JSLSCAD

Joint Service Lightweight Standoff Chemical Agent Detector

Scanner Module

Sensor Electronics Module

Operator Display Unit (ODU)

Power Adapter

The Joint Service Lightweight Standoff Chemical Agent Detector (JSLSCAD) is a ruggedized detection system designed to provide American warfighters of the 21st century with state-of-the-art capability in detecting chemical warfare agent vapors. JSLSCAD is a passive infrared (IR) detection system that automatically searches the 7 to 14 mircron region of the surrounding atmosphere for chemical agent vapor clouds. JSLSCAD utilizes sophisticated pattern recognition algorithms to detect, classify, and identify chemical agents while discriminating against both natural and manmade battlespace interferents. Once a detection is made, JSLSCAD identifies the agent cloud and alerts the warfighter with audible and/or visual alarms. It also indicates the direction and extent of the agent cloud on a graphical computer display and forwards the NBC report details through the Joint Warning and Reporting Network (JWARN).

JSLSCAD is the first chemical detection system to furnish 360˚ on-the-move coverage from ground, air, and sea-based platforms at distances of up to 5 kilometers. JSLSCAD will provide warfighters of the four armed services with early warning to avoid contaminated battlespace or, if avoidance is not possible, time to don protective masks and clothing.

Intended JSLSCAD applications include various ground vehicle, aerial, shipboard, and fixed-site platforms such as: M93A1 FOX vehicle; Joint Service Light NBC Reconnaissance System (JSLNBCRS); Advanced Infantry Armored Vehicle (IAV); High Mobility Multipurpose Wheeled Vehicle (HMMWV); C-130 Aircraft; CH-53 Helicopter; most classes of ships; and bases as well as other stationary emplacements. The JSLSCAD design provides for communication with the JWARN and the Multipurpose Integrated Chemical Agent Detector (MICAD).

JSLSCAD – protecting today's warfighter from the threats of tomorrow.

JSLSCAD

Key Performance Features

- Detects, identifies, and reports nerve, blister, and blood agent vapors
- Detects specified levels at distances of 5 kilometers
- Operates while stationary or on-the-move from ground, aerial, and sea platforms
- Ruggedized to survive and operate in battlefield environments
- Rejects common battlespace interferents
- Compact, modular design for wide variety of applications
- Embedded training
- Field upgrades of software
- BIT/BITE
- Pre-programmed, rapid hemispherical scanning
- Installation and operator selectable scanning sectors
- Rugged, flexible, interoperable design

Applications

- Aerial – rotary and fixed wing 60˚ scanning
- Ground – mobile 360˚ coverage
- Fixed site – 360˚, expandable for multi-detector configurations
- Shipboard – 360˚ scanning, single and dual modes of operation

Communications

- Operator – Windows NT graphical user interface
- Host/controller – JWARN/MICAD
- External alarm – M42
- Protocols – SNMP, TCP, UDP, PPP
- Physical – Ethernet, serial RS-232/RS-422

Specifications

- Michelson Interferometer, HIRES/LORES scanning
- Spectral range 7-14 microns
- Fields of regard – 60˚ forward cone; 360˚ AZ, -10˚ to +50˚ EL
- Power – 115/220 VAC external, 20-32 VDC internal
- Temperature -32˚ to 49˚C operating; -51˚ to 71˚C storage

Program Status

Contract award	September 1997
Preliminary design review	October 1998
Detailed design review	May 1999
Critical design review	December 1999
EDT production – 15 units	April 2000
EDT complete	April 2001
PQT/IOT&E production – 40 units	In testing July 2002

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Armament and Technical Products

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