Link Encryptor

• **Encrypt Layer 2 and Layer 3 Serial Data, Voice and Video**

Secure Sensitive Voice, Video and Data Communications

The **Black•Link** is a Serial Data Link AES Encryptor that encrypts serial protocols such as SDLC, HDLC, BDLC, LAPD/PRI, SS7, X.25, Point to Point Protocol and Frame Relay. The Encryption is done at the Data Link Layer 2 or at the Network Layer 3. The **Black•Link** has models with T1, E1, RS232, RS530, RS449, V.35 or X.21 interfaces with over a decade of proven interoperability with:

- • *WAN Bridges and Routers*
- • *SCADA Terminals*
- • *Data Multiplexers*

Encryption protects vital information from eavesdropping, tampering and regulatory compliance violations. **Black•Links** secure the Critical Infrastructure utilized by government operations, banking and finance, telecommunications, emergency services, gas and oil, electric and energy, water, and transportation.

Black•Links ensure the confidentiality and integrity of Intranets, Remote Management Interfaces, and SCADA with the strongest commercially available cryptography. **Black•Links** provide a secure and cost-effective solution for Voice/Video/Data encryption that is compatible with VoIP, Video over IP, Multicast, and other latency-sensitive applications for:

- • *Multisite Competitive Businesses*
- • *Public Safety Networks*
- • *Department of Defense*
- • *Homeland Security*
- • *National, State and Local Governments*
- • *Utility SCADA Networks*

Bump in the Wire Wide Area Network Encryption

The **Black•Link** splices in an AES hardened payload encryptor between an existing WAN Router/Bridge and the egress point of the Circuit. The configuration of the Router/Bridge does not require modification.

The **Black•Link** is also able to operate at the Network Layer 3. The **Black•Link's** integrated Router can be configured to only encrypt the Routes to Intranet Sites. The packets that default to the Internet are not encrypted.
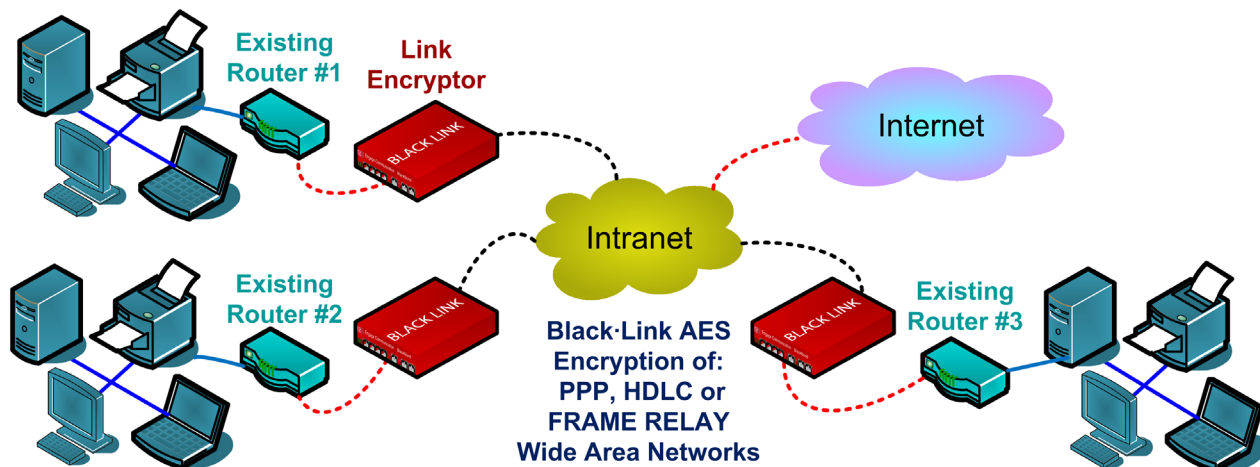
The **Black•Link** eliminates major hurdles to implementing encryption especially in contrast to the overhead, latency, and complexities of implementing a VPN encryption configuration in the WAN Router. The cost of reprogramming a WAN router can easily exceed the cost of the **Black•Link**.

Technical Specifications

Encryption Algorithm:
• AES 256-bit
• Fully Automatic key management

LAN Network Interface:
• Two 10/100BaseT Full/Half Ethernet
• Auto negotiation or Configured Speed and Duplex

LAN Network Protocols Supported:
• IP, TCP, UDP, ICMP, Telnet, SSH

WAN Network Protocols Supported:
• HDLC, SDLC, PPP, Frame Relay

T1/Fractional T1 Specifications:
• Framing - ESF, SF/D4 • Coding - B8ZS or AMI

E1/Fractional E1 Specifications:
• Framing - CRC4, FAS • Coding - HDB3 or AMI

RS530/V.35/RS232/RS449/X.21 Interfaces:
• DCE/DTE Standard DB25 Female
• DTR Controllable Transmission
• CD Reception Indicator
• 2.4k to 20 Megabit per second data rate
• V.35, X.21 and RS449 Adapater Cable Required

Management:
• Secure Socket Shell - SSH
• Telnet support with Edit and Paste Template Files
• Console Port for Out of Band Management
• SNMP support (MIB I, MIB II) with configured traps
• Remote configuration, monitoring, & reset

TFTP Online Upgrade Capable (FLASH ROMs)
• Black•Link is fully operational during upgrade

Dimensions:
• Dimensions: 9" (L) x 7.3" (W) x 1.50" (H)

Environmental:
• 0° to 132° F (-10° to 50°C) operating temperature
• Up to 90% operating humidity (non-condensing)
• Optional Extended Temperature Range available

Regulatory:
• CE • Safety -IEC60950 • EMC - CFR 47 Part 15 Sub Part B:2002, EN55022:1994+A1&A2, EN55024, ICES-003 1997, CISPR 22 Level A
• Telecom TBR12, TBR13

Power:
• 10-30 VDC, 1.0A. • Screw Locking Connector
• Universal Adapter 100/240 VAC 50/60 Hz
• Optional -48V 0.25 Amp • Hot Standby

Black•Link Encryption

Encryption Method

AES is a FIPS approved symmetric block cipher encryption algorithm that is used by U.S. Government organizations (and others) to protect secret and sensitive information.

Key Management

Automated 256Bit key management configurations ensure timely key transitions and eliminate the operational and maintenance costs of managing an encrypted network with manual key distribution.

Black•Link Optional Features

E1 Protection Switch OPTION -TPS

The E1 Link Protector provides an automatic backup for E1 circuits with a second E1. The switch over criteria is configured.

E1 Link Protector OPTION -LPT

The E1 Link Protector provides an automatic backup for E1 circuits with E1 Over IP connecting via Wireless Ethernet, Gigabit Ethernet, IP Satellite Services, xDSL,...

How To Order - Black•Link

Part No.	Description	Notes
707-1544-02	Black•Link T1	T1 Model with 1 RED and 1 BLACK T1 Port
707-2048-02	Black•Link E1	E1 Model with 1 RED and 1 BLACK E1 Port
707-4220-02	Black•Link RS530/RS449/X.21	RS530/RS449/X.21 Model with 1 RED and 1 BLACK RS530/RS449/X.21 Port
707-V350-02	Black•Link V.35	V.35 Model with 1 RED and 1 BLACK V.35 Port
707-2320-02	Black•Link RS232	RS232 Model with 1 RED and 1 BLACK RS232 Port
Base Options		Specify as suffix
-TPS	T1/E1 Protection Switch Option	Automatic Circuit Backup w 2nd T1/E1 WAN
-LPT	Link Protector Option	Automatic Circuit Backup with HDLC Over IP
Power Options		Specify as suffix - Combine 2 for Hot Standby
-DCMOD	Power Module 12/26 VDC/AC ADAPTER	Ships with Universal Adapter 100/240 50/60
-WIREDC	Power Supply Module 12/26 VDC Screw Term	
-N48VDC	Power Supply Module Negative 48 Volt DC	Isolated Negative 48 Volt Power
Rack Mount Option		Specify as suffix
-RACKMNT	19/23" Wide Rack Mount Brackets	Enclosure Nut Serts Installed

Engage Communication • 9565 Soquel Drive, Aptos, CA 95003 • Tel: +1.831.688.1021 • 1.877.ENGAGE4 • www.engageinc.com