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 AA202 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-S1250 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 CAT 300
3 x AA202 Boomer Plate
1 x HV3000 Cable and Junction Box

Powered from a CSP-S1250 Seismic Source

S-BOOM PHYSICAL SPECIFICATION

Cat 300 Catamaran
Length 1700mm
Height 490mm
Width 660mm frame
876mm including floats
Weight 60kg

AA202 Boomer Plate x 3
Length 380mm
Width 380mm
Weight 18kg (air) 10kg (water)
Connector type RMK with locking collar

HV3000 Cable
Outside diameter 26mm
Breaking strain 2000kg
Standard length 50m, 75m (length can be specified)

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-S 1250 (Other CSP series of power supplies can be used)
Catamaran CAT 300
Cable HV3000

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.