SDI to optical module



Overview

Compact converter for extending SDI connections over massive distances by converting SDI to optical fiber and optical fiber to SDI in both directions at the same time!

Key Takeaways

SDI signals can be converted to optical fiber using mini converters or SFP-based modules, enabling high-quality video transmission over long distances.

Overview of SD

I to Optical ConversionSDI-to-optical conversion allows standard SD, HD, 3G, 6G, or 12G-SDI video signals to be transmitted over fiber optic cables. This is particularly useful in broadcast, live production, and professional video environments where long-distance transmission without signal degradation is required. Optical fiber provides immunity to electromagnetic interference and supports distances far beyond copper SDI cables.

Key Devices and Technologies1. Blackmagic Design Mini Converter Optical Fiber 12GConverts SDI to optical fiber and vice versa simultaneously, supporting bidirectional transmission. Compatible with SD, HD, and Ultra HD formats up to 2160p60, including Level A and B devices.

Uses standard 3G, 6G, or 12G-SDI SFP optical fiber modules (sold separately) for flexible deployment. Features auto-detection of SD, HD, or 12G-SDI signals and supports 16 channels of embedded audio. Ideal for environments requiring multiple video standards in each direction.

2.

© 2026 AK OPTICAL SYSTEMS - All rights reserved

AJ

A FiDO ConvertersSupports 12G/3G/HD/SD-SDI over single-mode fiber up to 10 km. Compatible with 4K/UltraHD video formats and offers LC, ST, or SC fiber connectors. Rugged and versatile, suitable for both mini-converter and openGear rackframe setups.

Optional SF

P modules allow customization for single-mode or multi-mode fiber applications. 3. Opticis SDIX-100-TRA 3G-SDI fiber-optic extender supporting full HD 1080p60.

Transmits multi-rate SDI signals including 3G-SDI, HD-SDI, and DVB-ASI up to 2 km over single-mode fiber. Includes optional Clock and Data Recovery (CDR) for signal integrity. Practical ConsiderationsSFP Modules: Most converters require SFP modules, which determine the fiber type (single-mode or multi-mode) and distance capability.

Video Standards: Ensure the converter supports the SDI standard and resolution you intend to transmit. 12G-SDI converters are backward compatible with 3G, HD, and SD signals. Bidirectional Transmission: Some converters allow simultaneous two-way transmission, useful for remote camera setups or live production workflows.

Distance: Single-mode fiber supports longer distances (up to 10 km or more), while multi-mode fiber is suitable for shorter runs.

Summary

Converting SD

I to optical fiber involves using mini converters or SFP-based modules that support the required SDI standard and video resolution. Devices like the Blackmagic Mini Converter Optical Fiber 12G, AJA FiDO converters, and Opticis SDIX-100-TR provide reliable solutions for professional video transmission, offering flexibility, long-distance capability, and support for embedded audio and multiple video formats.

Article Content

Mini Converters | Blackmagic Design

Compact converter for extending SDI connections over massive distances by converting SDI to optical fiber and optical fiber to SDI in both directions at the same time!

3G/12G SDI Digital Video Transceiver Modules

Check SDI digital video transceiver module data sheet (3G SDI SFP/BiDi SFP/CWDM SFP, 12G video/BiDi SFP+/CWDM SFP+) & price list on MSA

© 2026 AK OPTICAL SYSTEMS - All rights reserved

Optical Fiber Converters Product Family

FiDO is AJA''s family of SDI/Optical Fiber converters. FiDO allows the transport of 12G/3G/HD/SD-SDI over distances up to 10km when using standard Single-Mode fiber optic cable. FiDO models support

SFP modules and SDI extenders

Analog Way offers a full range of high-performance SFP modules allowing even greater flexibility in connecting video equipment. High-performance SFP modules for flexible video equipment

Dual Channel 3G-SDI Electrical to Optical Converter | EOD-3220

This module enables the transmission of two digital video signals via fiber optic links. It features automatic detection of input signals, supports dual conversions on one board, and includes input

Mini Converters – Tech Specs | Blackmagic Design

You can install any standard 3G, 6G or 12G-SDI SFP optical fiber module so you can send SDI using the same low cost optical fiber cables that are commonly used for computer networks.

Electrical to Optical Converter | EOD-3902

EOD-3902 is a dual-channel electrical-to-optical converter that transforms 3G/HD/SD-SDI and DVB-ASI electrical signals into optical signals for transmission over fiber optic links.

3G-SDI to Fiber converter, with SFP optical module

1-Channel 3G-SDI to Fiber converter, with SFP optical module Key Features: Support SMPTE 424M / 292M / 259M or DVB-ASI compliant Automatic detection of 3G,1.5G, 270M SDI data rates Support

12G-SDI/HDMI 4K60 Optical Transceiver Module

SOM WS2111 Optical module of ScienceImage is customized separately for transferring 12G-SDI/HDMI 4K60 video from the 12-25G frequency band, named T1. The fiber optic interface type of T1 is LC,

S-4605 SDI to OPTICAL Converter

Availability: Usually ships the next business day The S-4605 is a portable mini converter for SDI to LC single mode Optical Fiber converter, widely used on transmitting SDI in a long distance.

Blackmagic Design Mini Converter Optical Fiber 12G 12G/6G/3G-SDI

© 2026 AK OPTICAL SYSTEMS - All rights reserved

The Mini Converter Optical Fiber 12G features a standard SFP type socket that lets customers add any SMPTE compatible 3G, 6G or 12G-SDI SFP module. Because it works with the same low cost optical

Optical module

An optical module is a typically hot-pluggable optical transceiver used in high-bandwidth data communications applications. Optical modules typically have an electrical interface on the side that

Blackmagic Design Mini Converter Optical Fiber 12G

The Blackmagic Design Mini Converter Optical Fiber 12G allows you to converts optical fiber to SDI and SDI to optical fiber in both directions at the same time.

Mini Converters – Models | Blackmagic Design

Mini Converter Optical Fiber 12G converts SDI to optical fiber and optical fiber to SDI in both directions at the same time, you can even have different video standards going in each direction!

Mini 3G SDI Fiber Extender 1080P 3G Over Fiber Converter ...

Mini 3G SDI Fiber Extender 1080P 3G Over Fiber Converter Broadcast Level Video Fibre Optic Converter Include SFP Module Single-Mode Single Core 20km with RS485 Tally and Loop Output

12G SDI Fiber Extender Mini Converter Optical Fiber 12G 4K SDI

12G SDI Fiber Extender Mini Converter Optical Fiber 12G 4K SDI to Fiber Converter SFP Module Included Broadcast Level with Loop Output Backwards RS485 Tally Single Fiber 20km-One Pair

FE1121 – 3G-SDI Fiber Optic Extender

The FE1121 3G-SDI Fiber Optic Extender is a transmitter/receiver kit supporting single-mode LC simplex fiber extensions up to 20km. It is a miniature-style

Blackmagic Mini Converter Optical Fiber 12G

Bi-directional SDI to optical fiber converter that lets you extend SDI connections up to 10 miles away. Convert 12G/HD/SD-SDI to Optical Fiber Multi-Rate, Bidirectional Capability Supports Signals up to

Related Video Reference

This video was associated with the source search result. Verify technical details against current product documentation and project requirements.

© 2026 AK OPTICAL SYSTEMS - All rights reserved

Contact Us

Continue your research online:

Website: https://aboutkitchens.biz
Technical inquiry: https://aboutkitchens.biz/project-desk.html
North American project location: Research Triangle Park, North Carolina, United States

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 AK OPTICAL SYSTEMS - All rights reserved