



Issue Two
Winter 2003

Underwater Solutions

Leaders in the supply of marine survey equipment

Providers of:

- Acoustics
- Geophysical Systems
- Floatation
- Subsea Tracking/Location
- Hydrophones
- TCM2 Compasses
- Oceanographic Systems
- Mooring Systems
- AUV/ROV
- Cameras
- Consumables
- Software Packages

Inside this issue:

GIB System Used During NATO Exercise	2
SOC Orders 180 Glass Floatation Spheres	2
In profile: The PSA-916 Sonar Altimeter	2
Find It, With Acoustic Locator Pingers	3
REMUS AUV Saves Lives In Iraq	3
Proudman Laboratory's MYRTLE Successfully Recovered	4

Falmouth Scientific Appoints MK Services as UK Representative

MK Services are delighted to announce the appointment of the company as the new UK representative of Falmouth Scientific Inc (FSI).

The new agreement, which officially starts in the new year, means that MKS will now be able to provide an even wider and improved range of subsea equipment to the UK market.

FSI was formed in 1989, with the specific purpose of providing highly accurate and reliable oceanographic instruments. The company's first product was a precision serial output thermometer designed for high accuracy measurement of oceanographic temperature. This product led to FSI's first product line, a series of digital output sensors for the high precision measurement of temperature, pressure and conductivity. These technologies were the building blocks upon which the company's first CTD product, the

Integrated CTD (ICTD), was based. These instruments re-

main staple products of FSI. Since these developments, FSI's product line has grown to include a Three Dimensional Acoustic Current Meter, a Water Sampling System, Ocean Sensor Module, and a Solar-powered AUV.

In September of 2002, FSI merged with Acoustikos Inc, an engineering firm specializing in the design and development of acoustic instrumentation, which was founded by former owners of Datasonics. This diversification of the FSI product line now means that

smaller acoustic engineering projects can be undertaken.



Some of the FSI product range, including the ICTD (far right)

Managing Director Malcolm Kirby stated "MK Services Ltd looks forward to providing existing FSI customers with full UK sales and technical support. We are also extremely pleased to be able to add such a high profile equipment manufacturer to our portfolio of represented companies in the UK."

Benthos Develop Acoustic Release Modem

Benthos have recently unveiled plans to launch the ARM-100, the worlds first combined acoustic release and modem.

The device will provide real-time modem communication with attached instruments, and also have the ability to release itself from moorings on

the ocean floor. The acoustic release command will be sent via the user friendly modem control software.

MK Services plan to carry out UK demonstrations of the ARM-100 in January/February 2004. If you would like a demonstration of this equipment, please feel free to contact us.

Special Offer On Ex-Rental Kit

Our Winter special offer is on our range of ex-rental geophysical equipment.

We can offer a discounted price, on sub-bottom profilers, sidescan sonars and various other items whilst our stocks last

Please contact us for a list of available equipment

GIB System Used During NATO Exercise

MK Services are pleased to announce the recent hire of the GIB system to NATO for a mine location exercise in Norway.

MKS provided a 5 buoy system, with a 32 kHz (300m rated) GIB pinger and trained system operator. During the exercise, which involved a mine hunter from the Royal Navy, the GIB system was used to locate a target on the seabed with high accuracy. To do this the 5 GIB buoys were deployed, free-drifting, around the target location about a

kilometre apart. The pinger was synchronized to GPS time and then attached to the target, prior to it being lowered over the side.

After the target was deployed on the seabed, it took approximately 10 minutes for the GIB acquisition software to calculate an accurate X,Y,Z position of the pinger. The system is able to apply DGPS corrections to positions to increase the accuracy even further. The main advantage of the GIB in this situation is that it is a vessel of opportunity solution and is

quick (less than an hour) to deploy.

Other applications of GIB technology include:

- AUV/ROV Tracking
- Black-box relocation
- Diver positioning
- Torpedo tracking



Preparing the GIB Buoys for Deployment

For further information and hire rates please contact our sales team.

SOC Orders 180 Glass Floatation Spheres

MK Services Ltd recently received an order from the Southampton Oceanographic Centre (SOC) for 180 17" glass floatation spheres with protective hard-hats. The spheres are to be deployed on moorings used as part of the RAPID project, a Natural Environmental Research Council funded initiative, designed to monitor climate change in the North Atlantic.

SOC have been a regular user

of Benthos floatation spheres, and they cite superior durability, along with competitive pricing as the major reasons for their selection.

As well as the order from SOC, MK Services are pleased to announce further sales associated with the RAPID project to the Proudman Oceanographic Laboratory, who have been a regular Benthos customer for over 15 years. This includes orders for bespoke transduc-

ers, and also OEM electronics, for integration with Proudman designed acoustic products.

The RAPID Climate Change program forms part of an international study of the circulation of the North Atlantic currents and their effect on climate. Mooring lines will be going into the water in January 2004 for 15 months. The deepest lines will be moored at 5,000 meters' depth.



In Profile: The PSA-916 Sonar Altimeter

The Benthos PSA-916 programmable sonar altimeter is a low cost, light weight altimeter designed for applications where high resolution altitude/range data is required.

A wide beam angle provides for reliable and accurate range measurements under the most severe operational conditions.

The PSA-916 is used for ROV/

instrument altitude measurement, obstacle avoidance and provides vessels with docking assistance.

Performance Specs.

Operating Frequency:
200 kHz (nominal)

Beam Width:
14 degree conical (typical)

Pulse Length:
250 μ s standard 5pps

Range:
100m full scale

Depth:
2500/6000m

Range Output:
Analogue—0-5 VDC
Digital RS232



The PSA-916 Altimeter

Find It, With Acoustic Locator Pingers

As we all know, the cost of equipment that we deploy in the oceans every day on geophysical surveys, ROVs, AUVs is escalating constantly. Insurance companies are becoming increasingly nervous and survey companies are frustrated with the losses they are incurring. What everyone needs is a cheap, easy and reliable method of relocating items that are lost to the icy depths. The Acoustic Locator Pinger provides the answer!

Manufactured by Benthos, the Acoustic Locator Pinger (or ALP) is a relatively low cost

device, used specifically for relocation of items on the seabed. The pingers come in a number of different configurations to meet your specific application. Power-loss, time-delay and user activated versions are available, and some of the pingers can transmit for up to 3 years.

An interesting real-life application for the ALP was demonstrated earlier this year with the recovery of a Sea-Cat hydrofoil off the coast of the UK. Burgess Marine Services, who specialize in underwater diving and salvage, were tasked with

the problem of relocating hydrofoils that occasionally break off from vessels in the Sea-Cat fleet.

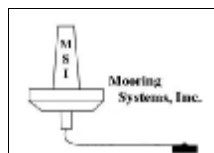
The solution chosen was to fit an ALP-364 (with extended battery life) to all the hydrofoils. This ensures that they can be recovered up to 18 months (which is the battery life of this pinger) after loss of the hydrofoil. As the



Recovered Hydrofoil. Note the Acoustic Locator Pinger attached on the middle of the elevator section.

vessels are serviced within this time period, batteries are simply replaced to renew the ALP's life.

Companies Represented By MK Services Ltd



General Response Form

Please indicate, by ticking the relevant boxes below, as to which line of products you would like to receive more information.

- | | |
|---|--|
| <input type="checkbox"/> GPS Intelligent Buoy (GIB) | <input type="checkbox"/> Oceanographic Instrumentation |
| <input type="checkbox"/> Telesonar Acoustic Modems | <input type="checkbox"/> REMUS AUV & SAUV |
| <input type="checkbox"/> TCM2 Compass Modules | <input type="checkbox"/> Floatation/Mooring Systems |
| <input type="checkbox"/> ROVs | <input type="checkbox"/> Geophysical software packages |
| <input type="checkbox"/> Geophysical Equipment | |

Comments:

Name

Address

Phone



24 Eden Way
Pages Industrial Park
Billington Road
Leighton Buzzard, Beds
LU7 4TZ

Phone: (01525) 382333
Fax: (01525) 850073
Email: sales@mksservices.demon.co.uk

**FIND US ON THE WEB AT
WWW.MKSSERVICES.CO.UK**

M.K. Services are specialists in the provision of marine survey equipment to meet the precise needs of geophysical, hydrographic, surveying positioning and underwater inspection applications.

Representing some of the worlds leading manufacturers, M.K. Services is uniquely placed to provide a wide range of proven systems and services.

Above all we have developed a very dose knit team of experts whose contribution to a client's operation goes far beyond expediting orders, since their expertise can help with choosing the correct combination of equipment for successful operation in the field.

For more details on any of the items listed in this newsletter, or for any general enquiries, please contact Sean Arnold or Nick Lawrence and we will be happy to provide you with all the information you require.

Proudman Laboratory's MYRTLE Successfully Recovered After 4 Years

The recent recovery of the MYRTLE (Multi year return tidal level equipment) Lander has set the new benchmark for long-term lander deployments. Researchers at the Proudman Oceanographic Laboratory released and recovered MYRTLE after a 4 year deployment in the Southern Ocean. Scientists at the laboratory can now benefit from unprecedented long term data sets containing sea level and temperature information.

The MYRTLE instrument is a circular, tubular frame, with four 17-inch Benthos spheres to provide buoyancy and two 17-inch Benthos acoustic releases to fire the explosive bolts to release data capsules. The four Releasable Data Capsules (RDCs) are 17-inch

spheres containing data loggers and an Argos multi-channel satellite transmitter. The RDCs are fitted with Benthos radio beacons for surface tracking when manual release is required. Finally, the main frame is fitted with a flashing light and radio beacon.

The Benthos acoustic releases used are capable of deployment to full ocean depth and have provided a reliable method of returning the instrument from the seabed. Impressively, the releases fired first time during recovery despite the harsh conditions. Crew were also able to monitor the lander's progress to the surface by using the transpond function. For further information on the MYRTLE project please visit the following website [www](http://www.pol.ac.uk/home/whatsnew.html)



Steve Mack (left) and Peter Foden (right) of the Proudman with the MYRTLE lander (pre-deployment)

www.pol.ac.uk/home/whatsnew.html