S-Boom
Geophysical Systems
UHR Seismic Surveys

www.appliedacoustics.com
The S-Boom sub bottom profiling system is an alliance of existing and new technologies, packaged to provide a unique and powerful method of carrying out deep penetration seismic surveys with ultra-high resolution data quality.

By harnessing the combined power of three proven AA252 Boomer Plates to provide one single pulse, the S-Boom System redefines the boundaries of shallow seismic surveying. The transmitted energy is focused by the array geometry to improve the directivity and beam pattern, giving a marked improvement over traditional seismic sound sources. Already recognised for producing high resolution seabed profiles, the fusion of these three transducers delivers a source level high enough to significantly increase sub-bottom penetration while maintaining a vertical resolution of better than 0.25 metres.

Innovation within the energy source sees the S-Boom capable of operating at a maximum energy output of 1000 Joules per pulse, and firing at three pulses per second. At this setting, the S-Boom has achieved penetration results of over 200ms through sand and limestone whilst delivering the high resolution records expected of boomer systems with all the quality and reliability expected of Applied Acoustics.

As with all AAE sub bottom systems, the S-Boom forms part of a modular package able to operate from a number of energy sources from the renowned CSP range. For optimum results, the fast charging CSP-N1200 power supply has been designed as the energy source of choice for this system, although the system can operate just as well with a source from the larger CSP-S range. Furthermore, some existing variants of the CSP-D range can also be used at lower settings and longer pulse intervals.

Given the frequency of operation and the transmitted power levels, the S-Boom system is suitable for use with both single and multi-channel hydrophone arrays and acquisition packages, adding to the overall system versatility and creating the perfect UHR package for many applications including research, mapping and construction geological surveys.
**Technical Specification**

**S-BOOM SYSTEM COMPONENTS**

1 x CAT303  
3 x AA252 Boomer Plates  
1 x HVC3000 Cable and Junction Box

Powered from a CSP-N1200 Seismic Source

**S-BOOM PHYSICAL SPECIFICATION**

**CAT303 Catamaran**

Length 1700mm  
Height 490mm  
Width 660mm frame  
876mm including floats  
Weight 60kg

**AA252 Boomer Plate x 3**

Length 380mm  
Width 380mm  
Weight 18kg (air) 10kg (water)  
Connector type RMK with locking collar

**HVC3000 Cable**

Outside diameter 26mm  
Breaking strain 2000kg  
Standard length 75m

**ELECTRICAL INPUT**

Recommended power 700-1000J per shot  
Maximum energy input 1000J  
Maximum power input 3000J/second  
Thermal interlock protection interfaced to energy source

**SOUND OUTPUT**

Source level Typically 222 dB re 1 μPa at 2 metres with 1000J  
Pulse length 300 to 500μs depending on energy applied  
Reverberation <10% of initial pulse

**COMPATABILITY**

- Energy source CSP-N1200 (Other CSP series of power supplies can be used)  
- Catamaran CAT303  
- Cable HVC3000

Sample Pulse at 1000J
With on-going research and development in cutting edge technology and acute awareness of current and future industry needs, our commitment to our customers is second to none. We are equally determined to aid and assist our customers worldwide with a network of partners, suppliers and overseas Support Centres. Together, we offer engineering excellence, trusted products and a first class professional service on a global scale.