

Fiber optic USB interface chip



AI Overview

Fiber optic USB interface chips enable high-speed, long-distance USB data transmission by converting electrical USB signals into optical signals and vice versa.

Overview

Fiber optic USB interface chips are specialized integrated circuits (ICs) that allow USB signals to be transmitted over optical fibers instead of traditional copper cables. This approach significantly extends the maximum distance of USB connections while maintaining high data integrity and reducing electromagnetic interference. These chips are commonly used in active optical cables (AOC), USB-to-fiber converters, and professional audiovisual or industrial applications .

Key Features

- **High-Speed Data Transfer:** Modern fiber optic USB ICs, such as Artilux's USB4 solution, support up to 40 Gbps bidirectional transfer, compatible with USB4, Thunderbolt™, and DisplayPort™ standards . USB 3.0 over fiber solutions, like the Adnaco-R1USB30, can operate at SuperSpeed USB 3.0 rates and are backward compatible with USB 2.0/1.x devices .
- **Extended Range:** Fiber optic USB interfaces can extend USB connections far beyond the standard 5-meter limit of copper cables. For example, Adnaco's solution supports distances over 100 meters, while active optical USB cables can exceed 300 meters depending on the design .
- **Compatibility:** Many fiber optic USB ICs maintain backward compatibility with older USB standards, ensuring seamless integration with existing devices

Article Content

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Artlux Offers USB4-Over-Fiber IC Solution for Longer

Currently, in the USB industry, most chip-design companies focus on developing IC

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USB 3.0 Fiber Converter

USB 3.0 to Fiber Optic Converter - Compact USB to Open SFP Adapter - USB to Gigabit Network Adapter - USB 3.0 Fiber Adapter

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Fiber Optic Interfaces | Browse Fiber Optic Circuits

Explore fiber optic interfaces at Octopart Electronic Parts. We offer fiber optic ICs from brands like ATGBICS, Avago, and Broadcom.

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Is it possible to have USB communication over fiber optic?

There are lots of USB fiber optic extenders on the market, so it does appear to be possible. But there is a lot more to

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USB 3.0 to Fiber Converter, Multi-mode LC Connector 200m (RX/TX)

The L-com FOACEXAVIUSB3FMMLC series is an USB to fiber optic converter for medical and commercial building applications,

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Optical networking ICs | TI

Build high-performance and power-efficient optical modules for wireless, data center and communication applications with our optical

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Product-USB-ACON OPTICS

ACON OPTICS has more than 20 years of design and manufacturing capabilities, expertise in fiber optics interconnect and optical

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LR-LINK LREC3210PF-SFP USB3.0 Gigabit SFP Fiber Ethernet Adapter

NBN BUZ Test Tool. USB3.0 1000Mbps fiber optical adapter. Creates a data connection between a USB port on a PC, laptop or

Sep 01, 2025

optoUSB3.0, Fiber-optic Link for USB 3.0 (Absolute

The digital optical system optoUSB-3.0 can be used to optically transmit USB signals with a data rate of up

Dec 28, 2025

USB Serial Optical Converter | Coptonix

The USB Serial Optical Converter enables devices with optical serial interfaces to be connected to a PC / laptop via USB using fiber

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USB Fiber Optic Transmission System

Thor USB fiber optic extender kits transmit up to 4 USB devices over fiber. Model-dependent support for USB 1.1/2.0 or USB 3.0/3.2.

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USB Over Fiber Extenders

USB Over Fiber Extenders allow you to Install your USB devices anywhere! Most all USB Over Fiber Extenders support all major

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StarTech USB 3.0 to Fiber Optic Converter

This USB 3.0 to fiber-optic converter lets you utilize the USB 3.0 (Type-A) port on your laptop or tablet to provide a secure fiber

May 07, 2026

Fiber Optic USB | BKSTEC

Why use Fiber Optics aoc for USB? Due to the ever-increasing demands of high bandwidth requirements,

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USB Over Multi-mode Fiber

USB 3.0/2.0/1.1 Fiber Optic Extender over Max 100 Meters (330 Feet) OM3+ Multi-mode Fiber Optic Cable, Backward Compatible

Aug 23, 2025

Adnaco-R1USB30 USB 3.0 Host Controller Over Fiber | Adnaco

Powered by Adnaco PCIe over-fiber-optic technology, the R1USB30 was designed to suit many applications with the USB host

Sep 22, 2025

Product-USB-ACON OPTICS

The AOPT-U321AA-300 (S)-2LC fiber optic transmitter and receiver set provides extension of

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USB isolators | TI

These USB 2.0-compliant isolators are designed to meet CISPR 32 Class B emissions requirements and withstand noisy industrial

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10m Fiber Optical USB 3.0 Extension Cable, Male to

10m Fiber Optical USB 3.0 Extension Cable, Male to Female Long USB Cable, High Speed 5Gbps

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USB to Fiber Optic Converter

Provides a fiber network connection to portable laptops or tablets Fiber-to-the-desk connectivity (FTTD) enhances security, reducing

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1-Port 10G SFP+ Fiber Optic Network Card

1-Port 10G SFP+ Fiber Optic Network Card - PCIe - Intel Chip - MM Get high performance connectivity over multi-mode fiber, by

Feb 28, 2026

USB to Fiber Optic Media Converters by S.I. Tech, Inc.

S.I. Tech Universal Serial Bus (USB) to fiber optic media converters extend the range of USB beyond the USB 5 meter limit. These

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PCM2704 USB DAC to S/PDIF HiFi Sound Card

About this item USB input, coaxial, fiber optic, analog output. Use HIFI-level PCM2704 USB decoder chip.

Contact Us

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