AQUASHIELD™
DIVER DETECTION SONAR
DSIT’s AquaShield™

The AquaShield™ is an advanced Diver Detection Sonar (DDS) system, incorporating years of experience accumulated from continuous operation at multiple sites around the world. The system is operational in-the-water, protecting naval bases, energy terminals, commercial ports, off-shore platforms and other high value assets from underwater intrusion. AquaShield’s unique modular design enables tailoring of the system to customer requirements and site specific geography. The AquaShield™ offers a long range of detection for even the weakest of targets, and can easily handle over 1,000 contacts simultaneously. The combination of a fully automatic mode of operation, very low maintenance requirements and high system reliability create a highly cost-effective system. AquaShield™ DDS - the best underwater security system available.

Main Features

- No operator required – fully automatic (from detection through tracking and classification to alert)
- Capable of handling more than 1,000 sonar contacts simultaneously
- Highly accurate positioning of the threat
- Built to operate 24/7/365 in all weather and water conditions
- Robust design - can withstand an explosion of 0.2kg TNT at a distance of 5 meters only
- Built in redundancy
- 3 sector coverage options: 120°, 240°, 360°

- Open architecture supports easy integration with any C&C and other sensors
- Display includes multiple display formats, target data, exclusion zones and more
- Proven high reliability – systems operating in the water for years with zero malfunctions
- Very little maintenance needed
Underwater Threats

Any underwater intruder, including:

- Divers with closed circuit breathing apparatus
- Divers with open circuit breathing apparatus
- Diver Propulsion Vehicles (DPV)
- Unmanned Underwater Vehicles (UUV)

The AquaShield™ System Units

Processing Unit  Command & Display Unit  Junction Box  Underwater Unit  Underwater Hailer

The AquaShield™ Applications

The AquaShield™ is designed to guard the following coastal and offshore sites from underwater intrusion and sabotage:

- Naval Bases
- Energy terminals
- Offshore platforms
- Ports and Harbors
- Nuclear power facilities
- Underwater pipelines and cables
- Borders
- VIP Sites
- Other critical coastal/offshore asset
AquaShield™ Specifications

<table>
<thead>
<tr>
<th>The AquaShield™ Main Units</th>
<th>Special Processing Algorithms</th>
<th>Detection Ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;&gt; Underwater Unit</td>
<td>&gt;&gt; Performance Optimization</td>
<td>Diver with open circuit breathing apparatus</td>
</tr>
<tr>
<td>&gt;&gt; Processing Unit</td>
<td>&gt;&gt; Coherent and Energy Detection</td>
<td>1,000m</td>
</tr>
<tr>
<td>&gt;&gt; Control and Display Unit</td>
<td>&gt;&gt; Bearing Interpolation</td>
<td>Diver with closed circuit breathing apparatus</td>
</tr>
<tr>
<td>&gt;&gt; Junction Box</td>
<td>&gt;&gt; CFAR Processing</td>
<td>700m</td>
</tr>
</tbody>
</table>

The Underwater Unit

>> Underwater Front-end Electronic unit (UFE)

>> 1 Transmit Array (Tx) with 360° coverage

>> 1 – 3 Receive Arrays (Rx) depending on the required coverage:
- 1 Rx array for coverage of 120°
- 2 Rx arrays for coverage of 240°
- 3 Rx arrays for coverage of 360°

Display Formats

>> Sonar Data

>> Tactical Picture on:
- Aerial photo
- Satellite Image
- Nautical Chart

>> Overlay of Sonar Data on any type of Tactical Picture

Transmit / Receive Parameters

Source Level (Max) 220 dB re 1μPa @ 1 meter

Center Frequency 60 KHz

Transmission Modes CW and LFM

Pulse Width 1 - 40 ms

Range Accuracy better than 0.5 meter

Bearing Accuracy 0.1°

Transmit Array 40 cm

Receive Array X 3 125 cm

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

Interface & Integration

LAN Interface TCP/IP

Integration with any C&C system

About DSIT

DSIT Solutions Ltd., a subsidiary of Acorn Energy (NASDAQ: ACFN), develops and produces sonar and fiber optic applications 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: SeaShield™ Submarine Detection Sonar, AquaShield™ Diver Detection Sonar (DDS), PointShield™ Portable Diver Detection Sonar (PDDS), Portable Acoustic Range (PAR), Underwater Acoustic Signal Analysis (UASA), and a wide variety of Sonar Simulators and Trainers.

Discover what’s down there