



DSD 72B-SP (I) SDH/SONET Encryption



Strategic-level security with protocol-agnostic technology and automated, trusted key and device management

The DSD 72B-SP (I) industrial optical encryptor for SDH/SONET networks provides strategic-level, path encryption of voice, data and video transmitted over fiber optic networks. Protocol agnostic and with automated KEYNET key and device management, the DSD 72B-SP (I) is a cost-effective, secure communications solution for global mission-critical networks.

Seamless Network Overlay

With full compliance to the SDH/SONET standards, the DSD 72B-SP (I) integrates as a network overlay on existing or new networks — no network modification is required and network performance is not affected.

With protocol-agnostic path encryption, the DSD 72B-SP (I) is only required at network end points. Individual path virtual container data payloads are encrypted, leaving path overhead in the clear for unrestricted network switching of each virtual container with no plaintext exposure of the path-encrypted payload.

Data Protection

Networked fiber optic lines are vulnerable to interception. Leasing commercial fiber optic circuits as part of an organization's network infrastructure potentially exposes data at repeaters, adjunct multiplexors, switches and digital cross connects. Even where network elements are under the control of the user, fiber optic lines themselves can be tapped anywhere along the path. The risk is magnified by the high volume of data on these links, making fiber optic networks a target for an adversary to attack.



Cryptographic Strength

The DSD 72B-SP (I) is a FIPS 140-2 Level 3 designed, hardware-based encryption solution with full line-rate performance. All peer-to-peer communications are secured with no data bandwidth impact.

The DSD 72B-SP (I) comes in an anti-tamper rack-mountable appliance. Three-tier symmetric key management with lossless automated key changes and multiple independent path-dedicated data encryption engines using the AES 256-bit algorithm maximize protection. Optionally, national algorithms can be integrated without hardware modification.

User-friendly, automated, trusted key and device management.

Benefits

- Strategic-level data protection
- Interoperable with ruggedized industrial and military variants
- Wire-speed 155.52 Mb/s and 622.08 Mb/s performance
- Flexible configurations
- AES-256, optional custom algorithm
- Layers of protection
- No network modification or performance impact
- Cost-effective investment
- Easy to deploy, monitor and manage



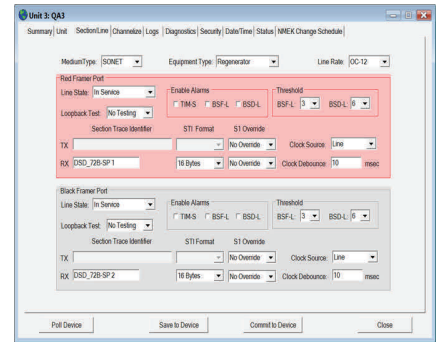
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KEYNET Optical Manager

The DSD 72B-SP (I) and its interoperable ruggedized industrial and military variants are centrally deployed, configured and managed by TCC's advanced KEYNET Optical Manager. KEYNET is a Windows 7 rack mount server with tamper-proof security vault. Multiple layers of protection secure keys at every point in their life cycle with limited human intervention.



KEYNET Optical Manager also provides user-authenticated, role-based secure device management, as well as path configuration and monitoring that supports network policies (blocked, plain, secure). With an intuitive user interface and automated polls, alarms and logs, a network expert is not needed for trusted key and device management of a large network.



Technical Specifications

Network

Supports both SONET *and* SDH protocols
Transparent handling of section & path headers
Adaptable payload configurations

OC-12/STM-4:

- 1 x VC-4-4c (concatenated payload)
- 4 x VC-4s
- 3 x VC-4 and 3 x VC-3s
- 2 x VC-4 and 6 x VC-3s
- 1 x VC-4 and 9 VC-3s
- 0 x VC4s and 12 x VC-3s

OC-3/STM-1:

- 1 x VC-4
- 3 x VC-3s

Seamlessly works with network elements anywhere in the network path without exposure of unencrypted data payloads

Interfaces

Transceivers for each line I/O interface
STM-4 (OC-12) @ 622.08Mb/s - optical
STM-1 (OC-3) @ 155.52Mb/s - optical
ITU-T G.703 STM-1/ES1 (Sect.15) @ 155.52Mb/s - electrical

Device Management

Remotely via KEYNET Optical Manager (or at device via CLI)
Messages encrypted and authenticated with SNMP and TCC secure subset
Key changes handled without traffic interruption
Dedicated device management key used for each device
Cryptographically authenticated access controls
Interoperable with DSD 72B-SP (RI) and DSD 72A-SP (STM)

Encryption Algorithm

AES-256 – standard
National algorithm

Key Management

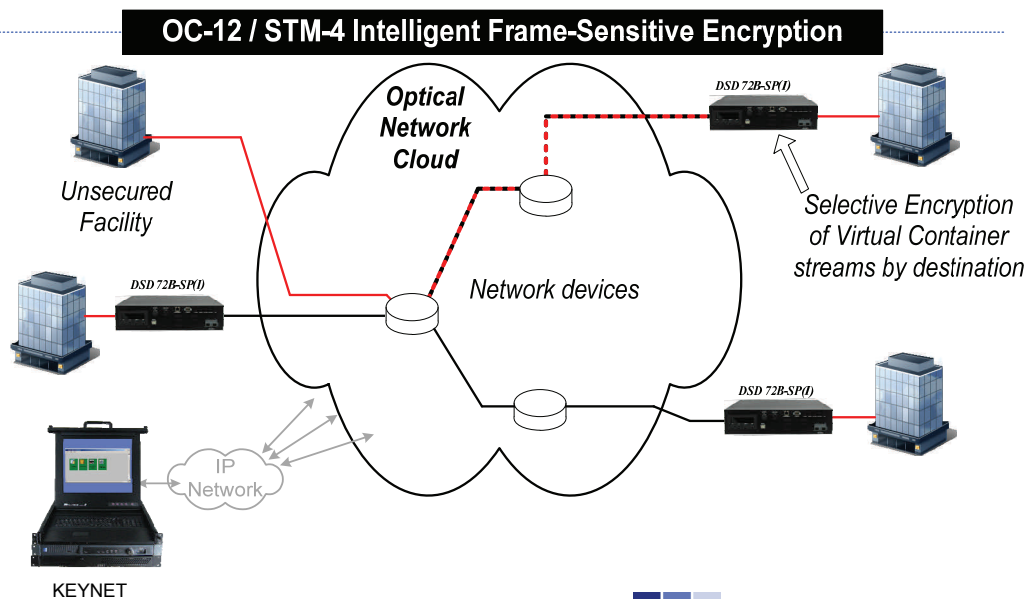
Remote, online management with KEYNET Optical Manager
Symmetric key with 3-level secure key management
SHA-256 integrity and authentication

Functional Design

Commercial-grade, customized enclosure
Anti-tamper package design
Standard 19" rack mountable
Operational temperature: 0°C to +50°C

Power options (redundant):

100VAC to 240VAC / 50Hz, 60Hz, 400 Hz
-48VDC (-18VDC to -60VDC)



For more than 50 years, Technical Communications Corporation has specialized in superior-grade secure communications systems and customized solutions, supporting our CipherONE® best-in-class criteria, to protect highly sensitive voice, data and video transmitted over a wide range of networks. Government entities, military agencies and corporate enterprises in over 115 countries have selected TCC's proven security to protect their communications.



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