

# SonarBell<sup>®</sup> SETS – SonarBell<sup>®</sup> Equipment Tracking System

## Defence Products

SALT has designed a number of systems for military and security use utilising the unique properties of the passive SonarBell<sup>®</sup> technology of which the SETS system is one.



## SonarBell<sup>®</sup> Equipment Tracking And Recovery



Working in the underwater environment is technically and physically demanding consequently the equipment is typically expensive to buy and complex to maintain. Its loss can be financially significant and operationally inconvenient, it may also have safety implications if that equipment is not recovered.

Attaching SonarBell<sup>®</sup> to any underwater asset delivers:

- A simple passive tracking capability for in-service position monitoring.
- An asset recovery route in the event of power failure or loss of communication, etc.
- An in-service way of positioning assets relative to each other, for UAV docking for example.

In more specific applications such as range management where remotely deployed sensors or exercise weapons are used, SonarBell<sup>®</sup> offers the user a simple way to recover this equipment at the end of the evolution.

## ➔ Maximising the benefit of SonarBell<sup>®</sup>



SonarBell<sup>®</sup> units can be tailored for different size AUV/ROVs by the adjustment of parameters such as size and buoyancy.

To get maximum performance from different combinations of sonar detection systems owned by the client, SonarBell<sup>®</sup> units are tuned to induce maximum resonance at the appropriate frequencies. This resonant peak can be broad or narrow depending on client requirements and this together with the size of the SonarBell<sup>®</sup> determines the operating range.

Attachment to the platform is simple and the selection criteria can take into account the hydrodynamic situation and power available on the device.

SonarBell<sup>®</sup> units work with all types of sonar on the parent platform from the highly sophisticated hull mounted and side-scan devices at the top of the scale down to fish-finders and depth sounders at the bottom.

## ➔ Wide Ranging Applicability

SonarBell® units are simple devices but as a consequence they have potentially a very wide ranging applicability in terms of tracking equipment.

For example:

- Rogue / lost vehicle tracking - no power or electronics required
- High value / high risk vehicle / equipment tracking
- Seabed equipment storage and recovery
- Moving vehicle obstacle / umbilical avoidance
- Escape hatch location on otherwise stealthy craft

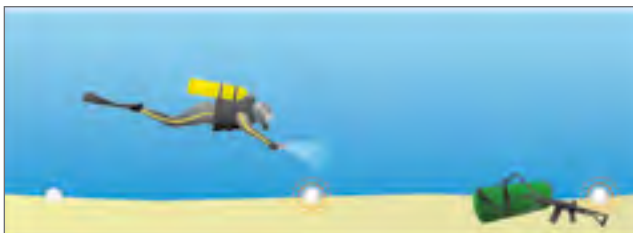


Other Defence products available from SALT include:

## SonarBell® Entry, Exit And Recovery System - SEEARS

SonarBell® units are capable of supporting combat swimmers during the entry, exit and recovery operational phases, acting as waypoints between compass bearings and can also be used to mark the location of equipment for recovery during or after operations.

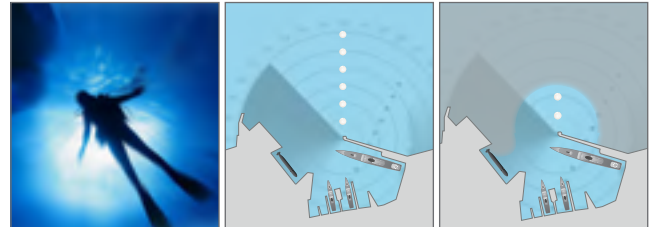
SALT provide a set of SonarBell® units and hand-held sonar tuned for optimal performance.



## SonarBell® Performance and Training System - SPATS

Knowing the effective range of a swimmer detection sonar is vital if interception teams are to be brought to the appropriate state of readiness for the prevailing conditions - allowing you to reduce unnecessary fatigue.

Having SonarBell® units in the water as range markers can provide the difference between knowing you have enough warning to arrange swimmer interception and hoping you have.



## SonarBell® Underwater Mine Marking System - SUMMS

SonarBell® is a totally passive device with a significant and dependable acoustic signature and low non-acoustic signature. As such it provides an ideal device for marking mines or other objects for subsequent destruction.



## ➔ SALT Bespoke Design And Development

As the pioneers of SonarBell®, SALT has unrivalled experience in designing SonarBell® units that meet client requirements. We would be delighted to talk over any specific requirements you might have.

Subsea Asset Location Technologies (SALT) Ltd is a 'spin out' company from the UK Ministry of Defence's, Defence Science and Technology Laboratory (Dstl) and was formed to make this military derived technology available to a wider market.