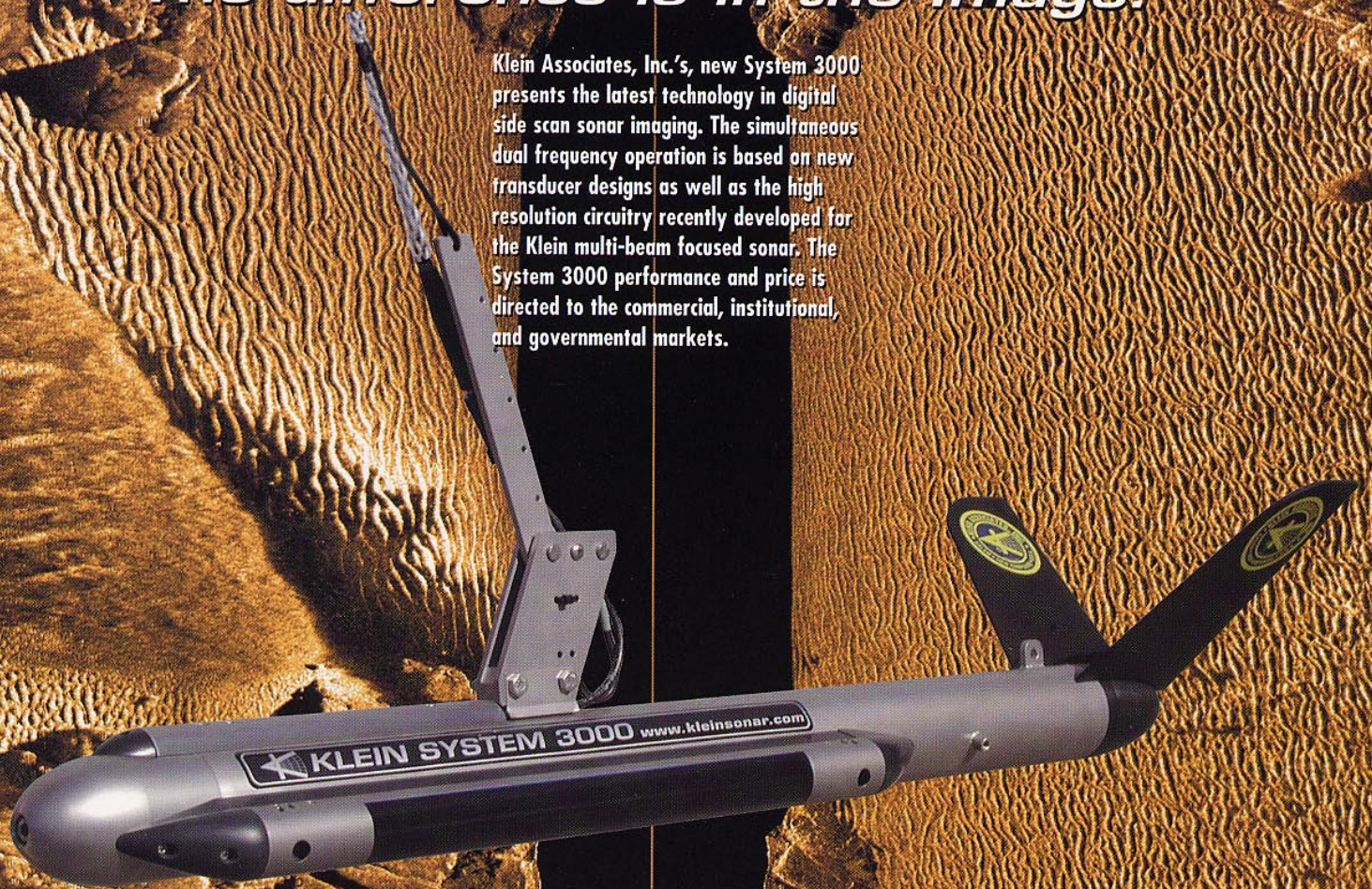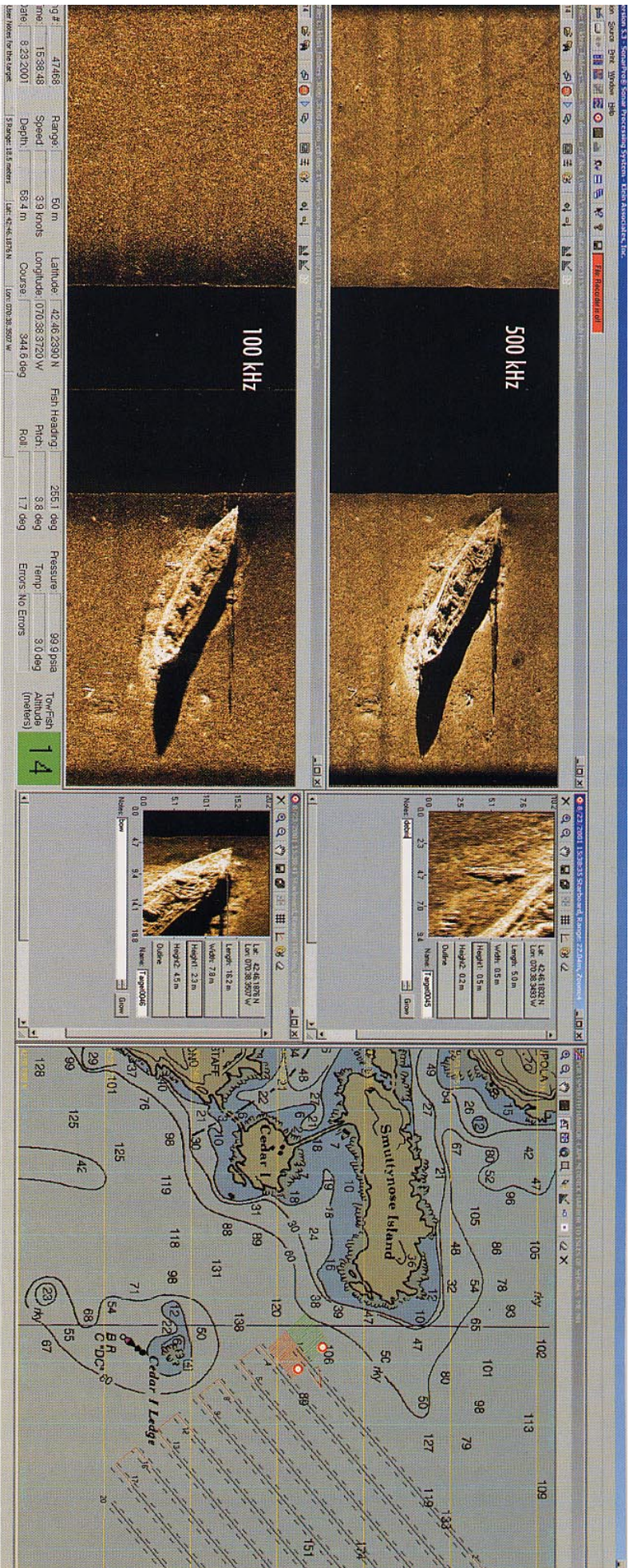# KLEIN

System 3000
Digital Side Scan Sonar
"The difference is in the Image!"

Klein Associates, Inc.'s, new System 3000 presents the latest technology in digital side scan sonar imaging. The simultaneous dual frequency operation is based on new transducer designs as well as the high resolution circuitry recently developed for the Klein multi-beam focused sonar. The System 3000 performance and price is directed to the commercial, institutional, and governmental markets.

KLEIN SYSTEM 3000 www.kleinsonar.com

- **ADVANCED SIGNAL PROCESSING AND TRANSDUCERS PRODUCE SUPERIOR IMAGERY**

- **COST EFFECTIVE, AFFORDABLE**

- **PC BASED OPERATION WITH SONARPRO® SOFTWARE, DEDICATED TO KLEIN SONARS**

- **SMALL, LIGHTWEIGHT, AND SIMPLE DESIGNS - EASY TO RUN AND MAINTAIN**

- **EASILY ADAPTED TO AUVS, ROVS, AND CUSTOM TOWFISH**

SPECIFICATIONS

Towfish

Frequencies
100 kHz (125 kHz +/- 1% act.), 500 kHz (445 kHz, +/- 1% act.)

Transmission Pulse
Tone Burst, operator selectable from 25 to 400 μsec.
Independent pulses for each frequency

Beams
Horizontal - 1 deg. @ 100 kHz, 0.2 deg. @ 500 kHz
Vertical - 40 deg.

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

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

Depth Rating
1,500 meters standard, options to 3km & 6km depths

Construction
Stainless Steel

Size
122 cm long, 8.9 cm diameter

Weight
29 kg in air

Standard Sensors
Roll, pitch, heading

Options
Magnetometer Interface, pressure, Acoustic Positioning Responder, and Responder Interface Kits

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

Klein Sonar Workstation

Basic Operating System
Windows NT® & 2000® or equiv.

Sonar Software
SonarPro®

Data Storage
Internal hard drive,
optional devices available

Hardware
Industrial PC with technically
advanced components

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 on Klein's Multi-Beam Focused Sonar Series 5000 Systems and adapted to the System 3000 single-beam system. SonarPro® is a modular package combining ease of use with advanced sonar features.

Basic Modules

Multiple Display Windows
Main Program, Data Display, Information, Target Management, Navigation, Data Recording & Playing, and Sensor Display;
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.

Survey Design
Quick & easy survey set up with ability to change parameters, set tolerances, monitor actual coverage, and store settings.

Target Management
Independent windows permitting mensuration, logging, comparisons, filing, classification, positioning, time & survey target layers, and feature enhancements. Locates target in navigation window.

Sensor Window
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.

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