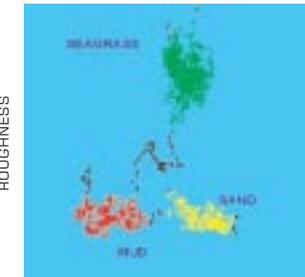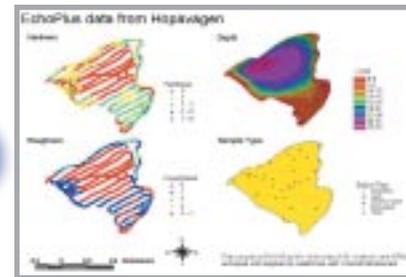# ECHO*plus*

- Simple to install
- Easy to use
- Compatible with single beam echo sounders
- Digital output to GIS for real time display
- Proven patented technique
- Reliable digital technology
- Dual frequency
- Echo data recording
- For survey, research and defence use

ECHO*plus* Seabed Discrimination System

Reliable and consistent seabed discrimination by analysis of echo sounder returns

ROUGHNESS

HARDNESS

ECHO*plus* **produces roughness and hardness information which can be reliably classified into a set of well defined seabed types**

CREATING **MARINE** SOLUTIONS THAT WORK

S-E-A

ECHOplus Seabed Discrimination System

key features

- automatic configuration of echo sounder frequency and power

- minimal installation effort and impact on existing equipment

- operating depth from 3 m to 300 m depending on power output of echo sounder

- can be used with a dual frequency echo sounder for simultaneous measurement and enhanced classification

inputs

- **ECHO**plus interfaces to single beam echo sounders between the transmitter and transducer

- 20 kHz to 230 kHz frequency

- Up to 10 kW power

outputs

- **ECHO**plus interfaces to standard marine plotter software packages

- **ECHO**plus produces seabed roughness, hardness and depth for every ping analysed

- RS232C serial port communications

- NMEA-0183 string or basic format

- IEEE1284 parallel port for raw data recording

power

- mains or external dc

- 115 V - 230 V ac mains

- 9 V - 36 V dc accepted

- max 10 W power consumption

physical characteristics

- size 483 mm x 255 mm x 133 mm

- 19" rack mounted

environmental

- operating temperature 0 °C to 40 °C

- EMC compliant

maintenance

- built in self test routines guarantee reliable operation

- no user maintenance

documentation

- The **ECHO**plus user manual includes a brief description of the equipment, installation guidance, interface requirements and trouble shooting

ECHO*plus*

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S·E·A