The Klein System 4900 is a versatile Side Scan Sonar that can be used for many different survey, search and recovery applications. The high fidelity, high-definition imaging abilities and the portability of the System 4900 make it an ideal tool for Search and Recovery (SAR) missions while its rugged construction, selectable frequencies and 300 m operational depth rating provide superb capabilities for the coastal survey and security communities.

The System 4900 employs both a user selectable CW pulse transmission mode and advanced broadband CHIRP signal processing technology which, when coupled with Klein's proprietary despeckling algorithms, provide extraordinary long range, high resolution seafloor images.

Image quality is further improved by the System 4900 transducer design which is optimized to provide very narrow horizontal beam widths and thereby exceptional along-track resolution. The combined result of these discriminating features is a high quality image resolution at long ranges which is comparable to higher frequency systems. When sonar detail and range is important, look to Klein for the solution!

The System 4900 also 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 7,500 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 455/900 kHz provides long range detection, 200 m per side at 455 kHz, and high definition imagery for classification to 75 m per side at 900 kHz.

The System 4900 towfish does not require an optional keel weight for submergence; it has been designed to provide portability, submergence and optimal stability at all depths to a maximum of 300 m.

The System 4900 conveniently operates from AC or DC power sources. The standard system configuration is supplied complete with a robust stainless steel towfish (with heading, pitch, roll & depth sensors and optional magnetometer and responder interfaces installed for simple integration), and IP-65 rated splashproof transceiver processor unit (TPU), a laptop workstation with SonarPro® software installed, 50 m of lightweight Kevlar® tow cable, a safety cable and a portable towfish carrying case for easy transport.

Applications:

- **Survey, Search and Recovery**
- **Shallow/Inland Water Surveys**
- **UXO Surveys**
- **Port and Harbor Security**
- **Hydrographic Surveys**
- **Archaeological Surveys**
- **Treasure/Wreck Hunting**
- **Hull Surveys**

Key Features:

- 455/900 kHz (Simultaneous)
- Broadband CHIRP and CW Transmission Modes
- Smart Telemetry
- Operates on AC or DC Power
- Depth Rated to 300 m
- Hydrodynamic Stainless Steel Tow Fish with:
  - Heading, Pitch and Roll Sensors
  - Depth (Pressure) Sensor
- Easy Operation
- Ergonomic Design for one person launch and recovery

KLEIN SYSTEM 4900 SIDE SCAN SONAR

SIMULTANEOUS – DUAL FREQUENCY – SURVEY, SEARCH AND RECOVERY

Specifications:

System 4900 Towfish

Construction	Electro-Polished 316 Stainless Steel
Body Length	1.42 m (56 in)
Outer Diameter	8.9 cm (3.5 in)
Weight (in air / in water)	24.7 kg (54.5 lbs) 13.5 kg (29.7 lbs)
Maximum Depth Rating	300 m
Standard Towfish Sensors & Accessories	Heading, Roll and Pitch Sensor Depth (Pressure) Sensor: 0-300 m Water Temperature Sensor: 0-35° C Safety Cable Reusable Carrying Case, Towfish

Topside Assemblies

Transciever Processor Unit - Splashproof	50.8 cm (20 in) x 40.6 cm (16 in) x 19.05 cm (7.5 in)
Laptop	15" Laptop with SonarPro® installed

System Power Requirements

Input Voltage	12 VDC or 110/220 VAC (50-60 Hz)
Power Consumption	75 W

Optional Accessories

- K Wing I or II Depressor Wings
- Ruggedized Laptop
- Hull Scan Bracket
- Pole Mount Bracket
- Magnetometer - Option Ready
- Responder - Option Ready

Side Scan Sonar Specifications

Technology	Single Beam
Frequency	455 kHz / 900 kHz, Dual Frequency
Pulse Type	FM CHIRP and CW
Horizontal Beamwidth	0.3°@ 455 kHz 0.3° @ 900 kHz
Vertical Beamwidth	50°
Across Track Resolution	2.4 cm @ 455 kHz 1.2 cm @ 900 kHz
Maximum Operating Range (Per Side)	200 m @ 455 kHz 75 m @ 900 kHz
Vertical Beam Center	Tilted down 20° from Horizontal
Output Data Format	SDF (Sonar Data Format), or XTF (Extended Triton Format) or both - selectable
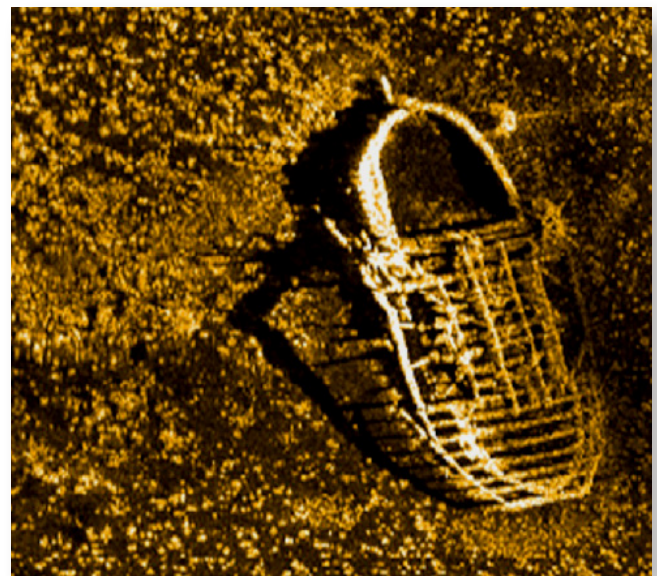
MIND Technology is deeply committed to customer support. We are currently servicing valued customers in 80 countries, and relying on a network of competent International Representative to meet and exceed the service needs of our customers around the world. We provide 24 hour / 7 day a week support.

In the image above: The Burlington Horse Ferry, in Lake Champlain, VT. Image taken with Klein 4900 at 900Khz, 60m swath, 4knots, captured on the port side. Software: Klein SonarPro®.
Note: (a) Crisp definition, highlighted by strong contrast in shadows (b) Fine detail of the wreck's wooden beams and decaying paddlewheel spokes (c) Clearly defined rudder at the top of the image (d) Clusters of invasive zebra mussels (Dreissena polymorpha) are exposed by the wide band signal processing inherent in the 4900.