# One (1) fiber DVI KVM Extender



# User Manual
# KVMX-200-TR

Doc No. : OKM-D201222-KVMX-200 / Rev1.3

## Manual Contents
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### Pictorials

## Welcome!

Congratulations on your purchase of the KVMX-200-TR, One (1) fiber DVI Optical KVM Extender. This manual contains information that will assist you in installing and operating the product.

## Product Description

New One (1) fiber DVI optical KVM extender, KVMX-200-TR transmits DVI, USB HID, PS/2, RS-232 and bi-directional stereo audio signal up to 1.0km (3,280feet) over one (1) LC optical fiber. As an option, you can select one (1) or two (2) fibers connection by SFP module.

Designed for high resolution performance, it guarantees lossless image quality and no frame dropping to deliver perfect graphic data transmission up to WUXGA (1920x1200) at 60Hz.

It provides Auto-mix EDID programming feature that reads EDID information of both local side and remote side displays and then, detects the lowest resolution of them. It makes the installation of KVMX-200-TR more easy and flexile at any variable resolutions.



**Figure 1– Connection Diagram**
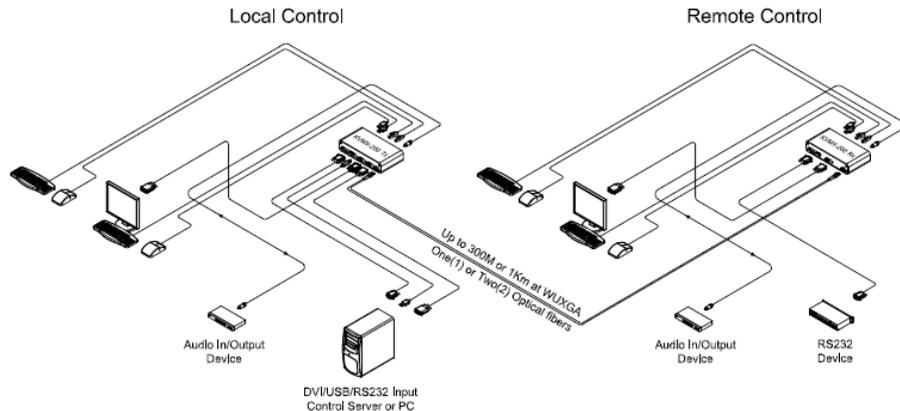
**Shipping Group of KVMX-200-TR**
- ☐ One (1) Transmitter (Tx) and One (1) Receiver (Rx)
- ☐ Two (2) +12V/3A units (including AC cord).
- ☐ User Manual
- ☐ **Option:** Remote console switch (LSKP-10030 & Indicator (RSKP-1003),1RU mounting rack (OPMCR-1U),bracket (OPMCB), fiber-optic cable

## System Requirements for Setup

☐ **Hardware requirements**

- ■ You must have a graphic controller card with a DVI port in your Windows/Mac (Mac is option), or SUN system. It should support the maximum graphic resolution feature of the display to be connected.
- ■ In case of using a computer, no special memory size, CPU speed and chipsets are required.
- ■ Proper initial trial of the entire platform with its application using a short length copper cable is recommended prior to install with the optical link.

☐ **Software requirements**

- ■ No special needs, if the DVI graphic controller and display peripheral are operational with the platform's OS and application.

## Installation

**Important: Please keep the installation procedure below. Improper or no operation may result if the start-up sequence is not correctly followed.**

### Step 1
Carefully unpack the contents of the shipping group.

### Step 2
Power on the PC and display(s).

### Step 3
Plug the 12V power adapters to the +12V DC jack on the rear side of Transmitter and Receiver. Then, the Power LED (blue) will be turned on.

### Step 4
Connect the DVI IN port of Transmitter to the DVI output of a PC over a DVI copper cable. Connect USB IN port of Transmitter to PC over one (1) USB A-B cable for Keyboard and Mouse. Then, the LED (blue), next to the USB IN port will be turned on.

If necessary, connect the RS-232, DIO, audio, and mic cables to RS-232, DIO 1IN/GND/2OUT, audio IN/OUT, and mic IN/OUT connectors on the front side of Transmitter.

### Step 5
Connect the Local Display port of Transmitter to a DVI display over a DVI copper cable. Attach keyboard and mouse to the USB HID port or PS/2 port for local control. Then, the LED (blue) will be turned on. You may skip Step 5 if you don't need local control.



Audio In/Output Device

DVI/USB/RS232 Input Control Server or PC
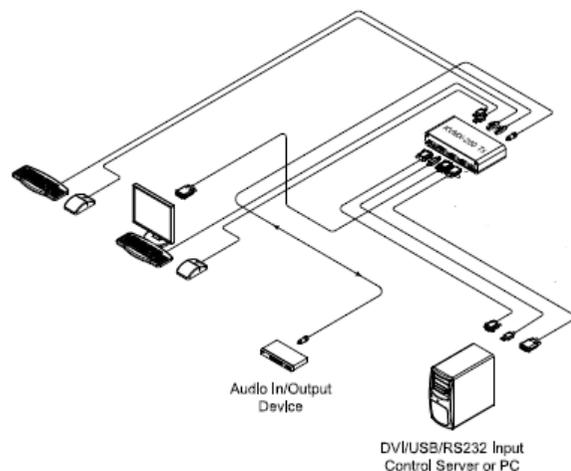
**Figure 2– Connection of Transmitter**

### Step 6
Connect the DVI OUT port of Receiver to a DVI display over a DVI copper cable. Attach keyboard and mouse to the USB HID port or PS/2 port for remote control. Then, the LED (blue) will be turned on.

If necessary, connect the RS-232, DIO, audio, and mic cables to RS-232, DIO 1IN/GND/2OUT, audio IN/OUT, and mic IN/OUT connectors on the front side of Receiver.



Audio In/Output Device

RS232 Device
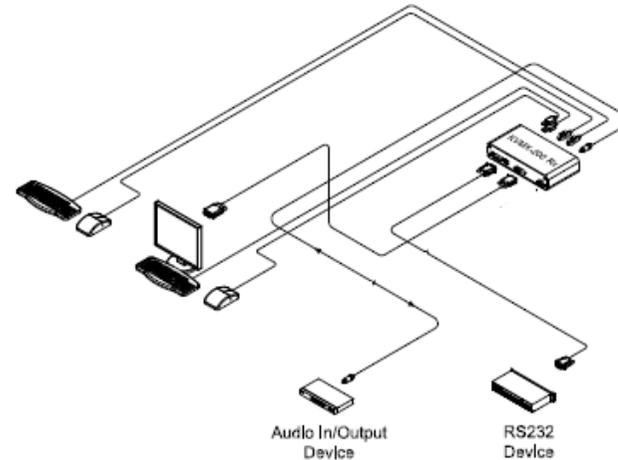
**Figure 3– Connection of Receiver**

### Step 7
Connect one (1) LC single-mode fiber to an Optic port, on the rear side of the Transmitter and Receiver. Then, the Optic LED (blue) and Status LED (blue) on the front side of both will be turned on.
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**Note1:** If you select two (2) fibers application, each fiber channel shall be connected as 1 to 1 and 2 to 2 carefully.

### Step 8
If the connectors are fully engaged, a display will be shown.

**Note2**: KVMX-200-TR reads EDID information of both local side and remote side displays and then, determines the lowest resolution of them for easy and flexible installation (Auto-mix EDID programming).

## Switch operation guide

Graphic data is always transmitted not only to Local Display but also to remote DVI OUT. However, USB port for keyboard and mouse is selectable for control at specific position.

### Local control

- Set the switch on the front of the Transmitter to the Local side, and the Local LED (blue) of both will be turned on.

- Then, you can control a PC at local side through the display, connected to the Local Display port of the Transmitter.

### Remote control

- Set the switch on the front of the Transmitter from the Local side to the Remote side, and the Remote status LED (blue) on the front side of both Transmitter and Receiver will be turned on.

- Then, you can control a PC at remote side through the display, connected to the DVI OUT port of the Receiver.

### Console Switch and Indicator

- Connect the Console port in both Transmitter and Receiver to the RJ11 port in both Console switch (LSKP-1003) and Indicator (RSKP-1003) over each one (1) console cable.

- Set the switch on the front of the Transmitter to the Console side.

- Then, you can control by setting the switch (Local or Remote) on the LSKP-1003. If you set the switch to the Local, the Local status LED (Green) of LSKP-1003 and (Red) of RSKP-1003 will be turned on, and you can control a PC at Local side.

On the contrary, if you set the switch from the Local to the Remote, the Remote status LED (Red) of LSKP-1003 and (Green) of RSKP-1003 will be turned on, and you can control a PC at Remote side.

## Troubleshooting

**The display shows black screen.**

- Ensure that all plugs and jacks used by external power supplies (both Opticis and others) are firmly connected. Ensure that the related LEDs are ON.

- Ensure that the transmitter and receiver are plugged correctly to a PC and display, respectively.

- Check if the PC and display(s) are powered on and properly booted.

**Screen is distorted or displays noises.**

- Check if the graphic resolution is properly set. Go to the display properties of Windows and tap the settings.

- Ensure that the resolution sets less than WUXGA (1920x1200) at 60Hz refresh ratio.

- Reset the system. Disconnect and reconnect the optical fiber or 12V power adapters.

## Maintenance

No special maintenance is required for this and power adapters. Ensure that the power adapters are stored or used in a benign environment free from liquid or dirt contamination.

There are no user serviceable parts. Refer all service and repair issues to Opticis.

## Technical Support and Service

For commercial or general product support, contact your reseller. For technical service, contact Opticis by email techsupp@opticis.com or visit its website at www.opticis.com

## Product Specifications

| OPTICAL INTERCONNECTION | |
|---|---|
| Number of fibers<br>Connectors<br>Wavelength<br>Operating Distance | One (1) or Two (2) fiber<br>One (1) or Two (2) LC connector<br>1271 / 1331 nm (SM-1Fiber), 1310 nm (SM-2Fibers), 850 nm (MM-2Fibers)<br>Up to 1.0 km (3,280feet) over LC single-mode<br>Up to 300m (985feet) over LC multi-mode |
| VIDEO | |
| Supported Resolution<br>Pixel data bit depth<br>Connectors (Tx)<br><br>Connector (Rx) | WUXGA (1920x1200)<br>8 bits per channel, 3 channels (RGB)<br>One (1) DVI-D receptacle for input<br>One (1) DVI-D receptacle for local monitor<br>One (1) DVI-D receptacle for remote monitor |
| USB, PS/2 | |
| Supported Standard<br>Connectors (Tx)<br><br><br><br>Connector (Rx) | USB HID, PS/2<br>One (1) USB-B receptacle for connection with PC.<br>Two (2) USB-A receptacle for local KM<br>Two (2) PS/2 receptacle for local KM<br><br>Two (2) USB-A receptacle for remote KM<br>Two (2) PS/2 receptacle for remote KM |
| AUDIO (3.5mm jack) | |
| Connector (Tx)<br><br>Connector (Rx) | One (1) Audio In & One (1) Audio Out<br>One (1) Mic In & One (1) Mic Out<br><br>One (1) Audio In & One (1) Audio Out<br>One (1) Mic In & One (1) Mic Out |
| DIO | |
| Connector (Tx)<br><br>Connector (Rx) | One (1) DIO In& One (1) GND &<br>One (1) DIO Out<br><br>One (1) DIO In& One (1) GND &<br>One (1) DIO Out |
| SERIAL DATA COMMUNICATION | |
| Connector (Tx)<br>Connector (Rx)<br>Supported Protocol | One (1) 9-pin Dsub receptacle plug<br>One (1) 9-pin Dsub receptacle plug<br>RS-232C |

## Product Specifications

☐ **Environmental Specifications**

■ Operating temperature: 0°C to 50°C

■ Storage temperature: - 30°C to 70°C

■ Humidity: 10% to 85%

☐ **Dimensions (WDH):** 216 x 112 x 44mm

**AC/DC Power Adapter**

☐ **Power Input:** AC 100-240V, 50/60Hz, AC power cord with power jack.

☐ **Power Output:** +12 V, 3A SMPS DC-power Adapter

☐ **Cord DC Jack:** Core is 12 V and outer is GND.

## Features

- □ One (1) or Two (2) fiber connection by SFP module
- □ Supports up to **WUXGA (1920x1200)** resolution at 60Hz.
- □ Transmits **DVI, USB HID, PS/2, RS232 and audio signal** up to **1km (3,280feet)** over one (1) or two (2) LC optical fibers.
- □ Operates with both single and multi-mode optical fibers.
  - ■ Up to **1.0km (3,280feet)** with one (1) or two (2) LC single-mode fibers
  - ■ Up to **300m (985feet)** with two (2) LC multi-mode fibers
- □ Offers DVI, USB, PS/2 **Loop through** port for a local display and Keyboard / Mouse.
- □ Supports **bi-directional stereo audio**.
- □ **Auto-mix EDID** programming
- □ Supports DIO port.
- □ Lossless Image Quality, with no Frame Dropping
- □ USB HID and PS/2 ports for keyboard and mouse
- □ Provides Serial Control Data: RS232C through 9pin D-sub connector.
- □ Remote console switch, Indicator, 19" 1RU mounting rack and bracket as an option
- □ Certifications: CE / FCC

## Ordering Information

- □ **KVMX-200-TR:** One (1) single-mode fiber connection by SFP module
- □ **KVMX-201-TR**: Two (2) single-mode fibers connection by SFP module
- □ **KVMX-202-TR**: Two (2) multi-mode fibers connection by SFP module

**Note:** Opticis recommend user to use the SFP module, supplied by Optics for stable connection. If user uses other SFP modules, it might cause malfunction or failure to properly use the product.
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## Warranty Information up

### 1 (One) Year Warranty

Opticis warrants this KVMX-200-TR to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchase from Opticis or its authorized resellers.

If a product does not work as warranted during the applicable warranty period, Opticis shall, at its option and expense, repair the defective product or part, deliver to customer an equivalent product or part to replace the defective item, or refund to customer the purchase price paid for the defective product.

All products that are replaced will become the property of Opticis.

Replacement products may be new or reconditioned.

Any replaced or repaired product or part has a ninety (90) day warranty or the reminder of the initial warranty period, whichever is longer.

Opticis shall not be responsible for any software, firmware, information, or memory data of customer contained in, stored on, or integrated with any products returned to Opticis for repair under warranty or not.

### Warranty Limitation and Exclusion

Opticis shall have no further obligation under the foregoing limited warranty if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or service other than by Opticis or its authorized agents, causes other than from ordinary use or failure to properly use the product in the application for which said product is intended.

### Dispose of Old Electrical & Electronic Equipment
(Applicable in the European Union and other European countries with separate systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

## Firmware download

### Step 1
Please download the setup and firmware file.

**Note:** Opticis will provide the setup and firmware file, when the KVMX-200-TR program needs to be updated.

### Step 2
Click "Setup" file in DN_GUI folder and select a language. Then, start setup wizard as shown as below. Click the "Next" button.



### Step 3
Choose install location and Click the "Next" button.



**1-11 Firmware download**

### Step 4
Select shortcuts. (If you don't want it, check the blank box) Then, click the "Next" button.



### Step 5
Click "Install" button and then, the installation will be completed.

### Step 6
Check the box "Launch Download GUI" and click the "Finish" button.

### Step 7
Then, the Download GUI is completed to install the firmware download.

### Step 8
Power on the Transmitter or Receiver and connect a PC to Service port on the front side of Transmitter or Receiver over Mini-USB cable.

### Step 9
Operate Download GUI and select Comport to select communication port of PC. Then, click "Download" button.
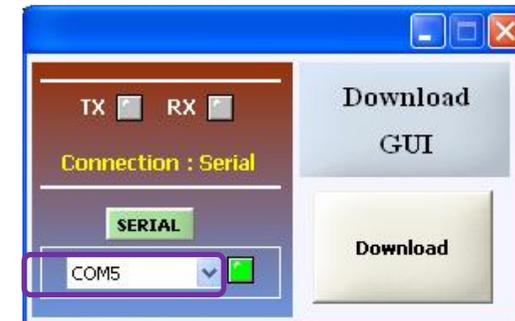


**1-12 Firmware download**

**Step 10**
Click "Open" button and select download file (bin. Format)
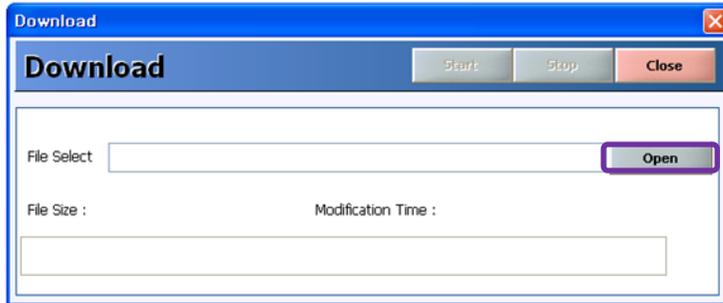


**Step 11**
Click "Start" button. Then the firmware will be downloaded
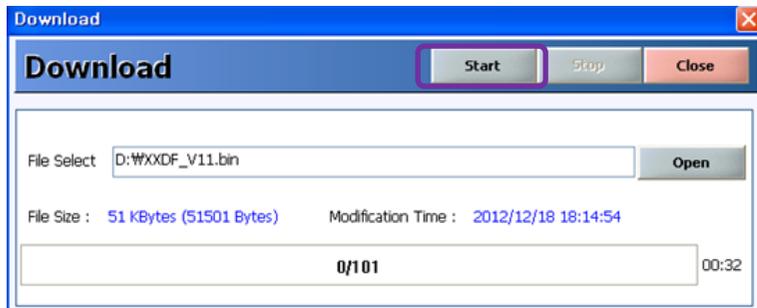


**Step 12**
The firmware download is completed and its status will be shown as below.



**Step 13**
Please close the program and reboot KVMX-200-TR to run it under new firmware program.

**1-13 Firmware download**

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www.opticis.com

For order support, please contact your Distributor or Reseller.

For technical support, check with the Opticis web site www.opticis.com or contact techsupp@opticis.com