KLEIN MARINE SYSTEMS

KLEIN SYSTEM D3500TF

High-Definition Digital Side Scan Sonar For Deep Water Surveys

The Klein System D3500TF is a digital CHIRP Side Scan Sonar designed for deep water surveys to 3000 m depth. The high fidelity, high definition imaging abilities make the D3500TF system an ideal and versatile tool for various deep water survey applications.

The D3500TF employs a CHIRP transmission mode. Klein's advanced broadband CHIRP signal processing technology coupled with Klein's proprietary display algorithms, provides extraordinary long range, and high resolution seafloor acoustic imagery.

Dual simultaneous frequency (100/400 kHz) operation is standard in the D3500TF. 100 kHz provides long range, 600 m per side, search capability while 400 kHz provides higher resolution imagery for target classification to 200 m range per side.

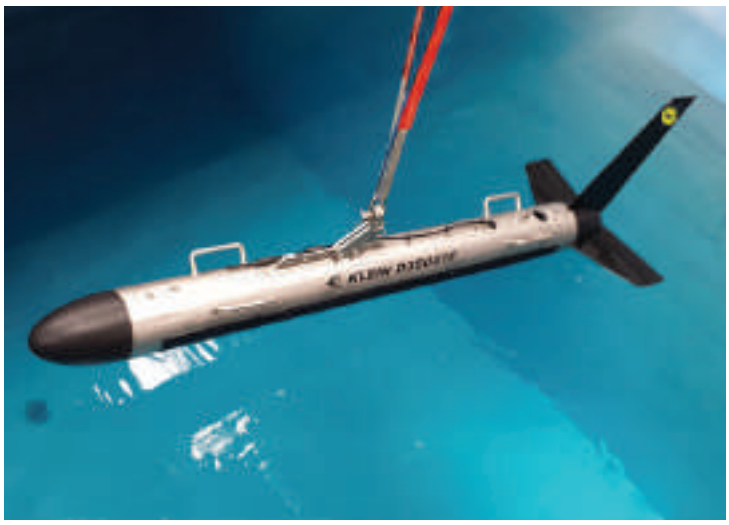
The System features the new Smart Telemetry which measures the electrical parameters of the tow cable (including slip ring and deck cable) and selects data rate and filter settings that maximize data throughput. This results in continuous, high quality imaging over a broad variety of cable types and cable lengths, in excess of 6,000 meters of 0.68" equivalent cable. This feature is designed to support surveyors and rental companies who frequently switch equipment to different winches and different cables.

The D3500TF operates from 110/230, 50/60 kHz power sources. The standard system configuration is supplied complete with a rugged stainless steel towfish (with heading, pitch, roll & depth sensors installed), a 19" rackmount transceiver processor unit (TPU), a workstation with Windows and SonarPro® software installed, and a 100 m lightweight Kevlar test/tow cable. Available options include; laptop, a depressor wing, a responder interface, a magnetometer interface a motion reference unit, altimeter, and fiber optic tow cable interfaces.

Key Features

- Geology / Geophysical
- Geo Hazard Mapping
- Cable and Pipeline Routing & Inspection
- Archaeological Surveys
- Search and Recovery (SAR)
- Submarine Rescue
- Oceanographic Surveys
- Minerals & Mining
- Benthic Habitat MappingCharting

APPLICATIONS:
• Dual, Simultaneous Frequencies (100/400 kHz)
• Depth Rated to 3000m
• Hydrodynamic Stainless Steel Tow Fish
• Optional Magnetometer and Responder Interface Units
• Automatic Variable Rate Bandwidth Telemetry
• Easy Operation



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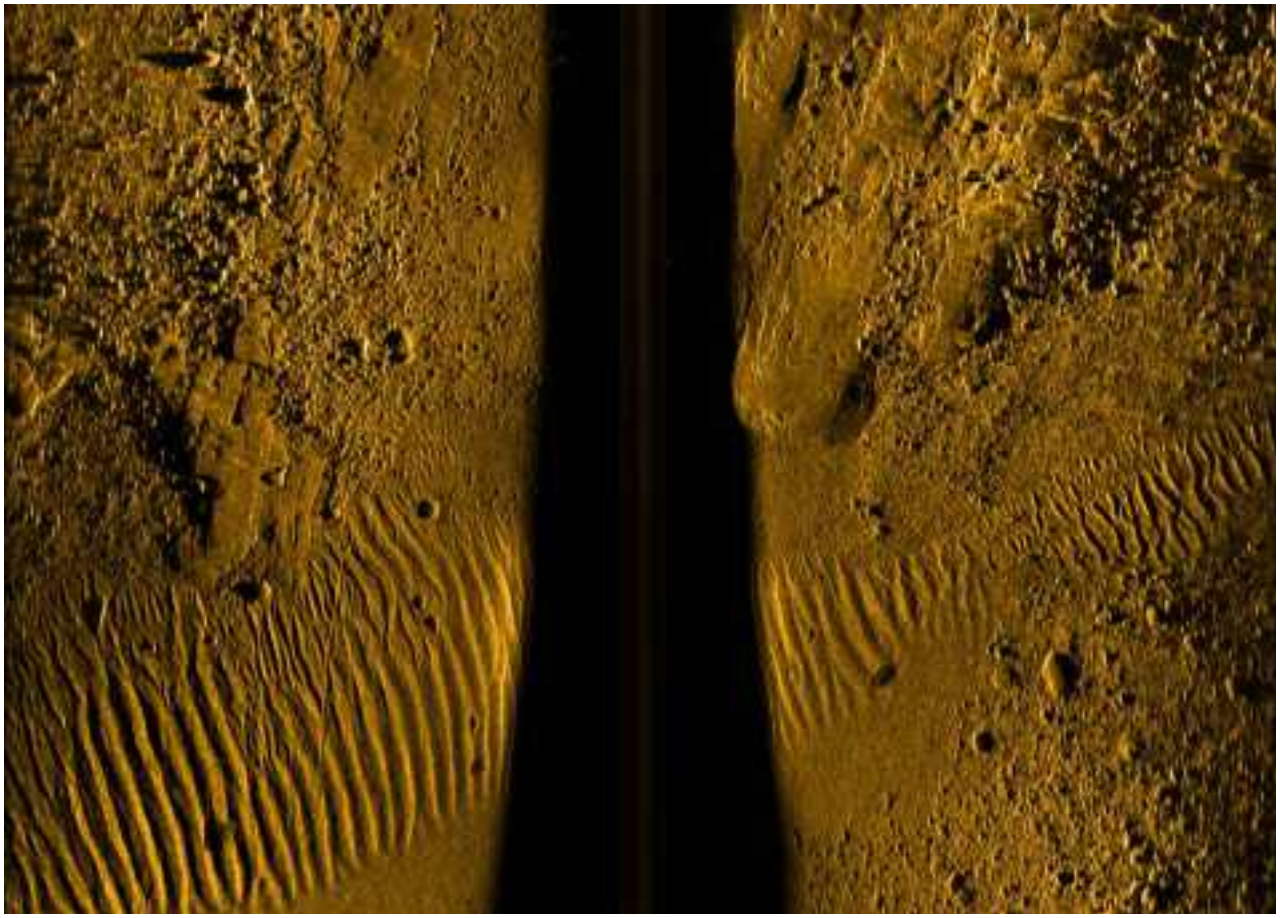
System D3500TF Towfish	
Construction	316 Stainless Steel
Body Length	1.94 m (76.4 in)
Outer Diameter	15.2 cm (6.0 in)
Weight (in air / in water)	70 kg (154 lbs) in air 47.7 kg (105 lbs) in water
Maximum Depth Rating	3000 m
Standard Towfish Sensors	Compass: Heading +/- 0.5° RMS Roll and Pitch Sensor Depth Pressure Sensor
Optional Tow Accessories	K Wing II Depressor Wing Responder Interface Magnetometer Interface

Side Scan Sonar Specifications	
Technology	Single Beam
Frequency	100 kHz/400 kHz Dual Simultaneous
Pulse Type	FM CHIRP
Horizontal Beamwidth	0.7° @ 100 kHz / 0.3° @ 400 kHz
Vertical Beamwidth	50°
Across Track Resolution	9.6 cm @ 100 kHz, 2.4 cm @ 400 kHz
Maximum Operating Range (per side)	600 m @ 100 kHz, 200 m @ 400 kHz
Vertical Beam Center	Tilted down 20° from horizontal
Output Data Format	SDF (Sonar Data Format), or XTF (Extended Triton Format or both - selectable)

Topside Assemblies	
Tranceiver Processing Unit (TPU)	19" rack mount
Workstation PC Windows 7 and SonarPro® Installed	19" rack mount, 21.5" LCD display, keyboard and mouse

System Power Requirements	
Input Voltage	110/230 VAC (50/60 kHz)
Power Consumption	120 w



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Klein Marine is deeply committed to customer support. We are currently servicing valued customers in 80 countries, and relying on a network of competent International Representatives to meet and exceed the service needs of our customers around the world. We provide 24 hour / 7 day a week support.

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