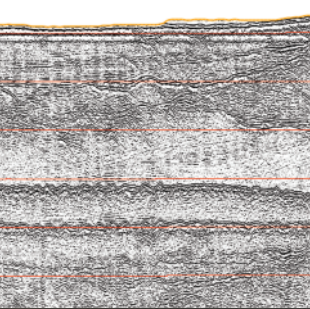




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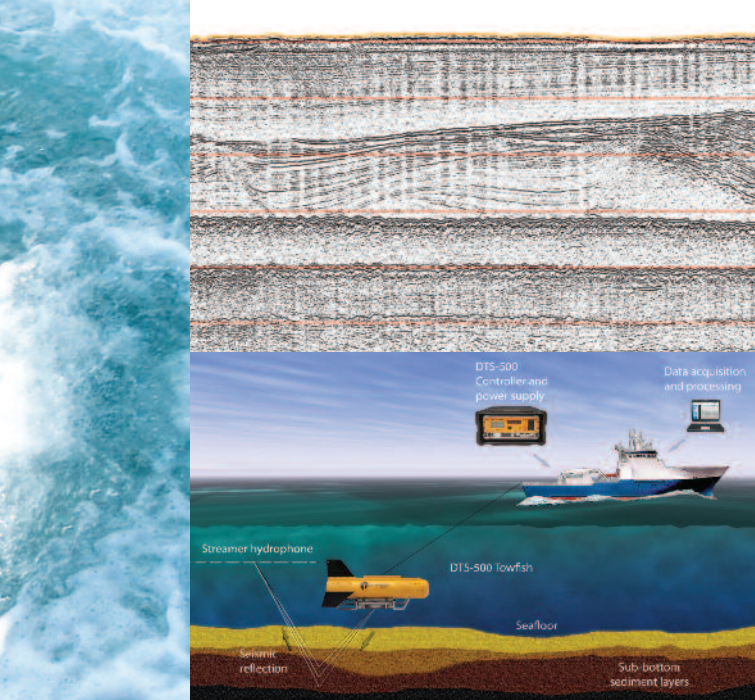
Underwater Technology

An AAE Technologies Group Company



DTS-500 Deep Tow Sub-bottom Profiler

www.appliedacoustics.com



The DTS-500 is a deep tow high resolution sub-bottom profiler, designed to operate with industry standard coaxial tow cables up to 2000m. The DC power, communications and analogue seismic data are multiplexed to the surface console. The wide dynamic range of the link, coupled with the high frequency sound source, provide high resolution sub-bottom data which can be easily interfaced to industry standard data loggers. The system is controlled and monitored using the onboard Surface Console and can be triggered externally or run internally. The Surface Console has an integrated LCD display, indicators and a tow cable leakage monitor for online QC and safety. The DTS Towfish is a solid state instrument with a 500 Joule per second charge rate which allows a typical repetition rate of 150 Joule at 3Hz. Utilising the integrated high resolution depth sensor, the system compensates for the vertical movement of the Towfish. Its orientation is monitored using the internal AHRS sensor. The DTS-500 has a number of electrical and mechanical interlock systems designed to provide operational safety together with system safety. The DTS-500 system utilises reverse polarity providing long life sparker tips. This minimises operational downtime maintenance and significantly increases sound pulse repeatability.

DTS-500, Deep Tow Sub-bottom Profiler

For High and Ultra-High geophysical surveys

Key features

- Operation over 2000m industry standard coaxial tow cable
- 500m water depth operation
- High resolution sub-bottom data, up to 15cm
- Programmable power level, trigger rate and record length
- Vertical motion compensation and integral AHRS sensor
- Long life, durable sparker electrodes
- Integral hydrophone receiver with programmable pre-amp gain
- Full system safety and operational safety interlocks



Technical Specification

SYSTEM COMPONENTS

DTS-500 Towfish including subsea bottle, USBL beacon, hydrophone, sparker array and tow point adaptor
DTS-500 Surface Console including power supply
Deck cable 100m

PHYSICAL

DTS-500 Towfish

Dimensions (cms) 150 (L), 70 (H), 80 (W)
 Weight 146kg
 Depth rating 500m
 Tow point 19mm opening, 2 Pin tow arm

DTS-500 Console

Dimensions (cms) Transit case (4U): 29 (H) x 56 (W) x 56 (D)
 Console 3U Rack
 Power supply 1U Rack

ELECTRICAL

System Vac supply 1500 Watt, 240Vac 7A or 120Vac 14A.
 Auto Detect 50 or 60Hz
 Tow cable # A302799 14AWG
 centre coaxial double armour (recommended)
 # A301241 10AWG
 centre coaxial double armour tow cable
 # A304874 20AWG
 centre coaxial double armour tow cable (minimum)
 (Other cables may be compatible)
 Max length 2000m with 14AWG
 >2000m with 10AWG #A301241

OPERATIONAL

Voltage 70Vdc Program, 360 to 450Vdc operational
 Current 1.8A Peak
 Power levels 50,100,150,200,250,300Joule
 500 Joule per second charge rate
 Sound output 218dB re 1µPa at 1m 150J (Typical)
 Number of tips 40 (2 x20)
 Resolution 15 to 25cm depending on power
 Hydrophone Acceleration cancelling 8 element array,
 as standard
 Pre amp Programmable -13dB, 0dB, +13dB,
 +25dB, +36dB
 TVG Programmable -30 dB to +10dB in 1dB steps
 Record length Max = firing rate -100ms, default
 or programmable
 Trigger Internal or external
 Data output Analogue ±5Vdc
 Bandwidth 100Hz to 10kHz
 Safety interlocks Isolated tow cable electrical leakage sensor
 Immersion sensor
 Water ingress sensor
 Thermal sensors
 Cable and housing sensors
 Depth sensor minimum limit
 Communications and system monitoring

OPERATIONAL (CONTINUED)

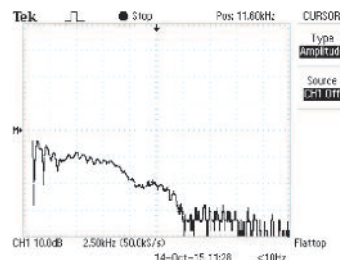
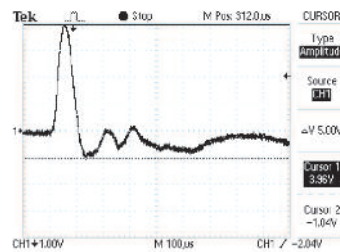
Towfish orientation 0.1° Pitch, roll, heading resolution
 Depth sensor 0.02% FS (typical)
 Heave compensation Automatic Velocity Stabilisation (AVS) function
 Positioning Integrated AAE 101x USBL beacon
 Communications 4 x RS232 Serial port

COMPATABILITY

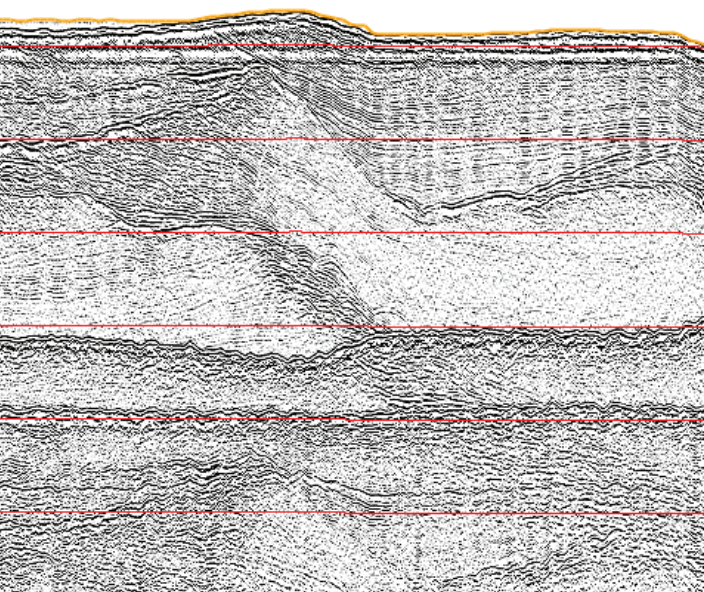
Analogue Sub-bottom data loggers such as
 Triton, Chesapeake, Coda etc

TYPICAL PULSE SIGNATURE

150J recorded at 1m



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.



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