



## WA30/120 Sonar Mapping System



### Ideal for:

- **Cable Route Surveys and Pipeline & Geohazard Surveys**
- **Seafloor Searches**
- **Hydrographic Surveys and Geological Investigations**
- **Marine Mining Exploration**

### FEATURES

Operational at 6,000 m ocean depth, the WA30/120 extends the capabilities of high-resolution sidescan imagery and swath bathymetry to regional mapping. The 30 kHz sidescan transmit frequency permits operation on swath-widths up to 6,000 meters and detection of a range of acoustic targets – from shipwrecks to fine scale objects. The low frequency sonar provides for greater penetration of the seafloor allowing mapping of buried cables and pipelines. The WA30/120 is an ideal general-purpose system, allowing both wide swath mapping and high-resolution target imaging.

- **Dual Frequency** – High precision imaging with the 120 kHz system allows for crisp target resolution while the 30 kHz images large survey areas and can allow imaging several meters into softer sea floors.
- **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 digital 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.
- **Dual Mode** – Coax or fiber optic cable capability allows for 'ship of opportunity' winch system operation.
- **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.

## SPECIFICATIONS

<b>General</b>	
Dimensions	4.2 m length x 1.1 m wide x 1.3 m height
Weight	1,100 kg, neutrally buoyant
Operating Depth	6,000 m
Tow Cable	Double armored coaxial or electro optic cable
Depressor	680 kg, deadweight
Umbilical	50 – 100 m, neutrally buoyant
Power Requirement	115 VAC, 60 Hz, 1 $\phi$ , 15A

<b>Sonar</b>	<b>30 kHz System</b>	<b>120 kHz System</b>
Frequency	27 kHz Port and 30 kHz Starboard	120 kHz Port and Starboard
Beamwidth	1.75° horizontal, 40° vertical	1.4° horizontal, 60° vertical
Transmit Power	Low 165 W, high 2,500 W	Low 100 W, high 1,000 W
Pulse Length	1 to 80 cycles, 37-2960 $\mu$ sec	1 to 80 cycles, 8.3-660 $\mu$ sec
Gain Adjustment	42 dB range in 3 dB steps	42 dB range in 3 dB steps
Swath Widths	500 m to 6,000 m	100 m to 1,000 m
Range Resolution	<i>Range / 2048</i>	<i>Range / 2048</i>
System Dynamic Range	72 dB	72 dB

<b>Sub-Bottom Profiler</b>	
Frequency	4.5 kHz
Beamwidth	70° cone
Transmit Power	550 or 80 watts RMS
Pulse Length	1 to 16 cycles, 0.3 to 3.2 msec
Gain Adjustment	42 dB range in 20 3 dB steps

<b>Sensors</b>	
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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