

# PowerCage FOX 3G HD-SDI

FIBER OPTIC EXTENDER FOR 3G-SDI



The PowerCage FOX 3G HD-SDI Fiber Optic Extender is a modular transceiver board designed for the PowerCage® 1600 that enables long haul transmission of 3G-SDI, HD-SDI, and SDI video, with embedded audio and metadata, over a single fiber. The board can function as a transmitter and a receiver in various user-configurable modes to handle the most challenging AV system designs.

- ▶ Extends 3G-SDI, HD-SDI, and SDI signals very long distances over a single fiber
- ▶ Modular, hot-swappable board designed for the PowerCage 1600 enclosure
- ▶ Passes embedded audio, ancillary ID and metadata information, and SD/HD-SDTI digital video signals
- ▶ Integrates easily into a wide range of 4K and UHD environments
- ▶ Input equalization and reclocking on buffered outputs
- ▶ Dual buffered outputs
- ▶ Daisy-chain capability
- ▶ 3G-SDI transceiver sends to and receives from a second PowerCage FOX 3G HD-SDI board or FOX 3G HD-SDI unit over fiber in bidirectional transceiver mode
- ▶ Compatible with Extron FOX Matrix Switchers for signal distribution systems up to 1000x1000 and larger
- ▶ Available as multimode and singlemode models



**Extron Electronics**  
INTERFACING, SWITCHING AND CONTROL

## DESCRIPTION

The Extron **PowerCage FOX 3G HD-SDI** Fiber Optic Extender is a modular transceiver board designed for the PowerCage® 1600 that enables long haul transmission of 3G-SDI, HD-SDI, and SDI video, with embedded audio and metadata, over a single fiber. Engineered for reliability and exceptional high resolution image performance, it uses Extron all-digital technology to transmit signals up to 2.97 Gbps. To optimize SDI signal transmission to and from the transceiver, input signals are automatically equalized, and output signals are reclocked. The PowerCage FOX 3G HD-SDI can function as a transmitter and a receiver in various user-configurable modes.

As part of the extensive FOX Series of fiber optic products from Extron, the PowerCage FOX 3G HD-SDI is compatible with the FOX 3G HD-SDI extender. It can be used for simple point-to-point applications or in combination with FOX Series distribution amplifiers and matrix switchers to handle the most challenging AV system designs.

## FEATURES

- ▶ Extends 3G-SDI, HD-SDI, and SDI signals very long distances over a single fiber
- ▶ Modular, hot-swappable board designed for the PowerCage® 1600 enclosure
- ▶ Passes embedded audio, ancillary ID and metadata information, and SD/HD-SDTI digital video signals
- ▶ Integrates easily into a wide range of 4K and UHD environments
- ▶ Input equalization and reclocking on buffered outputs
- ▶ Dual buffered outputs
- ▶ Daisy-chain capability
- ▶ 3G-SDI transceiver sends to and receives from a second PowerCage FOX 3G HD-SDI board or FOX 3G HD-SDI unit over fiber in bidirectional transceiver mode
- ▶ Available as an 850 nm multimode model for moderate-range transmissions up to 2 km (1.25 miles), and a 1310 nm singlemode model for extreme distances up to 30 km (18.75 miles)
- ▶ Compatible with Extron FOX Matrix Switchers for signal distribution systems up to 1000x1000 and larger
- ▶ Compatible with Extron FOX Series distribution amplifiers
- ▶ Compatible with Extron FOX 3G Series HD-SDI extenders

## SPECIFICATIONS

**NOTE:** The PowerCage FOX 3G HD-SDI board is a class 1 laser product. It meets the safety regulations of IEC-60825, FDA 21 CFR 1040.10, and FDA 21 CFR 1040.11.

### OPTICAL FIBER INTERCONNECTION BETWEEN TRANSMITTER AND RECEIVER

<b>Number/type</b>	1 singlemode or 1 multimode fiber optic input and output per FOX board
<b>Operating distance</b>	
Singlemode	30 km (18.75 miles) with singlemode (SM) cables with a SM board
Multimode	300 m (985') with 62.5 µm OM1 multimode (MM) cable and a MM board 1 km (3280') with 50 µm OM2 multimode (MM) cable and a MM board 2 km (6561') with 50 µm OM3/OM4 2000 MHz bandwidth laser optimized MM cable and a MM board
<b>Optical loss budget</b>	
Singlemode	13 dB, maximum
Multimode	7 dB, maximum

### VIDEO

<b>Signal type</b>	HD-SDI, SDI, and 3G-SDI digital video signals
<b>Data rates</b>	270 Mbps, 1.485 Gbps, 2.970 Gbps
<b>Operation standards</b>	SMPTE 259M-C, SMPTE 292M, SMPTE 424M, ITU-R BT.601, ITU-R BT.1120
<b>Auto data rate lock</b>	Yes

### VIDEO INPUT – POWERCAGE FOX 3G HD-SDI TRANSMITTER

<b>Number/signal type</b>	1 single link SDI, HD-SDI, or 3G-SDI digital component video
<b>Data rates</b>	19 Mbps to 2.97 Gbps
<b>Input cable equalization</b>	Automatic for up to -30 dB of cable loss
HD-SDI	120 m (400') using Extron RG6 cable 90 m (300') using Extron RG59 cable
SDI	150 m (500') using Extron RG6 cable 120 m (400') using Extron RG59 cable

### VIDEO OUTPUT – POWERCAGE FOX 3G HD-SDI RECEIVER

<b>Number/signal type</b>	2 single link SDI, HD-SDI, or 3G-SDI digital component video
<b>Re-clocking</b>	Automatic for 270 Mbps, 1.485 Gbps, 2.97 Gbps, or bypassed for unrecognized rates

### GENERAL

<b>Power</b>	Supplied by a PowerCage 1600 enclosure	
<b>Power consumption</b>	1.84 watts	
<b>Thermal dissipation</b>	27.6 BTU/hr	
<b>Regulatory compliance</b>		
Safety	CE, c-UL, FDA Class 1, UL	
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI	
Environmental	Complies with the appropriate requirements of RoHS, WEEE.	
<b>Warranty</b>	3 years parts and labor	
<b>Model</b>	<b>Version Description</b>	<b>Part number</b>
PowerCage FOX 3G HD-SDI MM	Multimode - Transceiver	70-701-01
PowerCage FOX 3G HD-SDI SM	Singlemode - Transceiver	70-701-02

For complete specifications, please go to [www.extron.com](http://www.extron.com)  
Specifications are subject to change without notice.

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