

## Geometrics Geoeel Silicone Filled Streamer

*The GEOEEL series of digital towed hydrophone streamers are the first small diameter arrays with the performance of larger systems. With a diameter of only 41mm, the GEOEEL-Liquid is easy to deploy, easy to transport and largely immune from the noise, leakage and ground loops that plague the installation of analog streamers in a marine environment.*

*The GEOEEL-Liquid is filled with inert silicon which makes it environmentally safe. Thick 1/8" abrasion resistant polyurethane keeps the streamer extremely rugged but still flexible enough to deploy by hand or mount on small winches. Available in a range of channel group intervals from 12.5m group interval down to smaller UHR streamers at 1m or 1.56m group interval.*



### Active Section

**Number of Channels:** 8 per section

**Group Interval:** 1.56m, 3.125m, 6.25m, 12.5m,

**Section Length:** 12.5, 25, 50, and 100 m

**Hydrophones per Group:** 1mGI = 4, 1.56mGI = 4, 3.125mGI = 4  
 6.25mGI = 8, 12.5mGI = 16

**Hydrophone Type:** GeoPoint / T1.

**Group Sensitivity:** Depends on group interval and hydrophone model;

**Jacket Material:** Clear polyurethane, 70 Duro, 3.18 mm (1/8 inch) wall thickness

**Diameter:** 41 mm (1.6 inches)

**Ballast Fluid:** Inert, high-flashpoint, non-polluting silicone, 100 cSt to 3 cSt, depending on desired buoyancy

**Weight:** ~1.35 kg (3 lbs) / m

**Strain Member:** Vectran

**Break Strength:** Over 2,200 Kg (5000 lbs)

**Maximum Tow Speed:** ~8 knots recording, ~10 knots steaming, depending on configuration and sea state

**Typical Towing Noise:** <5 uBar @ 4.5 knots, 8hz low-cut filter, Beaufort 5/6 seas

**Minimum bend radius:** 750mm (30 inches)

**Compass/Bird Coil:** I/O model 587 (one per section)

**Depth Transducer:** One per section (Optional)



### Digitiser Modules

**Channels per Module:** 8 Sample Rates: 1/16 msec,

1/8 msec, 1/4 msec, 1/2 msec, 1 msec, 2 msec, 4 msec

**Programmable Gains:** 0 dB, 8 dB, 18 dB, 30 dB

**Record Length:** Up to 16,000 samples/trace

**Water-Column Delay:** Up to 255 samples

**I/O Communications:** 100Base TX Fast Ethernet, IEEE 802.3 compliant

**Dead Time Between Shots:** 100 msec

**Anti-alias Filter:** -3 dB @ 81% of Nyquist, down 135 dB at stop band





# Equipment Specifications

For further information: Email: [tsoffice@aol.com](mailto:tsoffice@aol.com)  
[www.ttsurveys.com](http://www.ttsurveys.com)

**Input Impedance:** 126.8 KOhms, paralleled by 2.4 nF  
**Continuous Recording Mode:** Available with GPS synchronization  
**Test Oscillator:** 10 Hz to 2 KHz, 1 $\mu$ V to 100 mV AC rms  
**QC Tests:** Noise, DC offset, total harmonic distortion, gain accuracy, gain similarity, phase similarity  
**Bandwidth:** DC to 8 KHz  
**Resolution:** 24 bits including sign  
**Maximum Input Range:** +2.25V  
**Dynamic Range:** 120 dB typical @ 1 msec, 70 dB typical @ 1/16 msec  
**Common-mode Rejection:** 90 dB @ ¼ msec, 190 Hz  
**Gain Accuracy:** +6.25% @ ¼ msec, 30 dB, 100 Hz; +6.0% @ 2 msec, 30 dB, 25 Hz  
**Gain Similarity:** +3% @ ¼ msec, 30 dB, 100 Hz; +3.0% @ 2 msec, 30 dB, 25 Hz  
**Phase Similarity:** +0.1o @ ¼ msec, 30 dB, 100 Hz; +0.1o @ 2 msec, 30 dB, 25 Hz  
**THD:** 0.007% @ ¼ msec, 30 dB, 100 Hz; 0.003% @ 2 msec, 30 dB, 25 Hz  
**Crosstalk:** -105 dB @ 30 dB, ¼ msec, 190 Hz  
**Noise Floor:** 1.4  $\mu$ V rms @ 30 dB, ¼ ms; 0.2  $\mu$ V rms @ 30 dB, 2 msec  
**Power Consumption:** Approximately 100 mA at 48VDC (12.5 mA/channel)  
**Dimensions:** 44 mm diameter x 330 mm long (1.75" by 11")  
**Weight in air:** 900 grams (2.0 lbs)  
**Weight in water:** 520 grams (1.1 lbs)  
**Packaging:** Titanium body  
**Connectors:** Waterproof, high-density stainless, 41-pin

## Tow Cable

**Electrical Conductors:** 7 twisted 24GA pairs and 10 16GA conductors  
**Strain Member:** Vectran Break Strength: Over 2,200 Kg (5000 lbs)  
**Length:** Up to 100m  
**Diameter:** 18.6 mm  
**Weight:** ~21 Kg (46 lbs) for 50 meters  
**Termination:** Flex-tow and non, plus double wet Braided Steel Armor: Optic  
**Bend Diameter:** 12 inches

