TACLANE®-1G (KG-175G) Encryptor
The First Cyber Defense-Capable HAIPE® at Gigabit Speeds

Overview
Networks today carry more traffic, are connected to more devices and are under siege from cyber attacks more than ever before. In response to these evolving cyber security threats, General Dynamics has developed a smaller, more power efficient high speed encryptor. The TACLANE-1G is capable of accepting additional software options such as agile VLAN and TACLANE Trusted Sensor Software to increase network efficiency and situational awareness.

Network Security – Core to Edge
Increased end user processing speeds at the edge of the network (such as your desktop), drive the need for increased throughput at the network core or backbone. TACLANE-1G provides robust encryption for either application.

Features at a Glance
- Simultaneous HAIPE v4.2.5 and IPMEIR 1.0 compliant
- Simultaneous Suite A/B without user intervention
- 2 Gb/s aggregate throughput
- MIL-STD ruggedized
- Low latency
- VLAN capable to support load balancing and redundant fail over
- Cyber defense-capable to support trusted packet sensing and reporting
- Suite B IPMEIR providing interoperability with commercial encryptors
- Supported by GEM® One remote management
- Familiar TACLANE user interface
- Rack mountable (2 across in standard 19” rack)
- Field tamper recoverable
- Safe Keying Features (CDGSK and KMI OTNK)
- ACC Compliant

Cyber Defense & VLAN Agile Capable
NSA Certified for Top Secret and Below
Low Size, Weight and Power (SWaP)
Simultaneous HAIPE® / IPMEIR
Advanced Cryptographic Capabilities (ACC) and Over-the-Network Keying (OTNK)
**Technical Specifications**

- **Dimensions:**
  - 1.71” (1U) H x 8.6” W x 12.5” D
  - 19” Rack Mountable, 2 Across, 1U

- **Weight:** < 8 lbs

- **Power:** < 40 Watts

- **Performance:**
  - 2 Gb/s IP Throughput (Aggregate)
  - Supports Jumbo Packets
  - Supports 4096, duplex Security Associations
  - Supports 16,000, Remote Networks/Hosts

- **Environmental**
  - Operating Temp: -40°C to +52°C
  - Storage Temp: -40°C to +71°C
  - Humidity: 95% RH, Non-condensing, +30°C to +60°C
  - Shock/Vibration:
    - 20g shock, 11ms
    - Transportation Vibration
    - General Vibration, Category 4
  - Altitude:
    - Storage/transit: 1,500 ft, below sea level to 60,000 ft, above sea level
    - Operational: 1,500 ft, below sea level to 50,000 ft, above sea level
  - Sand: 20 mph winds
  - Dust: 40 mph winds
  - Rain: Drip, Flow Rate 280 liters/meter2/hour

- **Network Protocols**
  - Ethernet
  - IPv4/IPv6 Dual Stack
  - Layer 2 Frame Encapsulation (VLAN Mode)
  - IPv6 neighbor discovery and address resolution
  - Address Resolution Protocol (ARP)
  - Internet Group Management Protocol (IGMP) (v1/v2/v3) Queries/Reports
  - Multicast Listener Discovery (v1/v2)
  - Internet Control Message Protocol (ICMP)
  - Path Maximum Transmission Unit (PMTU)
  - RIP Listener/Speaker

- **Keying**
  - Supports HAIPE to HAIPE Keying, APPK/ PPK, FIRE-FLY, Enhanced FIRE-FLY, Internet Key Exchange (IKE) v1/v2, Unclassified/Classified Device Generated Shared Key (DGSK), ACC, OTNK (KMI enabled)

- **Reliability**
  - 250,000 Hrs Mean Time Between Failure (MTBF)

- **Interoperability**
  - Interoperable with all HAIPE compliant encryptors

- **Ease of Use and Management Tools**
  - GEM One Encryptor Management
  - Keying
  - Available to order through IDIQ
  - Ordering

- **Ordering**
  - NSN #
    - 5810-01-619-6583 (Multi-Mode)
    - 5810-01-628-7468 (Single Mode)

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**Optional Features**

**Agile Virtual Local Area Network (VLAN):** Enables use of HAIPE security features on Layer 2 VLAN tagged / Non-IP Ethernet traffic while simultaneously supporting standard HAIPE encryption of IP traffic. Benefits include:

- Elimination of GRE Tunnels
- Redundancy
- Load Balancing

**TACLANE Trusted Sensor Software:**

- Enables an in-line sensing capability enabling networks to filter for malicious data within the traffic. This in-depth inspection aids network administrators in understanding the overall health of the system. DPI filtering gives administrators the ability to tune their network filtering based on either open standard or Government classified rule sets and to issue Type 1 encrypted alerts to monitor any network point.

**Tradeoffs**

- EMI / TEMPEST: In accordance with NSTISSAM TEMPEST/1-92 Level 1

**Standards Compliance:**

- HAIFA v4.2.5
- IPMEIR v1.0
- HAIPE VLAN
- ACC and KMI OTNK

**Management**

- Interface Management: Assists users with the initial configuration of the TACLANE device
- NAT Support: NAT-T Automated Security Association Extension
- Reachability: Peer HAPE Reachability Detection (PRHD)

**Discovered**

- Generic Discovery Client
- Static Routing
- IM PEPO
- HAIPE IS Secure Dynamic Discovery

**Foreign Interoperability**

- Algorithm Agila – Simultaneous Suite A/B/AES
- EFF/IPMEIR without manual intervention P¹, S¹, Q¹

**Equipment**

- Designed for 1U Rack Slot at 1.75” H x 8.6” W x 12.5” D

**Reachability**

- Peer HAPE Reachability Detection (PRHD)
- Peer Destination Unreachability Notification (PDUN)

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