KG-255XJ

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Ruggedized 1.8Gbps Multi-Channel Ground Opterational Equipment (GOE)

- NSA-Certified* U.S. TS/SCI and below
- Supports secure Telemetry, Tracking & Commanding (TT&C) and Mission Data
- Pluggable SFPs support copper, single-mode fiber, and multi-mode fiber
- Delivered with secondary internal CNSA software to meet CNSSP-12 requirements for SATCOM operations with government sponsor

Secure telemetry, tracking & commanding (TT&C) and mission data

The KG-255XJ is Viasat's Next Generation End Cryptographic Unit (ECU) for securing TT&C and Mission Data in Satellite Operation Centers (SOC). Capable of protecting TS/SCI and below data, the flexible KG-255XJ is configurable for multiple cryptographic functions using industry standard Ethernet interfaces for both data and control. Using compatible industry standard interfaces introduced in the Viasat KS-252, the KG-255XJ helps reduce your integration costs and seamlessly integrates into your networks.

Building upon the applications of the KS-252 with better Size, Weight, and Power (SWaP), the Viasat KG-255XJ has higher traffic data throughput while supporting the existing algorithms, formats, and features like Telemetry Timestamp, Time Release Commanding (TRC), Command Spacing Stamp (CSS), Cypher Text (CT) Inversion, and traffic statistics.

Leveraging Gigabit Ethernet interfaces, this high-availability security appliance delivers modern networking standards for your SOC. The Viasat KG-255XJ has the ability to host a wide range of networking applications within its high-assurance boundaries, such as SYSLOG, Network Time Protocol (NTP), and Lightweight Directory Access Protocol (LDAP).

Reprogrammable, Innovative, and Economical

Additionally, the Viasat KG-255XJ is software reprogrammable, offering a means to upgrade or modify its functionality for future applications, including updated algorithms, key specifications, additional network support, cybersecurity support, and TRANSEC.

**Throughput speeds are shown for UDP with one channel*

KEY HIGHLIGHTS

CRYPTO-MODERNIZATION CENTRIC

- Six independent channels, each channel is configurable:
  - Algorithm and Mode
  - Key – Direction (Encryption or Decryption)
  - Source/Destination Address
- Encryption and decryption channels each have aggregate throughput of 900 Mbps (1800 Mbps total)
  - HMI and REST MMI interfaces
  - Software upgradeable
  - Programmable encryption
  - Adapt to evolving security requirements
  - Upgrade to the latest commercial standards
- Two available software loads
  - **U.S. TS/SCI** for National Security Missions operated by the U.S. Government
  - **CNSA** to meet CNSSP-12 requirements for COMSATCOM operators with a U.S. sponsor

ACCESSORIES

- **Universal Rack Mount** – Secures up to two KG-255XJ devices to a standard 1U, 19" enterprise or tactical rack mount enclosure
- **Power Save Rack Mount** – Secures up to two KG-255XJ devices to a 1U, 19" enterprise or tactical rack mount enclosure and includes a filtered power module that runs two KG-255XJ devices from a single, standard KG-255XJ power supply

Viasat KG-255XJ

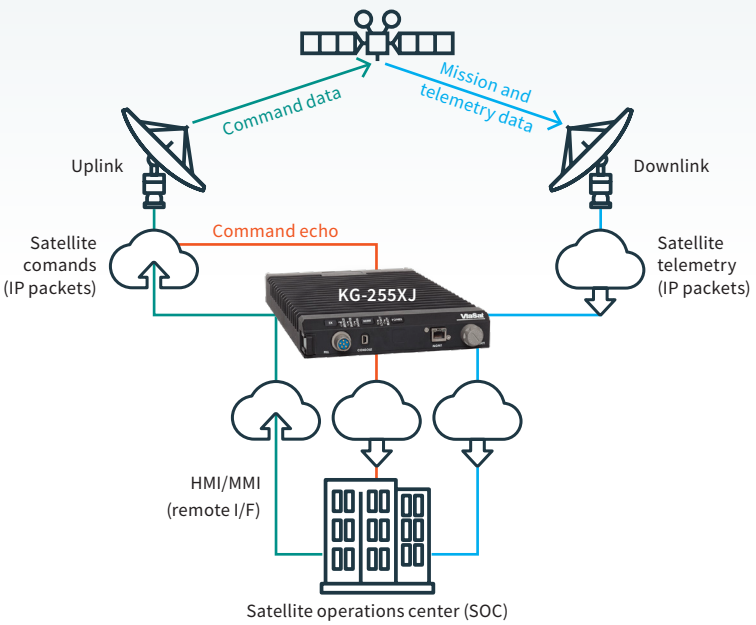
SPECIFICATIONS

NETWORKING FEATURES AND PROTOCOLS	
Traffic Network Features	TCP/IP, UDP, IPv4/IPv6 Dual Stack, “JUMBO” Ethernet frames
Management	Web based Human Machine Interface (HMI) and REST API Standard (RFC 8040) Machine to Machine Interface (MMI), both TLS protected
1GBE IPV4/IPV6 INTERFACES (ELECTRICAL/MECHANICAL)	
Plain text Data Interface	IEEE 802.3; copper RJ-45 SFP 100/1000 Base-T, IEEE 802.3; optical SFP 1000 base-SX, LX, ZX, various connector styles (LC, MT-RJ) IEEE 802.3; copper RJ-45 SFP 100/1000 Base-T, IEEE 802.3; optical SFP 1000 base-SX, LX, ZX, various connector styles (LC, MT-RJ)
Cipher text Data Interface	IEEE 802.3; copper RJ-45 SFP 100/1000 Base-T, IEEE 802.3; optical SFP 1000 base-SX, LX, ZX, various connector styles (LC, MT-RJ) IEEE 802.3; copper RJ-45 SFP 100/1000 Base-T, IEEE 802.3; optical SFP 1000 base-SX, LX, ZX, various connector styles (LC, MT-RJ)
Management Interface	IEEE 802.3; 1000 Base-T; copper RJ-45
COMSEC CHARACTERISTICS	
Key Storage	>2,048 keys
Key Formats	Tier 0 (PET), KS-252, ACE, & CAROUSELFlexible
Flexible Keying	Modular, Crypto Ignition Key (removal to Unclassified CCI)
RELIABILITY AND MAINTENANCE	
Predicted MTBF	250,000 hr
Predicted MTTR	15 min
Other	Extensive power up and online BIT

CERTIFICATION	
NSA Certified for TS/SCI and below	
PHYSICAL	
Dimensions (WxHxD)	7.9 x 1.5 x 12.5 in.
Weight	9 lb.
Power	40 W; 12 to 28 VDC; MIL-STD-1275E; MIL-STD-704F
Battery	External user replaceable battery, one “1/2AA” lithium cell, 3.5 year operating life typical
ENVIRONMENT	
Operating Temperature	-40° to +60°C
Storage Temperature	-40° to +71°C
Humidity	To 95% MIL-STD-810G, Method 507.5
Altitude	50,000 ft operational; 70,000 ft storage; MIL-STD-810G, Method 500.5
Vibration	MIL-STD-810G, Method 514.6, Category 4
Shock	MIL-STD-810G, Method 516.5
EMI/EMC	MIL-STD-461E
Rain	Blowing rain MIL-STD-810G, Method 506.5
Sand/Dust	MIL-STD-810G, Method 510.5
Fungus	MIL-STD-810G, Method 508.6
Salt Fog	MIL-STD-810G, Method 509.5
ORDERING INFORMATION	
Part Number	1336607-US 1336607-CNSA
Rack Mount	P/N 1231432 (High Availability: holds two KG-255XJ) P/N 1283625 (Viasat Universal INE Rack: holds two KG-255XJ)

SOFTWARE LOAD OPTIONS

	KG-255XJ (US SW)	KG-255XJ (CNSA SW)
SUITE	A/CNSA	CNSA
TRAFFIC CHANNELS	6	6
ALGORITHMS	Mbps*	Mbps*
CAROUSEL	60	
CARDHOLDER	60	
BELSHAZZAR (PEGASUS)	180	
INSCOE (KG-29)	60	
INY (KI-23)	20	
GOODSPEED (KG-28)	80	
AES-256 (ECB CTR GCM CFB) (GRYPHON COMPATIBLE)	900 (ECB CTR GCM) 700 (CFB)	900 (ECB CTR GCM) 700 (CFB)
BYPASS	600	600



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