

- » NSA Certified Type 1 Encryption
- » Multi Mission Capable Ground Operating Equipment
- » Legacy GOE Replacement in Modern Hardware
- » Certified to Operate Up to 20 Gbps
- » Proven High-Availability and Low Latency



The Viasat KGR-42 is a highly adaptable End Cryptographic Unit (ECU), NSA Type 1 certified for protecting TS/SCI and below satellite communications and mission data in Satellite Operation Centers (SOC). This GOE supports multiple Encryptor Compatibility Modes (ECMs) to allow users to quickly change missions and interoperate with multiple types of Airborne Vehical Equipment (AVE) cryptos. The KGR-42 is easily integrated into modern SATCOM networks and also replaces legacy GOE cryptos in existing networks, all with one hardware platform.

The Viasat KGR-42 encryptor delivers modern networking standards for your SOC. This enterprise friendly device supports a wide range of advanced remote device management features, including web-based GUI, Simple Network Management Protocol (SNMP), SYSLOG event reporting, and a secure Network Time Protocol (NTP) clock synchronization.

Viasat's software reprogrammable KGR-42 can evolve over time without hardware changes to meet the mission needs of new and existing SOCs. Software updates allow a means to upgrade or modify its functionality for future applications including updated algorithms, KMI compatability, key specifications, device management, cybersecurity support, and TRANSEC.

The high speed KGR-42 is certified to operate up to 20 Gbps data processing. Using industry standard QSFP+ 4x10 Gbps fiber optic data interfaces, this device is capable of operating up to 40 Gbps via software upgrade.

The Viasat KGR-42 is tested for high-reliability, supporting 99.999% uptime via N+1 redundancy system architectures, including redundant hot-swappable power supplies and field replaceable fans.



VIASAT KGR-42 AT-A-GLANCE

NSA Certified up to TS/SCI Data Protection

Multiple Mission Capable

- » KG-42 ECM
 - AES-256 (GCM, CTR, OFB, CFB)
 - MEDLEY-256 (GCM, CTR, OFB, CFB)
 - 32 Decrypt + 32 Encrypt Channels
 - Up to 16.8 Gbps Decrypt + 10 Gbps Encrypt
- » KG-247 & PEGASUS (BELSHAZZAR) ECM
 - 8 Encrypt + 8 Decrypt KG-247 channels
 - Up to 12.8 Gbps Encrypt + 12.8 Gbps Decrypt
 - 1 Encrypt + 1 Decrypt PEGASUS channels
 - 100 Mbps Encrypt + 100 Mbps Decrypt
- » Multi Channel PEGASUS (BELSHAZZAR) ECM*
 - Up to 8 Encrypt/Decrypt channels
 - Up to 800 Mbps Encrypt/Decrypt
- » KG-207 ECM*
 - Up to 8 channels Encrypt/Decrypt
 - Up to 6.4 Gbps Encrypt/Decrypt

Mission Adaptability

- » Flexible Profile Configurations
 - Algorithm/Mode
 - Key
 - Direction (Encrypt/Decrypt)
 - Destination Address
 - UDP Source and Destination Port
- » Near zero traffic latency
- » Software Upgradable
 - Algorithms, KMI / key specifications, device management, cybersecurity support, TRANSEC, and increased data rates

Hassle-Free Setup and Maintenance

- » SNMP and browser-based device management configurations
- » Automated key management
- » Enhanced Link-OAM support for network integration and debugging
- » Dual redundant hot-swappable power supplies
- » Field-replaceable fans

* Capability soon available via software upgrade

SPECIFICATIONS

NETWORKING FEATURES AND PROTOCOLS

| | |
|----------------------------|--|
| Networking Features | IPv4, UDP, VLAN, Non-VLAN, and "JUMBO" Ethernet Frames. |
| Management | SNMP & HTTPS browser-based management. Free VINE Manager® software. Supports Syslog formatted event reporting. Supports NTP clock synchronization. |

NETWORK INTERFACES

Data Interfaces

- » Industry standard Quad Small Form-factor Pluggable+ (QSFP+) 4x10 Gbps transceiver sockets
 - Supports both Long-Reach (LR4) and Short-Reach (SR4) QSFP+ optics modules
 - 10G PT and CT ports can be configured independently (e.g. SR4 for PT port, LR4 for CT port)

Management Interface

- » Electrical/Mechanical: IEEE 802.3; HTTPS/SNMP Interface RJ-45 10/100/1000 Mbps; Console interface RJ-45 Serial

COMSEC CHARACTERISTICS

| | |
|---------------------------|--|
| Key Storage | 1000 keys |
| Key Fill Interface | DS-101 |
| Flexible Keying | Modular, Crypto Ignition Key (removal to unclassified CCI) |

RELIABILITY AND MAINTENANCE

| | |
|-----------------------|---|
| Predicted MTBF | 150,000 hr; Telcordia® SR-332 for benign ground environment |
| Predicted MTTR | 15 min to remove/replace |
| Other | Extensive power up and online BIT |
| Fan Bank | Field replaceable |
| Power Supply | Dual redundant hot-swappable supplies, field replaceable |

PHYSICAL

| | |
|-------------------------------|---|
| Dimensions (W x H x D) | 17.11 x 1.72 x 22.5 in. |
| Mounting | Industry standard 19 in. wide x 1U High x 24 to 31 in. deep, slide rails |
| Weight | 28 lb |
| Power | 113 Watts; 110 to 240 VAC; 50-60 Hz. Redundant hot swap power supplies |
| Battery | External user replaceable battery, one "AA" lithium cell, 2 year operating life typical |

ENVIRONMENT

| | |
|------------------------------|--|
| Operating Temperature | -5° to 50° C |
| Storage Temperature | -40° to 70° C |
| Humidity | 5% to 93% non-condensing |
| Altitude | -200 to 6000 ft at up to 40° C operational |

Vibration

- » **Transportation—Non Operational**
 - 0.01 g²/Hz [10Hz-200Hz]
 - 0.003 g²/Hz [200Hz-1100Hz]
- » **Installed—Operational**
 - +12 dB/octave [5-10 Hz]
 - 0.00042 g²/Hz [10-50 Hz]
 - -12 dB/octave [50-100 Hz]

| | |
|----------------|---|
| Shock | Earthquake, Telcordia GR-63-CORE, Section 5.4.1, Zone 4 |
| EMI/EMC | Telcordia GR-1089-CORE, ID 8, Table 3-1—Radiated emission |

CERTIFICATION

NSA Certified Type 1 for up to TS/SCI



CONTACT

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