

**BULGARIAN ACADEMY OF SCIENCES
INSTITUTE OF OCEANOLOGY**

Varna, Bulgaria

**KLEIN MODEL 3000 SIDE SCAN SONAR
DIGITAL SIDE SCAN SONAR**

<http://www.l-3com.com/products-services/productservice.aspx?type=p&id=219>

<http://www.l-3com.com/products-services/docoutput.aspx?id=298>



SPECIFICATIONS

Towfish

Frequencies 100 kHz (132 kHz +/- 1% act.), 500 kHz (445 kHz, +/- 1% act.)

Transmission Pulse Tone Burst, operator selectable from 25 to 400 µsecs.

Independent pulse controls for each frequency

Beams Horizontal - 0.7 deg. @ 100 kHz, 0.21 deg. @ 500 kHz
Vertical - 40 deg.

Beam Tilt 5, 10, 15, 20, 25 degrees down, adjustable

Range Scales 15 settings - 25 to 1,000 meters

Maximum Range 600 meters @ 100 kHz; 150 meters @ 500 kHz

Depth Rating 1,500 meters standard, other options available

Construction Stainless Steel

Size 122 cm long, 8.9 cm diameter

Weight 29 kg in air

Standard Sensors Roll, pitch, heading

Options Magnetometer, pressure, Acoustic Positioning

Transceiver Processor Unit (TPU)

Operating System vxWorks® with custom application

Basic Hardware 19-inch rack or table mount, VME bus structure

Outputs 100 Base-Tx, Ethernet LAN

Navigation Input NMEA 0183

Power 120 watts @ 120/240 VAC, 50/60 Hz (Includes Towfish)

Interfacing Interfaces to all major Sonar Data Processors

Klein Sonar Workstation

<i>Basic Operating System</i>	Windows NT®, 2000®, or equivalent
<i>Sonar Software</i>	SonarPro®
<i>Data Format</i>	SDF or XTF or both selectable
<i>Data Storage</i>	Internal hard drive, CD/DVD-RW
<i>Hardware</i>	Industrial PC
<i>Options</i>	Optional waterproof laptops

Tow Cables

Klein offers a selection of coaxial, Kevlar® reinforced, lightweight cables, double armored steel cables, and interfaces to fiber optic cables. All cables come fully terminated at the towfish end.

SonarPro® Software

Custom developed software by users and for users of Klein side scan sonar systems operating on Windows NT®, 2000®. Field proven for many years. SonarPro® is a modular package combining ease of use with advanced sonar features.

<i>Basic Modules</i>	Main Program, Data Display, Information, Target Management, Navigation, Data Recording & Playing, and Sensor Display.
<i>Multiple Display Windows</i>	Permits multiple windows to view different features as well as targets in real time or in playback modes. Multi-Windows for sonar channels, navigation, sensors, status monitors, targets, etc.
<i>Survey Design</i>	Quick & easy survey set up with ability to change parameters, set tolerances, monitor actual coverage, and store settings.
<i>Target Management</i>	Independent windows permitting mensuration, logging, comparisons, filing, classification, position in time & survey target layers, and feature enhancements. Locates target in navigation window.
<i>Sensor Window</i>	Displays all sensors in several formats (includes some alarms) and responder set up to suit many frequencies and ping rates.

Networking Permits multiple, real time processing workstations via a LAN including “master and slave” configurations.

“Wizards” To help operator set up various manual and default parameters.

Data Comparisons Real Time Target and route comparisons to historical data.

Windows NT, 2000, vxWorks, and Kevlar - are registered trademarks of Microsoft Corp., Wind River Systems, Inc., and DuPont - respectively.

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11 Klein Drive, Salem, N.H. 03079-1249, U.S.A.

Phone: (603) 893-6131 Fax: (603) 893-8807

E-mail: sales@L-3com.com Web site: www.L-3Klein.com