Velocitykvm
Desktop Series

High Reliability, Rack-Space Saving
Video and Audio Extension Solutions

Velocitykvm Desktop Extender
PRODUCT MANUAL

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Milford, Connecticut 06460 U.S.A.
Telephone: 1-203-647-8700

Subject: VelocityKVM Desktop Extender Product Manual (VelocityKVM Desktop Series)
Revision: B, March 2013

KVM Desktop
Chassis & Modules

thinklogical®

Table of Contents

PREFACE

Conventions Used in this Manual

Throughout 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!

1 Introduction

The VelocityKVM Desktop Extender

H: 1.72" (43.68mm) x **D:** 10.66" (270.76mm) x **W:** 11.98" (304.29mm), **17 Watts** per unit

1.1 Product Overview

The **VelocityKVM Desktop Extender** is a convenient, rack space saving solution to your fiber-optic extension needs. This product has a simple transmitter/receiver design which allows ease of use and user friendly deployment. The compact desktop chassis supports an easy-to-install interface module which includes our DVI and RGB/DVI lines of extenders. These modules support a variety of video options, such as **RGB, one or two single-link DVI displays,** or **one dual-link DVI display**. The VelocityKVM Desktop Chassis also features:

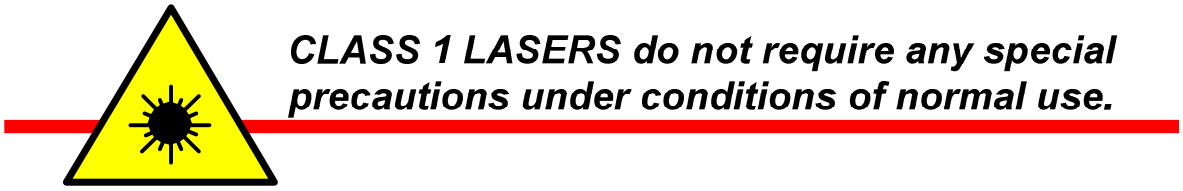
- ▶ LCD/button interface
- ▶ Internal power supply
- ▶ Internal cooling fans
- ▶ Upgrade ports for the module firmware (located on modules)
- ▶ Hot-swappable modules
- ▶ Rack mount brackets available

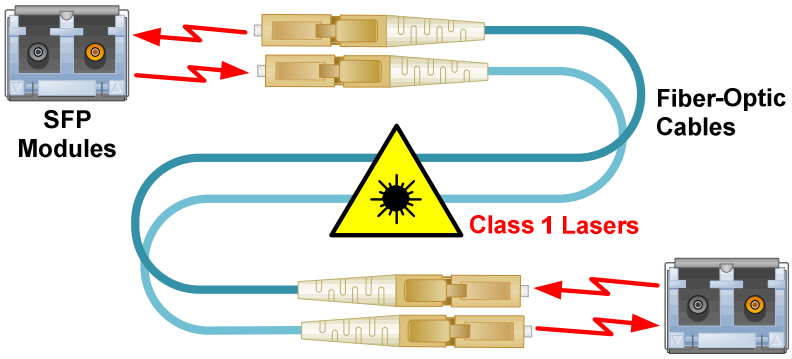
Thinklogical® offers the following interface module options:

VDM-4 – One DVI Display (2 DVI-D Connectors)
VDM-5 – One RGB/DVI Display (2 DVI-I Connectors)
VDM-8 – One dual-link DVI Display (2 DVI-D Connectors)
VDM-24 – Two DVI Displays (2 DVI-D Connectors)

1.2 Laser Information

All VelocityKVM Desktop modules are designed and identified as **Class 1 LASER products.**





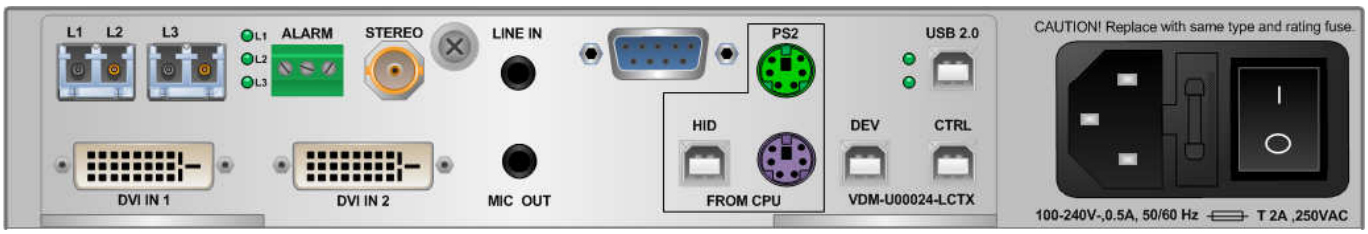
2 System Features

2.1 General System Features

The entire line of VelocityKVM T-Series modules offer the following options:

- USB 2.0, PS2, Serial (RS-232), Stereo Emitter, and Analog Stereo Audio (bi-directional). Complete support for high speed USB 2.0 (480 Mbps) devices (along with USB 1.1 support), ideal for use with DVD drives, CDROM, Memory Stick, and other high speed storage and desktop peripherals. Supports 480Mb/second transfer rates.
- USB 1.0 (HID ONLY), PS2, Serial (RS-232), Stereo Emitter, and Analog Stereo Audio (bi-directional). Designed for security conscious customers: no physical support for USB thumb drives or other full speed devices. Supports **H**uman **I**nterface **D**evices only (1.5 Mbps), such as keyboard, mouse, and tablets. Provides PS2/USB conversion.

The VelocityKVM Desktop is a space saving and cost effective solution to the challenges of the most demanding video and data extension applications.



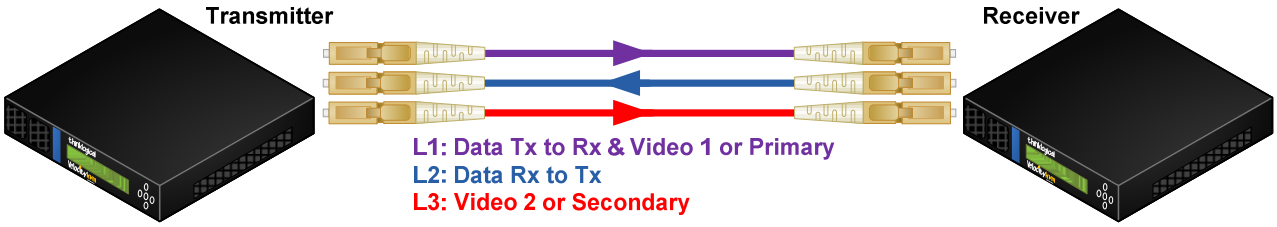
All physical connections to the VelocityKVM Desktop use industry-standard connectors. VelocityKVM Desktop is shown with a Velocity 24 TX Module (VDM-U00024-LCTX) installed.

Each VelocityKVM Desktop Chassis includes the following features:

- Interface module options:
  - VDM 4 – One DVI display
  - VDM 5 – One RGB/DVI display
  - VDM 8 – One dual-link DVI display
  - VDM 24 – Two DVI displays
  - Modules support USB HID, USB 2.0 compliant – high speed 480Mbps, 4-port hub
- Compact chassis size
- DDC2B/EDID compliant
- MRTS technology 6.25Gbps allows for full frame rate transmission of uncompressed DVI
- Stereo emitter for active 3D applications
- Virtually soundless Quiet Fan Technology
- Full keyboard/mouse emulation through the transmitter
- Full duplex stereo audio,
- Serial RS-232
- A Dry Contact Annunciator provides an alarm in case of a power or temperature failure condition
- Front panel status monitoring and control
- Simple plug and play
- All models are available with standard LC type fiber connectors
- Single-mode or multi-mode fiber options
- Fully compatible with Thinklogical's® VelocityKVM Extension Systems and the VXRouter line
- Special Option configurations available for VDM-4 and VDM-5 (See Appendix B, page 21)

2.2 Fiber-Optic Cables

Incorporating standard SFP+ transceivers, the system allows the use of either **multi-mode or single-mode fiber optic cable**s. Depending on the interface module, the VelocityKVM Desktop design requires two to three fibers: **L1** carries the primary video signal and data from Tx to Rx. **L2** carries the back channel data from Rx to Tx, including USB and DDC (**D**isplay **D**ata **C**hannel) or EDID (**E**xtended **D**isplay **I**dentification **D**ata). This information is provided to the CPU by a *generic table* stored in the transmitter, or by the *displays table* via an active link between the receiver and transmitter. **L3** carries the second video in a two DVI Display unit or the secondary video in a Dual-Link Video unit.



2.3 VelocityKVM Desktop Chassis Technical Specifications

VelocityKVM Desktop Chassis	Dimensions: Rack Size: EIA 19" Height: 1U-1.72" (43.68 mm) Depth: 10.66" (270.76 mm) Width: 11.98" (304.29 mm) (Tolerance: ± .039" (.1000 mm) Weight: 4 lbs (1.8 kg) per unit Shipping Weight: 18 lbs (8.16 kg) pair Power Consumption: 17 watts per unit Supply Voltage: 100-240 VAC, 47-63 Hz, Universal AC Power Supply
Optical Distance	Up to 50 meters with Type OM1 Up to 350 meters with Type OM2 Up to 750 meters with Type OM3 Up to 1000 meters with Type OM4 Up to 40 kilometers with Type OS2
Operating Temp and Humidity	0°to 50℃ (32°to 122 ℉), 5% to 95% RH, non-conde nsing
Compliance	Approvals for US, Canada, and European Union
Warranty	12 months from date of shipment. Extended warranties available.

2.4 Velocity Unbalanced Audio Specifications

VELOCITY UNBALANCED AUDIO SPECIFICATIONS

AUDIO SAMPLING RATE: 46.875kHz

TRANSMITTER:	RECEIVER:
Line In Impedance: 10kΩ	**Line Out** Impedance: 560Ω
Line In (max): 2.5V p/p (0.884Vrms, 1.15dBu)	**Line Out** (max) into 1K ohms: 3V p/p (1.06Vrms, 2.72dBu)
Mic Out Impedance: 300Ω	**Mic In** Impedance: 5kΩ
Mic Out (max): 0.45V p/p (0.159Vrms, -13.75dBu)	**Mic In** (max) : 0.24V p/p (0.085Vrms, -19.2dBu)

3 Using the VelocityKVM Desktop Chassis and Modules

3.1 Types of Connections

All physical connections to the product use industry-standard connectors. Any non-supplied cables that may be needed are commercially available. All connections are made to the rear of the chassis.

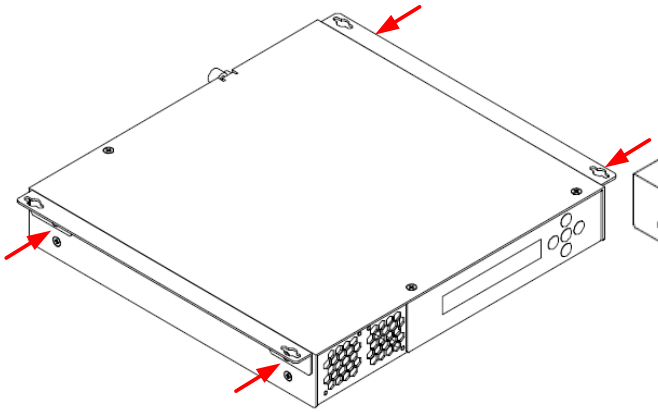
3.2 Cooling

The VelocityKVM Desktop Extender uses two DC fans which emit virtually no detectable sound, to move air horizontally through the enclosure. This feature is especially important in broadcast, post-production and air traffic control applications.

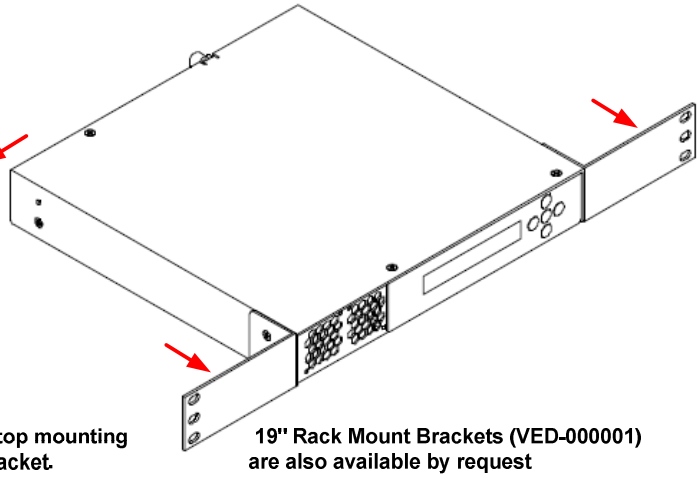
Note: Be sure to leave 2"minimum ventilation space on both sides of the unit.

3.3 Above/Below Desktop or 19" Rack Mounting

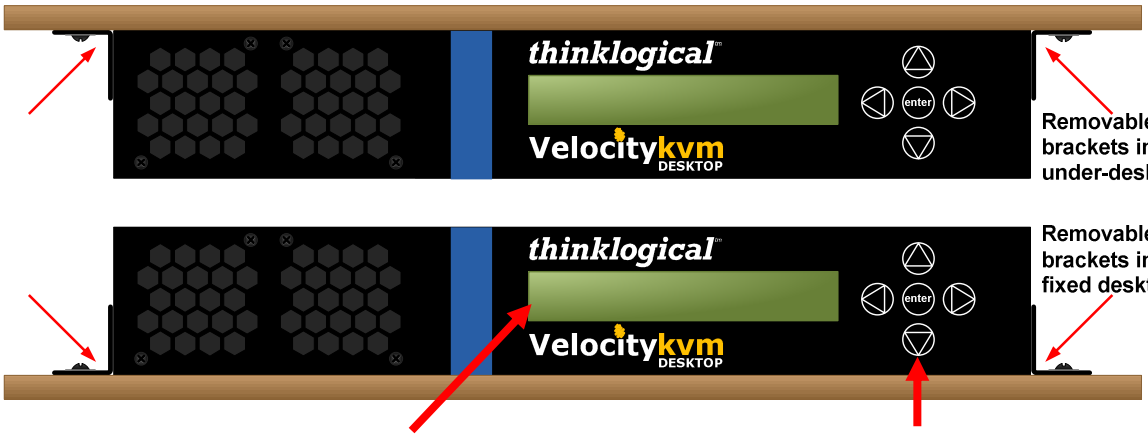
The VelocityKVM Desktop Series has been designed specifically for all desktop requirements. This conveniently compact component takes up very little space on a work surface or it can be conveniently mounted out of the way, below the desktop, simply by reversing the removable side brackets. **Standard 19" mounting brackets** (VED-000001) **are also available upon request.** The VelocityKVM Desktop chassis does not need to be opened or accessed. Once mounted, the front panel should be visible and unobstructed so that the LCD display and navigation buttons are accessible.



The included mounting brackets can be installed for fixed desktop mounting or under-desk mounting simply by removing two screws per bracket.



19" Rack Mount Brackets (VED-000001) are also available by request



Removable mounting brackets installed for under-desk mounting.

Removable mounting brackets installed for fixed desktop mounting.

LCD System Information and Programming

CD Navigation

3.4 Front Panel Display and Buttons

The front-panel LCD display should be visible and accessible for system setup. The front panel buttons are used to gather status, configure special video settings and to review existing configurations.

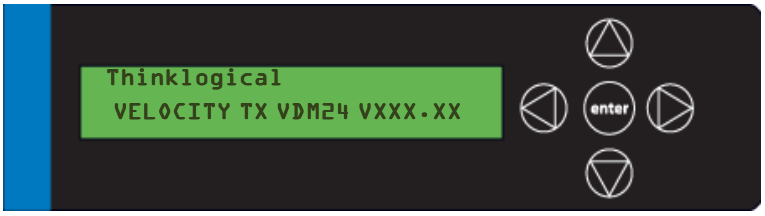
Note: Located on the front panel display is a removable decal that describes the configuration of your desktop unit. It identifies the module as a transmitter or receiver, as configured for your specific application.

For order of installation events, see our handy **Quick Start Guides** in **Appendix A** (pg. 17)**.**

4 Using the Front panel

4.1 Enter the Main Root Menus

Once the system is powered up, the initial chassis display is shown:



The company name is listed on the first line of the display. The model and software version (VXX.XX) of the unit is displayed on the second line. In the front panel menus, the word **card** is used in place of **module,** but refers to the same devices described elsewhere throughout this document.

By pressing the down arrow  the VelocityKVM Desktop Chassis allows you to enter into the main menu. There is a separate root menu for each of the four cards (modules). **The main root menu items are displayed with an *.** They are as follows:

Once a *root menu item is displayed, you can then use the left arrow  or right arrow  to review settings or make changes, if allowed.

The VelocityKVM Desktop menu functionality is as follows:

Some menu options may not be available on all models.

TRANSMITTER:

Display	Modifiable	Description
***System**		
LS Connected	NO	An indication of the fiber status from the TX to RX.
Tx Ctrl Name	TX Only	Name entered on TX unit is displayed on RX unit.
Load Defaults	YES	Loads factory default video configurations.
Store Values	YES	Store video configurations.
KM Device	NO	Revision of the Velocity portion that plugs into CPU.
KM Remote Host	NO	Revision of the Velocity KM Host on the RX unit.
TX Control	NO	Revision of the TX unit laser and front panel control.
RX Control	NO	Revision of the RX unit laser and front panel control.
FPGA Version	NO	Revision of the FPGA used for video generation.
Serial Number	NO	2 digits each for DDMMYY and 2 or 3 unique digits
Debug Values	YES	Factory Use.
SFP Loss of Signal	NO	Indicates loss of SFP signal
Temp in Celsius	NO	IN=PCB temp (max=70) EX=FPGA temp (max=80)

Display	Modifiable	Description
***DDC**		
DDC PROM Emula. Mode	YES	Options are Dynamic, Static and Passthru. In **Dynamic mode**, the DDC of the monitor connected to the RX is read and stored on the TX. The CPU is informed of a change in DDC and the monitor is read. This is useful when the CPU can be turned on without a connection to the RX. **Static mode** is used to maintain the current DDC regardless of monitor changes at the RX. **Passthru mode** makes the DDC pins look like direct connections between the TX and RX, allowing the computer to talk directly to the monitor.
Load Default DDC	YES	Loads the default DDC stored in the application which allows 1024x768. This puts the TX into static mode.
Acquire DDC	YES	Gets the DDC table of the unit attached, stores the information and puts the TX in static mode.
Force DDC Mode	YES	Used to force the DDC of a monitor to appear as either digital or analog. Since the Velocity products can convert between analog and digital, sometimes the DDC has to be modified to match the method of connecting the TX to CPU.

RECEIVER:

Display	Modifiable	Description
***System**		
LS Connected	NO	An indication of the fiber status from the TX to RX.
Tx Ctrl Name	TX Only	Name entered on TX unit is displayed on RX unit.
KM Device	NO	Revision of the Velocity portion that plugs into CPU.

KM Remote Host	NO	Revision of the Velocity KM Host on the RX unit.
TX Control	NO	Revision of the TX unit laser and front panel control.
RX Control	NO	Revision of the RX unit laser and front panel control.
FPGA Version	NO	Revision of the FPGA used for video generation.
Serial Number	NO	2 digits each for DDMMYY and 2 or 3 unique digits
Debug Values	YES	Factory Use.
SFP Loss of Signal	NO	Indicates loss of SFP signal
Temp in Celsius	NO	IN=PCB temp (max=70) EX=FPGA temp (max=80)

Display	**Modifiable**	**Description**
***PS2 Devices**		
PS2 KB Scan	NO	Value of 1, 2 or 3 for the scan code. 0= not properly connected to the CPU.
PS2 Mouse Mode	NO	Value of 0, 3 or 4 for the mode. 255= mouse not properly connected to the CPU.

Display	**Modifiable**	**Description**
***USB Country Code**		
USB Country	NO	The country code of the USB KB that the unit reports itself as being. This is the last USB KB country applied to the remote host. Most hardware is not localized and thus this value would be zero (0), which is displayed as “Not Supported”
USB Device Enum	NO	A bit pattern that indicates which ports have been enumerated at the Velocity device side. The bits are laid out as Bit0=KB, Bit1=MS, Bit2=TBLT, Bit3=DWNLD, Bit4=Daughter Card_KB, Bit5=Daughter_MS, Bit6=Daughter_TBLT.

Display	**Modifiable**	**Description**
***DDC**		
DDC PROM Emula. Mode	YES	Options are Dynamic, Static and Passthru. In **Dynamic mode**, the DDC of the monitor connected to the RX is read and stored on the TX. The CPU is informed of a change in DDC and the monitor is read. This is useful when the CPU can be turned on without a connection to the RX. **Static mode** is used to maintain the current DDC regardless of monitor changes at the RX. **Passthru mode** makes the DDC pins look like direct connections between the TX and RX, allowing the computer to talk directly to the monitor.
Load Default DDC	YES	Loads the default DDC stored in the application which allows 1024x768. This puts the TX into static mode.
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Force DDC Mode	YES	Used to force the DDC of a monitor to appear either digital or analog. Since the Velocity products can convert between analog and digital, sometimes the DDC has to be modified to match the method of connecting the TX to CPU.

4.2 Firmware Upgrades

Firmware upgrades are available through Thinklogical®. For technical assistance, please call us at **1-203-647-8700**.

• To update the Chassis firmware, use the **KM download** procedure described below.

KM Download Procedure:
Firmware files and revision numbers are stored in the following:
http://ftp.thinklogical.com/ftp/visualization/updates/Firmware.zip

The KM_Download.exe application and instructions are stored in:
http://ftp.thinklogical.com/ftp/visualization/updates/KmDownloadVxxx.zip
(where 'Vxxx' is the version number).

Firmware Update Preparation:

1. Retrieve the *Firmware files/revision numbers* and the *KM_Download application/instructions* and place them in an accessible directory in your CPU.
2. Install the **KmDownload** application (in KMDownloadVxxx.zip file) by running **setup.exe**.
3. Unzip the **Firmware.zip** file and place the contents in an accessible directory in your CPU.
4. Have a copy of the instructions (**http://ftp.thinklogical.com/ftp/visualization/updates**) and latest versions available for comparison after the update is complete.

• To update a module's FPGA, go to **Allow FPGA Update** under the ***System** menu. Select **Yes** and load the update through the CNTL port on the installed module using the **FPGA Update** procedure, also described below.

FPGA Download Procedure:
Firmware files and revision numbers are stored in the following:
http://ftp.thinklogical.com/ftp/visualization/updates/FPGA_Firmware.zip
The **FPGA_Download.exe** application & instructions are stored in:
http://ftp.thinklogical.com/ftp/visualization/updates/FPGA_Upgrade.zip

FPGA Update Preparation:

1. Retrieve the ***Firmware files/revision numbers*** and the ***FPGA_Download application /instructions*** and place them in an accessible directory in your CPU.
2. Copy the file **FPGA_firmware.zip** to a local directory and extract to a desired location.
3. Copy the file **FPGA_upgrade.zip** to a local directory.
4. Install **setup.exe** in **FPGA_upgrade.zip**.
5. Have a copy of the instructions (**http://ftp.thinklogical.com/ftp/visualization/updates**) and latest versions available for comparison after the update is complete.

5 Regulatory & Safety Compliance

5.1 Safety Requirements

Symbols Found On Our Products

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® VelocityKVM Desktop products are designed and made in the U.S.A. VelocityKVM Desktop 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

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, LLC®**
100 Washington Street
Milford, Connecticut 06460 USA
Telephone 1-203-647-8700

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

5.2 Standards with Which Our Products Comply

Safety

CENELEC EN 60950-1, 1st Edition (2001)

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

5.3 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 exigencies du Règlement sur le matérial 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 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

VelocityKVM Desktop 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 current format for the date-code is 2 digits for the week 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 Our Products

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.

6 How to Contact Us

6.1 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 lines of support come 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, firmware updates, support information and general information about all of the products we offer: **www.thinklogical.com**

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.

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, LLC® 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 one of the following email addresses, depending on your 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 sales staff in Milford, CT at **1-203-647-8700** or if in the continental US, you may use our **toll-free number 1-800-291-3211**. We are here Monday through Friday from 8:30am to 5:00pm, Eastern Time Zone. Ask for your representative's direct dial phone number when you call.

Telephone Product Support: Contact Product Support in Milford, CT at **1-203-647-8700**. 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 **1-203-647-8700**. 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 provide a "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 voice messages for individuals at any time. Our Sales Representatives have direct numbers to speed up your next call to us.

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.

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

Note: Thinklogical® Inc. 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® authorized dealer where you purchased the device, or if you purchased directly, call Thinklogical® at **1-800-291-3211** (USA).

Return Authorization

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 **R**eturn **M**erchandise **A**uthorization 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 Material Authorization*.

Our Address

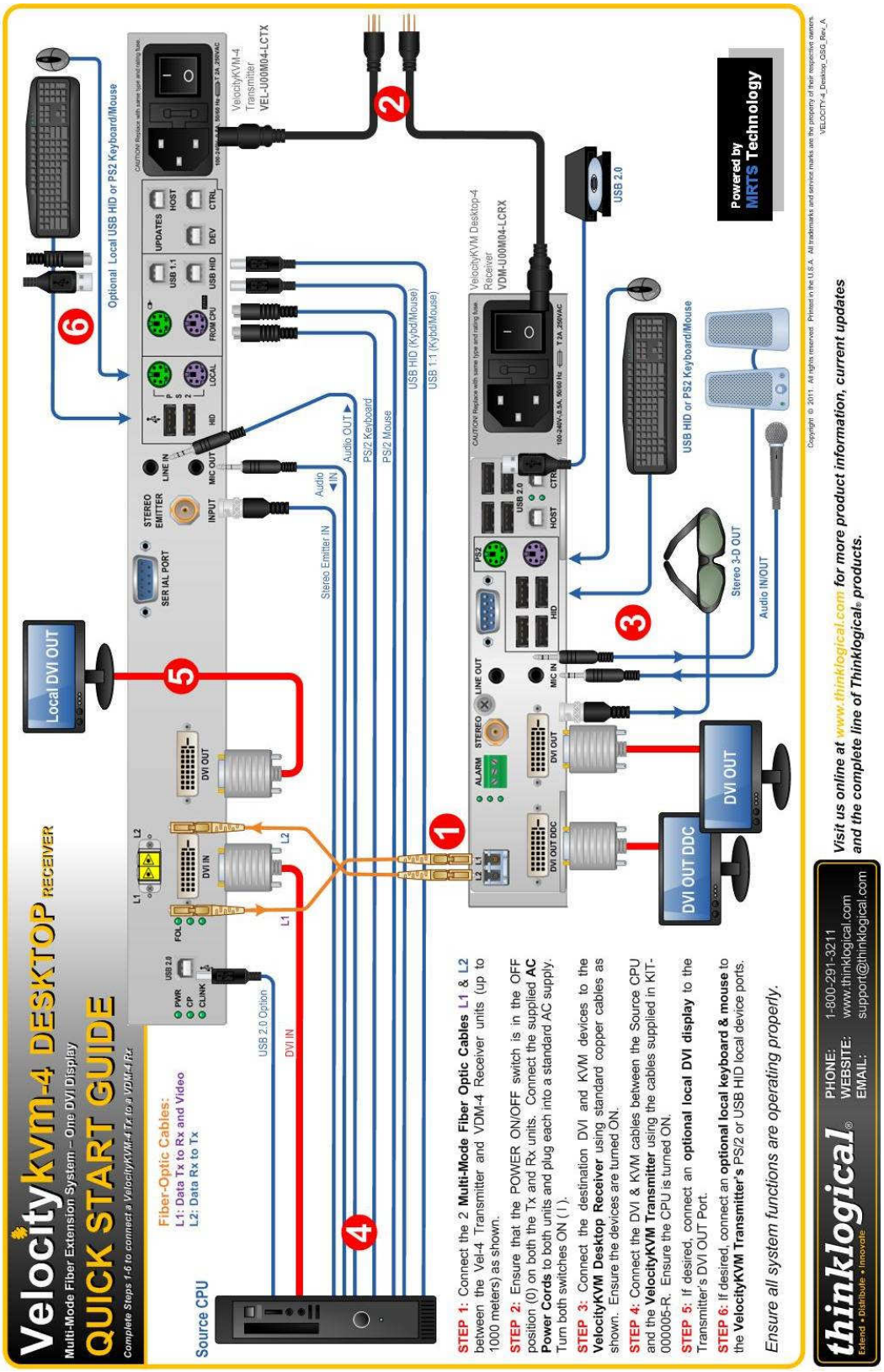
If you have any product issues or questions or need technical assistance with your Thinklogical® system, please call us at **1-800-291-3211 (USA only)** or **1-203-647-8700** and let us help. If you need to write us or return a product, please use the following address:

Return address for products with Return Material Authorization:

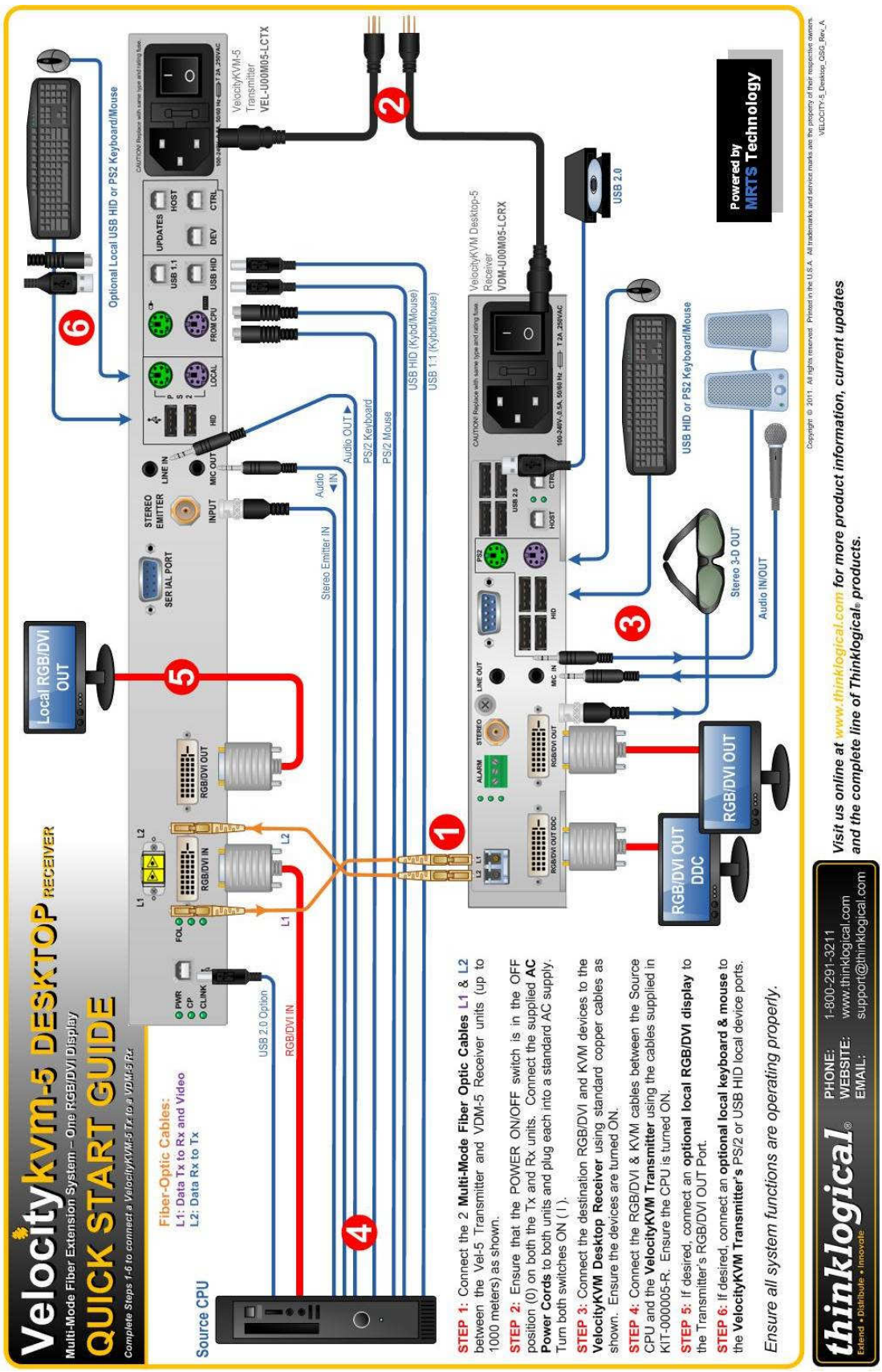
Thinklogical, LLC®
Attn: *RMA#*
100 Washington Street
Milford, CT 06460 USA

APPENDIX A: Quick Start Guides

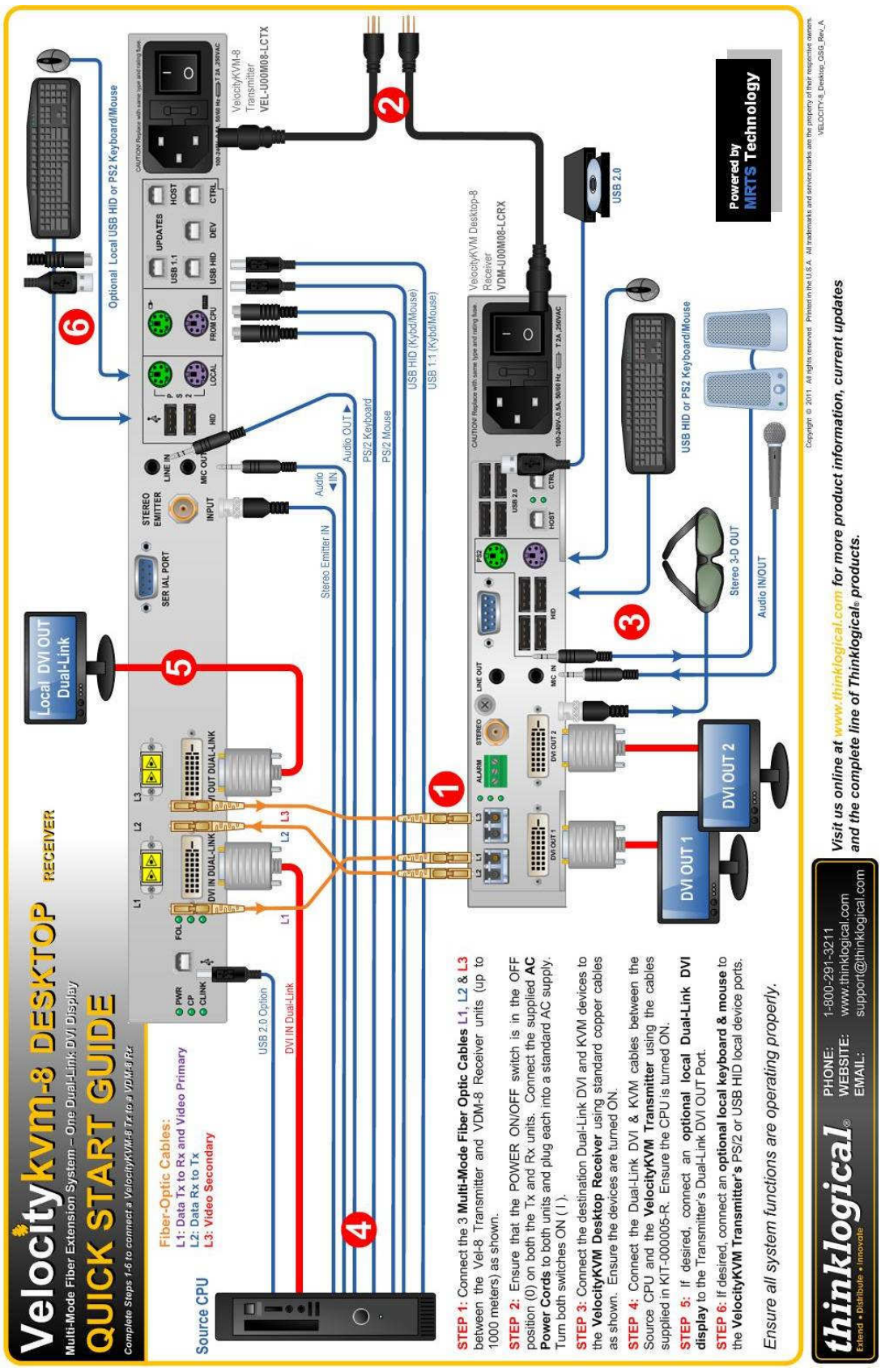
VelocityKVM Desktop VDM-4 Quick Start Guide



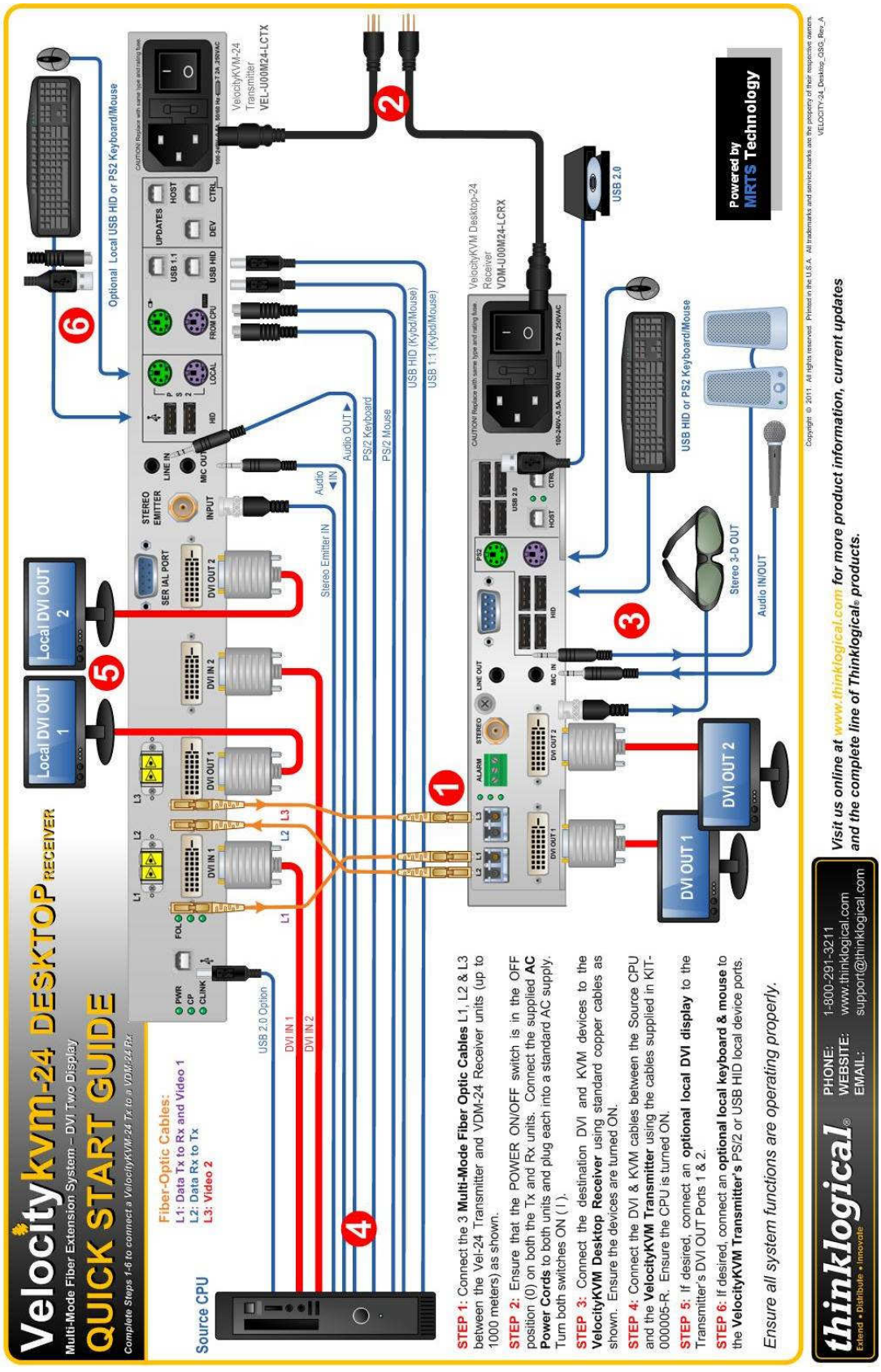
VelocityKVM Desktop VDM-5 Quick Start Guide



VelocityKVM Desktop VDM-8 Quick Start Guide



VelocityKVM Desktop VDM-24 Quick Start Guide



Appendix B-

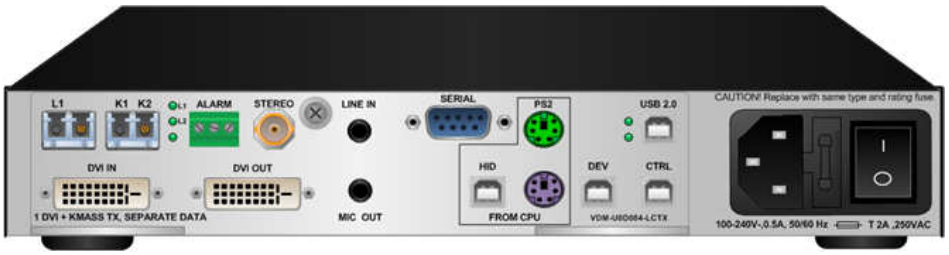
VelocityKVM Desktop Multi Video Path, Separate Data Path and Separate Audio Path Modules

Thinklogical's® line of **Multiple Video, Separate Audio and Separate Data Path VDM-4 and VDM-5 Modules fit all of our Desktop Series Chassis** and are designed to accommodate systems that require data transmission security and for systems with a lower video transmission rate, or for systems not transmitting video through a Thinklogical® KVM Matrix Switch.

- The **Velocity Desktop Multi Video Path Module** allows one 6.22 Gbps DVI signal to be transmitted across two fibers at a bandwidth of 3.11 Gbps per fiber.
- The **Velocity Desktop Separate Audio Path Module** allows audio signals to be transmitted on one fiber and received on another fiber, separate from Video, USB, PS2, RS-232 and Stereo Emitter data, which are transmitted on two independent fibers.
- The **Velocity Desktop Separate Data Path Module** allows KMASS data to be transmitted on one fiber and received on another fiber, separate from video data, which is transmitted on a separate, third fiber.

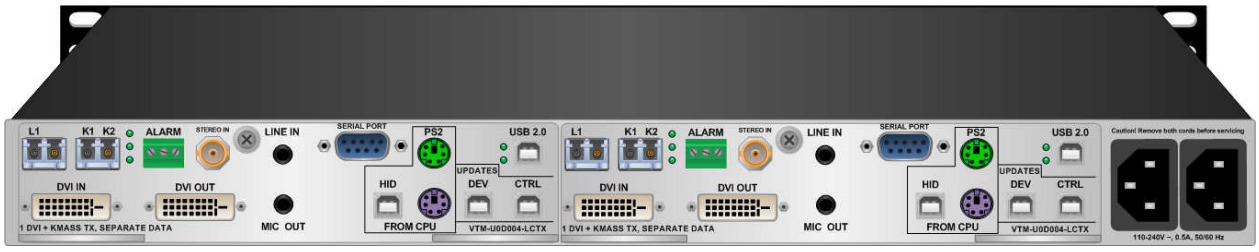
Part Numbers and Descriptions

1. **VelocityKVM Desktop Chassis:** *Designed to accommodate any Desktop version Multi Path, Separate Audio or Separate Data Module or any other VDM Module variety.*



Velocity Desktop Chassis **VED-000001**

2. **VelocityKVM T-4200 Chassis:** *Designed to accommodate any combination of up to two Multi Path, Separate Audio or Separate Data Modules and all other VTM and VDM Module varieties.*



Velocity T-4200 Chassis **VTM-004200**

3. VelocityKVM Desktop Multi Video Path, Separate Audio Path & Separate Data Path DVI and DVI/RGB Modules

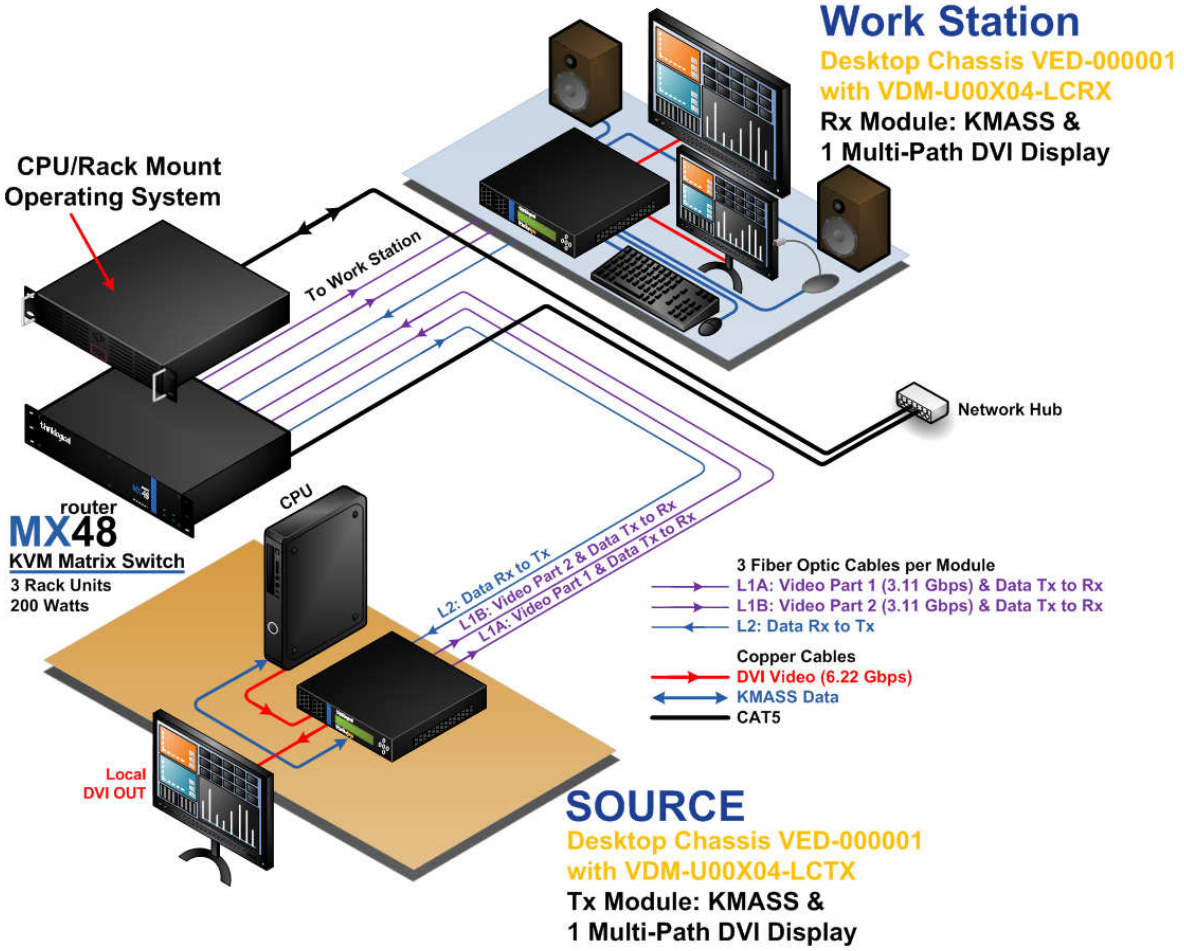
3.1 VelocityKVM Desktop Multi Video Path Modules: *Allows one 6.22 Gbps DVI signal to be transmitted across two fibers at a bandwidth of 3.11 Gbps per fiber.*

VDM-U00X05-LCRX Velocity Desktop 5 Receiver, DVI/RGB 1 Display, HID, USB 2.0, Multi-path, RX, LC
VDM-U00X05-LCTX Velocity Desktop 5 Transmitter DVI/RGB 1 Display, HID, USB 2.0, Multi-path, TX, LC
VDM-U00X04-LCRX Velocity Desktop 4 Receiver, DVI 1 Display, HID, USB 2.0, Multi-path, RX, LC
VDM-U00X04-LCTX Velocity Desktop 4 Transmitter DVI 1 Display, HID, USB 2.0, Multi-path, TX, LC
VDM-H00X04-LCRX Velocity Desktop 4 Receiver, DVI 1 Display, HID, Multi-path, RX, LC
VDM-H00X04-LCTX Velocity Desktop 4 Transmitter DVI 1 Display, HID, Multi-path, TX, LC
VDM-H00X05-LCRX Velocity Desktop 5 Receiver, DVI/RGB 1 Display, Multi-path, HID, RX, LC
VDM-H00X05-LCTX Velocity Desktop 5 Transmitter DVI/RGB 1 Display, Multi-path, HID, TX, LC

VelocityKVM Desktop-5X: RGB/DVI, USB 2.0, USB HID & Multi-Video Paths

VDM-U00X05-LCTX

VDM-U00X05-LCRX



Multi-Video Path Tx Module to Multi-Video Path Rx Module Application

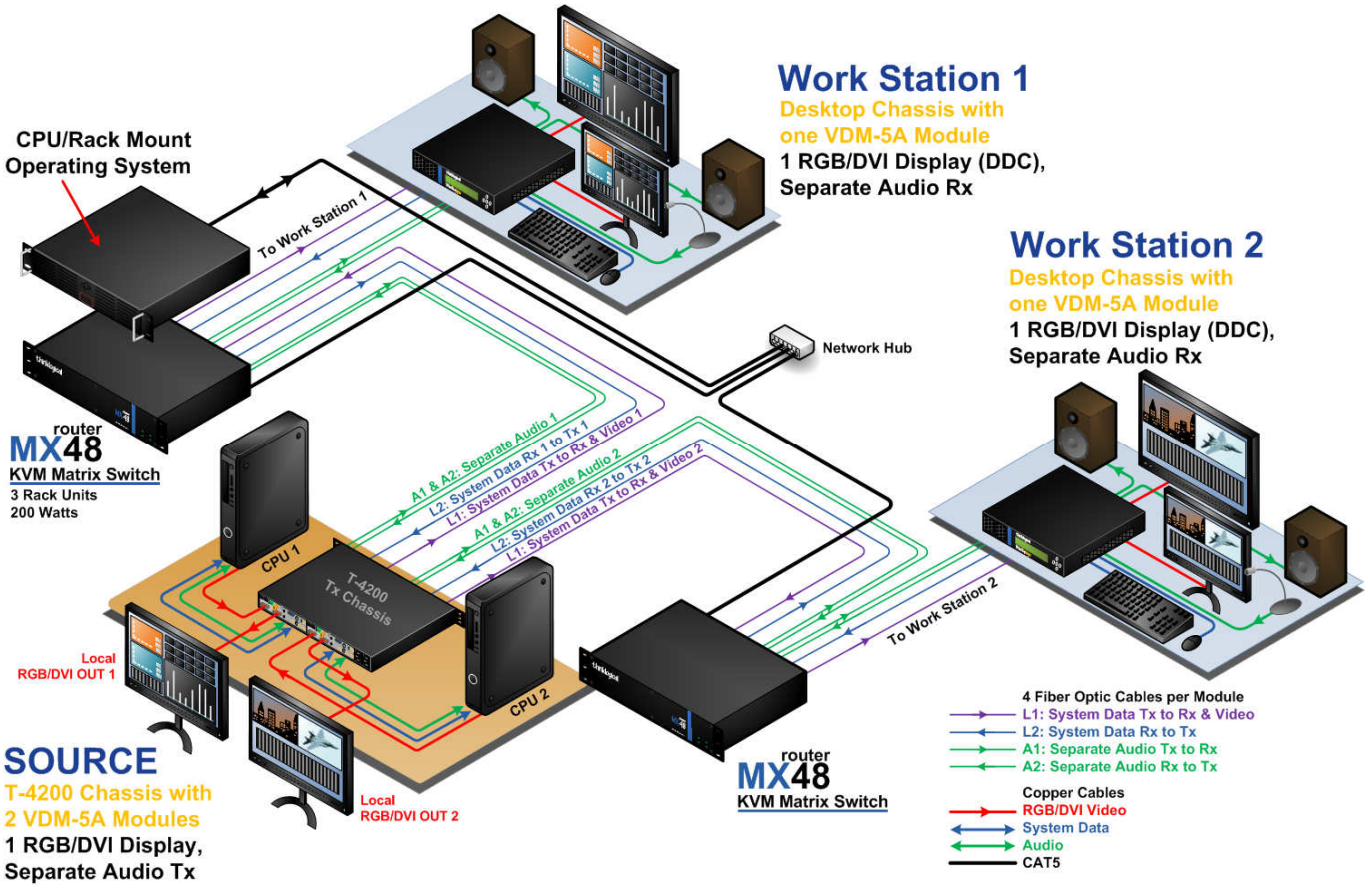
3.2 VelocityKVM Desktop Separate Audio Path Modules: *Allows audio data to be transmitted on one fiber and received on another fiber, separate from Video, USB, PS2, RS-232 and Stereo data, which are transmitted on two independent fibers.*

VDM-U00004-LCRA Velocity Desktop 4 Receiver, DVI 1 Display, HID, USB 2.0, Separate Audio RX, LC
VDM-U00004-LCTA Velocity Desktop 4 Transmitter DVI 1 Display, HID, USB 2.0, Separate Audio TX, LC
VDM-U00005-LCRA Velocity Desktop 5 Receiver, DVI/RGB 1 Display, HID, USB 2.0, Separate Audio, RX, LC
VDM-U00005-LCTA Velocity Desktop 5 Transmitter DVI/RGB 1 Display, HID, USB 2.0, Separate Audio, TX, LC
VDM-H00004-LCRA Velocity Desktop 4 Receiver, DVI 1 Display, HID, Separate Audio, RX, LC
VDM-H00004-LCTA Velocity Desktop 4 Transmitter DVI 1 Display, HID, Separate Audio, TX, LC
VDM-H00005-LCRA Velocity Desktop 5 Receiver, DVI/RGB 1 Display, Separate Audio, HID, RX, LC
VDM-H00005-LCTA Velocity Desktop 5 Transmitter DVI/RGB 1 Display, Separate Audio, HID, TX, LC

VelocityKVM Desktop-5A: RGB/DVI, USB 2.0, USB HID & Separate Audio Paths

VDM-U00005-LCTA

VDM-U00005-LCRA



Dual RGB/DVI/Separate Audio Tx Modules (T-4200 Chassis) to RGB/DVI/Separate Audio Rx Modules in two Desktop Chassis

3.3 VelocityKVM Desktop Separate Data Path Modules: *Allows KMASS data to be transmitted on one fiber and received on another fiber, separate from video data, which is transmitted on a separate, third fiber.*

VDM-U0D004-LCRX Velocity Desktop 4 Receiver, DVI 1 Display, HID, USB 2.0, Separate Data Path, RX, LC
VDM-U0D004-LCTX Velocity Desktop 4 Transmitter DVI 1 Display, HID, USB 2.0, Separate Data Path, TX, LC
VDM-U0D005-LCRX Velocity Desktop 5 Receiver, DVI/RGB 1 Display, HID, USB 2.0, Separate Audio, RX, LC
VDM-U0D005-LCTX Velocity Desktop 5 Transmitter DVI/RGB 1 Display, HID, USB 2.0, Separate Audio, TX, LC
VED-H0D004-LCRX Velocity Desktop 4 Receiver, DVI 1 Display, HID, Separate Data Path, RX, LC
VDM-H0D004-LCTX Velocity Desktop 4 Transmitter DVI 1 Display, HID, Separate Data Path, TX, LC
VDM-H0D005-LCRX Velocity Desktop 5 Receiver, DVI/RGB 1 Display, Separate Data Path, HID, RX, LC
VDM-H0D005-LCTX Velocity Desktop 5 Transmitter DVI/RGB 1 Display, Separate Data Path, HID, TX, LC

VelocityKVM Desktop-4HD: DVI, USB HID & Separate Data Paths

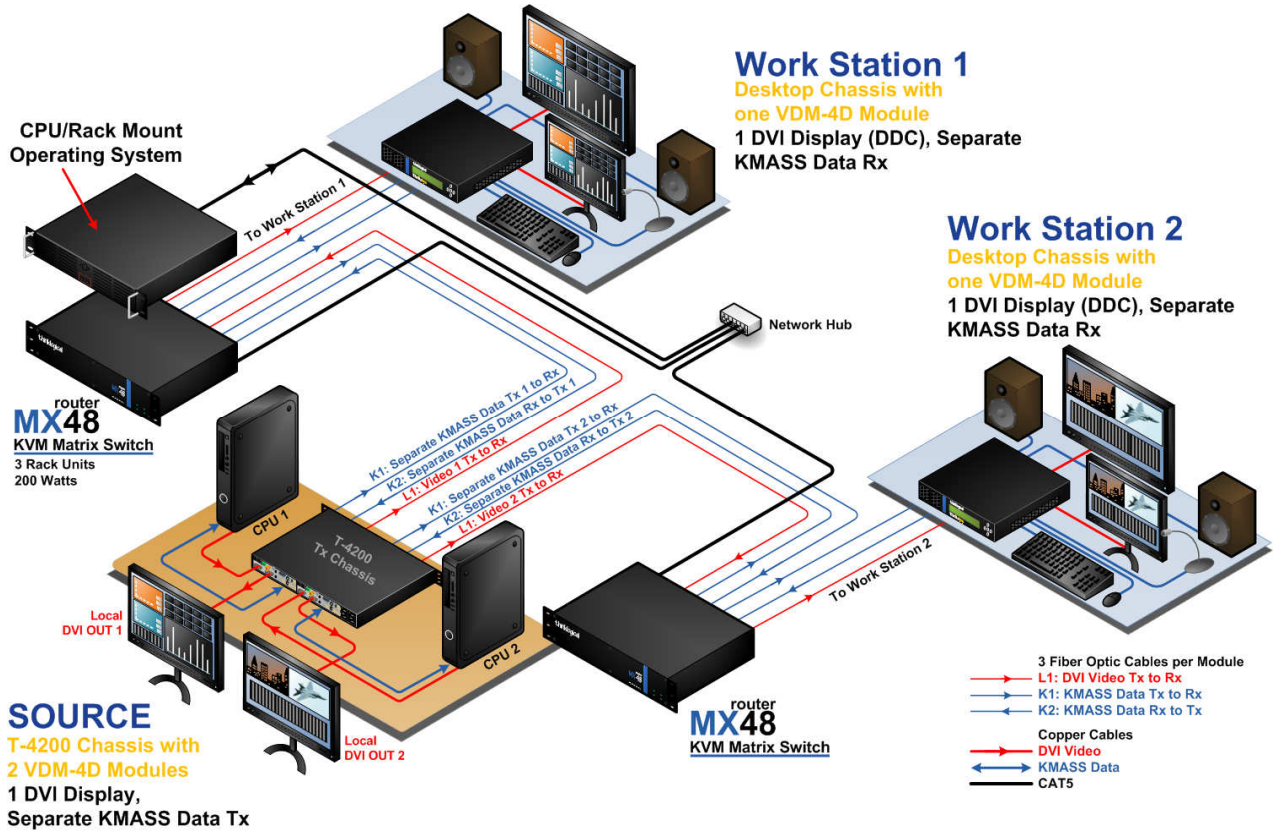
VDM-H0D004-LCTX

VDM-H0D004-LCRX

VelocityKVM Desktop-4D: DVI, USB 2.0, USB HID & Separate Data Paths

VDM-U0D004-LCTX

VDM-U0D004-LCRX



Dual DVI/Separate Data Tx Modules (T-4200 Chassis) to DVI/Separate Data Rx Modules in two Desktop Chassis

4. Single Mode Optics Option

VOP-S04 Velocity 4/5 T-Series Optics Option for Transmitter or Receiver, Single Mode, 3 Fibers, 40KM, LC

5. Multi-Mode Optics Option

VOP-M19 Velocity 4/5 T-Series Optics Option for Transmitter or Receiver, Multi-Mode, 3 Fibers, 1000M, LC

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