

# SDIXtreme 3G and 3G+ Product Manual



For all **3G** and **3G+** Products

***thinklogical***<sup>®</sup>  
Extend • Distribute • Innovate

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## Copyright Notice

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**Milford, Connecticut 06460 U.S.A.**  
**Telephone 203-647-8700**

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**Subject:** SDIXtreme 3G and 3G+  
**Revision:** E, July 2012

# Table of Contents

<b>PREFACE.....</b>	<b>5</b>
<b>About this Product Manual.....</b>	<b>5</b>
<b>Conventions Used in this Manual .....</b>	<b>5</b>
 <b>INTRODUCTION .....</b>	 <b>6</b>
<b>The Logical Solution.....</b>	<b>6</b>
<b>Theory of Operation.....</b>	<b>6</b>
<b>Technical Specifications .....</b>	<b>7</b>
 <b>PART 1: HARDWARE.....</b>	 <b>9</b>
<b>Contents .....</b>	<b>9</b>
<b>Dry Contact Alarm (3G+ Rack-Mount) .....</b>	<b>10</b>
<b>Hot Swappable Power Supplies (3G+ Rack-Mount).....</b>	<b>11</b>
<b>Fiber Optic Cable .....</b>	<b>11</b>
<b>Connecting to the Thinklogical® SDI Xtreme 3G.....</b>	<b>12</b>
<b>Installation.....</b>	<b>12</b>
Set-Up .....	12
Order of Installation Events .....	12
RS422 Pin-outs (3G+) .....	12
 <b>Part 2: SAFETY REQUIREMENTS .....</b>	 <b>13</b>
<b>Symbols found on the product .....</b>	<b>13</b>
Regulatory Compliance .....	13
North America .....	13
Australia & New Zealand .....	13
European Union .....	14
Standards with Which Our Products Comply .....	14
<b>Supplementary Information.....</b>	<b>15</b>
<b>Product Serial Number .....</b>	<b>16</b>
<b>Connection to the Product .....</b>	<b>16</b>
 <b>PART 3: THINKLOGICAL® SUPPORT .....</b>	 <b>17</b>
<b>Customer Support .....</b>	<b>17</b>
Website .....	17
Email .....	17
Telephone .....	18
Fax .....	18

**Product Support.....18**  
    Warranty.....18  
    Our Address .....19

**APPENDIX A: ORDERING INFORMATION.....20**

**APPENDIX B: QUICK START GUIDES .....26**

## Preface

### About this Product Manual

This product manual is divided into three sections: **Hardware**, **Safety Requirements** and **Product Support**. These are sub-divided to help you easily find the topics and procedures you are looking for. This manual also contains Appendices.

**Part 1 – Hardware:** This section of the manual contains all the information and instructions on how to assemble your equipment.

**Part 2 – Safety Requirements:** Thinklogical® strongly recommends that you read this section of the manual prior to starting the hardware assembly.

**Part 3 – Product Support:** Thinklogical® provides the best customer support available. If you have any questions or need to contact us, please refer to this section of the manual.

### Conventions Used in this Manual

As you read this manual you will notice certain conventions that bring your attention to important information. These are **Notes** and **Warnings**. Examples are shown below.



**Note:** Important Notes appear in blue text preceded by a yellow exclamation point symbol, like this.

A note is meant to call the reader's attention to helpful information at a point in the text that is relevant to the subject being discussed.



**Warning!** All Warnings appear in red text, followed by blue text, and preceded by a red stop sign, like this.

A warning is meant to call the reader's attention to critical information at a point in the text that is relevant to the subject being discussed.

**BEFORE STARTING ANY PROCEDURE, IT IS RECOMMENDED THAT YOU READ THE INSTRUCTIONS THOROUGHLY BEFORE PROCEEDING!**

## Introduction

### The Logical Solution

The SDI Xtreme 3G and 3G+ product series is available with LC-type fiber connectors.

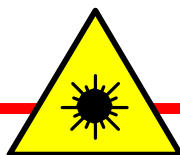
See **Appendix A**, for ordering details on the complete line of the Thinklogical SDI Xtreme 3G and 3G+ products.

### Theory of Operation

**The SDI Xtreme 3G and 3G+ product series is a compact, broadcast quality SDI over fiber extension system.** The system is designed to transmit up to two SD/HD signals or one 3G SDI signal with or without embedded audio and data, and is SMPTE 424M, 292M, 259M, 372M and 425 level A and B compliant. 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 system also supports either single or multimode fiber and is fully compatible with Thinklogical's VX and HDX Router line of products.

The SDI Xtreme 3G+ product line has an RS-422 port for device control. These are available in single or dual chassis models. The dual chassis model houses two separate SDI Xtreme 3G+ units, providing multiple combinations of transmitter and receiver possibilities. There are also options for loop out and multiplexed signals.

The SDI Xtreme 3G+ Rack Mount (RM) may be used as a transmitter, a receiver, or the slots may be mixed for flexible configurations (as a transceiver). All SDI interface modules are hot-swappable and each has its own RS-422 port. The front panel user interface provides all 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.



***CLASS 1 LASERS do not require any special precautions under conditions of normal use.***



**Warning!** In order to avoid possible exposure to laser energy, it is good practice to attach the fiber optic cables prior to applying power to the unit. If the fiber optic cable should become disconnected, DO NOT attempt to look into the cable or the panel mounted connector.

## Technical Specifications

<b>Indicators:</b>	(3) Power, Data Rate SD, HD, 3G – Lock Detect - Active
<b>Dimensions:</b>	<b>3G</b> = 4.96 x 2.25 x 1.03 (in) – 125.98 x 57.12 x 26.14 (mm) <b>3G+</b> = Height: 1.68" (4.3cm) Depth: 3.427" (8.7cm) Width: 5.609" (14.25 cm) <b>3G+ RM</b> = 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)
<b>Weight:</b>	<b>3G</b> = ~ 1 lb. (~0.45 kg.) <b>3G+</b> = <1lb (0.45kg) each Shipping Weight: 4lb (1.81kg) pair <b>3G+ RM</b> = 15 lbs (4.99 kg) per unit Shipping Weight: 30 lbs (12.25 kg) pair
<b>Supply Voltage</b>	<b>3G and 3G+</b> = 5-14 VDC <b>3G+ RM</b> =90-264 VAC, 47-63 Hz, Universal AC Power Supplies
<b>Power Consumption:</b>	<b>3G and 3G+</b> = 6 Watts per unit <b>3G+ RM</b> = 30 Watts fully loaded per unit
<b>Operating Temperature:</b>	0° C to +50° C; (32°-122°F)

### TRANSMITTER Specifications:

<b>Number of SDI Inputs</b>	1 - 2
<b>Data Rate Range</b>	270Mbps to 2.97 Gbps
<b>Supported Standards</b>	SMPTE 424M, 292M, 259M, 372M and 425 level A and B compliant
<b>Re-clocked Data Rates</b>	270 Mbps (SMPTE 259M), 1.485 Gbps (SMPTE 292), 2.97 Gbps (SMPTE 424M)
<b>Equalization</b>	Automatic up to 140m of Belden 1694A at 3.0 Gbps, 230m at 1.485 Gbps and 350m at 270 Mbps
<b>Return Loss</b>	>10dB up to 2.97 Gbps
<b>Number of Loop Outs</b>	1
<b>Number of Optical Outputs</b>	2
<b>DC Signal Level</b>	800mV ± 10%
<b>DC Offset</b>	0V ± 0.5V
<b>Overshoot</b>	< 10% of amplitude
<b>Timing Jitter</b>	< 0.2 UI at 270 Mbps; < 1.0 UI at 1.485 Gbps; < 2 UI at 2.97 Gbps with color bar signal
<b>Alignment Jitter</b>	< 0.2 UI at 270 Mbps 1.485 Gbps; < 0.3 UI at 2.97 Gbps with color bar signal
<b>Rise/Fall Time</b>	0.4 ns to 1.5 ns at 270 Mbps per SMPTE 259M < 270 ps at 1.485 Gbps per SMPTE 292; < 135 ps at 2.97 Gbps per SMPTE 424M;
<b>Re-clocking</b>	At 270 Mbps, 1.485 Gbps, and 2.97 Gbps

## **OPTICAL Output:**

<b>Connector</b>	LC receptacle		
<b>Fiber Type</b>	<b>Multi-mode</b>	<b>10 km Single Mode</b>	<b>40 km Single Mode</b>
<b>Wavelength (nominal)</b>	850nm	1310nm	1550 nm
<b>Emitter Type</b>	VCSEL	DFB Laser	DFB Laser
<b>Output Power (nominal)</b>	-4dBm	-1.5dBm	2.5dBm
<b>Re-clocking</b>	At 270 Mbps, 1.485 Gbps & 2.97 Gbps		

## **RECEIVER Specifications:**

<b>Fiber Input Connector</b>	LC receptacle		
<b>Fiber Type</b>	<b>Multi-mode</b>	<b>10 km Single Mode</b>	<b>40 km Single Mode</b>
<b>Wavelength</b>	770 – 860nm	1260 - 1360nm	1260-1600nm
<b>Minimum Input Sensitivity</b>	-12dBm	-15dBm	-18dBm
<b>Maximum Input Power</b>	0 dBm	0.5dBm	-3dBm
<b>Number of SDI Outputs</b>	1 - 2		
<b>Signal Level</b>	800mV ± 10%		
<b>DC Offset</b>	0V ± 0.5V		
<b>Overshoot</b>	< 10% of amplitude		
<b>Timing Jitter</b>	< 0.2 UI at 270 Mbps; < 1.0 UI at 1.485 Gbps; < 2 UI at 2.97 Gbps with color bar signal		
<b>Alignment Jitter</b>	< 0.2 UI at 270 Mbps; < 1.0 UI at 1.485 Gbps; < 0.3 UI at 2.97 Gbps with color bar signal		
<b>Rise/Fall Time</b>	0.4 ns to 1.5 ns at 270 Mbps per SMPTE 259M < 270 ps at 1.485 Gbps per SMPTE 292; < 135 ps at 2.97 Gbps per SMPTE 424M;		
<b>Re-clocking</b>	At 270 Mbps, 1.485 Gbps, and 2.97 Gbps		



## Part 1: Hardware

### Contents

When you receive your Thinklogical® SDI Xtreme 3G, you should receive the following items:

- SDI Xtreme 3G Hardware
- 5VDC Power Cords – PWR-000022-R (**3G, 3G+**)
- AC power cord, PWR-000006-R (International connections may differ) – Qty 2 (**3G+ Rack-mount Only**)
- Product Manual CD
- Product Quick-Start Guide

All physical connections to the product use industry-standard connectors.

### SFP+ Modules

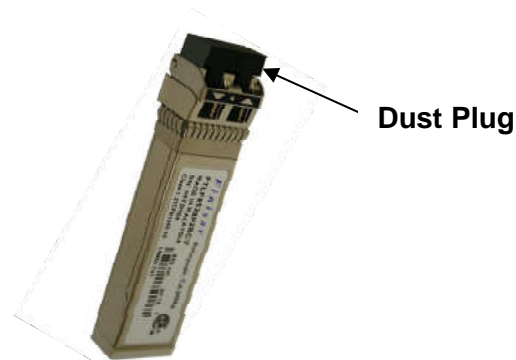
**S**mall **F**orm-factor **P**luggable modules are short-wavelength transceivers designed for use in bi-directional fiber-optic channel links. Each SFP module is hot-pluggable and operates on 3.3VDC.

Each Tx and Rx contains SFP+ modules that serve as the fiber-optic couplers for the fiber cables to and from the Thinklogical® Tx and Rx units.

*Always use dust caps to protect against damage when a fiber optic connector is not attached to its coupling device (fiber optic equipment, bulkheads, etc.)*



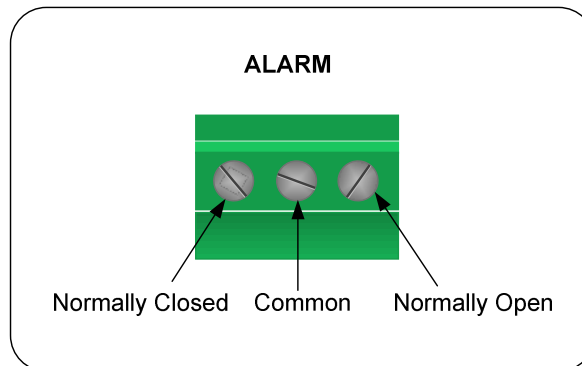
**Figure 1:** SFP+ Module



**Figure 2:** It is good practice to install dust plugs in unused SFP+s.

## Dry Contact Alarm (3G+ RM Only)

There are dry contact alarms located on each module in the 3G+ Rack Mount units. When there is an alarm condition, such as an over temperature condition or an issue with a power supply or fan, the relay is energized.

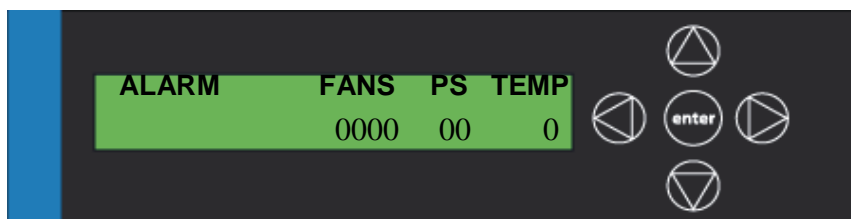


**Figure 3: Dry Contact Alarm**

**The dry contact alarm is a Form C contact with the following ratings:**

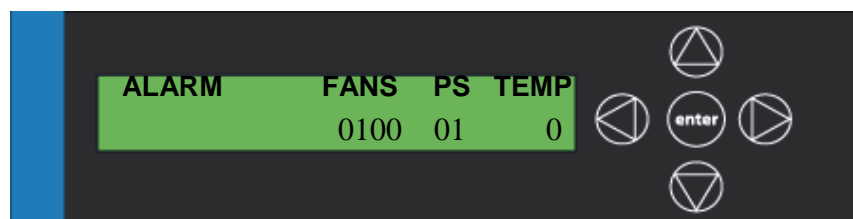
- Nominal switching capacity- 1A, 30VDC, 0.3A 125VAX (resistive load)
- Max. switching power- 30W (DC), 37.5VA (AC) (resistive load)

If there are no current alarm conditions the front panel should read as below with "0" indicating that there are no failures:



**Figure 4: No Alarm Conditions Present**

If an alarm condition is identified, a "1" will indicate a failure as described below:



**Figure 5: Alarm Conditions Present**

This example indicates that Fan #2 and Power Supply #1 have each encountered a failure.

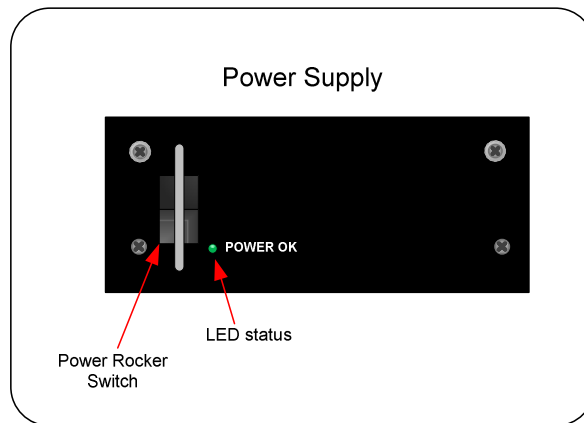
## Hot Swappable Power Supplies (3G+ Rack-Mount Only)

The 3G+ Rack Mount units are equipped with dual hot-swappable, current sharing power supply modules. Each module has an ON/OFF rocker-type power switch. When the power supply is ON the LED on the front of the power supply will be lit.



**Note:** If no modules are plugged in but both power supplies are powered “On” the front LED status may flash or malfunction, giving you an inconclusive reading of power supply status for the unit. An uninstalled power module will not report an alarm.

In the unlikely event that a power module fails, the replacement can be swapped with no interruption in unit functionality. To hot swap a power supply, simply unscrew the failed module and replace it with a new power supply module (part number VTM-000001, which can be ordered from Thinklogical™).



**Figure 6:** Power Supply Status and Rocker Switch Location

## Fiber Optic Cable

Fiber optic cable must run between the Transmitter unit and the Receiver unit. The multi-mode fiber optic cable must be 50 microns, terminated with a LC-type fiber optic connector and no longer than 3280 running feet (1000 meters). Single-mode fiber can extend to distances beyond 1000m.

Unlike copper cabling, fiber optic cable requires special handling. A small speck of dust or a scratch to the ferrule tip can attenuate the optical signal, making the fiber cable unusable.



**Warning!** The ends of the connectors (the ferrule) should never come in contact with any foreign object, including fingertips.



**Warning!** Minimum bend radius must be 3". Be careful not to pinch the fiber when using ties.

## Connecting to the Thinklogical® SDI Xtreme 3G

### Installation

All physical connections to the product use industry-standard connectors. Non-supplied cables that may be needed are commercially available. All connections are found on the rear of the unit.

### Set-Up



**Note:** To avoid inadvertent exposure to the lasers, the fiber optic cables should be attached to the SDI Xtreme 3G prior to powering up the units.

### Order of Installation Events

Refer to the Quick Start Guides in **Appendix B** on page 23.

### RS-422 (3G+ Products Only)

The RS-422 connector on 3G+ models is wired to emulate an **SMPTE 207M Machine Control Pin-out**.

- In Rack Mount products **jumper J5** may be used to flip the transmit and receive polarities on both TX and RX boards.
- In Stand Alone products **jumper J8** may be used to flip the transmit and receive polarities on both TX and RX boards.



**Note:** For devices that use straight pinned cables, the jumpers must be in the same position on both the TX and RX to function correctly.

The RS-422 pin-out is:

#### **Tx with Jumper or Rx without Jumper Master Pinout**

- 1 . Frame Ground
- 2 . Receive A
- 3 . Transmit B
- 4 . Receive Common
- 5 . Spare
- 6 . Transmit Common
- 7 . Receive B
- 8 . Transmit A
- 9 . Frame Ground

#### **Tx without Jumper or Rx with Jumper Tributary Pinout**

- 1 . Frame Ground
- 2 . Transmit A
- 3 . Receive B
- 4 . Receive Common
- 5 . Spare
- 6 . Transmit Common
- 7 . Transmit B
- 8 . Receive A
- 9 . Frame Ground

## **Part 2: Safety Requirements**

### **Symbols found on the product**

Markings and labels on the product follow industry-standard conventions. Regulatory markings found on the products comply with requirements.

### **Regulatory Compliance**

Thinklogical® products are designed and made in the U.S.A. Products have been tested by a nationally recognized testing laboratory and found to be compliant with the following standards (both domestic USA and many international locations).

#### **North America**

These products comply with the following standards:

##### **Safety**

ANSI/UL60950-1: 1<sup>st</sup> Edition (2003)

CAN/CSA C22.2 No. 60950-1-03

##### **LASER Safety**

CDRH 21CFR 1040.10

Class 1 LASER Product

##### **Electromagnetic Interference**

FCC CFR47, Part 15, Class A

Industry Canada ICES-003 Issue 2, Revision 1

#### **Australia & New Zealand**

This is a Class A product. In a domestic environment this product may cause radio interference, in which case the user may be required to take adequate measures.

## **European Union**

### **Declaration of Conformity**

Manufacturer's Name & Address:   **Thinklogical®**  
  **100 Washington Street**  
  **Milford, Connecticut 06460 USA**  
  **Telephone (203) 647-8700**

### **Product Name**

Model: SDI Xtreme 3G

These products comply with the requirements of the Low Voltage Directive 72/23/EEC and the EMC Directive 89/336/EEC.

## **Standards with Which Our Products Comply**

### **Safety**

CENELEC EN 60950-1, (2006)

### **LASER Safety**

IEC60825:2001 Parts 1 and 2

Class 1 LASER Product

### **Electromagnetic Emissions**

EN55022: 1994 (IEC/CSPIR22: 1993)

EN61000-3-2/A14: 2000

EN61000-3-3: 1994

### **Electromagnetic Immunity**

EN55024: 1998 Information Technology Equipment-Immunity Characteristics

EN61000-4-2: 1995 Electro-Static Discharge Test

EN61000-4-3: 1996 Radiated Immunity Field Test

EN61000-4-4: 1995 Electrical Fast Transient Test

EN61000-4-5: 1995 Power Supply Surge Test

EN61000-4-6: 1996 Conducted Immunity Test

EN61000-4-8: 1993 Magnetic Field Test

EN61000-4-11: 1994 Voltage Dips & Interrupts Test

## Supplementary Information

The following statements may be appropriate for certain geographical regions and might not apply to your location.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

*Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.*



**Warning!** This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.



**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications in which case the user may be required to take adequate corrective measures at their own expense.



**Note:** This Class A digital apparatus complies with Canadian ICES-003 and has been verified as being compliant within the Class A limits of the FCC Radio Frequency Device Rules (FCC Title 47, Part 15, Subpart B CLASS A), measured to CISPR 22: 1993 limits and methods of measurement of Radio Disturbance Characteristics of Information Technology Equipment.



**Note:** The user may notice degraded audio performance in the presence of electromagnetic fields.



**Note:** If using a keyboard that is noise susceptible, a ferrite ring on the keyboard cable may be needed to comply with Immunity Requirements

## **Product Serial Number**

Thinklogical<sup>®</sup> products have a unique serial number, imprinted on an adhesive label that is fixed to the bottom of the chassis. The serial number includes a date-code. The format for the date-code is 2 digits for the month, 2 digits for the day and 2 digits for the year, plus two or three digits for a unique unit number. This serial number is also found on the original shipping carton.

## **Connection to the Product**

Connections and installation hardware for our products use industry-standard devices and methods. All wiring connections to the customer equipment are designed to minimize proprietary or customized connectors and cabling. Power connections are made with regionally appropriate power cords and approved methods.



## Part 3: Thinklogical® Support

### Customer Support

Thinklogical® is an engineering company and you will receive the information you require directly from our most knowledgeable engineers. We believe that the first line of support is the design engineer that developed the product. Therefore, your questions will be handled promptly by our in-house engineers who are most familiar with your products.

**Thank you for choosing Thinklogical™ products for your application.**

*We appreciate your business and are dedicated to helping you successfully use our products.*

***thinklogical™ is always here to help you.***

*To contact us, please use the following telephone numbers and internet-based methods:*

### Website

Check out our website for current product offerings, support information and general information about all of the products we offer.

Our internet website offers product information on all current systems, including technical specification sheets and installation guides (for viewing online or for download), product diagrams showing physical connections and other information you might need.

Internet: [www.thinklogical.com](http://www.thinklogical.com)



**Note: Most online documents are stored as Adobe Acrobat “PDF” files. If you do not have the Adobe Acrobat reader needed to view PDF files, visit [www.adobe.com](http://www.adobe.com) for a download.**

### Email

Thinklogical® is staffed Monday through Friday from 8:30am to 5:00pm, Eastern Time Zone. We will try to respond to your email inquiries promptly, use the following email addresses for your different needs:

**info@thinklogical.com** – Information on Thinklogical® and our products.

**sales@thinklogical.com** – Sales Department - orders, questions or issues.

**support@thinklogical.com** – Product support, technical issues or questions, product repairs and request for Return Authorization.

## **Telephone**

Telephone Sales: Contact our expert, technically oriented sales staff via telephone in Milford, CT at **(203) 647-8700** or if in the continental US, you may use our **toll-free number (800) 291-3211**. We are here Monday through Friday from 8:30am to 5:00pm, Eastern Time Zone. Ask for their direct dial phone number when you call.

**Telephone Product Support:** Contact Product Support via telephone in Milford, CT at **(203) 647-8700**. The support lines are manned Monday through Friday, 8:30am to 5:00pm, Eastern Time Zone.

**International Sales:** Please contact our US sales staff in Milford, CT at **(203) 647-8700**. We are here Monday through Friday, 8:30am to 5:00pm, Eastern Time Zone (same as New York City). If leaving a voice message, please let us know the best time to call back so we may reach you at your convenience.

Our switchboard attendant will direct your call during regular business hours. We have an automated attendant answering our main telephone switchboard after regular business hours and holidays. You can leave a voice message for an individual at any time. Our sales representatives have direct numbers for your convenience.

## **Fax**

Our company facsimile number is **(203) 783-9949**. Please indicate the nature of the fax on your cover sheet and provide return contact information.

## **Product Support**

Thinklogical's<sup>®</sup> support personnel are available Monday through Friday from 8:30am to 5:00pm, Eastern Time Zone. If your application requires assistance at some time outside of our normal business hours, please contact us beforehand and we will do our best to make arrangements to help you with your Thinklogical<sup>™</sup> products.

## **Warranty**

Thinklogical, LLC ("Thinklogical") warrants this product against defects in materials and workmanship for a period of one (1) year from the date of delivery (ordinary wear and tear excluded). This limited warranty does not cover defects resulting from (i) use of the product other than as described in the applicable documentation for the product; (ii) modifications to or repairs of the product that are made by any party other than Thinklogical or a party acting on Thinklogical's behalf, or (iii) combination of the product with third party products that is not consented to by Thinklogical. Occurrences of events described in (i) – (iii) shall void the foregoing warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**Except for the express warranty set forth above, to the fullest extent permitted under applicable law, Thinklogical, LLC and its suppliers disclaim any and all other warranties, express and implied, including without limitation the implied warranties of merchantability, fitness for a particular purpose, title and non-infringement.**

If the defective product is returned to the authorized dealer within one (1) year of the delivery date, repair or replacement of the product will be made. Repairs may be made with refurbished parts. If repair or replacement is not possible, Thinklogical may keep the defective product and refund the amount that you paid for the defective product. These are Thinklogical's sole obligations, and your exclusive remedies, for a breach of the limited warranty set forth above.

To return a defective product, contact the Thinklogical authorized dealer from whom you purchased the product. Do not return a product directly to Thinklogical without prior authorization from your dealer.

If you have received prior authorization from your dealer and are returning a product directly to Thinklogical:

1. Contact a sales representative or Customer Support at 800-291-3211 or 203-647-8700.
2. Describe the product defect and Customer Support will issue a Return Merchandise Authorization Number (RMA#).
3. Pack the product in its original packing, if possible, and write the RMA number on the box.
4. Return the product to:

**Thinklogical, LLC**

**Attn: RMA#** [Insert the RMA# issued to you by Thinklogical™ here.]

**100 Washington Street**

**Milford, CT 06460 USA**

## **Our Address**

If you have any issue with the product, have product questions or need technical assistance with your Thinklogical® system, please call us at **800-291-3211 (USA only)** or **203-647-8700** and let us help. If you'd like to write us, our mailing address is:

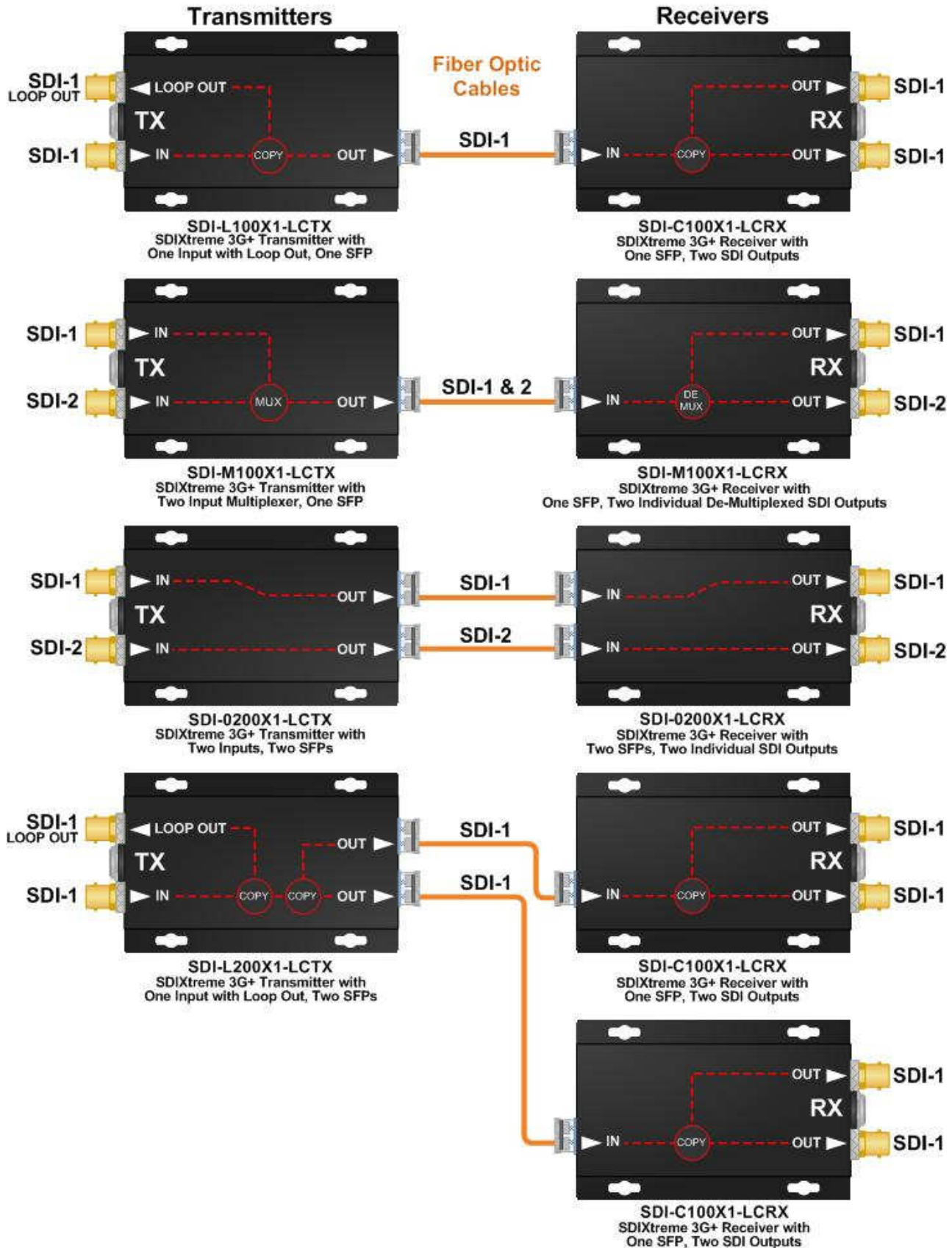
**Thinklogical® Inc.**  
**100 Washington Street**  
**Milford, CT 06460 USA**

## Appendix A: Ordering Information

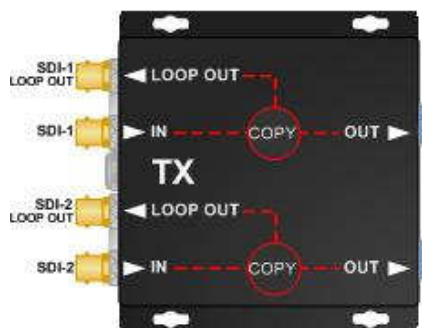
Thinklogical's SDI Xtreme Optics for 3G, 3G+, 3G+ Rack-mount	
Part Number	Description
<b>SDI FIBER OPTIC EXTENDER OPTICS OPTIONS for SINGLE MODE</b>	
VOP-S19	SDI Xtreme 3G Optics Option, Single Mode 4km, 1 SFP Dual Fiber, LC
VOP-S20	SDI Xtreme 3G Optics Option, Single Mode 10km, 1 SFP Dual Fiber, LC
VOP-S21	SDI Xtreme 3G Optics Option, Single Mode 30km, 1 SFP Dual Fiber, LC
VOP-S29	SDI Xtreme 3G Optics Option, Single Mode 4km, 2 SFP Four Fibers, LC
VOP-S30	SDI Xtreme 3G Optics Option, Single Mode 10km, 2 SFP Four Fibers, LC
VOP-S58	SDI Xtreme 3G Optics Option, Single Mode 30km, 2 SFP Four Fibers, LC
<b>SDI FIBER OPTIC EXTENDER OPTICS OPTIONS for MULTI-MODE</b>	
VOP-M18	SDI Xtreme 3G Optics Option, Multi-Mode, 1 SFP Dual Fiber, LC
VOP-M21	SDI Xtreme 3G Optics Option, Multi-Mode, 2 SFP Four Fibers, LC

Thinklogical's SDI Xtreme 3G	
Part Number	Description
SDI-L10001-LCTX	SDI Xtreme 3G Transmitter, One Input with Loop Out, LC
SDI-C10001-LCRX	SDI Xtreme 3G Receiver, One SFP, 2 Outputs, LC

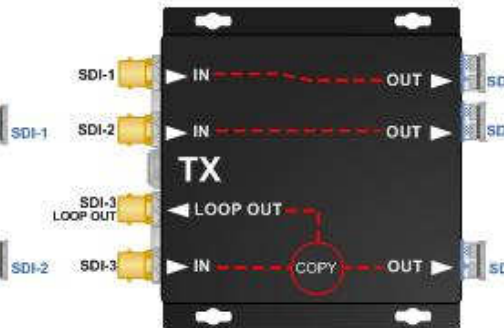
## SDIXtreme 3G+ Single Part Numbers and Descriptions



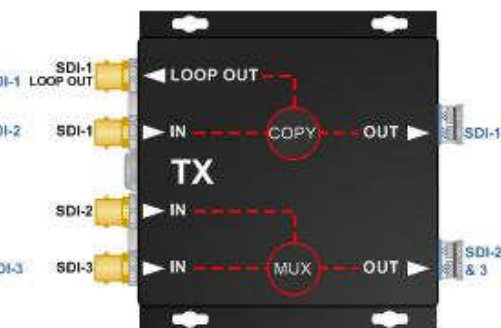
## SDIXtreme 3G+ Dual Transmitters Part Numbers and Descriptions



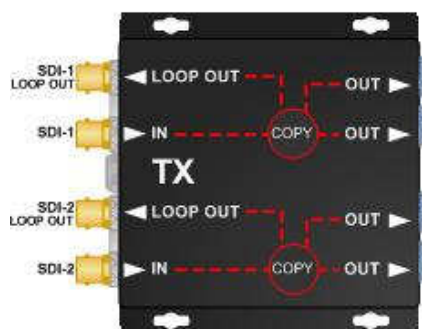
**SDI-L1L1X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
Two Inputs with Loop Outs, Two SFPs



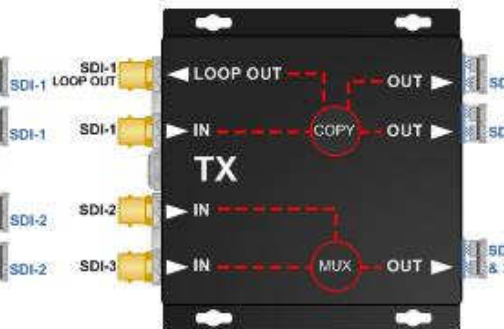
**SDI-02L1X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
Two Inputs plus One Input with Loop Out,  
Three SFPs



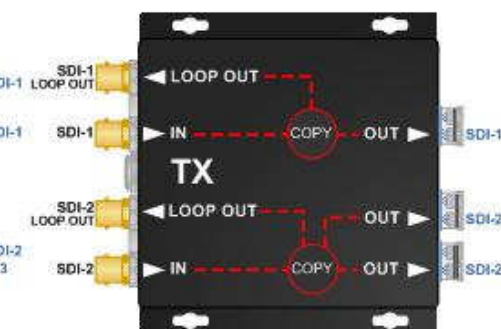
**SDI-L1M1X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
One Input with Loop Out and Two Input  
Multiplexer, Two SFPs



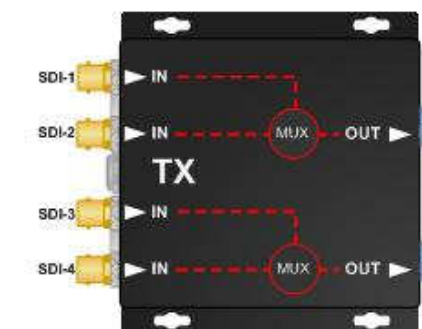
**SDI-L2L2X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
Two Inputs with Loop Outs, Four SFPs



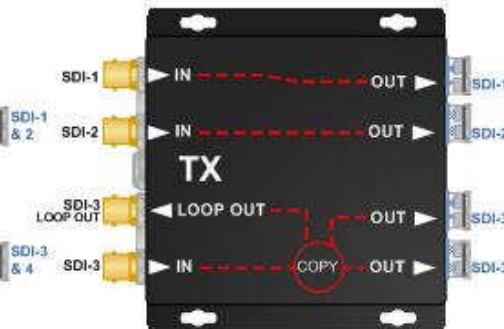
**SDI-L2M1X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
One Input with Loop Out and Two Input Multiplexer,  
Three SFPs



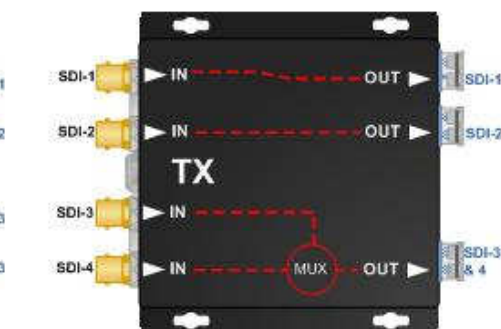
**SDI-L1L2X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
Two Inputs with Loop Outs, Three SFPs



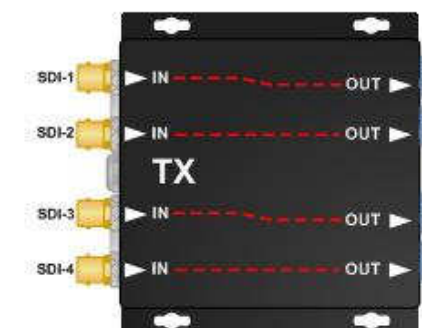
**SDI-M1M1X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
Pair of Two Input Multiplexers, Two SFPs



**SDI-02L2X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
Two Inputs plus One Input with Loop Out,  
Four SFPs



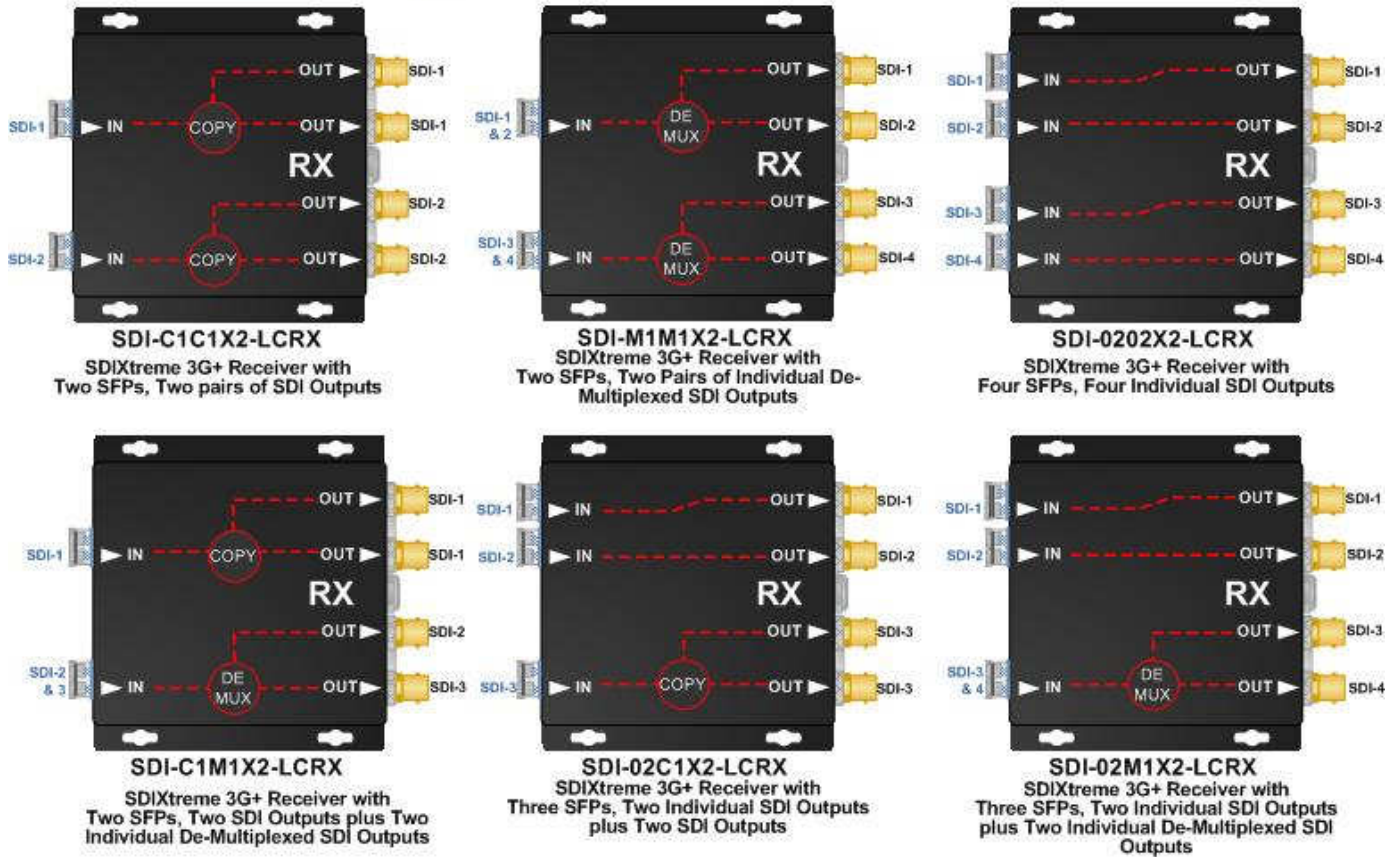
**SDI-02M1X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
Two Inputs plus Two Input Multiplexer,  
Three SFPs



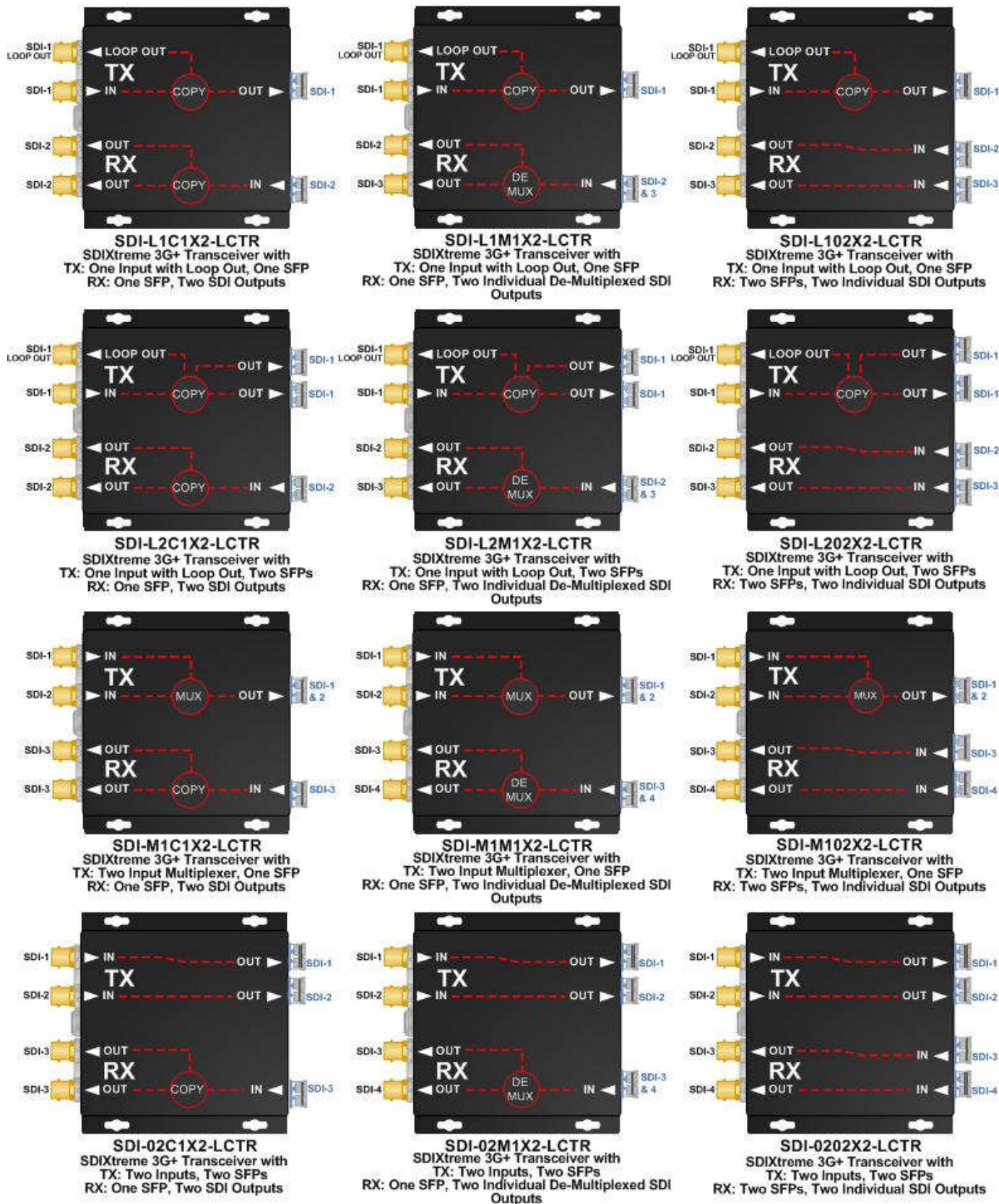
**SDI-0202X2-LCTX**  
SDIXtreme 3G+ Transmitter with  
Four Inputs, Four SFPs



## SDIXtreme 3G+ Dual Receivers Part Numbers and Descriptions



## SDIXtreme 3G+ Transceivers Part Numbers and Descriptions

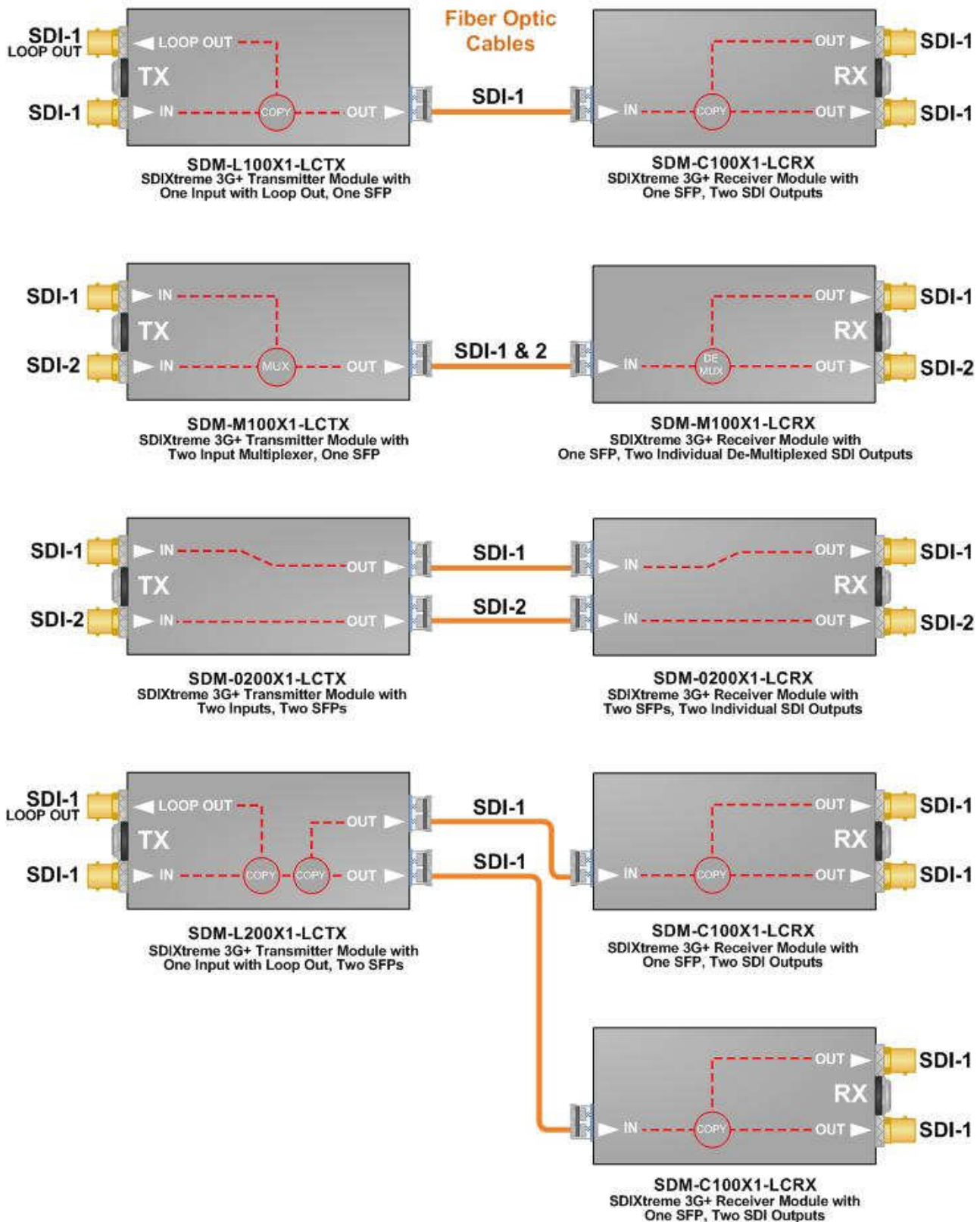




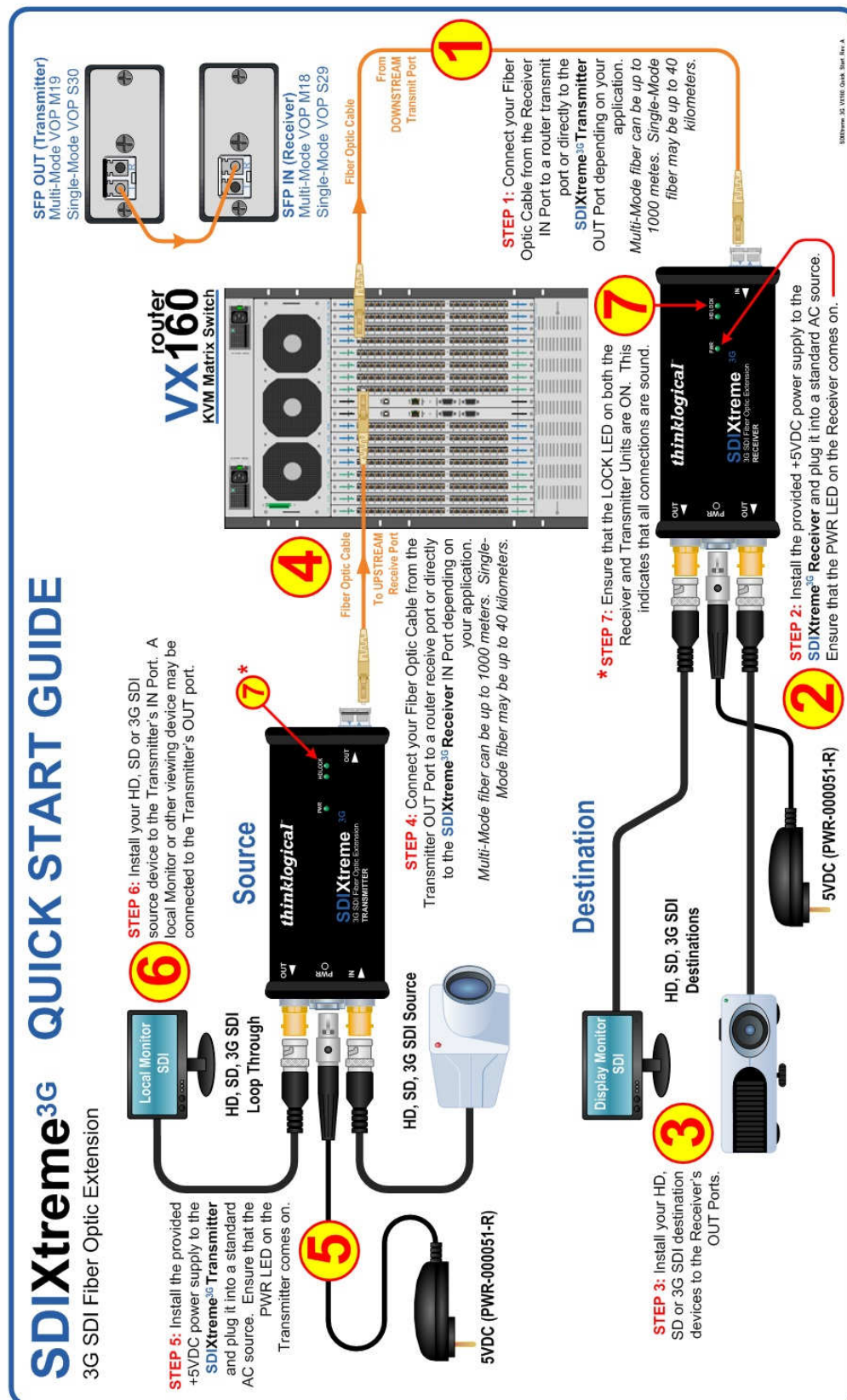
## SDIXtreme 3G+ Rack Mount Modular Part Numbers and Descriptions

### Transmitters

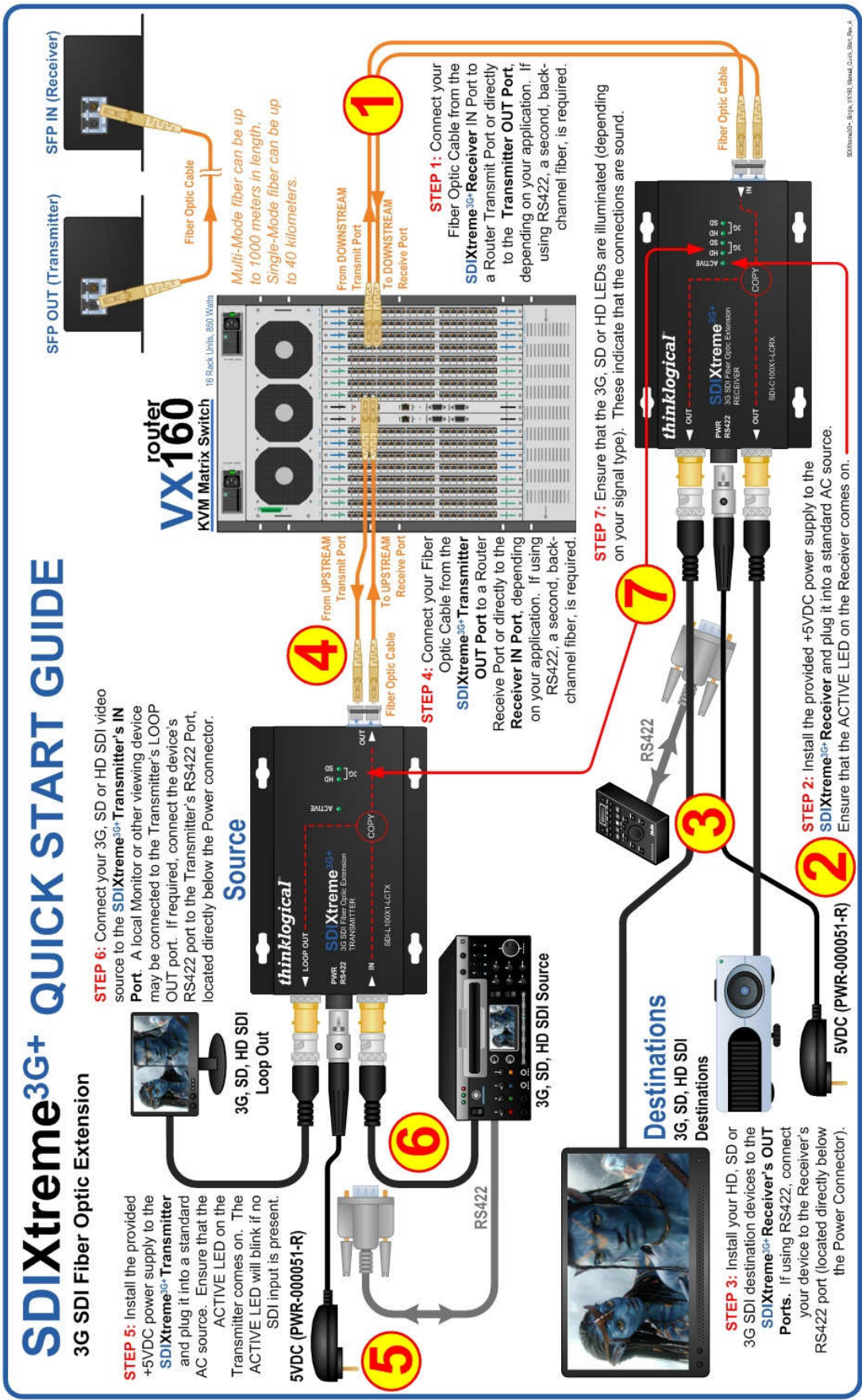
### Receivers



## Appendix B: Quick Start Guides







# SDIXtreme3G+

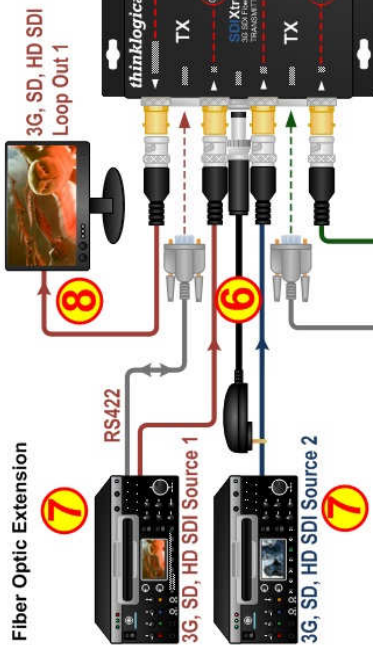
Dual Loop-Out 3G SDI Fiber Optic Extension

## Sources

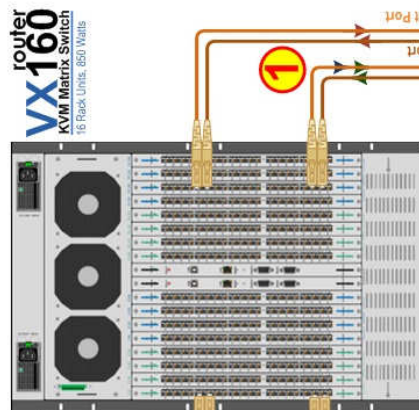
**STEP 6:** Install the provided +5VDC power supply to the SDIXtreme<sup>3G+</sup> Transmitter and plug it into a standard AC source. Ensure that the ACTIVE LED on the Transmitter comes on. The ACTIVE LED will blink if no SDI input is present.

**STEP 7:** Connect your 3G or SD/HD SDI video sources to the SDIXtreme<sup>3G+</sup> Transmitter's IN Ports. If using RS422, connect the devices to the Transmitter's RS422 Ports located directly below the BNC ports.

**STEP 8:** A Local Monitor or other viewing device may be connected to the Transmitter's LOOP OUT port.



**STEP 5:** Connect your Fiber Optic Cables from the SDIXtreme<sup>3G+</sup> Transmitter OUT Ports to any Router Receive Ports. If using RS422, a second, back-channel fiber is required at the corresponding Router Transmit Port. If your application does not require a router, connect directly to the Receiver fiber ports.



**STEP 1:** Connect your Fiber Optic Cables from the SDIXtreme<sup>3G+</sup> Receiver IN Ports to any Router Transmit Ports. If using RS422, a second, back-channel fiber is required at the corresponding Router Receive Port. If your application does not require a router, connect directly to the Transmitter fiber ports.



**STEP 9:** Check that the 3G, SD or HD LEDs are illuminated (depending on your signal type) on both the Transmitters and the Receivers. These indicate that the connections are sound. Ensure that all system functions are operating properly.

## Destinations

**STEP 2:** Install the provided +5VDC power supply to the SDIXtreme<sup>3G+</sup> Receiver and plug it into a standard AC source. Ensure that the ACTIVE LED on the Receiver comes on. The ACTIVE LED will blink if no SDI input is present.

**STEP 3:** Connect your 3G or SD/HD SDI destination devices to the SDIXtreme<sup>3G+</sup> Receiver's OUT Ports.

**STEP 4:** If using RS422, connect your devices to the Receiver's RS422 ports located directly below the BNC ports.



