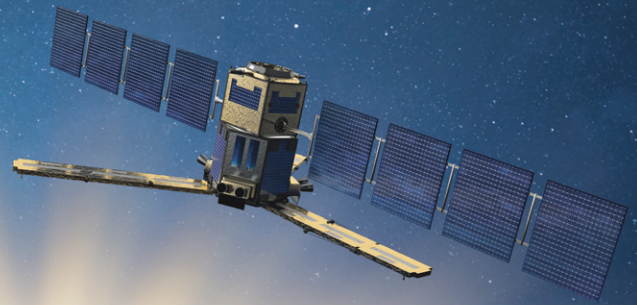


GORE® High Speed Data Cables

For XAUI RapidIO™ Protocol
in Traditional Space
Applications



RELIABLE HIGH-SPEED DATA TRANSMISSION WITH ULTRA-LOW SKEW FOR MISSION ASSURANCE

The industry requires cables to keep up with ever-increasing data transmission speeds in critical space communications systems. High-speed data cables are a vital component of these systems and must deliver reliable performance over extended distances while meeting strict industry requirements to ensure mission success.

Superior Signals

GORE® High Speed Data Cables for XAUI RapidIO™ protocol in traditional space applications deliver superior signals with ultra low skew up to 6 GHz (Figures 1 and 2). These shielded parallel pairs reliably transfer data from 1 to 12 GB at link distances up to 7 meters per lane for the duration of the mission. Gore's unique Twinax technology meets stringent industry requirements such as IEEE 802.3 10G-BASE-CX4 for XAUI RapidIO™ protocol and ASTM-E595 for outgassing (Table 1).

Our unique materials provide durable protection against challenging environments such as extreme temperatures, radiation exposure, and outgassing. Typical low-mass, high-density applications include command and data handling (C&HD); communications systems; high-resolution cameras; radar sensor equipment; Earth observation and scientific exploration instrumentation; and sensor, mass memory unit, and telemetry subsystem interconnections.

Gore's durable cables for XAUI RapidIO™ protocol transmit signals and data quickly without failure, ensuring the success of every mission.

Benefits

- Superior signals with ultra-low skew up to 6 GHz
- Shielded parallel pairs reliably transfer data up to 12 GB at link distances up to 7 meters per lane
- Durable protection against extreme temperatures, radiation exposure, outgassing
- Meet IEEE 802.3 10G-BASE-CX4 and ASTM-E595 strict requirements
- Decades of proven performance with 100% success rate in hundreds of global spaceflight programs

Together, improving life



Figure 1: Gore’s Cable with MIL-DTL-38999/Modified D connectors



Figure 2: Gore’s low-mass, high-density cable with adaptor boards

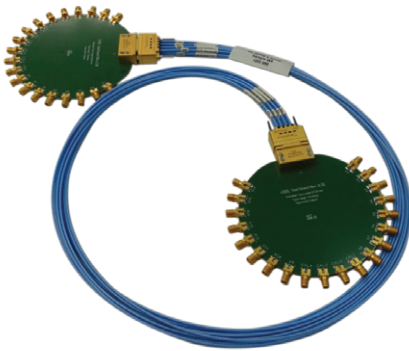


Table 1: Cable Properties

Electrical

Property	Value
Data Rate (Gb/s)	3.125
Standard Impedance (Ohms)	100
Max Voltage Peak-to-Peak (V _{pp})	1.75 ^a
Max Signal Skew ps/m (ps/ft)	
Within Pair	10.0 (3.0)
Lane-to-Lane	130.0 (39.6) ^a
Differential Return Loss	
dB Min @ 0 – 1.5 GHz	12.0 ^b
dB Min @ 1.5 – 2.0 GHz	10.0 ^b
Near-End Crosstalk (NEXT)	
dB Min @ 1.5625 GHz	31.8 ^{a,b}
Equal Level Far-End Crosstalk (ELFEXT)	
dB Min @ 1.5625 GHz	26.3 ^{a,b}

Mechanical / Environmental

Property	Value
Jacket Material	Engineered Fluoropolymer
Temperature Range (°C)	-55 to +150
Radiation Resistance (MRad)	200+
Outgassing tested per ASTM-E595 (%)	
Volatile Condensable Mass (VCM)	< 0.1
Total Mass Loss (TML)	1.0

a. Informative for reference only.
 b. Tested per IEEE 802.3, Section 4, Clause 54.7.2.
 Max differential insertion loss also tested and met requirements.

Ordering Information

GORE® High Speed Data Cables for XAUI RapidIO™ protocol are available through several distributors. Visit gore.com/cable-distributors for the list of distributors. For more information or to discuss higher data rate options and specific application needs, please contact a Gore representative.

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