FOX 3G DVC

FIBER OPTIC 3G-SDI TO DVI, RGB, & COMPONENT CONVERTER

- **Supports data rates from 270 Mbps to 2.97 Gbps**
- **Compatible with the FOX 3G HD-SDI and FOX Series distribution amplifiers, switchers, and matrix switchers**
- **Simultaneous DVI-D and analog RGB or component video outputs**
- **Daisy-chain capability**
- **AES audio de-embedding**
- **Available as 850 nm multimode and 1310 nm singlemode models**
- **Internal test patterns for calibration and setup**
- **Output muting control**
- **RS-232 control**

The Extron FOX 3G DVC converts fiber optic 3G-SDI signals to DVI-D as well as analog RGB or component video. It accepts data rates from NTSC and PAL up to HDTV 1080p/60 and 2048x1080, extracts embedded AES audio, and features daisy-chain capability for supporting displays in multiple locations. The FOX 3G DVC is ideal for applications that require long distance transmission of 3G-SDI, HD-SDI, and SDI signals from broadcast-type sources, and interfacing them with professional / consumer-level displays and signal distribution systems that only accept DVI or analog signals.

DESCRIPTION

The Extron **FOX 3G DVC** receives fiber optic 3G-SDI, HD-SDI, and SDI serial digital video signals over a single fiber, and converts them to DVI-D and analog RGB or component video. It is compatible with Extron FOX 3G HD-SDI Fiber Optic Extenders, as well as FOX Series distribution amplifiers, switchers, and matrix switchers. The FOX 3G DVC features extraction of embedded AES audio, RS-232 serial control, and a fiber optic input loop-through that allows multiple FOX 3G DVC and FOX 3G HD-SDI units to be daisy-chained. It is ideal for applications including television production, medical imaging, military simulation, houses of worship, and live events that require long distance transmission of 3G-SDI signals from broadcast-type sources, and interfacing them with professional / consumer-level displays and other products.

The FOX 3G DVC automatically recognizes and converts 3G-SDI, HD-SDI, and SDI signals, and is compliant with SMPTE 259M, 292M, 424M, and ITU digital video standards. The RGB output can be set for RGBHV, RGBS, or RGsB. Bi-level or tri-level sync can be selected when the unit is set for component video output. Several FOX 3G DVC units may be daisy-chained to support applications with displays in multiple locations.

The FOX 3G DVC is designed for long distance transmission of high resolution content with the highest quality. Because transmission of content is inherently secure and immune to outside interference, fiber applications are favored in government, military, and medical environments. The FOX 3G DVC features industry standard LC-type connectivity.

The FOX 3G DVC MM supports multimode fiber at 850 nm, which is typically used within buildings or facilities with moderate-range transmission distances up to 2 km (1.25 miles). The FOX 3G DVC SM supports singlemode as well as multimode fiber at 1310 nm. Singlemode fiber offers long-range transmission capability over extreme distances of up to 30 km (18.75 miles). It is used in very large facilities such as airports and stadiums, and for connecting over very long distances between facilities such as corporate and university campuses.

FEATURES

- **Automatically adapts to SMPTE and ITU digital video standards for 3G-SDI, HD-SDI, and SDI** – The FOX 3G DVC accepts data rates from standard definition NTSC and PAL to HDTV 1080p/60. It complies with SMPTE 259M, 292M, 424M, and ITU digital video standards.
- **Supports data rates from 270 Mbps to 2.97 Gbps**
- **Compatible with FOX 3G HD-SDI extenders**
- **Compatible with Extron FOX Matrix Switchers for signal distribution systems up to 1000x1000 and larger**
- **Compatible with FOX Series distribution amplifiers and switchers**
- **Simultaneous DVI-D and analog RGB / component video outputs** – Offers high resolution digital and analog video outputs that allow for easy integration of 3G-SDI, HD-SDI, and SDI signals into DVI or RGB-based AV devices and systems.

FEATURES (Cont.)

- **Daisy-chain capability** – Several FOX 3G DVC units can be daisy-chained so that displays in multiple locations can be served from a single transmitter.
- **AES audio de-embedding** – An embedded AES stereo audio stream can be extracted and then output from the FOX 3G DVC. Audio output can be balanced or unbalanced, and adjusted for gain and attenuation.
- **Audio gain and attenuation control**
- **Analog RGB or component video output** – The FOX 3G DVC can be set to output analog RGB as RGBHV, RGBS, or RGsB, or component video as Y, R-Y, B-Y.
- **Bi-level or tri-level sync available for component video output**
- **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)**
- **Industry standard LC connectors provide reliable physical connectivity and precise fiber core alignment**
- **Internal test patterns for calibration and setup** – Nine test patterns are available with the FOX 3G DVC, including a crop pattern, color bars, and alternating pixels.
- **Output muting control** – Provides the capability to mute the video and/or audio output.
- **RS-232 control** – The FOX 3G DVC features an RS-232 serial port for control and configuration.
- **Front panel USB configuration port** – Provides convenient access to the FOX 3G DVC for setup, configuration, and firmware updates.
- **Front panel security lockout** – This feature locks out all front panel functions; all functions however, are available through RS-232 control.
- **Rack-mountable 1U, half rack width metal enclosure**
- **Internal universal power supply** – The 100-240 VAC, 50/60 Hz, international power supply provides worldwide power compatibility.

SPECIFICATIONS

NOTE: The FOX 3G DVC units can be used with Extron FOX Series HD-SDI transceivers. The FOX 3G DVC is available in singlemode and multimode versions.

NOTE: The FOX 3G DVC models are class 1 laser products. They meet the safety regulations of IEC-60825, FDA 21, CFR 1040.10, and FDA 21 CFR 1040.11.

OPTICAL SPECIFICATIONS

Number/type	1 fiber optic input 1 fiber optic buffered loop-through
NOTE: Only one fiber is required to transmit video and embedded audio.	
Connectors	1 LC connector
Operating distance	
Singlemode	30 km (18.75 miles) with singlemode (SM) cables with a FOX 3G HD-SDI SM
Multimode	500 m (1640') with 62.5 µm OM1 multimode (MM) cables with a FOX 3G HD-SDI MM 1 km (3280') with 50 µm OM2 multimode (MM) cables with a FOX 3G HD-SDI MM 2 km (6561') with 50 µm OM3/OM4 2000 MHz bandwidth laser optimized multimode (MM) cables with a FOX 3G HD-SDI MM
NOTE: Operating distance is approximate. These are typical maximum distances that may vary depending on factors such as fiber type, fiber bandwidth, connector splicing, losses, modal or chromatic dispersion, environmental factors, and kinks.	
Nominal peak wavelength	850 nm for MM unit; 1310 nm for SM unit
Transmission power	-5 dBm, typical
Maximum receiver sensitivity	
Singlemode	-18 dBm, typical
Multimode	-12 dBm, typical
Optical loss budget	
Singlemode	13 dB, maximum
Multimode	7 dB, maximum

VIDEO

Signal type	SDI, HD-SDI, and 3G-SDI digital video signals
Data rates	270 Mbps, 1.485 Gbps, 2.970 Gbps
Operation standards	SMPTE 259M-C, SMPTE 292M, SMPTE 424M
Auto data rate lock	Yes

VIDEO INPUT AND LOOP THROUGH

Number/signal type	1 SDI (SMPTE 259M-C, 270 Mbps; NTSC; PAL), HD-SDI (SMPTE 292M, 1.485 Gbps), or 3G-SDI digital component video (SMPTE 424M, 2.97 Gbps)
Connector	1 LC connector (fiber optic)
Data rates	270 Mbps to 2.97 Gbps
Horizontal frequency	15 kHz to 100 kHz
Vertical frequency	24 Hz to 60 Hz
Resolution range	NTSC, PAL, 720p, 1080i, 1080p

VIDEO PROCESSING

Digital sampling	24 bit, 8 bits per color, 165 MHz standard
Colors	16.78 million

VIDEO OUTPUT

Number/signal type	1 single link DVI-D 1 RGB, YUV / YPbPr
Connectors	1 female DVI-I 1 female 15-pin HD
Nominal level	
TMDS	1.0 Vp-p swing
Analog	1 Vp-p for Y of component video 0.7 Vp-p for RGB and for R-Y and B-Y of component video
Impedance	
TMDS	100 ohms
RGB	75 ohms
Return loss	<-25 dB @ 100 MHz
DC offset	±5 mV with input at 0 offset

SYNC

Output type	RGBHV, RGBS, RGsB, component video (bi-level or tri-level)
Output level	5.0 Vp-p for RGB 0.6 Vp-p for component video tri-level sync 0.3 Vp-p for component video bi-level sync
Output impedance	75 ohms
Output polarity	Positive or negative (selectable)

AUDIO

Frequency response	20 Hz to 20 kHz, ±0.2 dB
THD + Noise	0.05% @ 1 kHz at nominal level, 0 dB gain
S/N	>100 dB at maximum output (unweighted)
Stereo channel separation	>80 dB @ 1 kHz

AUDIO INPUT

Number/signal type	1 SDI embedded audio (SMPTE 272M, SMPTE 299M)
Connector	1 LC connector (fiber optic)
Adjustment range	-18 dB to 0dB

AUDIO OUTPUT

Number/signal type	1 stereo, balanced/unbalanced
Connectors	(1) 3.5 mm captive screw connector, 5 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±0.1 dB channel to channel
Maximum level (Hi-Z)	+21 dBu, balanced, or +15 dBu, unbalanced at 0.05% THD+N

CONTROL/REMOTE — DECODER

Serial control port	1 RS-232, 3.5 mm captive screw connector, 5 pole (uses 3 poles)
Baud rate and protocol	9600 baud, 8 data bits, 1 stop bit, no parity
Serial control pin configuration	3 = Tx, 4 = Rx, 5 = GND
USB control ports	1 front panel female mini USB B
USB standards	USB 2.0, low speed
Program control	Extron Simple Instruction Set (SIS™)

GENERAL

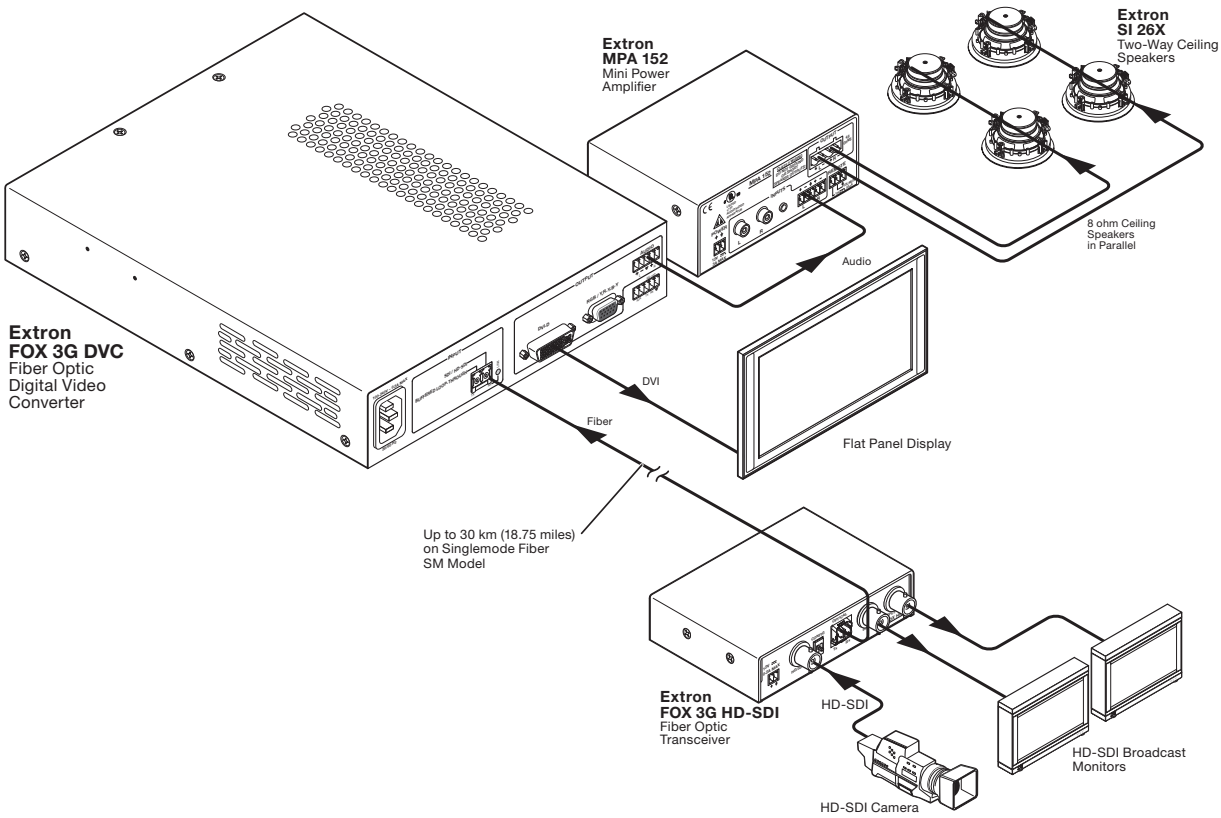
Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption	12 watts
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, sides to top
Mounting	
Rack mount	Yes, with optional 1U rack shelf
Furniture mount	Yes, with optional through-desk mounting kit or under-desk mounting kit
Enclosure type	Metal
Enclosure dimensions	1.75" H x 8.75" W x 9.5" D (1U high, half rack wide) 4.4 cm H x 22.2 cm W x 24.1 cm D (Depth excludes connectors and knobs.)
Product weight	2.3 lbs (1.1 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Regulatory compliance	
Safety	CE, c-UL, FDA Class 1, UL
EMI/EMC	CE, C-tick, FCC Class A, ICES, VCCI
Warranty	3 years parts and labor

NOTE: All nominal levels are at ±10%.

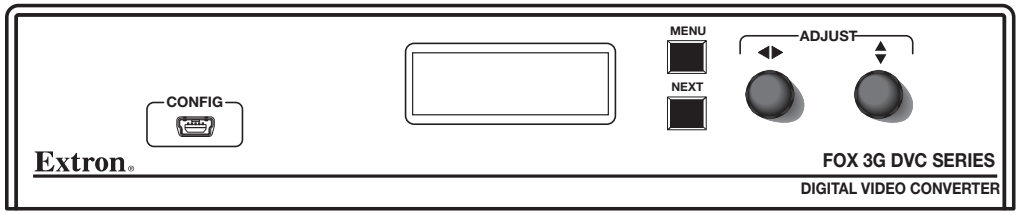
Model	Version Description	Part number
FOX 3G DVC MM	Multimode	60-1034-01
FOX 3G DVC SM	Singlemode	60-1034-02

For complete specifications, please go to www.extron.com
Specifications are subject to change without notice.

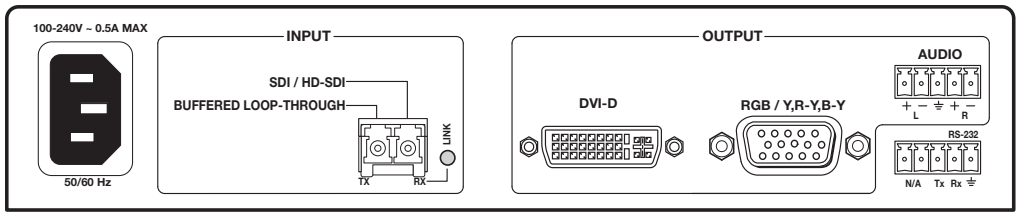
APPLICATION DIAGRAM



PANEL DRAWINGS



Front



Back

Worldwide Sales Offices

Anaheim • Raleigh • Silicon Valley • Dallas • New York • Washington, DC • Toronto • Mexico City • Paris • London • Frankfurt
Amersfoort • Moscow • Dubai • Johannesburg • New Delhi • Bangalore • Singapore • Seoul • Shanghai • Beijing • Tokyo

UNITED STATES
+800.633.9876
Inside USA/Canada
+1.714.491.1500

EUROPE
+800.3987.6673
Inside Europe
+31.33.453.4040

ASIA
+800.7339.8766
Inside Asia
+65.6383.4400

MIDDLE EAST
+971.4.299.1800

06-2013
68-1847-01
REV. A2
Letter - English - NP