

thinklogical®

SMP Appliance

PRODUCT MANUAL



System Management for Thinklogical's
TLX and Velocity KVM Matrix Switches
and Fiber-Optic Extension Systems

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Rev. B; July, 2016

Value Your Content

thinklogical®

Trust Our Proven Ingenuity

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100 Washington Street
Milford, Connecticut 06460 U.S.A.
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Subject: SMP Appliance Product Manual (6G and 10G)
Revision: B, July 2016



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Twitter: @thinklogical

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PREFACE

About Thinklogical



Thinklogical, LLC®
100 Washington St.
Milford, CT 06460

We, the Thinklogical team, are committed to understanding and exceeding our customers' requirements, the first time and every time.

Thinklogical is the leading manufacturer and provider of fiber optic KVM, video, audio, and peripheral extension and switching solutions used in video-rich, big-data computing environments.

Thinklogical offers the only fiber-optic KVM matrix switches in the world that are accredited to the Common Criteria EAL4, TEMPEST Level B, and NATO NIAPC Evaluation Scheme: GREEN information assurance standards. And Thinklogical Velocity products are the first system with both KVM and video matrix switching capabilities to be placed on the Unified Capabilities Approved Product List (UC APL) under the Video Distribution System (VDS) category.

Governments, entertainment, scientific and industrial customers worldwide rely on Thinklogical's products and solutions for security, high performance, continuous operation and ease of integration. Thinklogical products are designed and manufactured in the USA and are certified to the ISO 9001-2008 standard.



Thinklogical is headquartered in Milford, Connecticut and is privately held by Riverside Partners, LLC, Boston, MA (<http://www.riversidepartners.com>). For more information about Thinklogical products and services, please visit www.thinklogical.com.

Follow Thinklogical on LinkedIn at <http://www.linkedin.com/company/thinklogical> and on Facebook at <http://www.facebook.com/ThinklogicalUSA>



Note and Warning Symbols

Throughout this manual you will notice certain symbols 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, as shown here.

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



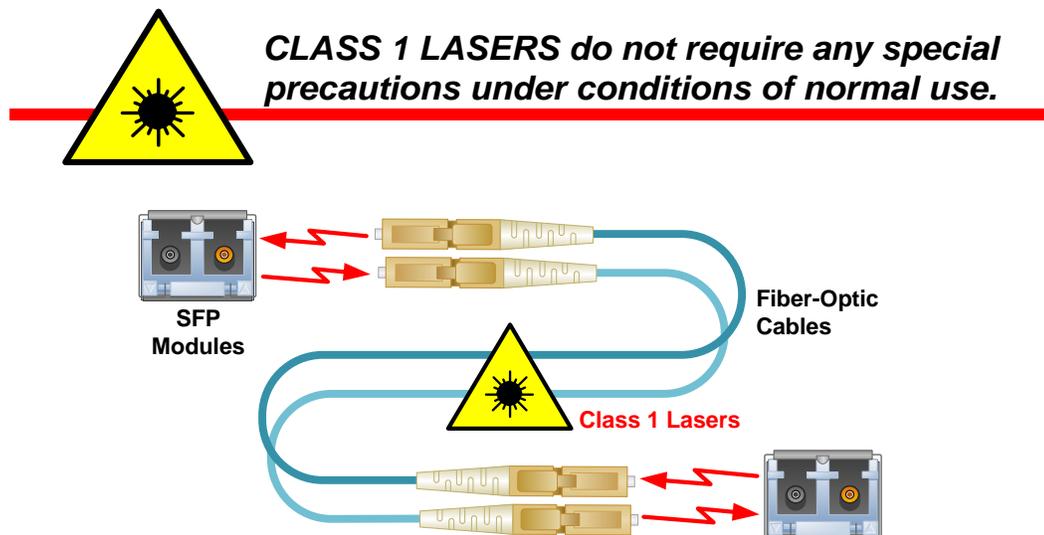
Warning! All Warnings appear in red text, followed by blue text, and preceded by a red stop sign, as shown here.

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!

Class 1 Laser Information

Thinklogical® products are designed and identified as a **Class 1 LASER product**. This means the maximum permissible exposure (MPE) cannot be exceeded when viewing the laser with the naked eye or with the aid of typical magnifying optics (e.g. telescope or microscope).



The System Management Portfolio

The Logical Solution

Thinklogical's fiber-optic routing solutions address many of the complex signal management challenges facing today's broadcast and video post-production professionals. Signal management products from Thinklogical are optimized for broadcast facilities, mobile production trucks and post-production applications where quality, performance and security are paramount.

Thinklogical's System Management Portfolio is designed to help users easily manage and maintain Thinklogical deployments of any size.

The **System Management Portfolio** (SMP) from Thinklogical improves overall system performance and value by reducing support effort, lowering total cost of ownership, enhancing productivity and maximizing system uptime.

Thinklogical's *System Management Portfolio*, which includes the **SMP Appliance** and its **five specialized software packages**, provides powerful remote management and maintenance capabilities, making it easier for users to configure, operate and update a Thinklogical signal extension and switching system.

Related SMP documents may be found on our web site:

http://www.thinklogical.com/user_manuals

- *Manuals*

[Manual_System_Management_Portfolio](#)

[Manual_SMP_Appliance](#)

- *Quick Start Guides*

[RX_Display_Text_Overlay_QSG](#)

[SMP_Appliance_6G_QSG](#)

[SMP_Appliance_10G_QSG](#)



The SMP Appliance

The SMP Appliance is a system wide, non-intrusive monitor connected to a Thinklogical Matrix Switch including both 10G (TLX) and 6G, 2G (VX) extenders, and the connections between them. The SMP Appliance incorporates a core processor capable of running the System Management Interface (SMI), the Configurator, the On Screen Display and the Hot Key Manager software.

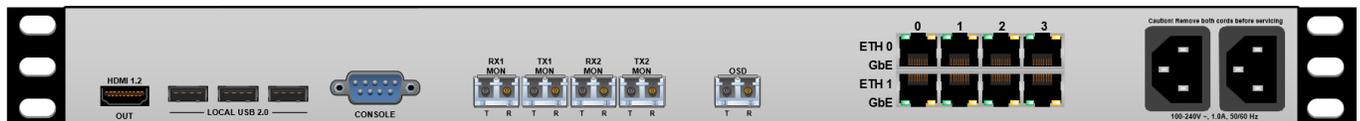
Features of the SMP Appliance



SMP Appliance Front Panel with Dual Redundant Hot-swappable Power Supplies

THE FRONT PANEL

- **LCD and navigation buttons** for device configuration and download.
- **USB-mini B connector** for Thinklogical firmware updates.
- **Dual redundant hot-swappable, load-sharing 120W power supplies**, replaceable from the front panel.



SMP Appliance Rear Panel

THE REAR PANEL

- **Incorporates two internal 10/100/1000 Ethernet Switches that provide two separate and independent Ethernet networks** that connect to the Matrix Switch, to the Local Area Network, to the OSD and to a “Private” network with full administrative privileges.
- **Provides a local OSD for system administration**, as well as providing the ability to route that port to any 6G or 10G fiber port location, thus allowing system administration from any connected keyboard/video/mouse (KVM). With the SMP Appliance, the administrator can make, modify and monitor all Matrix Switch connections.
- **The SMP Appliance is a stand-alone, rack mountable unit** in a 14.07” D x 17.49” W x 1.72” H chassis with four software controlled cooling fans. There are no other externally-pluggable modules.
- **Can be used with a Matrix Switch of mixed rate Input/Output Cards** (i.e. both 10G and 6G), however, the SMI and the OSD I/O ports are hardware configured as either 6G or 10G.
 - 1) **Two SMI 6G monitors** (Rx1/Tx1, Rx2,Tx2) and **one 6G OSD**
 - 2) **Two SMI 10G monitors**(Rx1/Tx1, Rx2,Tx2) and **one 10G OSD**
- **Requires a minimum of two IO ports (SFPs) per rate for connection to the Matrix Switch.** These include one port for the Rx monitor and one port for the Tx monitor. A third port is needed to route the OSD to a destination port on the Matrix Switch. Therefore, **if both 6G and 10G IO cards are present, a minimum of 5 IO ports** (two 6G monitor, two 10G monitor, and either one 6G or one 10G administration port) **are required.**

- Provides two separate gigabit Ethernet interfaces for connections to the Matrix Switch’s controller boards, the Local Area Network and “private” local area network. Ethernet connector LEDs indicate the mode of operation (1G [orange], 100M [green], or 10M [yellow]) with blinking as an indication of activity.
- Provides Local Administration Port access via a rear-panel HDMI connector for video, and two USB 2.0-A connectors for Keyboard and mouse. A third USB 2.0-A connector can be used for Operating System downloads, Thinklogical firmware updates or other USB applications.
- A rear-panel DB9 connector is available as a Software Debug console.
- Has download capabilities for Thinklogical Firmware updates. This includes the ability to send Firmware updates to any connected, upgradable Thinklogical module endpoint.
- Collects system health and status information from all VelocityKVM and TLX equipment. Can also set *DDC Mode*, *Out-Of-Band Enable*, and *Collaboration Mode* and can send firmware updates to any remotely upgradeable Thinklogical modules.
- Three USB 2.0-A connectors for Keyboard, Mouse, and Download (2.0 compliant).
- The DB9 Console Port can be used for software debug.

The I/O Interfaces

The SMP Appliance features the following Ports and Interfaces:

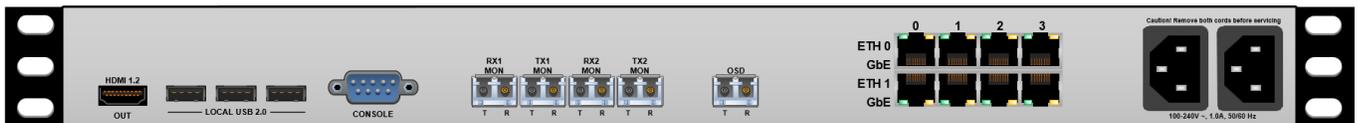
Front Panel: (left to right)

2	Rocker Switch	Power Supply ON/OFF
1	USB-mini	Firmware Updates
1	LCD	Configuration Display with Navigation Buttons



Rear Panel: (left to right)

1	HDMI-A	Local Port Monitor
3	USB-A	Local Port Keyboard, Mouse, Firmware Download
1	DB-9 Serial	Console Port (software debug)
5	SFP+	Fiber Connections to/from Matrix Switch
8	GbE MagJack	Gigabit Ethernet
2	AC Inputs	Power



HDMI-A USB-A DB-9 SFPs OSD Client GbE MagJack AC In

Pluggable SFP+ Modules

The SMP Appliance contains up to five 6G or 10G SFP+ modules that serve as the fiber-optic couplers for the fiber cables to and from other Thinklogical devices.

The 6G SFP+ Optical Module is an 8Gbs Short-Wavelength Transceiver and the 10G SFP+ Optical Module is a 10.5Gbs Short-Wavelength Transceiver. Both are designed for use in bi-directional Fiber Optic Channel links. The modules are hot-pluggable and operate on 3.3VDC.

Always use **dust caps** to protect against dust and damage when a fiber optic connector is not attached to its coupling device (fiber optic equipment, bulkheads, etc.). All Thinklogical SFPs are fully populated with dust plugs upon shipment.



Note: It is good practice to immediately install dust plugs in unused SFP modules and on the ferrules of unconnected fiber-optic cables.

An SMP Appliance can have up to five 6G or 10G SFP+ Modules for fiber-optic connections. Each is mounted within a grounded metal enclosure and is locked in with a built-in latch handle that can be opened for removal or locked for installation (right).

The latch handle spans the two LC ports. Arrows printed on the handle indicate which port is an INPUT (◀) and which is an OUTPUT (▶).



SFP+ Latch Closed



SFP+ Latch Open

Fiber-Optic Cable

Installing Fiber-Optic Cable: Fiber connects any SFP's optical output port (Transmit) to any other SFP's optical input port (Receive).



Requirements: Thinklogical recommends SX+ Laser Enhanced (50µm) fiber for your 6G or 10G Extension System. Multi-mode fiber can extend up to a maximum of 400m and Single-mode fiber can extend up to 80km.



Handling Fiber-Optic Cable: Unlike copper cabling, fiber optic cable requires special handling. A small speck of dust or a scratch to the ferrule tip (the end of the connector) can attenuate the optical signal, rendering the cable inoperable.

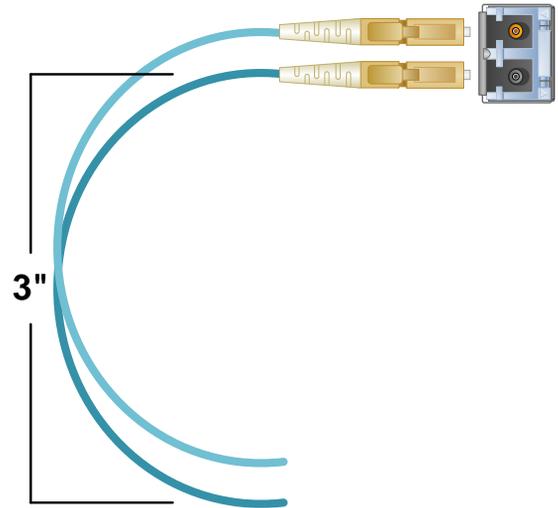


Warning! The ends of the connectors (the ferrule) should never come in contact with any foreign object, including fingertips. Always install a dust cap immediately on the ferrule of any unused fiber to protect the tip.





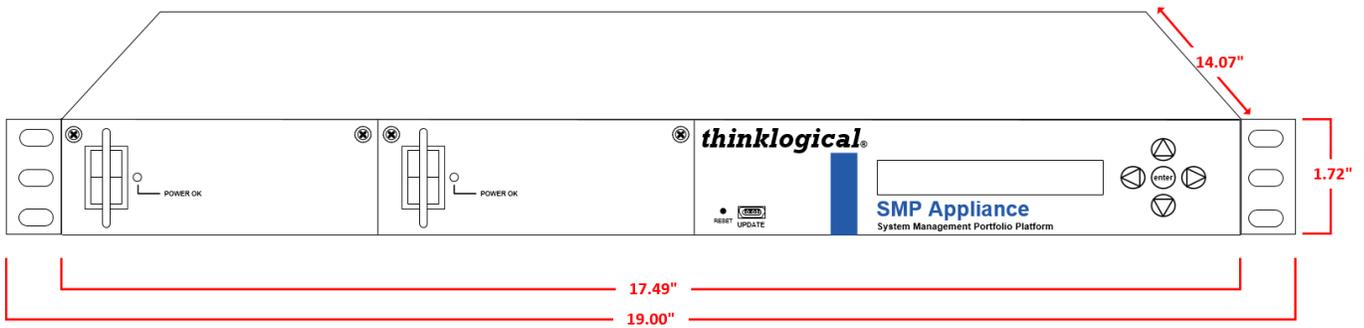
Warning! Minimum bend diameter must be no less than 3". Be careful not to kink or pinch the fiber when using ties.



SMP Appliance Technical Specifications

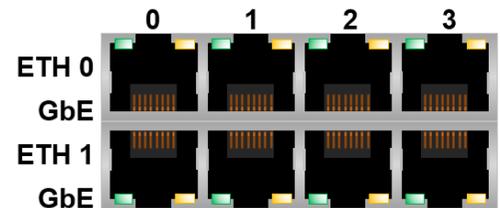
<p>Rack-Mountable Chassis Dimensions</p>	<p>Rack Size: EIA 19" (482.6 mm) Depth: 14.07" (357.4 mm) Width: 17.49" (444.2 mm) Height: 1.72" (43.7 mm) Tolerance: ± .039" (.991 mm) Weight: 9.5 lbs. (4.32 kg) Shipping Weight: 18 lbs. (8.2 kg)</p>
<p>I/O Ports</p>	<p>Front Panel: 1 USB-mini <i>Firmware Updates</i> Rear Panel: 1 HDMI-A <i>Local Port Monitor</i> 3 USB-A <i>Local Port Keyboard/Mouse/Firmware Console Port</i> 1 DB-9 <i>Console Port</i> (5) SFPs <i>Fiber connections to/from Matrix Switch</i> 8 GbE MagJack <i>Gigabit Ethernet</i> 2 AC IN <i>Power</i></p>
<p>Operating Temp. and Humidity</p>	<p>0° to 50° C (32° to 122° F), 5% to 95% RH, non-condensing</p>
<p>Power Requirements</p>	<p>AC Input: 100-240VAC, 1.0A, 50/60 Hz Universal AC Power Supply</p>
<p>Power Consumption</p>	<p>80 Watts max.</p>
<p>Compliance</p>	<p>Approvals for US, Canada and European Union</p>
<p>Warranty</p>	<p>1 Year from date of shipment. Extended warranties available.</p>

Setting Up the SMP Appliance

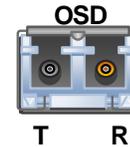


The SMP Appliance provides local and remote SMP access and a local OSD for system administrators to make, modify and monitor all Matrix Switch connections and to make connections to a 6G or 10G fiber port location, allowing system administration from any connected keyboard, video or mouse.

The SMP Appliance provides two separate gigabit Ethernet interfaces for connections to the Matrix Switch’s controller boards, the Local Area Network, a “private” local area network and an OSD Client. RJ-45 connector LEDs indicate the mode of operation (1G orange, 100M green, or 10M yellow) with blinking as an indication of activity.



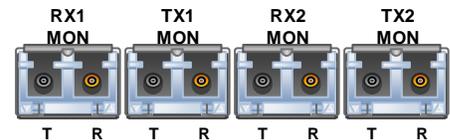
The OSD Client provides an On Screen Display via a browser connection to the SMP Appliance. The OSD is available as a 6G fiber-optic output that can be routed to any KVM extender. Used for initial configuration only.



The OSD can be accessed locally through an HDMI 1.2 video Port and either of three USB 2.0 Ports (keyboard and mouse).



The SMP Appliance requires a minimum of two IO ports (SFPs) per rate for connection to the Matrix Switch: one port for the Rx monitor, and one port for the Tx monitor. A third port is needed if the OSD will be connected to a destination port on the Matrix Switch. Thus, if both 6G and 10G IO cards are present, a minimum of five IO ports (two 6G monitor, two 10G monitor, and one 6G or one 10G administration port) are required. SFP ports are LC-type.

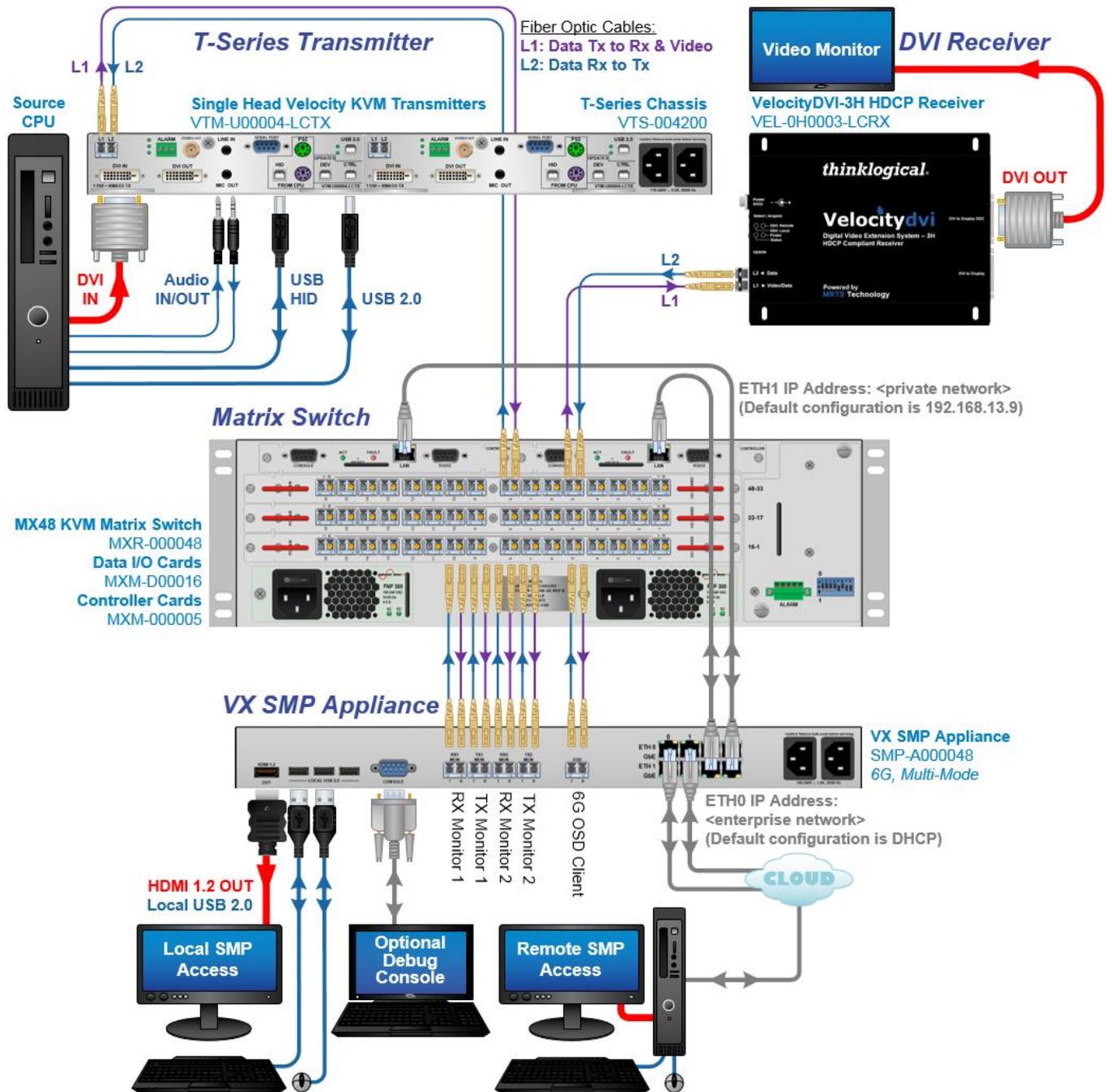


The DB9 Serial Console Port connects directly to the processor and can be used for software debug.



The VX SMP Appliance

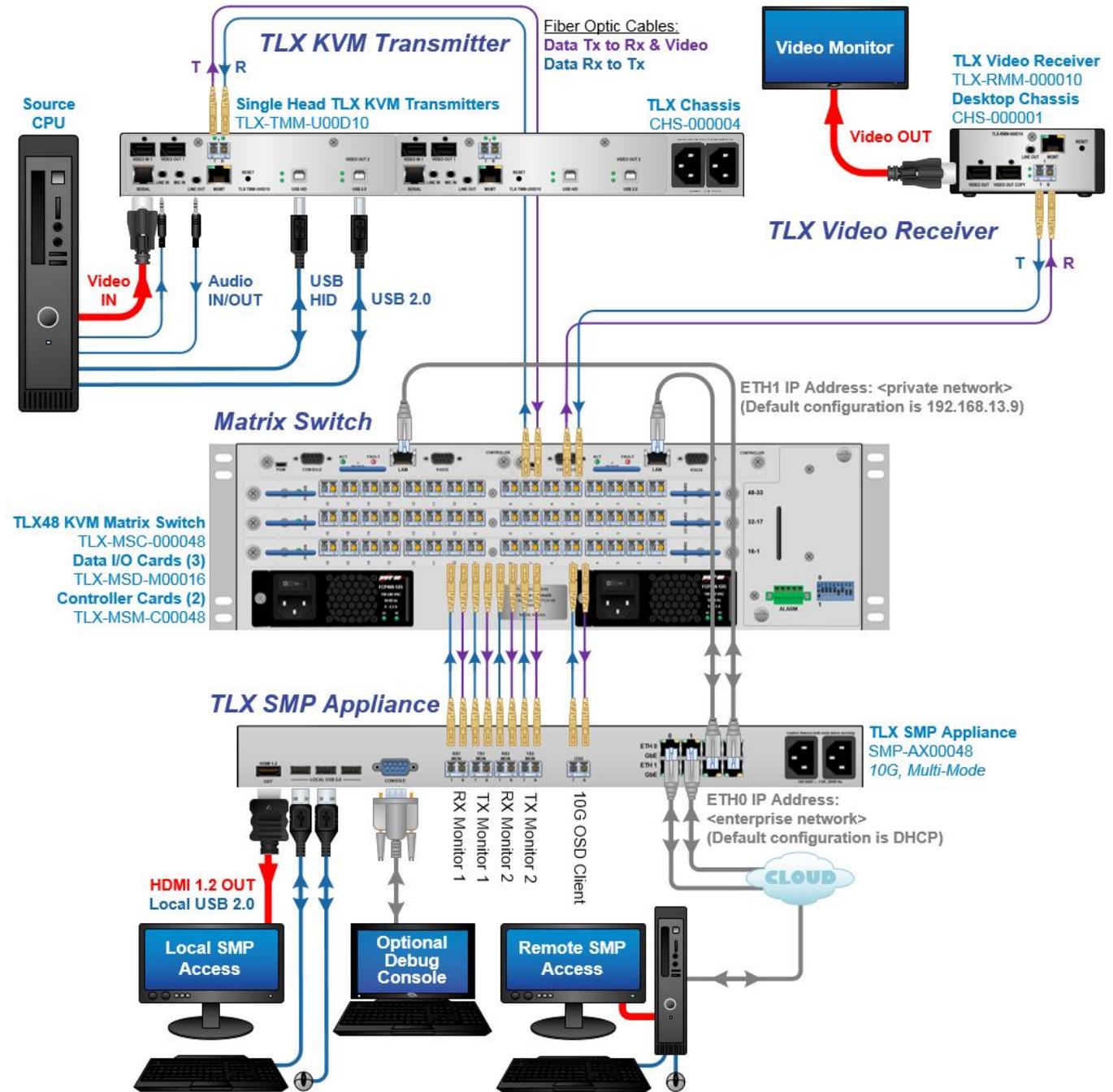
The **6G SMP Appliance**, also referred to as the **VX SMP Appliance**, shown below is a system wide, non-intrusive monitor of VelocityKVM equipment connected to a Thinklogical KVM Matrix Switch, including 6G Input/Output Cards and 6G & 2G Transmitters and Receivers.



A typical 6G System Management Portfolio Application

The TLX SMP Appliance

The 10G SMP Appliance, also referred to as the TLX SMP Appliance, shown below is a system wide, non-intrusive monitor of VelocityKVM and TLX equipment connected to a Thinklogical KVM Matrix Switch, including 10G Input/Output Cards and 10G Transmitters and Receivers.



A typical 10G System Management Portfolio Application

Programming & IP Addresses

1. At initial Power-On, a log-in page will open.

To log in as a user:

USERNAME: **user** PASSWORD: **user** [ENTER]

To log in as an administrator and make changes:

USERNAME: **root** PASSWORD: **root** [ENTER]

2. On the next page, open a browser and click on *Applications Menu*

Select *Internet*

Select *Chromium Browser*



3. On the *Start-up Page's* URL, type: **localhost:60083** [ENTER]

USERNAME: **admin** PASSWORD: **admin**

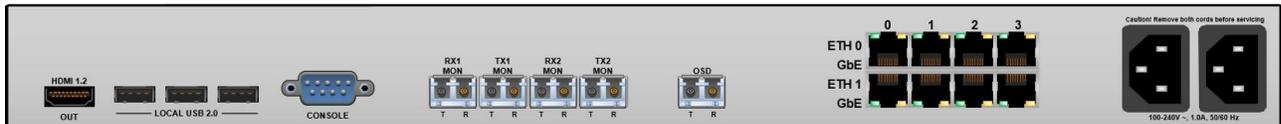
SOFTWARE SERVICES

System Management Portfolio

Localhost:

Web server Username/Password:

• Configurator	60080	none
• Hot Key Manager	60082	admin/admin
• System Management Interface	60084	none
• StartUp	60083	admin/admin
• Drag-N-Drop	60086	none
• Text Overlay	60088	none



SMP Appliance

ETH0 IP Address: **DHCP**

ETH1 IP Address: **192.168.13.9**

HARDWARE

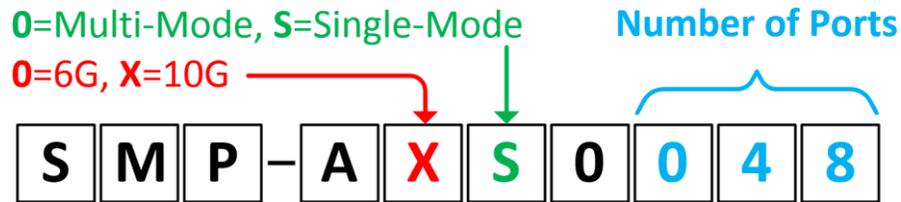
SMP Appliance:

- OSD Client (6G/10G)
- System Management Interface (6G/10G)
- Ethernet Switch (2)
- LCD Control
- Local Control
- Linux Console

The related SMP document [Manual_System_Management_Portfolio](#) may be found on our web site: http://www.thinklogical.com/user_manuals

Ordering Information

Use the following numbering system to determine the part number for the particular model of SMP Appliance you need. The three variable elements are color-coded in this example.



SMP Appliance Part Numbering:

SMP-A000###	6G Multi-mode with ### Port Software Package	(ex. SMP-A00048)
SMP-AX00###	10G Multi-mode with ### Port Software Package	(ex. SMP-AX00320)
SMP-A0S0###	6G Single-mode with ### Port Software Package	(ex. SMP-A0S0048)
SMP-AXS0###	10G Single-mode with ### Port Software Package	(ex. SMP-AXS0640)

Port level packages available. Please contact Thinklogical with inquiries.

Regulatory & Safety Requirements

Regulatory & Safety Compliance

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 domestic and many international requirements.

Regulatory Compliance

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

North America

Safety

ANSI/UL60950-1: 1st Edition (2003)
 CAN/CSA C22.2 No. 60950-1-03
 CENELEC EN 60950-1, 1st Edition (2001)

LASER Safety

CDRH 21CFR 1040.10
 Class 1 LASER Product
 IEC60825:2001 Parts 1 and 2
 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, LLC®**
100 Washington Street
Milford, Connecticut 06460 USA

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 IEC 60950-1 2nd Ed. 2005

Electromagnetic Emissions

EN55022: 1994 (IEC/CSP1R22: 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 corrective 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 electro-magnetic fields.

Product Serial Number

Thinklogical products have a unique serial number, which includes a date-code, printed on an adhesive label that is affixed to the unit. The format for the date-code is 2 *digits for the month*, dash, 2 *digits for the year*, plus *at least four digits for a unique unit number*. For example: **04-160127** indicates the unit was built in the 4th month of 2016, and is unit number 127.

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.

Thinklogical Support

How to Contact Us

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 comes from the design engineers that developed each particular product.

Therefore, your questions or issues 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**



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 for a download.

Email

Thinklogical® is staffed **Monday through Friday from 8:30am to 5:00pm**, Eastern Time Zone. We will do our best to respond to your email inquiries promptly. Please use the following email addresses:

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

Thinklogical Operator	1-203-647-8700
Product & Customer Support:	1-203-647-8798
US Commercial & Canada Sales:	1-203-647-8715
US Federal Government Sales:	1-203-647-8716
Toll Free in the Continental US:	1-800-291-3211
International Sales (Europe, Middle East, Africa):	1-203-647-8704
International Sales (Asia Pacific, Central & Latin America):	1-203-647-8734

Please contact our expert sales staff in Milford, CT. We are here Monday through Friday from 8:30am to 5:00pm, Eastern Time Zone. We'll provide a representative's direct dial phone number when you call.

If leaving a voice message, please provide a preferred 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. Please leave voice messages for individuals at any time.

Fax

Our company facsimile number is **1-203-783-9949**. Please indicate the nature of the fax on your cover sheet and provide return contact information.

Product Support

Thinklogical's® 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® products.

Warranty

Thinklogical, LLC® warrants this product against defects in materials and workmanship for a period of one year from the date of delivery. Thinklogical, LLC® and its suppliers disclaim any and all other warranties.



Note: Thinklogical, LLC® products carry a one year warranty, with longer term available at time of purchase on most products. Please refer to your product invoice for your products Warranty Terms & Conditions.

Defect remedy shall be the repair or replacement of the product, provided that the defective product is returned to the authorized dealer within a year from the date of delivery.

If you wish to return your device, contact the Thinklogical, LLC® authorized dealer where you purchased the device, or if you purchased directly, call Thinklogical, LLC® at **1-800-291-3211** (USA).

Return Authorization

If you need to return your Thinklogical® product to us for any reason, please get a **Return Merchandise Authorization Number (RMA#)** from Thinklogical's **Product Support Department (1-203-647-8798)** before sending the unit in.

In the event you must return a product to Thinklogical® directly, please contact **Customer Support** at **1-800-291-3211** or **1-203-647-8700**. Customer Support will ask you to describe the problem and will issue you a **Return Merchandise Authorization** number (RMA#). Pack the device in its original box, if possible, and return it with the RMA# printed on the outside of the box.



Note: DO NOT return a product to Thinklogical® without a *Return Merchandise Authorization*.

Our Addresses

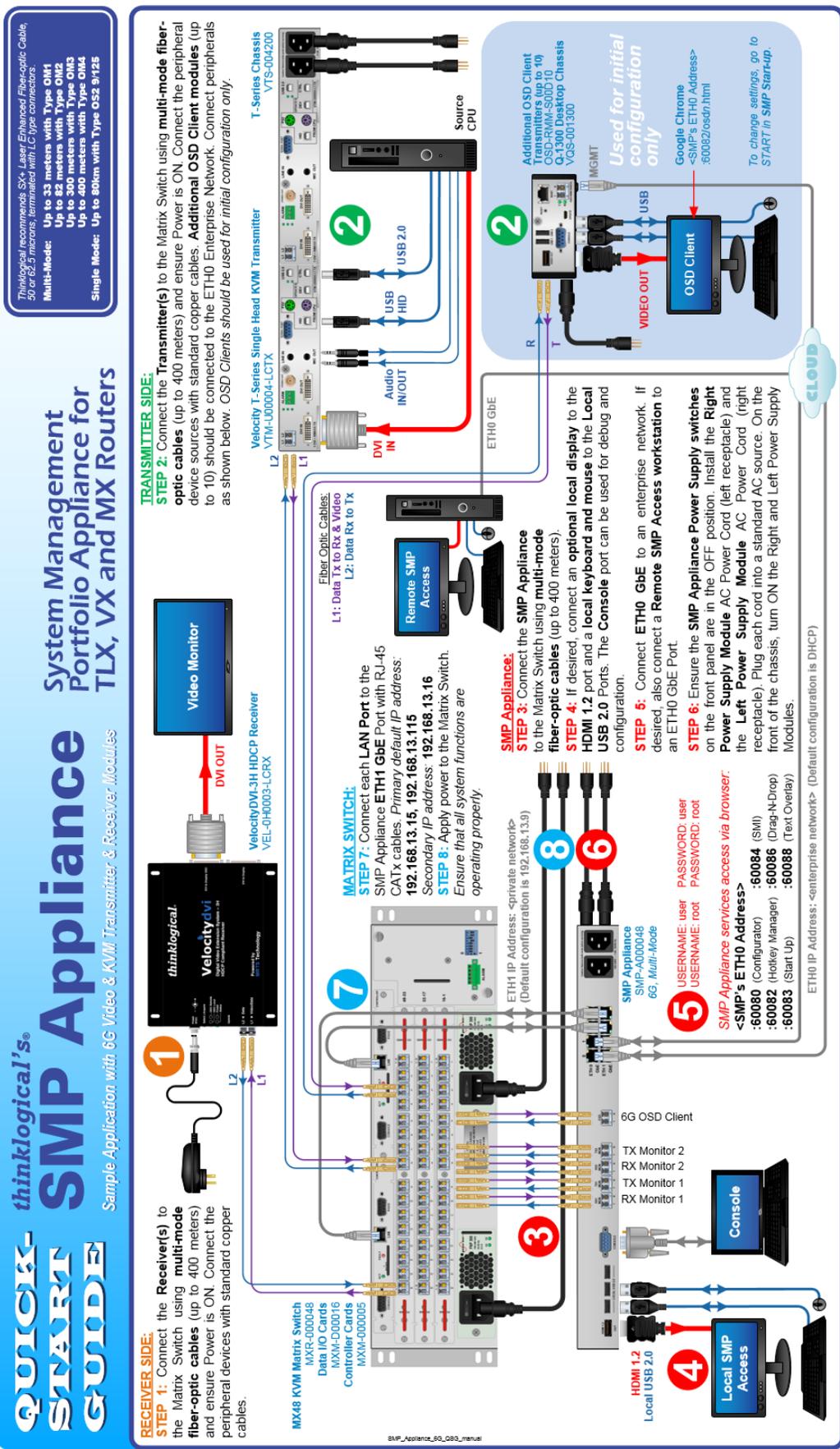
If you have any product issues or questions or need technical assistance with your Thinklogical® system, please call us at **1-800-291-3211 (USA only)** or **1-203-647-8700** and let us help. If you need to write us or return a product, please use the following address: Return address for products with Return Material Authorization:

Thinklogical, LLC®
Attn: RMA#
100 Washington Street
Milford, CT 06460 USA



Website: www.thinklogical.com
Facebook: www.facebook.com/ThinklogicalUSA
LinkedIn: www.linkedin.com/company/thinklogical
Google+: <http://plus.google.com/u/0/109273605590791763795/about>
YouTube: www.youtube.com/user/thinklogicalNA
Twitter: [@thinklogical](https://twitter.com/thinklogical)

APPENDIX A: SMP Appliance Quick Start Guide



thinklogical recommends SV-Laser Enhanced Fiberoptic Cable 50 or 62.5 microns terminated with LC type connectors.
Multi-Mode:
 Up to 33 meters with Type OM3
 Up to 32 meters with Type OM2
 Up to 300 meters with Type OM3
 Up to 400 meters with Type OM4
Single Mode: Up to 80km with Type OS2 9125

System Management Portfolio Appliance for TLX, VX and MX Routers

QUICK-START GUIDE
 SMP Appliance
 Sample Application with 6G Video & KVM Transmitter & Receiver Modules

Appendix B: VX SMP Appliance FPGA Program Code Update Procedure

thinklogical® VX SMP Appliance FPGA Program Code Update Procedure

Perform steps 1-8 as described:



This procedure documents the steps necessary to update the FPGA Program Code on a VX SMP Appliance using a Windows-based computer.

STEP 1: FPGA Update Preparation:
Please contact your *thinklogical* Sales Representative or Customer Service (1-203-647-8700) for access to the FPGA Download Update application.

Perform steps 1-8 as described:



This procedure documents the steps necessary to update the FPGA Program Code on a VX SMP Appliance using a Windows-based computer.

STEP 1: FPGA Update Preparation:
Please contact your *thinklogical* Sales Representative or Customer Service (1-203-647-8700) for access to the FPGA Download Update application.

1 Save the FPGA program code update file provided by Thinklogical to a known location on the PC. The program code update file will have a file extension of **.lbf**. This is the file that will be retrieved in Step 6.

2 Connect a **USB A to USB mini-B cable** between the device's UPDATE port and the CPU as shown below.

3 Run the Thinklogical FPGA Upgrade application. You will see the following window. Click on *Identify Product*.

4 You may see a window similar to this, identifying the desired file name. Click *Open File*.

5 When the FPGA download is complete, you will see the window below. Remove the USB cable from the PGM Update Port and exit the application.

6 Select OK. A dialog box similar to this will open.

7 Verify the response below during the process. The spinning bar to the left of the progress bar will stop when the download is complete.

8 Browse to and select the file: **smp_appl_6g.lbf** (This is the file saved in Step 2.) and press OPEN to begin.

1 Save the FPGA program code update file provided by Thinklogical to a known location on the PC. The program code update file will have a file extension of **.lbf**. This is the file that will be retrieved in Step 6.

2 Connect a **USB A to USB mini-B cable** between the device's UPDATE port and the CPU as shown below.

3 Run the Thinklogical FPGA Upgrade application. You will see the following window. Click on *Identify Product*.

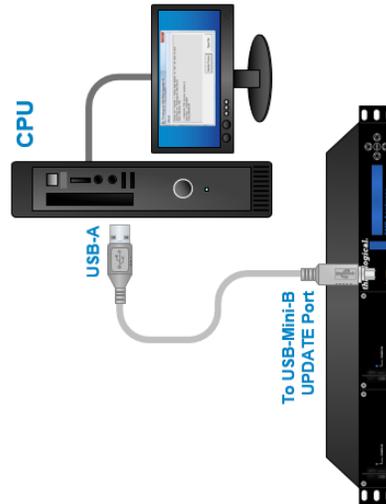
4 You may see a window similar to this, identifying the desired file name. Click *Open File*.

5 When the FPGA download is complete, you will see the window below. Remove the USB cable from the PGM Update Port and exit the application.

6 Select OK. A dialog box similar to this will open.

7 Verify the response below during the process. The spinning bar to the left of the progress bar will stop when the download is complete.

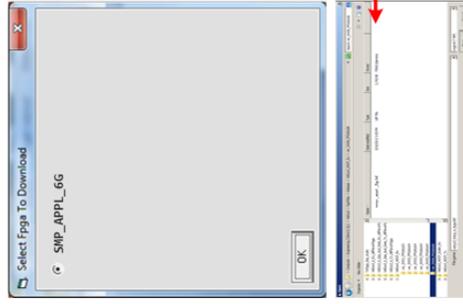
8 Browse to and select the file: **smp_appl_6g.lbf** (This is the file saved in Step 2.) and press OPEN to begin.



4 Run the Thinklogical FPGA Upgrade application. You will see the following window. Click on *Identify Product*.



5 You may see a window similar to this, identifying the desired file name. Click *Open File*.



6 Select OK. A dialog box similar to this will open.



7 Verify the response below during the process. The spinning bar to the left of the progress bar will stop when the download is complete.



8 When FPGA download is complete, you will see the window below. The Upgrade Procedure is now complete. Remove the USB cable from the PGM Update Port and exit the application.

Browse to and select the file: **smp_appl_6g.lbf** (This is the file saved in Step 2.) and press OPEN to begin.

Appendix C: TLX SMP Appliance FPGA Program Code Update Procedure

thinklogical® TLX SMP Appliance FPGA Program Code Update Procedure

Perform steps 1-8 as described:



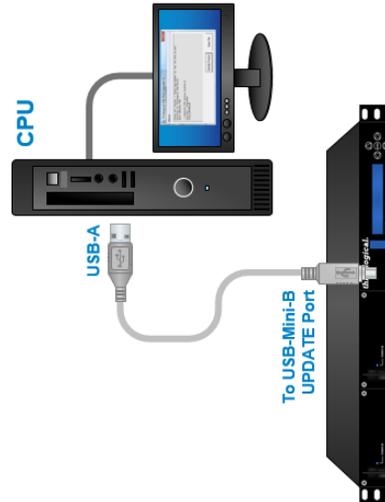
This procedure documents the steps necessary to update the FPGA Program Code on a TLX SMP Appliance using a Windows-based computer.

STEP 1: FPGA Update Preparation:
Please contact your *thinklogical* Sales Representative or Customer Service (1-203-647-8700) for access to the FPGA Download Update application.



2 **STEP 2:** Save the FPGA program code update file provided by Thinklogical to a known location on the PC. The program code update file will have a file extension of **.lbf**. This is the file that will be retrieved in Step 6.

3 **STEP 3:** Connect a **USB A to USB mini-B cable** between the device's UPDATE port and the CPU as shown below.



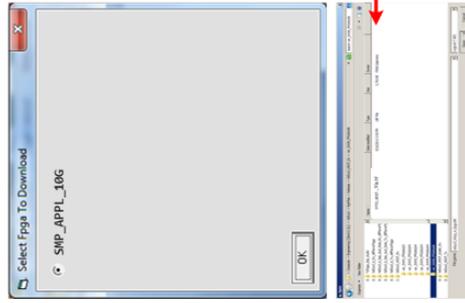
4 **STEP 4:** Run the Thinklogical **FPGA Upgrade** application. You will see the following window. Click on *Identify Product*.



5 **STEP 5:** You may see a window similar to this, identifying the desired file name. Click *Open File*.



6 **STEP 6:** Select OK. A dialog box similar to this will open.



Browse to and select the file: **smplib_10g.lbf** (This is the file saved in Step 2.) and press **OPEN** to begin.

7 **STEP 7:** Verify the response below during the process. The spinning bar to the left of the progress bar will stop when the download is complete.



8 **STEP 8:** When **FPGA download is complete**, you will see the window below. The Upgrade Procedure is now complete. Remove the USB cable from the PGM Update Port and exit the application.

