

## SCORPION II

### Unattended Target Recognition Systems



GAST- Seismic/Magnetic/PIR



PIR Sensor



Universal Gateway



Day / Thermal Cameras



Note: 50% reduction in size, weight, and volume when compared to the currently fielded Scorpion System

### Overview

Northrop Grumman's SCORPION II Long, Short and Point Blank Range Target Recognition System provides critical worldwide data and imagery for long or short duration military and intelligence gathering operations. This next generation system incorporates new technologies and improved performance with reduced size, weight, and volume when compared to its Scorpion predecessor.

This fully autonomous Unattended Ground Sensor (UGS) system is comprised of wired or wireless day and night vision Electro-Optic (EO), seismic, magnetic, and passive IR sensors, wireless local RF communications, and a remote universal communications gateway. The universal gateway provides secure, two-way, LOS and BLOS communications for around the clock global surveillance of time critical targets.

Multiple, geographically separate SCORPION II systems can transmit imagery and sensor data to distributed users world wide. Data from separate sensor systems are combined to form a Common Operational Picture (COP).

The robust, modular, scalable, open interface architecture implemented in the SCORPION II system is easily adaptable to a myriad of COTS sensors from most vendors as well as a wide variety of communication links.

SCORPION II is designed to use minimal power while maximizing battery life, enabling missions lasting six months or longer without changing batteries.

Operators may add an optical pan / tilt device for collecting short and long range day or night imagery (zoom capable). The device eliminates the need for mechanical movement, eases concealment, and reduces the probability of system detection.

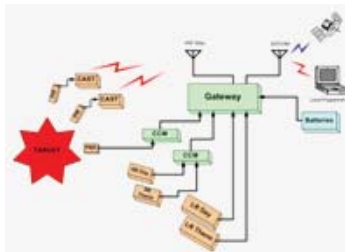
### Mission Areas

- Situational Awareness
- Border and Perimeter Security
- Persistent Surveillance
- Target Recognition
- Urban / Jungle operations
- IED Defeat

### Key Features

- Modular, Open Extensible Architecture
- Greater than 95% Probability of Detection/ Recognition When Optimized for Less Than 5% False Alarm Rate
- Day / Night Target Detection / Recognition up to 800 Meters
- State of the Art 640x480 Long Wave IR Thermal Technology
- Adaptive Seismic/Magnetic Activity Sensors Require No User Calibration
- Wireless Activity Sensor to Gateway Connections
- Embedded GPS Capability
- Intuitive Graphical User Interface (GUI) Supports Mission Planning, Information Tracking, and Remote Sensor Control

*Northrop Grumman designs and delivers solutions for military and government customers while working to meet the technical and operational challenges of tomorrow.*



Family of UGS - Open Architecture



Simplified GUI

## SCORPION II Unattended Target Recognition Systems

- Man-portable, Lightweight, Easy to Deploy and Transportable in One Rucksack
- Low Operating Power/Long Battery Life Extends Mission Life to 6 Months
- Interoperable with Legacy Acoustic, Passive IR, Seismic, Magnetic, Chemical, Biological, and Optical Sensors
- Ruggedized for Extreme Environments

### Optional Equipment

- Point Blank Range (PBR) Day/Thermal Cameras
- CAST PIR Sensor
- LPI/LPD Camera Communications
- Optical EO/IR Pan/Tilt
- Two and Six B/A-5390, or equivalent, Battery Pack

### Combined Adaptive Sensor Transceiver (CAST)

- Combines Seismic, Magnetic and Directional Passive IR Activity Sensors with a two-way Line of Sight Transceiver in a Buried Package
- Detects/Classifies Targets from 30 to 100 meters away
- Cues EO & IR Sensors up to 2km away

### Electro-optic (EO) and Infrared (IR) Sensors

- EO and IR sensors provide persistent data and imagery to enable target classification, identification GPS location, and actionable intelligence for targets up to 800 meters away
- Optional optical pan / tilt device negates the need for large swept volume, while easing concealment and reducing system detection vulnerability

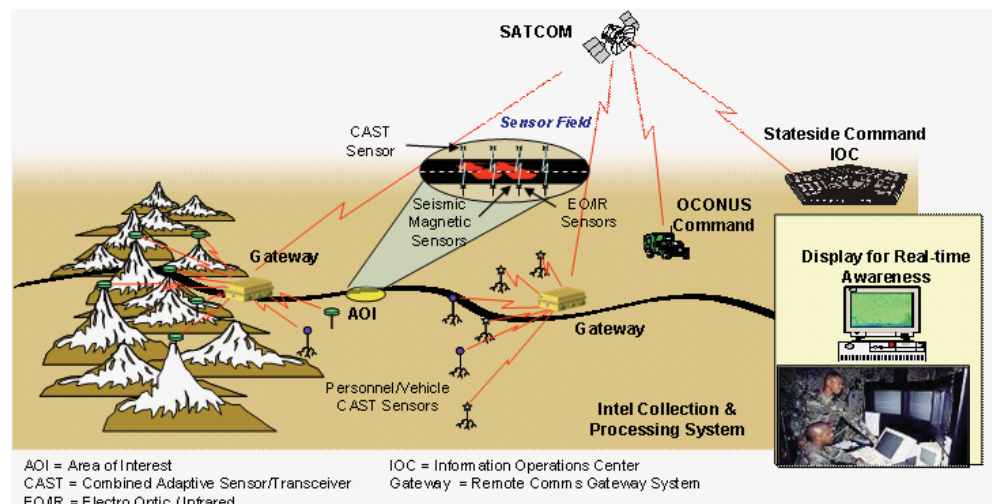
### Universal Communications Gateway

- Bi-directional Secure Universal Gateway provides Encrypted Long-haul and Local RF Communications to Capture, Process, and Relay sensor data and enable Remote Command and Control of the Sensors
- VHF Burst AdHoc Network provides EO, Gateway and target area monitoring (TOC)
- Additional Capability Modules attach to main Gateway for operational flexibility and expandability

### Ancillary Items

- Cables, Antennas, Concealment Kits, and other items Support Emplacement for Long Duration Unattended Concealed Missions

## SCORPION II Flexibility Enables a Multitude of Fielding Scenarios



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