

# RUTTER SMALL TARGET SURVEILLANCE SYSTEM



MAXIMIZE VESSEL UP-TIME WITH RUTTER SMALL TARGET SURVEILLANCE



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# AVOID COSTLY DELAYS IN DATA ACQUISITION

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Rutter *sigma* S6 technology promotes vessel productivity by improving the detection and tracking of small and nearly hidden targets that can foul towed arrays. Processing the full dynamic range of the reflected radar pulse, Rutter's *sigma* S6 Small Target Surveillance (STS) system detects small and low profile objects such as ice, wooden buoys, fishing gear and floating debris that can foul seismic streamers and acoustic sensors in tow. The *sigma* S6 STS system detects these objects with higher reliability than standard marine radars and displays them in near photo quality imagery. For seismic vessels seeking to avoid equipment damage and costly delays in data acquisition, Rutter's STS system is an effective and cost efficient downtime prevention solution.

## PROVEN VALUE

The *sigma* S6 STS system has proven itself on offshore platforms, support vessels and in a range of coastal surveillance and monitoring applications. Our install base also includes coastal patrol vessels where the system is used for search and rescue operations and detection of small craft for interdiction and security purposes. Rutter's STS solutions are in use for applications as diverse as detecting birds, scouting for ice, wildlife monitoring, and lost container detection.

Our experience in providing solutions for seismic data acquisition operations in warm and cold waters is significant, and we have delivered multiple systems for this purpose.

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### NEW SIGMA S6 CONNECT

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A new web-enabled interface allows external systems such as Google Earth Pro and GIS platforms to interface with the *sigma* S6 Small Target Surveillance System to display radar imaging and target information.

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### NEW COASTLINE MASK

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A new Coastline Mask feature provides automatic masking of land areas using a global coastline database. This prevents land areas from being detected as marine targets and simplifies system operation when working near land.

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### TRACK MULTIPLE TARGETS

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The *sigma* S6 STS system's advanced target tracker can monitor and track hundreds of targets simultaneously, ensuring the operator has complete awareness of all activity within range.

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### EXCEPTIONAL FEATURES

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As the requirements of small target surveillance systems can vary, Rutter has developed a range of exceptional features that users can apply to their particular needs. Central to our value in any application of the STS system is our core strength in being able to detect extremely small objects even in high sea clutter situations.



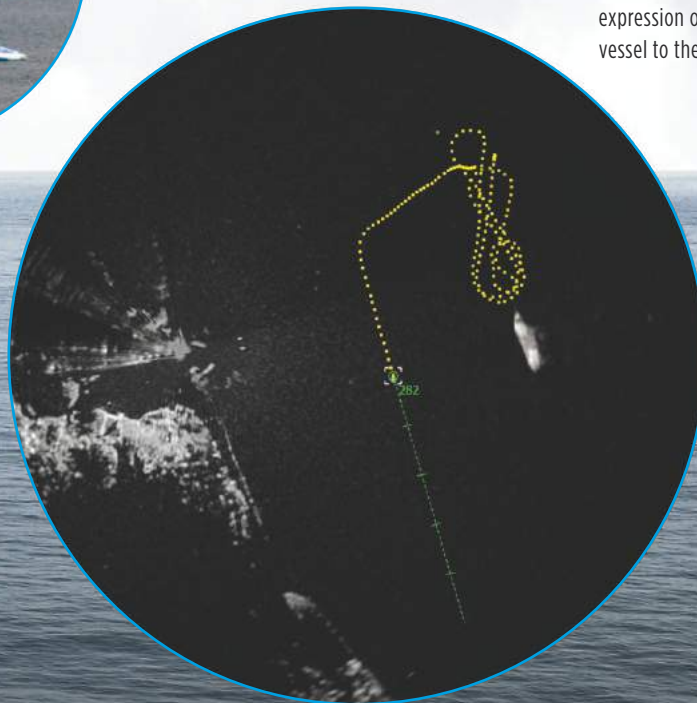
**FIG:1** – See and track small bergy bits and growlers that can interrupt operations.



**FIG:2** – STS can detect low profile fishing gear at distance and in clutter.



**FIG:3** – STS imaging showing sea surface expression of seismic tow array. Note the scout vessel to the immediate right.



#### AIS OVERLAY WITH CLASS A AND B TARGETS

Class A and B AIS target overlay options are available with full information, radar tracks and target association display. The inclusion of class B targets enables the monitoring of transponders attached to marine hazards and the verification of smaller vessels in an operating area.

#### MULTIPLE CLIENT OPTIONS

Rutter's remote client feature enables multiple remote users to view the display of the master STS system. With adequate LAN/WAN connectivity, *sigma* S6 STS output can be shared with advance vessels and scout ships to audit the environment ahead of an operational area.

#### DEDICATED RADAR SYSTEMS

Rutter can supply a dedicated high performance radar to support small target detection functionality without impacting navigational requirements. The *sigma* S6 STS system connects to the Rutter Radar-100S6 in a master configuration and gives the operator full control over this radar.

#### CAMERA INTEGRATION

Features in the *sigma* S6 system include the ability to support multiple cameras, intelligent selection of best camera views for specific targets and automatic slewing to a target entering a guard/security zone. These features support quick decision making to address potential threats or interruptions to survey operations.

#### MONITOR SLOW AND FAST MOVING TARGETS

Rutter's Dual Mode Tracker option permits the simultaneous tracking of slower moving targets and faster moving and maneuvering targets.

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# PRACTICAL AND VERSATILE SOLUTIONS

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Rutter *sigma* S6 technology connects to most commercially available marine radars, enabling customers to extract additional value and effectiveness from their existing assets. Should it be required, Rutter provides the option of supplying a dedicated high performance radar as an input sensor. As with all Rutter *sigma* S6 product lines, our STS systems can be combined with any of our other systems to meet your needs: Oil Spill Detection, Ice Navigator™, SeaFusion Data Integration, and wave and current measurement through the WaMoS® II wave and current monitoring systems offered by OceanWaveS GmbH.

## RUTTER SMALL TARGET SURVEILLANCE SYSTEMS

### Features:

- Small Target Detection
- Screen Capture and Video Recording
- Tracking Software (500 Targets)
- Scan Averaging (64 Scans)
- Motion Compensation
- Multiple Remote Clients
- Cursor Serial Port Output (For IR camera input)
- TTM NMEA Serial Port Outputs (For IR camera and ECDIS Inputs)
- *sigma* S6 Connect
- Coastline Masking
- Dual Mode Plot Extractor

### Options:

- Raw Data Recording
- SeaBridge - Multiple Client - Low Bandwidth Communication Link
- SeaFusion - Multiple Radar - Single Display

**Note:** STS accepts standard serial/network inputs from navigational instruments (NMEA 0183) including: AIS, wind anemometer, echo sounder, speed log, GPS, and gyrocompass.

Information about end user training, product support, product combinations, performance modeling, product references and reliability measures can be provided by e-mailing your request to [support@rutter.ca](mailto:support@rutter.ca)

*Rutter Inc. is an authorized representative of OceanWaveS GmbH.*



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