

Stream Full-Motion Video into Highly Secure Networks

Field operations require the relay of full-motion video from the field back to secure enclaves for analysis, typically in the form of UDP packets. However, in order to transfer the data from Secret to Top Secret network domains, a cross domain solution (CDS) is required to ensure the security of the downstream networks.

The Owl Solution

The OCDS-ST08 all-in-one Cross-Domain Solution, is certified and accredited, receiving its' ATO (Authorization to Operate) in October, 2012. Designed to stream full-motion video, the OCDS-ST08 transfers UDP unicast packets from Secret networks to Top Secret network domains with minimal latency and without data loss.

Uniquely packaged as an "all-in-one" solution, the OCDS-ST08 features a 19" 1U rack-mount enclosure - the Owl CDS Small Form Factor (OCDS-SFF) hardware platform. It has an absolute channel capacity up to 155 Mbps and supports up to ten concurrent data transfer channels, each with an independent static route from source to destination.



Highly Secure Configuration

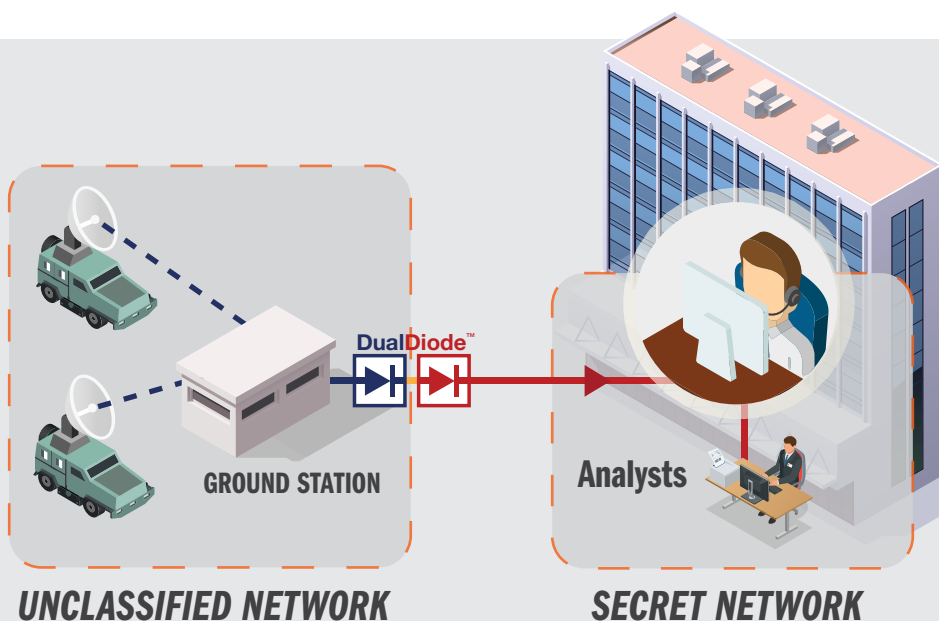
Operating on the OCDS-SFF hardware platform, the architecture of the OCDS-ST08 includes two independent servers, one send-only server and one receive-only server, connected by a single fiber optic cable, all contained within a single enclosure. It provides network segmentation and deterministic, one-way-only data transfers while satisfying requirements for small size, low weight, and low power consumption (SWaP).

The software architecture includes a hardened Certifiable Linux Integration Platform (CLIP) Security Technical Implementation Guide (STIG)-compliant operating system based on open-source Linux kernel (CentOS). This defense-in-depth solution includes security features mapped to the UCDSMO ICD-503 (which includes NIST SP 800-53) and to Risk Decision Authority Criteria (RDAC).

USE CASE:

Transfer Full-Motion Video From Secret Networks

High-value video captured in Secret network domains must sometimes be transferred to Top Secret networks for further analysis and decision making. The Owl OCDS-ST08, transfers unicast UDP streams across the domain boundary to the Top Secret network. The proprietary data diode securely streams the full-motion video data to analysts at the Top Secret enclave for analysis and real-time field coordination.



☰ Certified and Accredited Solution

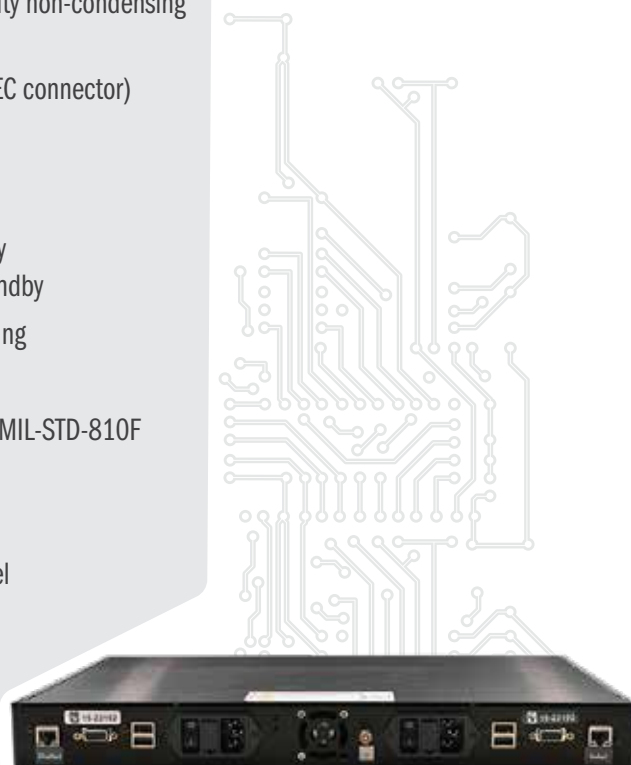
The OCDS-ST08 presents separate Send and Receive host computer platforms connected with DualDiode Version 4 Technology, which provides an absolute channel capacity up to 155 Mb/sec. The hardware and software architectures operate as an assured data transfer pipeline, with software applications restricted by the hardened STIG-compliant Linux Operating system.

Per strict mission requirements, the OCDS-ST08 implements UDP data transfer software only and eliminates all other file transfer capabilities. It presents a limited, configurable number of UDP inlet sockets to the source network. CDS administration is performed via local KVM console. These features greatly simplify the software architecture and make the solution much more secure.

The OCDS-ST08 presents a modular design that facilitates further tailoring to satisfy changing mission requirements and expedited delta-certification (regression testing) processes.

🔍 Technical Specifications

- **Operating Conditions:** 32°F to 110°F (0°C to 43.33°C) – 20% to 85% humidity non-condensing
- **Power Supply:**
 - **Input:** 100-240V AC auto-ranging, min. 30W per side (fused at 1A at IEC connector)
 - **Output:** 5V at 5A
 - EU & UK power cables available upon request
- **Power Consumption:**
 - **BLUE** Inlet Send-only side: 20W Max / 17.6W Nominal / 5.5W Standby
 - **RED** Outlet Receive-only side: 20W Max / 17.5W Nominal / 5.5W Standby
- **Storage:** -40°F to 158°F (-40°C to 70°C) – 5% to 95% humidity non-condensing
- **Safety Standards:** UL60950-1, TUV EN60950-1 approved
- **Transport Testing:** Random Vibration and Loose Cargo Transportation Tests -- MIL-STD-810F
- **Chassis:** Black Anodized Aluminum
- **Chassis Size:** 16.5" W x 1.75" H x 13" D (41.91 cm W x 4.5 cm H x 33 cm D)
- **Cooling System:** High-efficiency fan system with low system acoustic noise level
- **Mounting System:** 19" (48.3 cm) rack mounting; tabletop or shelf-mount
- **Unit Weight:** 7.92 lbs (3.6 kg)
- **Shipping Size:** 18" W x 8.5" H x 15" D (45.7 cm W x 21.6 cm H x 38.1 cm D)
- **Shipping Weight:** 12.2 lbs (5.5 kg)



OCDS-ST08 (Back View)

🦉 About Owl

With over 2000 deployments globally, Owl Computing Technologies is the leader in data diode cybersecurity solutions, enabling hardware-enforced network segmentation and deterministic, one-way transfer of all data types and file sizes. U.S. owned and operated, Owl offers validated and accredited products, servicing the intelligence, military, government, and critical infrastructure communities.