

AMS-120 SONAR MAPPING SYSTEM



- Cable Route Surveys
- Pipeline Route Surveys
- Geohazard Surveys
- Geological Investigations
- Seafloor Searches
- Hydrographic Surveys

The AMS-120 was designed in response to developing requirements in the offshore oil and telecommunications industries for high-resolution seafloor mapping in deep water. This system has the range and precision to map optimal routes for pipelines and cables, conduct detailed engineering studies, site investigations and geohazard surveys utilizing sidescan sonar, swath bathymetry and sub-bottom profiling.

FEATURES

- Sub-Bottom Profiler – 4.5 kHz SBP for simultaneous acquisition of near-seafloor geological information
- Integrated Navigation – Data telemetry and control channels for an acoustic interrogator/receiver/processor
- Wide System Bandwidth – Low Q transducers, combined with short, high power transmit pulses and wide receiver bandwidths provide the resolution of higher frequency systems with the range advantage of a lower frequency system
- High Dynamic Range Signal Processing – Very low noise receivers with TVG applied in the towfish provide wide dynamic range needed for optimal signal quality
- Excellent Towfish Stability – the two-body tow system uses a depressor weight and a neutrally buoyant umbilical to de-couple the towfish from ship heave which provides the stability needed for high quality imagery and bathymetry
- Extensive Sensor Package – High precision depth, pitch, roll and heading sensors are sampled 5 times a second and transmitted to the surface to allow for correction for vehicle attitude changes

AMS-120 REPRESENTATIVE PROJECTS & SURVEYS

CHEVRON
CHEVRON
CDM Corporation
BP/Mariner
ENRON
SAMEDAN
KDD/Cable & Wireless

Katrina/ Rita Damage Assessment Survey, Gulf of Mexico 2005
Site & Flowline Survey, Nigeria/ Agbami 2004
Brightwater Outfall Survey, King County, Washington 2003
Pipeline Route Surveys, Gulf of Mexico 1999-2002
Calypso Pipeline Survey, Florida to Bahamas 2001
Site & Pipeline Route Survey, Israel 2001
Cable Route Surveys, East China Sea – Indian Ocean 1997-1998

The AMS-120 is a deep seafloor mapping system capable of generating co-registered imagery and bathymetry across a swath of up to 1000 meters. The AMS-120 is a general-purpose system with an emphasis on high-resolution imagery. The bathymetric mapping capability produces maps at sub-meter accuracy. The AMS-120 has a long track record of successful surveys.

GENERAL

Size – 3m long x 1m wide x 1.3m high
Weight – 450kg, neutrally buoyant in water
Depth Rating – 6000 meters
Tow Cable – double armored coaxial cable
Depressor – 680kg deadweight
Umbilical – 50m or 100m neutrally buoyant
Power Requirement – 115 VAC, 60 Hz, 1 ϕ , 15A

SONAR

Frequency – 120 kHz Port and Starboard
Beamwidth – 1.4° horizontal, 60° vertical
Transmit Power – low 100/ high 1000 watts
Pulse Length – 1 to 80 cycles, 8.3 - 660 μ sec
Gain Adjustment – 42dB range in 3 dB steps
Swath Widths – 100m to 1km
Range Resolution – Range/2048
System Dynamic Range – 72 dB
Swath Bathymetry – isophase interferometry

SUB-BOTTOM PROFILER

Frequency – 4.5 kHz
Beamwidth - 70° cone
Transmit Power – 550 or 20 watts RMS
Pulse Length – 1 to 16 cycles, 0.3 to 3.2 msec
Gain Adjustment – 42 dB in twenty 3 dB steps

SENSORS

Depth – Paroscientific 410 KT, 0.5 m acc.
Attitude – pitch and roll, 0.1°
Heading – gimballed fluxgate compass, 0.3°
Navigation – RS232 @9600 baud

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