



Versatile ultra-high resolution seismic source to be used in salt and freshwater environments.

Description

QUALITY SOURCE SIGNAL

The Geo-Boomer is an ultra high resolution seismic source, composed by a non-cavitating high quality transducer plate that can provide vertical resolution of 10 cm with a very simple setup. It also can promote signal penetration of up to 100 ms, depending on the energy level, the sub-bottom geology and the water depth.

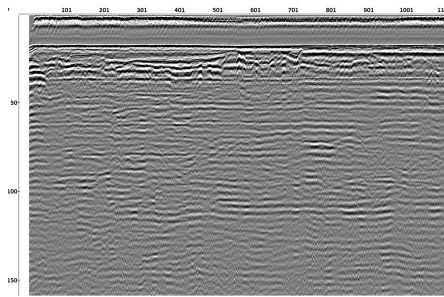
COMPATIBILITY WITH THE SPARKER SYSTEMS

The Geo-Boomer 300-500 has been designed and built by Geo Marine for operation with the Geo-Spark 1000 pulsed power supplies. It also comes our standard, Kevlar-reinforced, coaxial HV power / tow cable. A stainless steel Kellum grip is provided to attach the cable to the towing point. This dedicated cable is fully compatible with the Geo-Source sparker systems and contains four inner leads of 10 mm² (negative) and an outer braiding of 40 mm² (= ground).

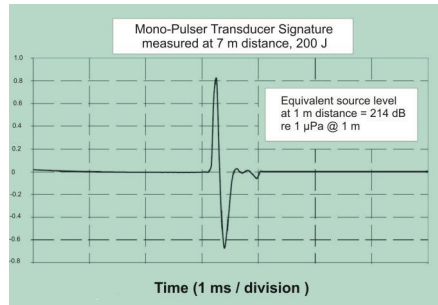
Operational Features

- Specially designed for small vessel surveys.
- Water depths from 2 to 150 m.
- Special acoustic reflector above plate to ensure the constructive interference between the direct down going pulse and the reflected ghost.
- Very stable lightweight towing structure that can be dismantled into four parts.
- Electrically interrupted frame to eliminate loop currents and energy loss.
- Can be used in marine and freshwater environment.
- Ultra short single acoustic pulse <0.25 to 0.50 ms, depending on energy level.
- Successfully employed in coastal engineering surveys, sand search, site and route surveys and many others.

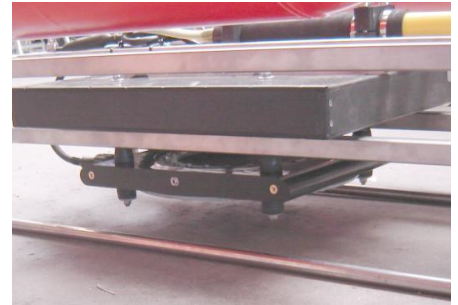
ELECTROMECHANICAL TRANSDUCER SYSTEMS



Boomer at 100 J with an 8-element single-channel streamer.



Signal spectrum of the Geo-Boomer.



The boomer plate.

Additional Features

NO INTERFERENCE

The cable is designed to have a very low self-inductance to preserve the high di/dt pulse output of the Geo-Spark power supply. Because of the cable's coaxial structure, the electromagnetic emission is extremely low.

ADJUSTABLE SOURCE DEPTH

The source position and depth are adjustable, so the user can decide to prioritize vertical resolution or penetration and more weather resilience.

Specification

Dimensions (cm) & Weight of the transducer plate and baffle

Plate: 40 (L) x 40 (W) x 8 (H)
Baffle: 50 (L) x 50 (W) x 10 (H)
Weight: 24.5 kg (water) / 39.5 kg (air)

Dimensions (cm) & Weight of the catamaran frame

55 (L) x 75 (W) x 105 (H) - 30 kg

Maximum input voltage

-5600 V

Maximum input energy

2 shots of 500 J/s or 4 shots of 250 J/s

Signature

Single acoustic pulse of 0.25 - 0.50 ms

Dominant Frequency

2000 - 4000 Hz (varies with energy level)

Materials

Plate: Epoxy /
Baffle: Polyacetal plus PU foam
Catamaran: Marine quality stainless steel 316, passivated, with aluminum anodes and electrically interrupted to eliminate induced loop currents in frame

Better if used with

[Geo-Spark 1000, 8E single-channel Streamer, 24 multi-channel streamer, Geo-POS](#)

Recommended interface system

[Mini-Trace II](#) or [Multi-Trace Server](#)

We are always pushing for improvements, so equipment specifications can change without notice. Please keep in contact with support to stay in tune with the developments.