

Fire Wire Optical Cable



Overview

IDB-1394 Customer Convenience Port (CCP) was the automotive version of the 1394 standard. IEEE 1394 was the (HANA) standard connection interface for A/V (audio/visual) component communication and control. HANA was dissolved in September 2009 and the 1394 Trade Association assumed control of all HANA-generated intellectual property. Aerospace standard AS5643 originally released in 2004 and reaffirmed in 2013 establishes IEEE.

Key Takeaways

FireWire optical cables extend IEEE 1394 (FireWire) connections over long distances using fiber optics, supporting high-speed, low-latency data transfer up to 800 Mbps.

FireWire, also known as IEEE 1394, is a high-speed serial bus interface originally developed for real-time data transfer in applications like external hard drives, DV camcorders, and audio/video equipment (). While traditional FireWire cables use copper and are limited to about 4.5 meters, optical FireWire cables leverage fiber optics to extend the connection over much longer distances without signal degradation ().

Key Features

- High-Speed Data Transfer: Supports FireWire 400 (IEEE 1394a) at 400 Mbps and FireWire 800 (IEEE 1394b) at 800 Mbps ().

- Long-Distance Capability: Optical repeaters and cables can extend FireWire 800 signals up to 550 meters over fiber, compared to 4.5 meters for standard copper cables ().
 - Low Latency and Reliability: Ideal for real-time applications such as industrial cameras, machine vision, aerospace, and medical imaging ().
 - Connector Types: Available in 6-pin and 9-pin configurations, with some optical repeaters offering bilingual copper ports and LC-type optical ports for seamless integration ().
 - Durability: Optical cables often feature reinforced jackets and Kevlar cores for high flex and resistance to physical damage, suitable for industrial environments ().
- Applications

FireWire optical cables are widely used in scenarios where long-distance, high-speed, and reliable data transmission is critical:

- Professional Audio/Video: Connecting DV camcorders, audio interfaces, and editing systems.
 - Industrial Automation: Machine vision systems and data acquisition setups.
 - Aerospace and Defense: Reliable communication in aircraft and military systems.
 - Medical Imaging: High-bandwidth transfer for imaging devices.
- Advantages Over Copper
- Extended Range: Optical fiber allows distances up to hundreds of meters without repeaters.
 - Electromagnetic Immunity: Fiber optics are immune to EMI/RFI, ensuring stable signal integrity.

- Safety and Fire Resistance: Some optical cables are designed with flame-retardant materials and LSZH jackets for critical installations ().

Conclusion

FireWire optical cables provide a robust solution for extending IEEE 1394 connections beyond the limitations of copper, maintaining high-speed, low-latency performance for professional and industrial applications. They are particularly valuable in environments requiring long-distance connectivity, EMI resistance, and reliable real-time data transfer ().

Article Content

FireWire Cable: Explore Newnex's IEEE 1394 and Firewire 800 cables

Newnex manufactures high-quality IEEE 1394 FireWire cables over COAX, CAT5, and fiber optic for aerospace, military, machine

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What is a FireWire Cable, And Do You Really Need It?

The older standard, FireWire 400, is a flatter connector with one rounded side, and the faster 800 version resembles a

Fiber-optic cable

Fiber-optic cable A TOSLINK optical fiber cable with a clear jacket. These cables are used mainly for digital

IEEE 1394

A network can be set up between two computers using a single standard FireWire cable, or by multiple computers through use of a

1394 FireWire fiber optic extender repeater IEEE Optical system

Extend FireWire 1,000 Meters (3,280 Feet) with Fiber Optic Cable Exceed the maximum 1394 FireWire length with fiber optic cable.

Fiber Optic Cable Types: A Complete Guide

The plethora of fiber optic cable types can seem overwhelming, but choosing the right cable

IEEE 1394b Firewire Optical 6 Pin Repeater 400 Mbps

1394 FireWire repeater using fiber optics cable to extend 1394 FireWire 6 Pin for up to 500 m.

FireFly™ Mid-Board Optical Transceivers

FireFly™ Micro Flyover System™ is the first interconnect system that gives a designer the flexibility of

How does fiber optics work?

An easy-to-understand introduction to fiber optics (fibre optics), the different kinds of fiber optic cables, and how light

Firewire Cables, IEEE 1394 & 6 Pin Firewire Cable | RS

Firewire cable assemblies also support hot-pluggable features, where connections or disconnections can happen live without

Types of Firewire Explained

The maximum recommended cable length for optimal performance was 4.5 meters for standard cables and up to 72

1394 FireWire fiber optic extender repeater IEEE

The XTENDEX® Firewire Optical Extender extends a firewire device up to 1,000 meters (3,280 feet) using

Low-Voltage wire and cable specialists-West Penn Wire

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Amazon : Firewire Cable

FireWire Cable 6 Pin to 6 Pin, 6ft IEEE 1394 iLink Cable | Firewire 400/400, Fit for Sony Mini DV Handycam/Camcorder/Camera,

What is a FireWire Cable, And Do You Really Need It?

FireWire, also known as IEEE 1394, is not a cable you usually find these days. Popularized in the early 90s, it was the

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