SDIXtreme 3G+ RM

3G SDI Fiber Optic Extension - Rack Mount Model

- Four SDI components combined in one rack mount unit
- Each module provides RS-422 port for device control - Ideal for remote camera operations requiring pan, tilt and zoom functions
- Each module extends SDI signals over a single fiber - Supporting two SD/HD signals or one 3G signal - Providing a total support of up to eight SD/HD or four 3G signals (as well as dual-link SDI)
- Rack unit is comprised of four modules. Any combination of transmitter/receiver is possible.
- Features hot-swappable, current sharing power supply modules
- SMPTE 424M, 292M, 259M, 372M, 425 level A and B compliant
- Provides front panel status monitoring
- Auto detects input video format and displays on LEDs

The Logical Solution - Rack Mount - Serial Digital Interface Extension

The SDI Xtreme 3G+ product series is a compact, broadcast quality, SDI over fiber extension system. The rack mount system is a 1U chassis which houses four separate SDI modules, each of which supports two SD/HD signals or one 3G signal (as well as dual-link SDI). This enables users to transmit up to eight SD/HD or four 3G SDI signals with or without embedded audio and data. Depending on the infrastructure, the SDI Xtreme 3G+ can distribute uncompressed broadcast quality signals over **single mode fiber** up to 40 km. (24 miles) and up to 1000 meters over **multi-mode fiber.** In addition, this fiber based transport system gives users the assurance that each signal is immune to video pathological signals over the entire length of the fiber interconnect, while supporting all pathological patterns at all rates.

The SDI Xtreme 3G+ is a total system solution providing industry leading performance and full compatibility with Thinklogical's VX and HDX Router line of products. Providing reliable media conversion for a wide variety of applications it is an ideal solution for Pro A/V, broadcast, and corporate studio applications, including video production and editing, sports tele-production, field production, cross-town fiber links, cross on–campus production, pre–fibered venues, courtesy feeds and many more.

The System

The SDI Xtreme 3G+ RM has a versatile component design which allows the unit to be used in a variety of application designs, as either a transmitter, receiver, or the slots may be mixed for flexible configurations (as a transceiver). This makes it an ideal rack mount solution for the extension of SDI signals to multiple locations. All SDI interface modules are hot-swappable, and each has its own RS-422 port for remote camera operations (such as pan, tilt and zoom), and access to video and audio players/recorders.

The reliability of the SDI Xtreme 3G+ stems from the quality of its design and construction, with advanced integrated re-clocking circuitry designed into the components. Equalized and re-driven SDI loop-through is also provided on the transmitter. These key features provide assurance that the signal is equalized and re-clocked prior to fiber transmission; therefore it retains all of the signals initial parameters allowing for pristine re-clocked SDI outputs on the receiver. Additional options for the transmitter component include loop-out, or dual channel, which provides two multiplexed (1.485 Gbps) signals transmitted and received over a single fiber.

Front panel user interface provides high availability with all of the essential features, such as status monitoring and link activity, for mission critical environments. System architecture provides hot-swappable, current sharing power supply modules, a critical component in high up-time environments which typically are supported by more than one power grid as a failover option. In the unlikely event that a power module fails, there is no interruption to the component because they are both working all the time. In addition, a dry contact annunciator provides an alarm warning in the event of a power failure or a unit overheating and a replacement may be installed with minimal downtime.

Installation possibilities are expanded with built-in support for either multi-mode or single mode fiber, making this a convenient and cost effective solution to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances. In addition, the standard SFP+ optics (with LC connectors) are hot swappable/pluggable.

Back View of SDI Xtreme 3G+ Rack Mount Unit - All modules are hot-swappable

Key Features

- Four SDI components combined in one rack mount unit - Any combination of transmitter/receiver is possible.
- Extends SDI signals over a single fiber - Each fiber supports two SD/HD signals or one 3G signal - Providing a total support of up to **eight** SD/HD or **four** 3G signals (as well as dual-link SDI)
- RS-422 port for device control - Ideal for remote camera operations requiring pan, tilt and zoom functions
- Distribute uncompressed broadcast quality signals over single mode fiber up to 40 km. (24 miles) and up to 1000 meters over multi-mode fiber
- Features hot-swappable, current sharing power supply modules
- SMPTE 424M, 292M, 259M, 372M, 425 level A and B compliant
- Multi-standard operation from 270 mbit/s to 3Gbit/s
- Supports 3G/HD/SD SDI inputs with embedded audio and ancillary data
- Signals are recovered and re-clocked on the receiver
- Equalized and re-clocked SDI loop through on the transmitter
- Signal transmission via fiber optic cable; no RF interference
- Cable equalization on inputs and cable drivers on outputs to ensure signal integrity
- Supports pathological patterns at all rates
- Support for standard 2.97 (3G) , 1.485 (HD), 270 (SD), and fractional 1/1.001 rates
- Compatible with all Thinklogical VX and HDX Routers
- Provides front panel status monitoring
- Auto detects input video format and displays on LEDs

SPECIFICATIONS

Dimensions: Rack Size: EIA 19" Height: 1U-1.72" (4.40 cm) Depth: 18.02" (45.8 cm) Width: 17.49" (44.5 cm)
(Tolerance: ± .039"; .100cm)

Weight: 15 lbs (4.99 kg) per unit Shipping Weight: 30 lbs (12.25 kg) pair

Power Consumption 50 watts per unit

Supply Voltage 100-240 VAC, 47-63 Hz, Universal AC Power Supplies

Operating Temperature: 0°-50°C; (32°-122°F)

TRANSMITTER Specifications (individual interface component):

Number of SDI Inputs	1 - 2
Data Rate Range	270Mbps to 2.97 Gbps
Supported Standards	SMPTE 424M, 292M, 259M, 372M and 425 level A and B compliant
Re-clocked Data Rates	270 Mbps (SMPTE 259M), 1.485 Gbps (SMPTE 292), 2.97 Gbps (SMPTE 424M)
Equalization	Automatic up to 140m of Belden 1694A at 3.0 Gbps, 230m at 1.485 Gbps and 350m at 270 Mbps
Return Loss	>10dB up to 2.97 Gbps

Number of Loop Outs - 1	Number of Optical Outputs - 2	Rise/Fall Time	< 135 ps at 2.97 Gbps per SMPTE 424M;
Signal Level	800mV ± 10%		< 270 ps at 1.485 Gbps per SMPTE 292;
DC Offset	0V ± 0.5V		0.4 ns to 1.5 ns at 270 Mbps per SMPTE 259M
Overshoot	< 10% of amplitude	Re-clocking	At 270 Mbps, 1.485 Gbps & 2.97 Gbps
Timing Jitter	< 0.2 UI at 270 Mbps; < 1.0 UI at 1.485 Gbps;		
	< 0.2 UI at 2.97 Gbps with color bar signal		
Alignment Jitter	< 0.2 UI at 270 Mbps; < 1.0 UI at 1.485 Gbps;		
	< 0.3 UI at 2.97 Gbps with color bar signal		

Optical Output

Connector	LC receptacle	
Fiber Type	**Multi-mode**	**Single Mode**
Wavelength (nominal)	850nm	1310nm
Emmiter Type	VCSEL	DFB Laser
Output Power (nominal)	-4dBm	-1.5dBm
Re-clocking	At 270 Mbps, 1.485 Gbps & 2.97 Gbps	

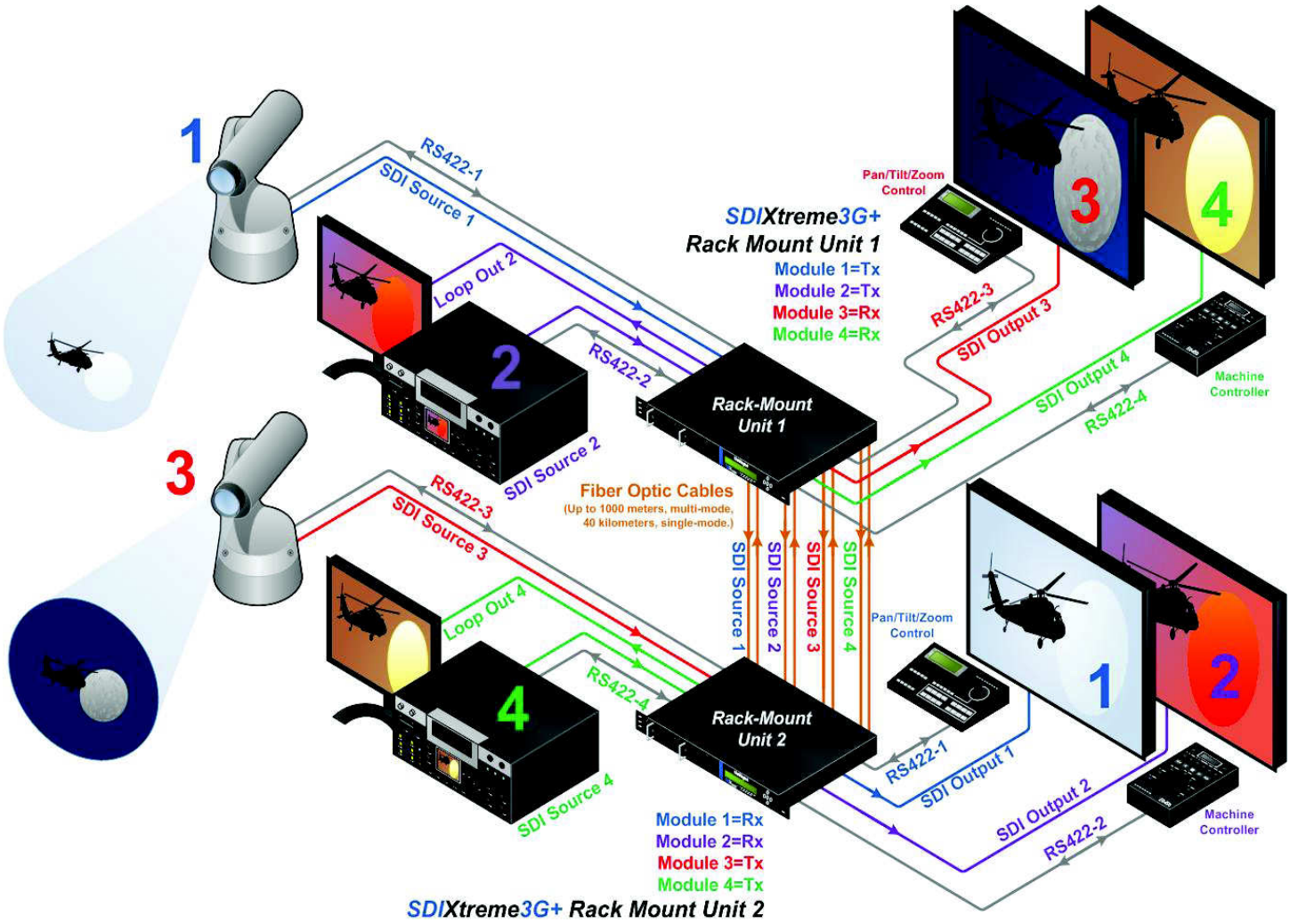
RECEIVER Specifications (individual interface component):

Fiber Input

Connector	LC receptacle	
Fiber Type	**Multi-mode**	**Single Mode**
Wavelength	770 – 860nm	1260 - 1360nm
Minimum Input Sensitivity	-12dBm	-15dBm
Maximum Input Power	0 dBm	0.5dBm

Number of SDI Outputs 2 - 4		Rise/Fall Time	< 135 ps at 2.97 Gbps per SMPTE 424M;
Signal Level	800mV ± 10%		< 270 ps at 1.485 Gbps per SMPTE 292;
DC Offset	0V ± 0.5V		0.4 ns to 1.5 ns at 270 Mbps per SMPTE 259M
Overshoot	< 10% of amplitude	Re-clocking	At 270 Mbps, 1.485 Gbps & 2.97 Gbps
Timing Jitter	< 0.2 UI at 270 Mbps; < 1.0 UI at 1.485 Gbps;		
	< 0.2 UI at 2.97 Gbps with color bar signal		
Alignment Jitter	< 0.2 UI at 270 Mbps; < 1.0 UI at 1.485 Gbps;		
	< 0.3 UI at 2.97 Gbps with color bar signal		

Typical application extending SDI video using SDI Xtreme 3G+ RM

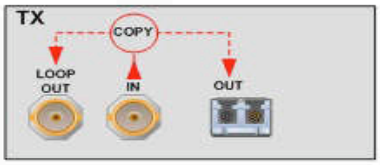


SDI Xtreme 3G+ RM - Rack Mount Ordering Information

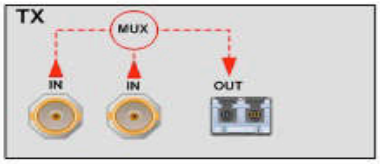
SDI-0000X1
SDI Xtreme 3G Plus Rack Mount Chassis

SDIXtreme 3G+ Rack-Mount Module *Part Numbers and Descriptions*

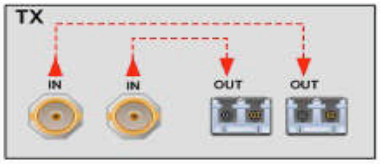
Transmitters



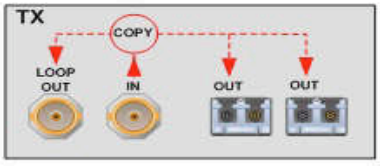
SDM-L100X1-LCTX
SDIXtreme 3G+ Transmitter with
One Input with Loop Out, One SFP



SDM-M100X1-LCTX
SDIXtreme 3G+ Transmitter with
Two Input Multiplexer, One SFP

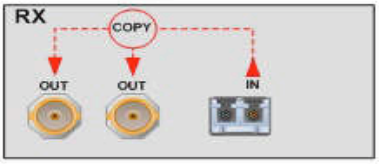


SDM-0200X1-LCTX
SDIXtreme 3G+ Transmitter with
Two Inputs, Two SFPs

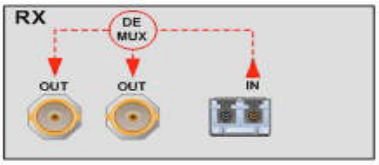


SDM-L200X1-LCTX
SDIXtreme 3G+ Transmitter with
One Input with Loop Out, Two SFPs

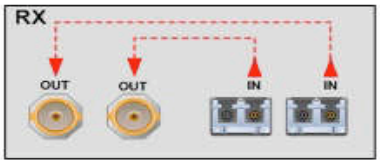
Receivers



SDM-C100X1-LCRX
SDIXtreme 3G+ Receiver with
One SFP, Two SDI Outputs



SDM-M100X1-LCRX
SDIXtreme 3G+ Receiver with
One SFP, Two Individual De-Multiplexed SDI Outputs



SDM-0200X1-LCRX
SDIXtreme 3G+ Receiver with
Two SFPs, Two Individual SDI Outputs

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