



INTERCEPTOR™ Fiber Security System



INTERCEPTOR™ monitors critical fiber optic networks for signs of tampering or intrusion and provides unparalleled protection for secure or high assurance fiber optic networks. INTERCEPTOR™ exceeds the requirements of an Alarmed Carrier PDS (per NSTISSSI 7003) and enables significant cost savings and performance benefits as an alternative to network encryption and/or hardened carrier PDS for SIPRNET deployments.



ABSOLUTE PROTECTION

- INTERCEPTOR monitors fibers INSIDE of the cable requiring protection—and can even monitor the actual fibers carrying the sensitive traffic

MAXIMUM FLEXIBILITY

- INTERCEPTOR can protect ANY fiber optic network: lit or dark, single mode or multimode, including DWDM-based systems

UNCONSTRAINED BANDWIDTH

- INTERCEPTOR is purely a Layer One device that does not touch or interfere with the secure data or information signal, and supports network speeds up to and including 10Gbps.

Protected Distribution Systems Options:

Desired Attributes	Alarmed Carrier	Hardened Carrier		Continuously Viewed Carrier
		Inside Building (Rigid Metallic Conduit)	Outside Building (Concrete Encasement)	
Ability of intruder to gain undetected access to PDS	Very Difficult	Somewhat Difficult	Very Difficult	Not Difficult
Reliability of Detection of tampering or unauthorized access	High	Low	Low	Medium
Physical Deterrence to Tampering or Intrusion	Medium	Medium	High	Low
Ease of Installation for New SIPRNET Deployment	Easy	Difficult	Difficult	Somewhat Difficult
Enables NIPRNET to SIPRNET Migration	Yes	No	No	Yes
Portability (Ability to Re-Deploy/ Re-use)	High	Low	None	Moderate
Vulnerability to Insider Threat	Low	High	Low	Moderate
Requires visual inspection for monitoring or detection	No	Yes	No	Yes
Protects the availability of the network circuit	Yes	No	No	No

INTERCEPTOR™ was developed to enhance the protection of secure networks and overcome the inherent vulnerabilities with older Alarmed Carrier technology.

How the INTERCEPTOR™ Works

INTERCEPTOR™ is a new addition to the network security toolbox—with new technology specifically developed for Information Assurance applications. INTERCEPTOR™ is extremely easy to install, and provides enhanced protection for secure networks or C4ISR applications across any network.



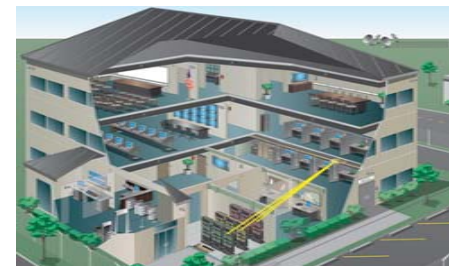
- As a Layer One device, INTERCEPTOR™ can be installed on either new or existing fiber optic cables.
- INTERCEPTOR™ equipment can be installed in one of two different architectures:
 - a. Centralized Architecture: INTERCEPTOR™ equipment installed in a single location, on just one end of the cable
 - b. Decentralized Architecture: INTERCEPTOR™ equipment installed in multiple locations, on both ends of the cable (similar to a KG-175 installation)
- Once installed, INTERCEPTOR™ can be placed into a ‘learning’ mode where it will establish an optical signal baseline for the specific cable it is installed to protect.
- With the baseline established, INTERCEPTOR™ uses anomaly detection to continuously monitor the characteristics of the optical signal for signs of tampering or intrusion
- Once an anomaly is detected, INTERCEPTOR™ can either issue an alarm report using one of its many reporting features: SNMP, Text Page, E-Mail, or Dry Contact interface
- If desired, INTERCEPTOR™ can also be configured to disrupt the optical traffic until the disturbance can be investigated and resolved



INTERCEPTOR™ PDS Applications

When used as an Alarmed Carrier PDS, INTERCEPTOR™ can eliminate the need to encrypt information as well as significantly reduce the cost & complexity of PDS installation(s). INTERCEPTOR™ also negates the need to conduct routine or daily Periodic Visual Inspections (PVI) in order to detect unauthorized or suspect activity. INTERCEPTOR™ provides 24x7 protection and coverage.

1) SCIF or Secure LAN Deployment: With its continuous monitoring, INTERCEPTOR™ can enable the installation of secure network cabling above the ceiling and out of view as part of an Alarmed Carrier PDS. Installation is streamlined—requiring minimal personnel. In contrast, a Hardened Carrier PDS would be constructed of EMT or Rigid Metallic Conduit which would have to be installed below the ceiling and in plain view so that the Periodic Visual Inspection could easily detect any attempts at tampering or intrusion. Installation is much more complex and involved - requiring extensive personnel to construct the conduit system.



- **20-30% Cost Savings**
- **Reduce Deployment Time, Minimize Operational Impact**
- **(No Daily Visual Inspection)**
- **Ability to install fiber optic cables above ceiling/below floor**

2) OSP SIPRNET Installation: Typically, unencrypted SIPRNET traffic is required to be transmitted across fiber optic cables that are encased in concrete as an Hardened Carrier PDS. With the increased deployment of SIPRNET and JWICS networks, concrete encasement has become increasingly costly and disruptive to C4ISR facilities, military installations, and high assurance networks. By using INTERCEPTOR™ as an Alarmed Carrier PDS, cables can be installed in a standard cable conduit system—eliminating the need for the concrete encasement and supporting higher bandwidth than if the traffic was encrypted.



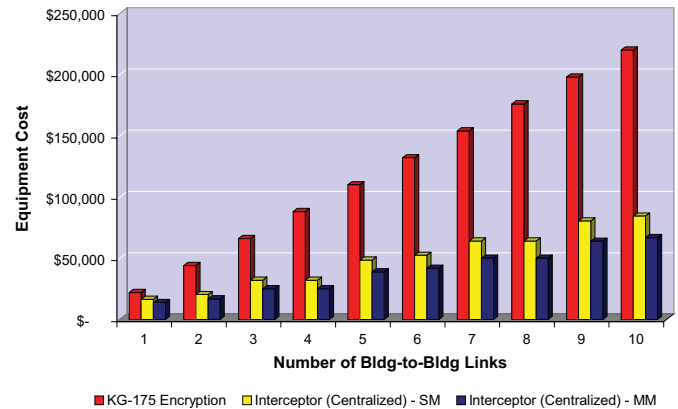
- **40-60% Cost Savings**
- **Deployment timeframe reduced by up to 50%**
- **Minimize Worksite Disruption**
- **Monitor & Protect Network Availability**

INTERCEPTOR™ Cost Modeling

With the increased demand for SIPRNET and JWICS connectivity, many DoD services and federal agencies are looking for ways to reduce the cost & complexity of secure network deployments—without compromising network security or integrity. The analysis provided below highlights the cost savings potential when INTERCEPTOR™ is used in place of (1) encryption, or (2) concrete encasement.

INTERCEPTOR™ vs. Encryption

The chart to the right provides an incremental cost analysis of encryption and Interceptor™ equipment based on the number of building-to-building links required on an installation. Assuming that only singlemode fiber is available, INTERCEPTOR™ provides a 25-60% cost-savings over encryption on singlemode fiber, and 50-80% savings on multimode fiber. The more building links required, the greater the savings.

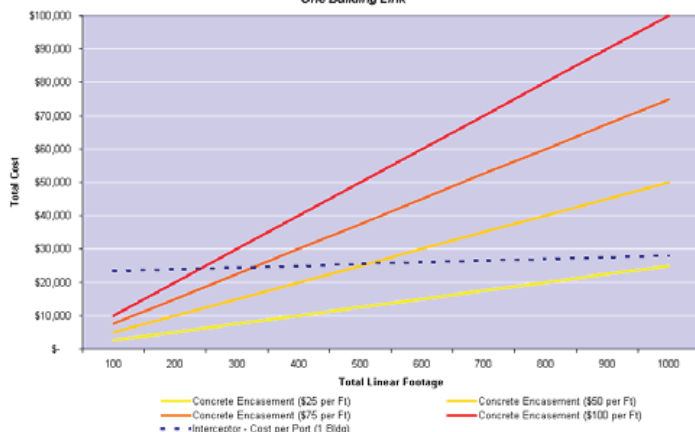


INTERCEPTOR™ vs. Concrete Encasement

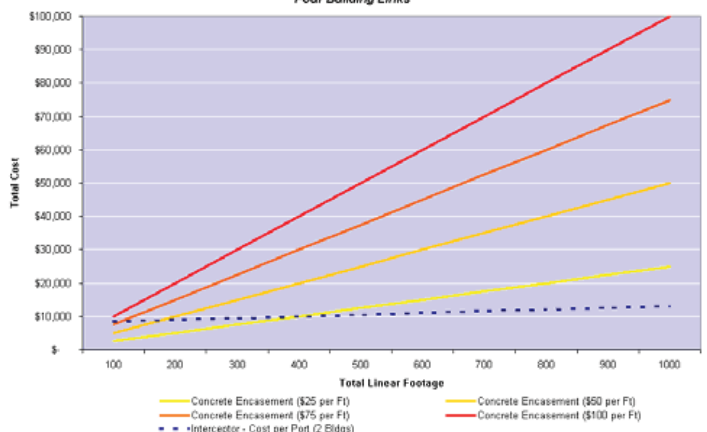
The charts below provide an incremental cost analysis of a secure network deployment using either a concrete-encased duct bank (Hardened Carrier) or a standard duct bank alarmed using INTERCEPTOR™ (Alarmed Carrier). Because the total cost of installation (per foot) of a concrete-encased duct bank varies greatly with time and location, each chart provides comparative costs against four different concrete-encased duct cost points (\$25, \$50, \$75, and \$100 per linear foot). As the number of OSP building connections increase, so does the cost-savings and benefit of using INTERCEPTOR™ as an Alarmed Carrier—especially in areas where concrete is more costly to procure or install.



Interceptor vs. Concrete Encasement
One Building Link



Interceptor vs. Concrete Encasement
Four Building Links





INTERCEPTOR™ Development

**Designed and Developed Specifically
For Information Assurance & Network Security**

- DoD sought out and initiated technology transfer for INTERCEPTOR™ capability at The Pentagon
- INTERCEPTOR™ was iteratively developed under DoD guidance, direction and funding
- Since its release, federal agencies have since funded incremental development of INTERCEPTOR's performance and functionality
- INTERCEPTOR has recently been added to the USAF CTTA Approved Product List for PDS Alarm Systems

“INTERCEPTOR™ reduced deployment costs by 60%, eliminated COMSEC/PKI issues, and increased bandwidth from 100Mbps to 10-Gigabit Ethernet!”

- C4ISR Customer

INTERCEPTOR Customers & Installations:

US Army	Department of Justice
US Air Force	Computer Sciences
Department of Homeland Security	CENTCOM
SPAWAR	General Dynamics
MITRE	



CSC Part No.	Network Integrity No.	Description
798185	8000-4-U-S9-4L	INTERCEPTOR, 4 Channel, SM, 10GBase-LX
798720	8000-2-U-M6-3S	INTERCEPTOR, 2 Channel, 62.5um, 1000Base-SX
798721	8000-1-U-M5-4S	INTERCEPTOR, 1 Channel, 50um, 10GBase-SX
798722	8000-RTU	Remote Terminal Unit, Active Fiber Return Channel