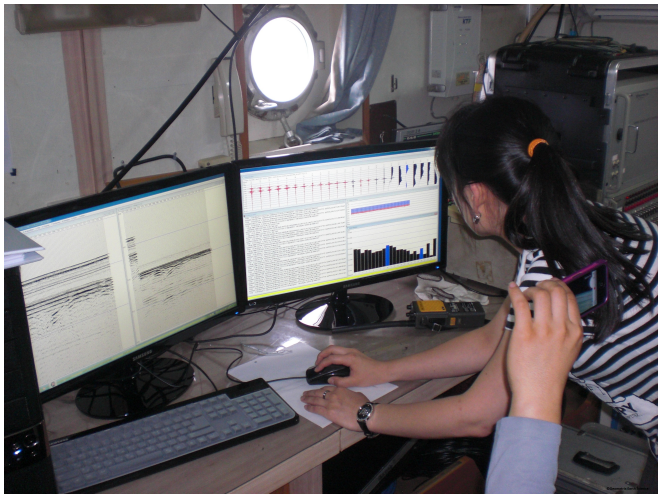
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GeoEel block diagram showing all required components.



Locking A/D can termination to GeoEel Solid Section.



GeoEel data acquisition software.



GeoEel Termination with tail buoy

Videos

https://youtu.be/8m1ItHKykrE
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