

ENSURE MISSION READINESS & SUCCESS WITH PROVEN RELIABLE SOLUTIONS

Traditional space is associated with complex, expensive, slow-moving programs that can take years to materialize and risk technologies becoming outdated during mission life. In contrast, the NewSpace industry is rapidly taking shape, enabling global connectivity in a way that has never been achieved before. This new industry is moving towards smaller, lower-cost satellites and vehicles with fast-paced designs and frequent, inexpensive launch capabilities. As a result, government and commercial programs require appropriately qualified cables at a reduced price that are delivered quickly and perform reliably in NewSpace applications.

Qualified, Low-Risk Solutions

With more than 50 years of materials expertise and traditional spaceflight program heritage, Gore has a technological path forward to solving these challenges for system and harnessing engineers. We offer reliable, low-risk solutions that are cost-effective and can be delivered fast for NewSpace applications, ensuring mission readiness and success.

With a thorough understanding of products operating in space and our customers' needs for NewSpace applications, we have developed appropriately scoped NewSpace test procedures in line with existing ESA (European Space Agency) and NASA (National Aeronautics and Space Administration) specifications. GORE® High Speed Data Cables for low Earth orbit (LEO) and medium Earth orbit (MEO) applications are qualified according to:



- **ESA, ECSS-Q-ST-60-13C, Annex G Class 2:**
Space Product Assurance – Commercial Electrical, Electronic and Electromechanical (EEE) Component
- **NASA, EEE-INST-002 Level 2:**
Instructions for EEE Parts Selection, Screening, Qualification, and Derating

The engineered fluoropolymers in the construction of our solutions are durable, chemically inert, and exhibit low outgassing. They operate reliably in extreme temperatures and are resistant to shock, vibration, radiation, and atomic oxygen (ATOX). Also, our advanced cable technologies substantially reduce size and weight to help minimize problems associated with challenging mass budgets and tight installation paths.

Benefits

- Cost-effective, low-risk solutions qualified to ESA Class 2, NASA Level 2
- Reliable power distribution with low-frequency signals
- Excellent signal integrity with loss/skew for high data rate transmission
- Durable protection against extreme temperatures, chemicals, radiation, atomic oxygen, shock and vibration
- Small, lightweight constructions help meet challenging mass budgets
- Leverage proven performance with 100% failure-free flight record in hundreds of traditional spaceflight programs

GORE® High Speed Data Cables

For NewSpace

Gore offers wires and cables that ensure power is delivered safely and reliably while improving the quality of signal integrity and data transmission speed for the duration of the mission.

Hook-Up Wires

- Reliable power distribution up to 600 Vrms with low-frequency signals
- Chemically inert and thermally resistant to temperatures from -200°C to +200°C
- Durable protection against ATOX, shock, and vibration
- Well-suited for LEO/MEO applications

Typical Applications

- DC power distribution
- Electric power supplies
- Microgravity experiments
- Optical instruments



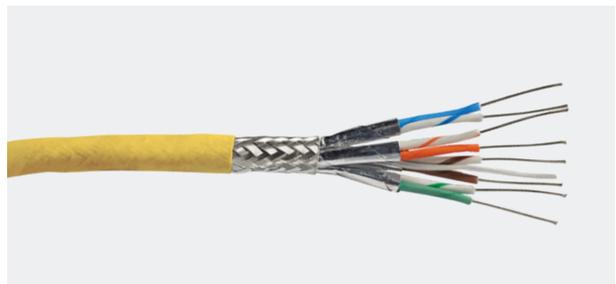
GORE® Hook-Up Wires

Ethernet Cat6a Cables

- Excellent signal integrity with sufficient margin for high-speed data transfer up to 10 Gbps
- Lower signal attenuation, reduced crosstalk, and improved shielding effectiveness
- Exceed electrical requirements for Cat6a protocol

Typical Applications

- Digital video systems
- Ethernet backbone
- Sensor data collection and processing
- Telecommand remote systems



GORE® Ethernet Cables



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XAUI RapidIO™ Cables

- High-speed data transfer with ultra-low skew up to 6 GHz at 12 Gbps per lane
- Durable protection against extreme temperatures and radiation with low outgassing
- Meet electrical requirements for XAUI RapidIO™ protocol

Typical Applications

- Data processing
- Digital video systems
- High-density applications
- Low-mass applications



GORE® High Speed Data Cables

Shielded Twisted Pair Cables

- High-quality signals for data transmission up to 1 GHz
- Balanced datalines with controlled impedance at 100 Ohms
- Serial, point-to-point datalines with low-voltage differential signaling (LVDS) supporting ECSS-E-ST-50-12C and TIA-644-A

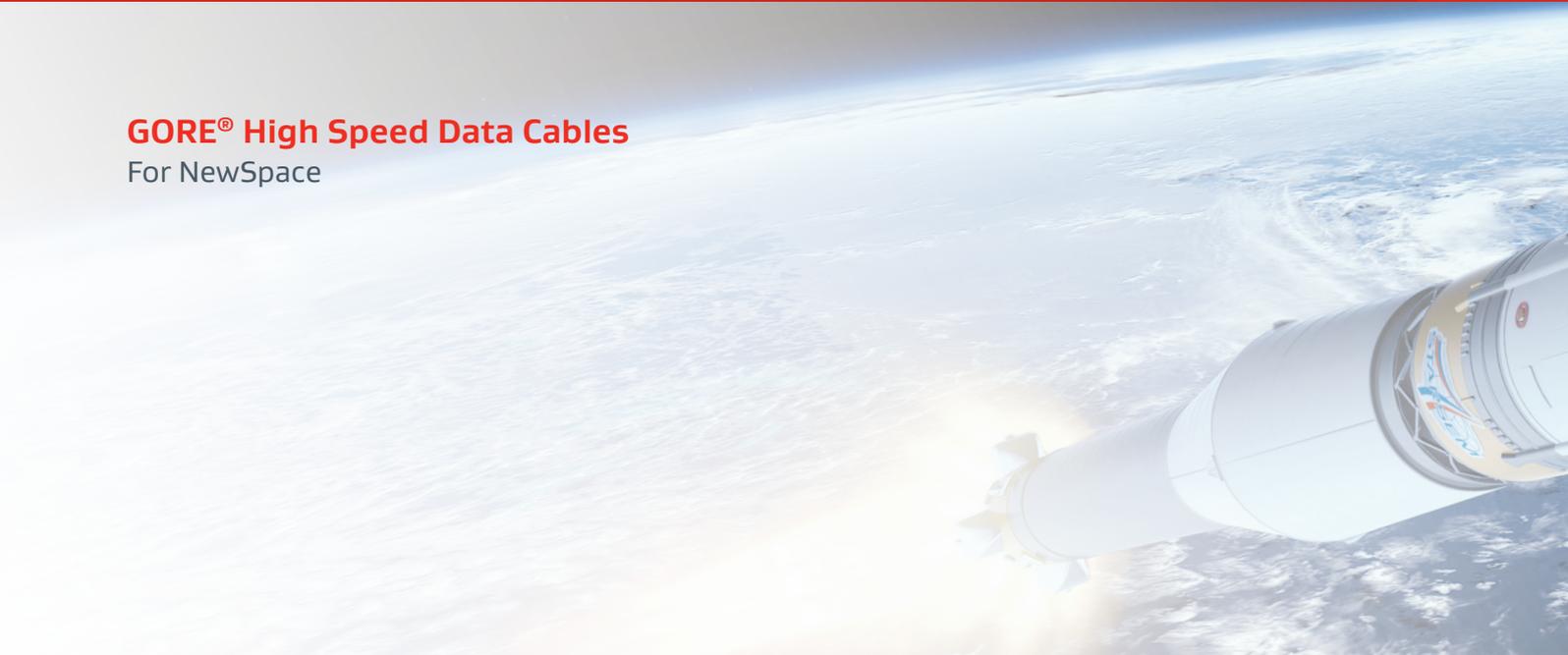
Typical Applications

- Digital signal processors
- High-resolution cameras, sensors, detectors
- High-speed subsystem interconnections
- Onboard computing



GORE® Shielded Twisted Pair Cables

GORE® High Speed Data Cables For NewSpace



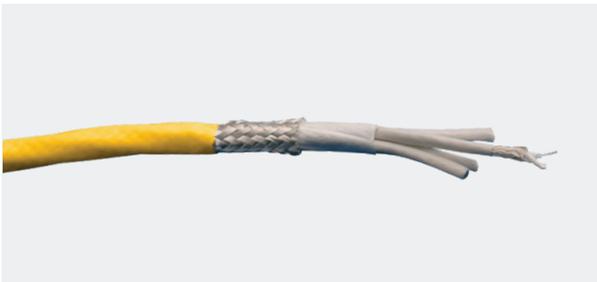
SpaceWire Cables

- Bi-directional high data rate transfer up to 400 Mbps
- Minimal crosstalk, low loss, and low skew
- Durable protection against extreme temperatures, chemicals, radiation, shock, and vibration

Typical Applications

- Command and data handling (C&DH)
- High-resolution cameras
- Radar sensor equipment
- Sensor, mass memory unit and telemetry subsystem interconnections

Gore offers reliable, low-risk solutions that are cost-effective and can be delivered fast for NewSpace applications, ensuring mission readiness and success.



GORE® High Speed Data Cables



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Ordering Information

GORE® High Speed Data Cables are available in standard variants (Table 1). Visit gore.com/cable-distributors to contact our authorized distributor in the U.S. Please note that high-speed data cables for XAUI RapidIO™ protocol are supplied exclusively by Gore and not available through our U.S. distributor.

For more information or to discuss your specific application needs and requirements, please contact a Gore representative.

Table 1: Standard Cable Variants

Cable Type	Construction	Maximum Voltage (Vrms)	Gore Part Number
Hook-Up Wires (Low-Frequency)	Unshielded Single Wire (20 AWG)	600	GNSLF01200S
	Unshielded Single Wire (24 AWG)	600	GNSLF01240S
	Unshielded Single Wire (26 AWG)	600	GNSLF01260S
	Unshielded Twisted Pair (20 AWG)	600	GNSLF02200S
	Unshielded Twisted Pair (24 AWG)	600	GNSLF02240S
	Unshielded Twisted Pair (26 AWG)	600	GNSLF02260S
	Shielded Twisted Pair (20 AWG)	600	GNSLF02201S
	Shielded Twisted Pair (24 AWG)	600	GNSLF02241S
	Shielded Twisted Pair (26 AWG)	600	GNSLF02261S

GORE® High Speed Data Cables

For NewSpace

Table 1: Standard Cable Variants (continued)

Cable Type/Protocol	Construction	Standard Impedance (Ohms)	Gore Part Number
Ethernet (Cat6a)	Shielded 4 Pairs (24 AWG)	100	GNSEN10024BF
	Shielded 4 Pairs (26 AWG)	100	GNSEN10026BF
XAUI RapidIO™	Shielded Parallel Pair (24 AWG)	100	GNSPP10024BF
	Shielded Parallel Pair (26 AWG)	100	GNSPP10026BF
Shielded Twisted Pair	Single Pair (24 AWG)	100	GNSTP100241S
	Single Pair (26 AWG)	100	GNSTP100261S
	Single Pair (28 AWG)	100	GNSTP100281S
SpaceWire	4 Individual Shielded Twisted Pair (Shielded Quad) (26 AWG)	100	GNSSW10026MS
	4 Individual Shielded Twisted Pair (Shielded Quad) (28 AWG)	100	GNSSW10028MS

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