POINTSHIELD

DSIT

POINTSHIELD™
Portable Diver Detection Sonar

OCD

CCD

700

500

700 600 500 400 300 200 100

The Underwater Zone Security System

Underwater site security often involves a demand to protect specific and well defined zones, such as a section of a narrow river, a water intake channel, an anchored ship or a constricted area. In response to this need, DSIT has added a second Shield™ to its underwater site security line - a highly accurate diver detection sonar system to cover short to medium ranges – the PointShield™ Underwater Zone Security system.

The Shield™ Product Line Overview

Superior performance is the key to the success of the DSIT Shield™ line. Starting with the AquaShield™ Diver Detection Sonar (DDS) system that has been chosen for the protection of numerous coastal sites around the world and continuing with the new PointShield™ DDS, our underwater security systems are designed to protect effectively.

Like its bigger brother the AquaShield™ DDS, the PointShield™ boasts a unique modular design that enables tailoring of the system to customer requirements and site specific geography. This new tough but light DDS offers detection for even the weakest of targets, and can easily handle hundreds of targets simultaneously. DSIT has taken pains to ensure the same winning features in the PointShield™ that have made the AquaShield™ name synonymous with underwater site security - fully automatic mode of operation, very low maintenance requirements and high system reliability.

The Threat

Any underwater intruder, including:
>> Divers with closed circuit breathing apparatus
>> Divers with open circuit breathing apparatus
>> Unmanned Underwater Vehicles (UUVs)

The PointShield™ Edge

Light and Portable

- Underwater unit is small and light weight
- Rapidly deployable and easily moved between sites
- Ideal for:
  - Permanent installation
  - Ship protection
  - Rapid deployment
- Simple installation: multiple methods (seabed, pier, tripod, mooring pile, etc.)

Fully Automatic – No Operator Required!

The system is fully automatic and does not require a full time operator.
System features include:
- Automatic detection
- Automatic tracking
- Automatic classification
- Automatic alert

Top of the Line Detection Capabilities

- Accurate detection at ranges up to 1,000 meters
- Tailored to detect threats of any size and Target Strength
- Can handle more than 1,000 contacts simultaneously
- Enables the investigation of targets using a special zoom display

Low Cost of Ownership

- Very little maintenance required
- Easy to clean underwater or, alternatively, easy to remove from the water for cleaning
- System includes a Built-in-Test (BIT) function that monitors and issues an alert if failure is detected

User Friendly Displays

- Windows-based software with intuitive displays and menus
- Includes: multiple display formats, target data, exclusion zones and more

Modular and Flexible Architecture

- Sensors can cover any required sector from 0° to 360°
- Multiple units can work simultaneously and report to the same Command & Display unit

Enables Pinpoint Response

- Highly accurate positioning of threat
- Rapid update rate of tactical picture

Ease of Integration

- Open Software Architecture supports easy integration with any sensor
- Can be incorporated into any C&C system

Robust System for Long Term Operation

- Built to operate 24/7/365 in all weather and
- water conditions

PointShield™ Specifications

PointShield™ Installation
▪ Portable
▪ Pier Installation
▪ Moorning Pile Installation
▪ Tripod Installation
▪ Anchored Installation

The PointShield™ Main Units
▪ Underwater Unit
▪ Processing and Display Unit
▪ Junction Box

The Underwater Unit

Weight and dimensions of Underwater unit:

▪ Diameter	450 mm
▪ Height	710 mm
▪ Weight in air	<45 Kg

Display Formats

- Sonar Data
- Tactical Pictures on aerial photo, satellite Image or nautical chart
- Overlay of sonar data on any type of tactical picture

Special Processing Algorithms

- Performance Optimization
- Bearing Interpolation
- Adaptive TVG
- Two Dimensional Normalization
- Adaptive Threshold
- Automatic Detection
- Automatic Tracking
- Automatic Classification
- False Alarm reduction
- Automatic Alert
- Automatic Elimination of Wakes
- Static Target Suppression

Recording & Playback

Several modes of data recording and playback enable debriefing of special events

Built In Test (BIT)

- Constant monitoring of all modules
- Automatic alert in case of failure

Nominal Detection Ranges

Diver with closed circuit breathing apparatus	500m
Diver with open circuit breathing apparatus	700m

Transmit / Receive Parameters

Source Level	210 dB re 1µPa @ 1 meter
Frequency	70 KHz
Bandwidth	20 KHz
Sector coverage	360°
Range Accuracy	0.3 m
Bearing Accuracy	0.4°
Range scale	Operator selectable

About DSIT

DSIT Solutions Ltd., a subsidiary of Acorn Energy (NASDAQ: ACFN), develops and produces sonar applications and Command and Control systems for the defense, commercial, energy and homeland security markets. The company employs a world-class multi-disciplinary team of professionals that are skilled in the latest sonar and Real-Time technologies. DSIT products include: AquaShield™ Diver Detection Sonar (DDS) System, PortView™ Harbor Surveillance System (HSS), EnerView™ Safety and Security C&C for energy sites, Mobile Acoustic Range (MAR), Underwater Acoustic Signal Analysis (UASA), and a wide variety of Sonar Simulators and Trainers.