SOFTFEP®

AMERGINT

NETWORK APPLIANCE

Connect serial data streams to Ethernet networks

Low-cost network appliance includes multiple applications

Local UI or remote setup and control

FEATURES

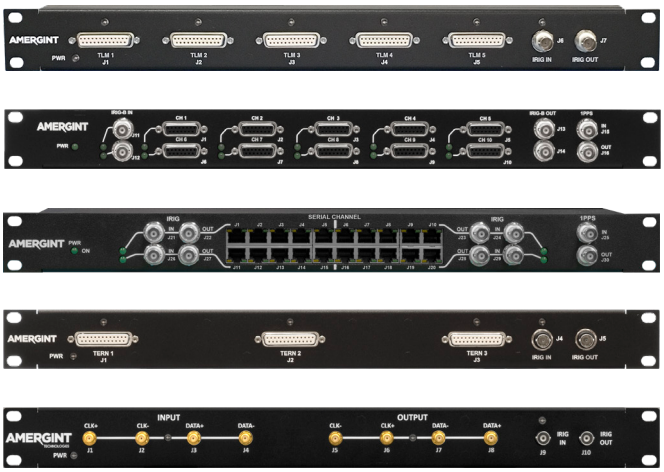
- **RS-422 Telemetry Receipt:** The Network Appliance receives scalable signal densities starting at five serial telemetry streams (data/clock) and performs time-tagging of the satellite's downlink data. The telemetry frames are forwarded to TCP/IP Clients over the LAN.
- **RS-422 Telemetry Transmit:** The Network Appliance receives time-tagged telemetry streams from TCP/IP Clients on the LAN and transmits the data serially (data/clock) on scalable signal densities starting at five channels.
- **Serial to IP Conversion for Network Appliance:** Serial data streams are received and packetized. A configurable set of parameters allows the user to set the desired latency for given data rates, WAN jitter, and WAN bandwidth. IRIG time information can be re-generated with the original time-data correlation.
- **Serial/IP Multiplexer/Demultiplexer:** This application pairs two softFEPs across a WAN. Telemetry streams are received serially (clock/data) on one softFEP. The streams are multiplexed and transmitted to another softFEP via a WAN, where they are demultiplexed and re-serialized. Time-release, rate, and latency are managed.
- **RS-422 Tx/Rx BERT:** Scalable signal densities starting at five data streams are independently generated using built-in Transmit BERTs configured for a PRN pattern. Each stream is transmitted serially (data/clock). The received serial data streams are passed to independent Receive BERTs for pattern and error checking.
- **IP Tx/Rx BERT:** Telemetry is generated using built-in Transmit BERTs configured for a PRN pattern and transmitted to TCP/IP Clients over the LAN. Telemetry is received from TCP/IP Clients over the LAN and passed to Receive BERTs for pattern and error checking.
- **Time Processing:** The softFEP Network Appliance maintains time accuracy using a combination of IRIG-B, NTP, or PTP (IEEE 1588).
- **KS-252/KG-255XJ/KIV-7MS Protocol Conversion:** Connect serial telemetry streams to COMSEC for decryption and frame synchronization.
- **WAN Emulator:** Model your wide area network's behavior and simulate real-world data transport scenarios.
- **The Power of SOFTLINK®:** All AMERGINT systems are built upon SOFTLINK, AMERGINT's flexible and configurable software-defined architecture. SOFTLINK leverages a vetted library of modular, scalable software applications (called "Apps") to tailor and evolve system capabilities with minimal risk and cost. SOFTLINK's open architecture and open API enable AMERGINT Apps to be truly "platform agnostic," meaning Apps can run on premise (our hardware or yours), on Virtual Machines (VMs), in containers, or natively in the Cloud.

APPS AND HARDWARE

The Network Appliance includes multiple Apps that connect your serial data streams and Ethernet networks:

- Serial Telemetry
- Serial Commands
- Multiplexer
- Demultiplexer
- KS-252/ KG-255XJ/ KIV-7MS Protocols
- Tx BERT
- Rx BERT
- WAN Emulator

AMERGINT's suite of rack-mount I/O Panels create an interface to equipment that uses a variety of serial data interfaces and electrical signals. Panels include 5-TLM, 10-TLM, 20-TLM, 3-TERN, ECL, and many more.



*Custom I/O options and panels are available

SPECIFICATIONS

Key Functions	Specifications
Telemetry Data Rates	Up to 20 Mbps per channel
Telemetry Receipt	Scalable, starting at 5 channels
Telemetry Transmit	Scalable, starting at 5 channels
Multiplexer/Demultiplexer	5 channels bi-directional
Tx/Rx BERT	Up to 20 Mbps PN patterns
KS-252/KG-255XJ/KIV-7MS	Command packets Telemetry packets
WAN Emulator	Variable latency Dropped Packets
Time Reference	IRIG, NTP, PTP (IEEE 1588)
Options	Frame synchronizers Command formatters Serial command interface
Other	Remote RESTful JSON interface Remote GEMS interface

Physical/Environmental	Specifications
Dimensions	1.67" (H) x 17.1" (W) x 15.5" (D)
Power	120 VAC, 50/60 Hz, 250 Watts
Temperature	5-30°C operating 0-35°C non-operating
Humidity	< 90% non-condensing

Interfaces	Specifications
Serial Telemetry	DB-9F DB-15F DB-25F RS-422 BNC
Serial Command	DB-9F DB-25F RS-422 BNC
Serial Ports	Starting at 5 fully duplex, fully scalable to meet any density requirements needed
Serial Electrical Interface	RS-422, LVDS, ECL, TTL
IRIG In	BNC
IRIG Out	BNC
Ethernet (10/100/1000)	RJ-45 (2)
Optional	TTL I/O Panel

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