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NEW PRODUCT: TERABIT ROUTER

Addressing emerging
satellite payload needs

**PLEASE REACH OUT TO
OUR SALES TEAM FOR
FURTHER INFORMATION
ABOUT TECHNICAL
SPECIFICATIONS, PRICING
AND DELIVERY TIMES.**

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SATELLITE COMMUNICATION SYSTEMS ARE RAPIDLY EVOLVING: OPTICAL TERMINALS PROVIDE ADDED INTER-SATELLITE CONNECTIVITY AND SECURE DOWNLINKS. AS A RESULT, MUCH HIGHER DATA RATES ARE ROUTED THROUGH SATELLITES.

TERABIT ROUTER

Our new Terabit Router is a Tbps-class Ethernet payload switch and MPLS/IP router designed for high-speed inter-satellite links and connectivity to other high-performance payloads. At the switching layer, it provides up to 16 100Gb/s Ethernet ports, combined with a customizable number of 10Gb/s and 1Gb/s ports. Its name is derived from its aggregate cross-sectional bandwidth of 3.2Tb/s.

FEATURES

The Terabit Router uses 100G IEEE 802.3 Ethernet, MPLS, and IPv4/v6 as the backbone for switching and routing, on top of which additional features are implemented. MPLS is implemented with both core and edge functionality. Internally, it enables Ethernet connections to optical and RF terminals, to high-performance computing resources, and to high-speed memory. The Router also supports telemetry/tele commanding and synchronous on-orbit software updates, connecting via RS-422 or other serial links to the satellite's control plane.

Upcoming features will include:

- Security: Support for QKD and PQC, authentication, and satellite bus firewall functionality
- Interoperability protocols enabling data exchange between constellations
- Support for Delay-Tolerant Networking (DTN)
- Deterministic QoS features when needed, ranging from rate-constrained Ethernet to time-triggered traffic classes

APPLICATIONS

- Satellite constellation communication backbone
- Clustered Earth observation
- Orbital datacenters
- Real-time mission-critical data flow (e.g. air/naval traffic management or for defense purposes)

KEY BENEFITS

- High-speed throughput (up to 3.2 Tb/s per unit)
- Up to 16x 100G Ethernet ports
- MPLS on L2.5, implemented with core and edge functionality
- IPv4/v6 for extended routing
- Secure in-orbit firmware and configuration updates
- Customizable add-on features:
 - Inter-domain routing (connectivity between constellations)
 - Higher QoS traffic classes with guaranteed latencies
 - Synchronization



TECHNICAL PARAMETERS

POWER INPUT	22-38V
WEIGHT	From 1.2 to 1.4 kg
DIMENSIONS	134 x 113 x 62/76 mm
OPERATING TEMP	-40°C to +70°C (Qualification range)