



Delta T 6000 Profiling  
445-037 JULY 2005-REVISED JULY 2006

## IMAGENEX MODEL 837 "Delta T" 6000 m MULTIBEAM PROFILING SONAR

### APPLICATIONS:

- ROV, AUV, & UUV
- Offshore Oil & Gas
- Diving Support
- Surveying
- Search & Recovery
- Inspection
- Underwater Archaeology
- Scientific Research

### FEATURES:

- Programmable
- High speed
- High performance
- Lower cost
- Low power
- Simple set-up and installation
- Ethernet
- 5 m to 100 m range
- Integrated Video Capture and Display
- Built in GPS Track Plotter

The Imagenex Model 837 "Delta T" 6000 m is a high resolution multiple receiver sonar system run from a laptop or industrial PC computer. In this model, the acoustic array is designed to provide detection over a 120° x 3° field of view for bottom profiling applications. The 3° field of view is also applicable to obstacle avoidance in near-bottom applications where the narrow vertical extent of the beam reduces false obstacle detection. A 260 kHz acoustic frequency has been selected to provide sensitive detection at 100 m range. Image update rates are up to 20 times per second at short range and more than 5 times per second at 100 m range. The titanium housing provides a 6000 m depth rating for compatibility for deep water ROV and AUV applications.

The provided software includes innovative digital signal processing to optimize data usage from all channels to achieve the best possible resolution at every point in the field of view. Recent advances in PC computing power have made it possible to transfer this data over a standard 10 BASE-T Ethernet connection and process it at resolutions equal to computer monitor resolution. Software is also available to store the data with a low power computer for processing into extremely high resolution images after uploading to a desktop PC.

The Delta T system has been designed from the ground up with the most advanced low power electronic components available to provide breakthroughs in system power consumption and package size. There is no expensive and bulky surface control box, so integration into ROV and AUV systems is simplified, and the cost is significantly less than other systems of similar capabilities.



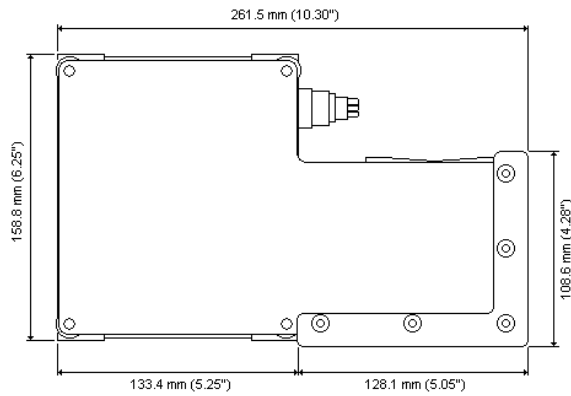
Imagenex sonars: advancing underwater imaging  
capability for the everyday user.

Patent Pending

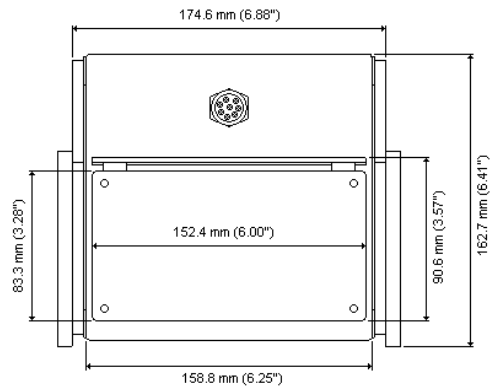
<b>HARDWARE SPECIFICATIONS:</b>	
<b>FREQUENCY</b>	260 kHz
<b>TRANSDUCER BEAM WIDTH (nominal)</b>	Receive: 120° x 3° Transmit: 120° x 3°
<b>EFFECTIVE BEAM WIDTH</b>	3°, 1.5°, 0.75°
<b>BEAMS*</b>	120, 240, 480
<b>RANGE RESOLUTION</b>	0.2% of range
<b>MIN. DETECTABLE RANGE</b>	0.5 m
<b>MAX. OPERATING DEPTH</b>	6000 m
<b>FRAME RATE</b>	Up to 20 fps
<b>INTERFACE TO PC</b>	Standard: 10 Mbps Ethernet (10 BASE-T) using TCP/IP Bit rate may vary if an Ethernet extender is in use.
<b>MAX. CABLE LENGTH</b>	Standard: 100 m on CAT5e Cable length may be increased up to ~9000 m using an Ethernet extender. Please enquire for more information.
<b>CONNECTOR</b>	8 conductor, wet mateable (Subconn MCBH-8M-SS)
<b>POWER SUPPLY</b>	22 – 50 VDC at less than 12 Watts
<b>DIMENSIONS</b>	See drawing
<b>WEIGHT: In Air</b>	10.7 kg (23.5 lbs)
<b>In Water</b>	6.8 kg (15 lbs)
<b>MATERIALS</b>	6AL4V Titanium, 6061-T6 Aluminum, Epoxy, PVC, Polyurethane, Stainless Steel connector
<b>FINISH</b>	Hard Anodize on Aluminum transducer guard

\*Data is acquired at full resolution every shot: processing the data for screen display on a PC can slow the system at highest number of beams. 120 beam mode is recommended for real time data acquisition. The data can then be played back at highest resolution (480 beam).

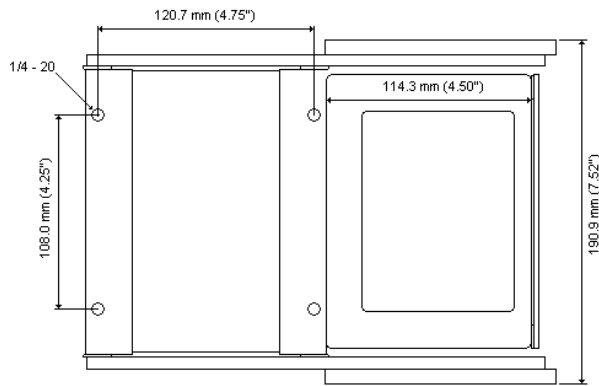
<b>SOFTWARE SPECIFICATIONS:</b>	<b>DeltaT.exe</b>
<b>WINDOWS™ OPERATING SYSTEM</b>	Windows™ XP, Vista
<b>DISPLAY MODES</b>	Sector, Linear, Perspective, Profile, Beam Test
<b>PERSISTENCE (TRAIL)</b>	1 – 300 seconds
<b>RANGE SCALES</b>	5 m, 10 m, 20 m, 30 m, 40 m, 50 m, 60 m, 80 m, 100 m
<b>SECTOR SIZES</b>	30°, 60°, 90°, 120°
<b>FILE FORMAT:</b> RAW DATA PROFILE POINT	(filename).837 (filename).83P
<b>RECOMMENDED MINIMUM COMPUTER REQUIREMENTS:</b>	2 GHz Pentium 4 256 MB RAM 20 GB Hard Disk 1024 x 768 screen resolution



FRONT VIEW



SIDE VIEW



BOTTOM VIEW

**ORDERING INFORMATION:**

<b>6000 m UNIT</b>	Standard	837-000-202
IP Address*	Option	-020
External Trigger	Option	-023

\*Note: Standard IP Address is 192.168.0.2  
A different IP Address may be specified upon ordering.

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