▲COLOSSUS
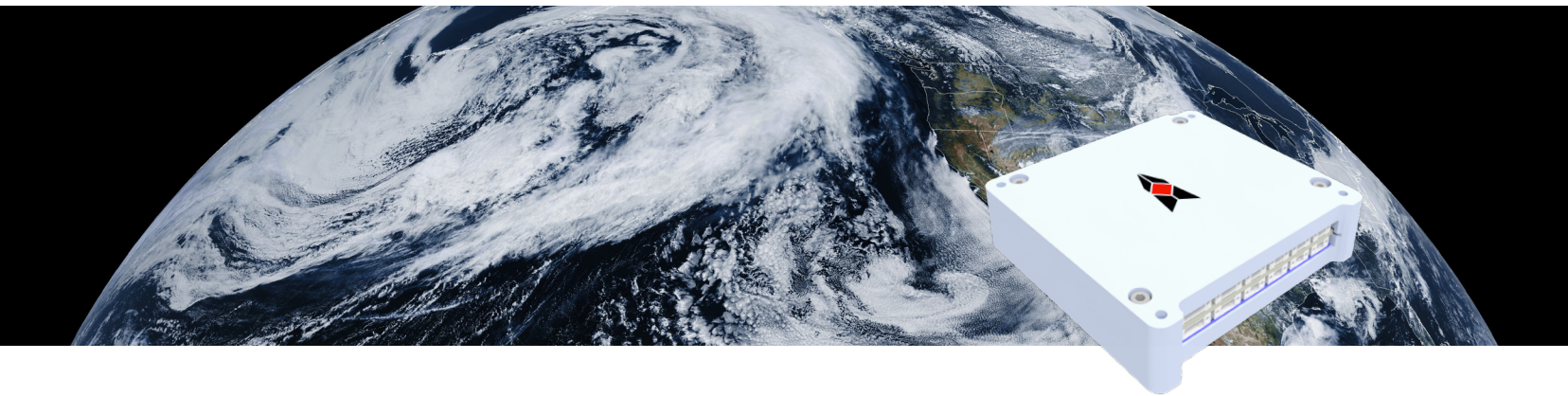
Razorback brings enterprise-grade Ethernet switching technology directly to your satellite platform. Razorback gives your satellite the flexibility to grow and adapt, supporting everything from straightforward connectivity to sophisticated networking to suit evolving mission needs.

Our modular design offers comprehensive network management built for space and is plug and play with our GPU platforms, Kestrel and Falcon.

Configure it as a simple switch for basic needs, harness its advanced networking capabilities to handle complex architectures, or use it to develop your own micro data center in space.

Razorback's capable and secure architecture features a smart Layer 2 / Layer 3 switch with eight Gigabit Ethernet ports. Managed networking provides limited routing capabilities and VLAN separation. Multiple units can be operated in parallel for redundancy, and scalability.

SCALABILITY

Multiple units work together seamlessly to provide additional ports for connecting even more devices. Redundant connections eliminate single points of failure.

SECURITY

Modern traffic monitoring and filtering keeps your system secure against modern threats, including segmenting traffic to eliminate data leaks.

FLEXIBILITY

Configure network topologies to meet your needs, balancing redundancy and connectivity, creating virtual networks, and more.

CONNECTIVITY

Ethernet Networking	Eight 1000BASE-T
	PPS input and output
	10 MHz input and output
Telemetry Command & Control	Two RS-422, RS-485 compatible
	Two CAN FD (1 Mbps)
	4 buffered GPIOs

SIZE, WEIGHT, & POWER
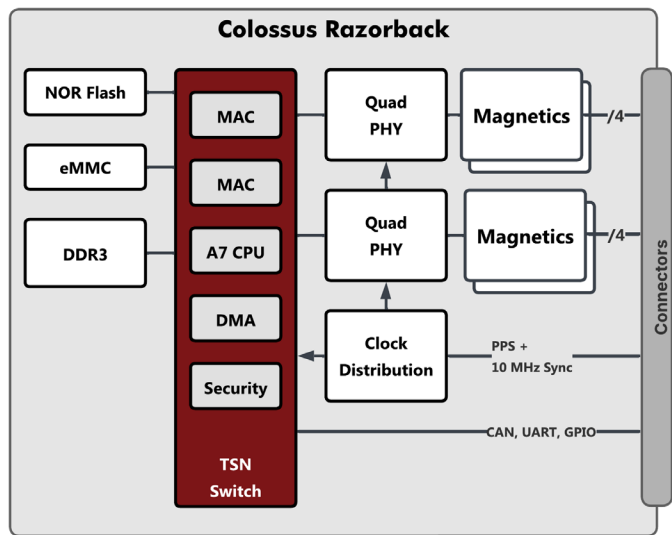
Size	PC104, 1/4U form factor 97 x 91 x 25 mm
Mass	400 g
Power	Nominal: 10 W Absolute Max: 15 W
Input Voltage	Two Options Available: 12 VDC regulated 24-36 VDC unregulated

FEATURES

Time Sensitive Networking (TSN)
Precision Time Protocol (PTP, IEEE 1588) and Network Time Protocol (NTP)
Quality-of-Service (QoS) IEEE 802.1P
Virtual LAN (VLAN) separation IEEE 802.1Q - up to 4096
Jumbo Frames
MAC Address table size - 8196

ENVIRONMENTAL

Radiation	Designed for 5-year LEO missions to 600 km SSO 30 krad(Si) (estimated)
Temperature	-40 to +65 C Operating -55 to +85 C Storage
Testing	Thermal, Vibration, and EMI/EMC compliant to GSFC-STD-7000

Colossus Razorback block diagram — NOR Flash, eMMC, DDR3 connected to TSN Switch (MAC, MAC, A7 CPU, DMA, Security), Quad PHY, Magnetics /4, Clock Distribution, PPS + 10 MHz Sync, CAN, UART, GPIO, Connectors.

Questions? Comments?

Need high-performance networking on your satellite?

Please contact: sales@colossuscompute.com

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