

## Stream Unicast UDP Traffic to Secure Enclaves for Analysis

Military operations require the relay of audiovisual information, e.g. radar, UAV video, etc., from the field back to secure enclaves for analysis, typically in the form of streaming UDP packets. However, as the data is transferred from unclassified to Secret network domains, a cross domain solution (CDS) is required to ensure the security of the downstream networks. The OCDS-ST07 single-box CDS is designed to stream unicast UDP traffic from unclassified networks to Secret network domains for analysis.

### The Owl Solution

The OCDS-ST07 is a hardware-enforced cross domain solution that provides one-way transfer of UDP unicast packets from Unclassified to Secret network domains with minimal latency and without data loss. Uniquely packaged as an “all-in-one” solution, the OCDS-ST07 features a 19” 1U rack-mount enclosure - the Owl CDS Small Form Factor (OCDS-SFF) hardware platform - and supports up to 20 concurrent streaming data channels.



### Highly Secure Configuration

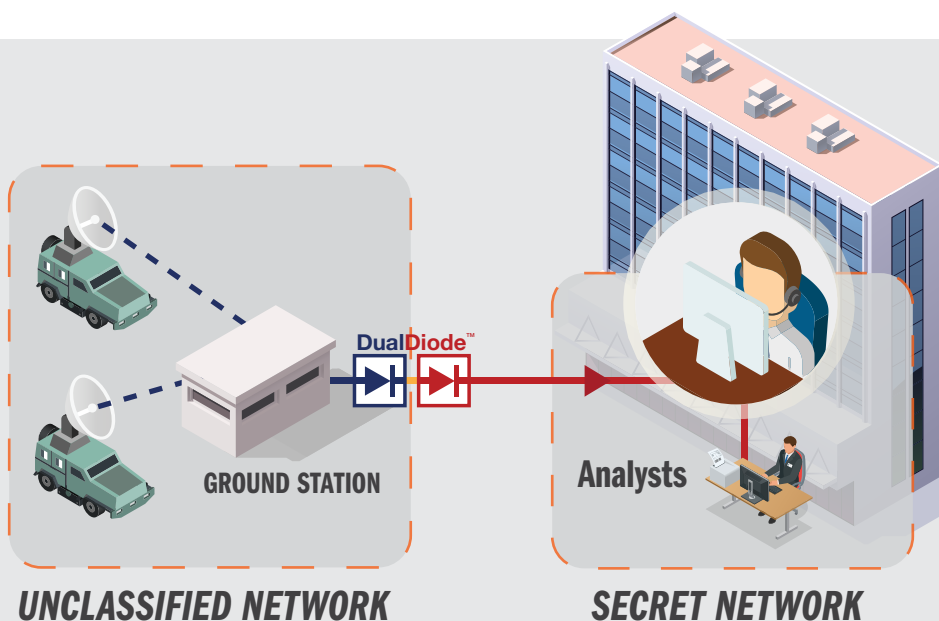
Operating on the OCDS-SFF hardware platform, the architecture of the OCDS-ST07 includes two independent servers, one send-only server and one receive-only server, connected by a single fiber optic cable. It provides network segmentation and deterministic, one-way-only data transfers while satisfying requirements for small size, low weight, and low power consumption (SWaP).

The software architecture includes a hardened Certifiable Linux Integration Platform (CLIP) 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 Radar Data from the Field

Field vehicles pick up radar data and send it back as UDP packets to the ground station. The OCDS-ST07, installed at the ground station, takes multiple inbound UDP streams and multiplexes them into one stream for transfer across the domain boundaries to the Secret network. The proprietary data diode securely streams the radar data to analysts at the Secret enclave for analysis and real-time field coordination.



## ☰ Certified and Accredited Solution

The OCDS-ST07 presents separate Send and Receive host computer platforms connected with DualDiode Version 4 Technology, which provides an absolute channel capacity up to 155 Mbps. The hardware and software architectures operate as an assured data transfer pipeline, with software applications restricted by the hardened STIG-compliant Linux Operating system.

The OCDS-ST07 implements UDP data transfer software only and eliminates all file transfer and file filter 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 it more secure. The OCDS-ST07 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-ST06 (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.