MuxLab
PRODIGITAL™

DVI Fiber Optic
Extender Kit
Installation Guide
500463

SAFETY PRECAUTIONS

To insure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.   Keep the product away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Using supplies or parts not meeting the product's specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- Install the device in a place with good ventilation to avoid damage caused by overheat.
- Unplug the power cord when left unused for a long period of time.
- Do not put any heavy items on the unit.
- Do not remove the housing of the device as you may be exposed you to dangerous voltage or other hazards.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Information on disposal of devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.
- Unpack the equipment carefully and save the original box and packing material for possible future shipment

NOTICE:

- Please read this user manual carefully before using this product.

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1. Introduction

1.1 Introduction to the 500463

The **DVI Fiber Optic Extender Kit** transmits four (4) optical data: Red, Green, Blue and clock and can be extended up to 500 meters (1640ft) over one (1) SC multi-mode fiber (50/125μm) at WUXGA (1920x1200), 60Hz vertical refresh rate. The EDID (Extended Display Identification Data) in a display can be read and restored by just plugging once transmitter to the display. This **Self-EDID programming** feature makes the installation of DVI Fiber Optic Extender Kit easier and flexible at any variable resolution display systems. For your convenience, UXGA EDID would have been done before shipment as a default.

1.2 Features

- Support DVI 1.0 and DDC2B by virtual DDC
- 500 meters (1640 feet) over 50/125μm multi-mode fiber (OM2) at WUXGA (1920x1200), 60Hz refresh rate
- 1000 meters (3280 feet) over 50/125μm multi-mode fiber (OM3) at WUXGA (1920x1200), 60Hz refresh rate
- Bandwidth of 2.25Gbps which covers WUXGA or even 2K or 1080p 36bit color depth
- Virtual DDC allows the transmitter to copy the EDID from the display (Self-EDID programming)
- Compact Metal Enclosure for a robust and easy installation

1.3 Package Contents

- One (1) DVI Fiber Optic Transmitter
- One (1) DVI Fiber Optic Receiver
- Two (2) Power Supply 5VDC, 1A
- One (1) User Manual

Notes：Please confirm if the product and the accessories are all included, if not, please contact your dealer.

2. Specification

Environment	DVI 1.0
Devices	Plasma, projectors, monitors, PC, laptops, servers supporting DVI.
Transmission	Transparent to the user
Video Bandwidth	2.25 Gbps
Video Resolution	Up to 1920x1200
Signals	DVI 1.0
Connectors	One (1) DVI –D Male Connector (Single Link). One (1) SC Fiber Connector. One (1) Barrel jack for Power.
Maximum Distance	1640 ft. (500 m) over 50/125μm multi-mode fiber (OM2) 3280 ft. (1000 m) over 50/125μm multi-mode fiber (OM3)
Cable	One (1) SC simplex multi-mode fibers, having 50/125μm core
Power Supply	Two (2) 110-240V to 5VDC power supply with interchangeable blades
Temperature	Operating: 0° to 50°C Storage: -30° to 70°C Humidity: Up to 85% non-condensing
Enclosure	Metal
Dimensions	1.54" x 2.2" x 0.57" (39 x 56 x 15 mm)
Weight	0.90 lbs (0.40 kg)
Compliance	Regulatory: FCC, CE, RoHS
Warranty	2 years
Order Information	500463 DVI Fiber Optic Extender Kit

3. System Requirement for Installation

3.1 Hardware requirements

1) You need to have a DVI graphic controller or card having a DVI port in your PC, SUN or Mac systems. It should support the maximum graphic resolution feature of displays to be connected.

2) No special requirements for memory size, CPU speed and chipsets, if you have already properly installed your DVI graphic controllers or cards.

3.2 Software requirements

No special restrictions, if you have already properly installed your DVI graphic controller with your OS.

3.3 AC/DC Power Adapter Technical Advisory

The transmitter (Tx) module of DVI Fiber Optic Extender Kit is designed with a power protection circuit to avoid conflicts of power supply between the external AC/DC power adapter and your DVI power source (pin #14).

We recommend using external AC/DC adapter for Transmitter (Tx) for stable powering. In the case of the Receiver (Rx), power must be supplied by AC/DC adapter at all time because there is no internal power supplied by the displays.
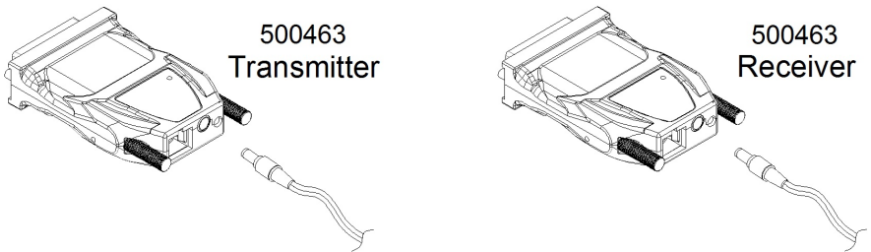
4. System Connection

4.1 Safety Precautions

System should be installed in a clean environment with temperature and humidity within the operating levels.

4.2 System Diagram
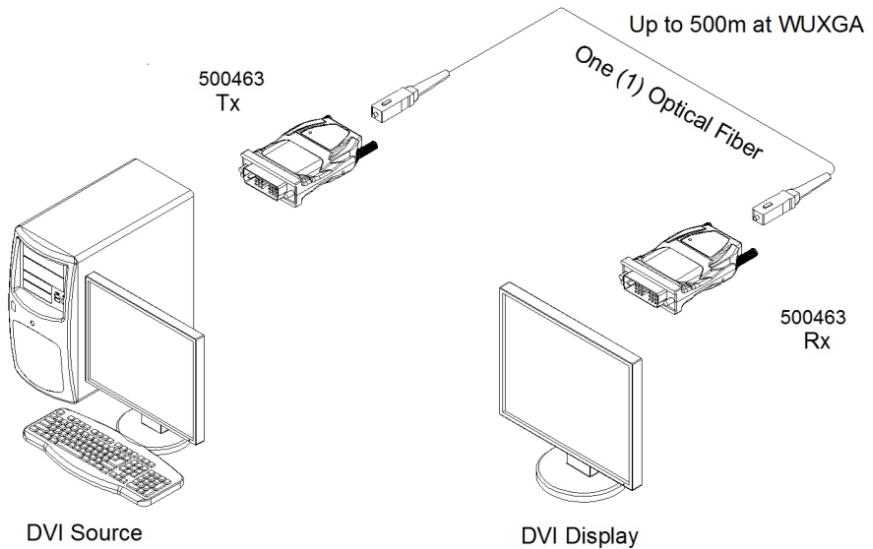
4.3 Connection Procedure

a) Plug the 5VDC power adapters to the power jack of the transmitter and receiver. Ensure the Power LED is ON (Blue).


In most cases, the Transmitter will not require the power supply as long as the DVI Transmitting equipment provides enough power on the pin #14 of the DVI connector. If the DVI Transmitting equipment does not provide enough power to the transmitter, the power LED will blink or will be OFF. In this case, the power supply must be connected to the transmitter.

b) Please, check if the maximum resolution of the display is UXGA (1600x1200). Otherwise, follow the instructions for **Self-EDID Programming Procedure**.

c) Connect SC optical fiber between the transmitter and the receiver.
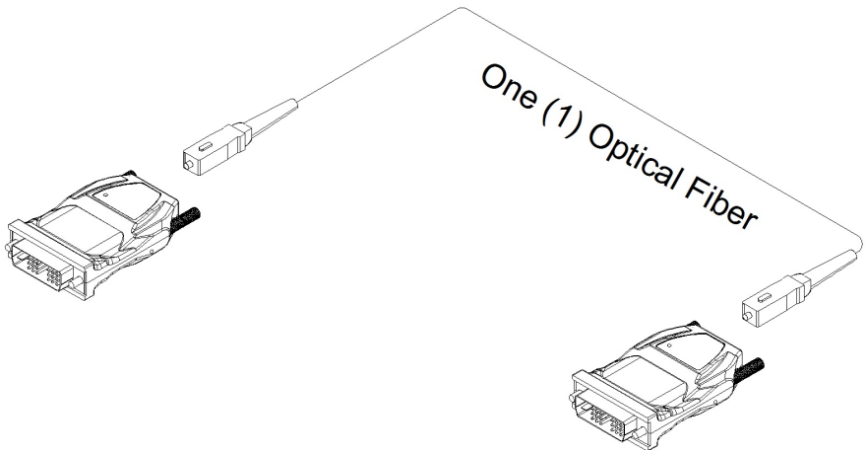
d) Plug the transmitter to the DVI receptacle of the DVI source such as PC and the receiver to the DVI receptacle of the display.

DVI Source

500463
Transmitter

500463
Receiver

DVI Display
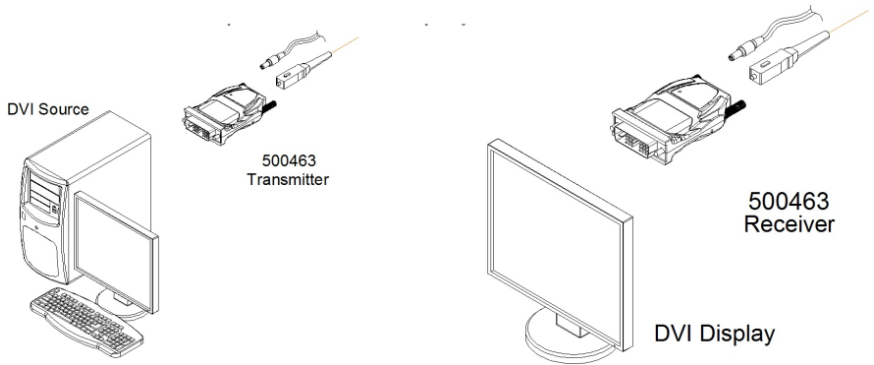
Note: We recommended NOT to use any intermediate DVI cable or adapter between the equipment and the DVI Fiber Optic Extender to avoid undesirable performance degradation.

e) Power ON the computer and the display, and ensure that the Status LED on the transmitter and on the receiver are turned on.

5. Self-EDID Programming Procedure

The graphic source equipment generally requires display information (EDID). It contains resolution and timing information of the display.

DVI Fiber Optic Extender Kit supports Self-EDID programming. This is the procedure that reads the EDID from the display and stores it in the EEPROM of the transmitter. You need to do Self-EDID programming if the maximum resolution of the user's display is not UXGA (1600x1200). To do the Self-EDID programming, please follow the steps below.

Note 1: If you know that EDID is not required by the user's DVI source, Self-EDID programming is not necessary.

Note 2: The default EDID in factory ship-out is programmed in the VESA standard of UXGA (1600x1200), 60Hz.

a)   Power ON the Display.

b)   Plug the 5VDC power adapter to the power jack of the transmitter and receiver. Ensure the Power LED is ON.

c)   Push the EDID PRGM. button of the transmitter with a narrow pin or a paper clip. The status LED will turn ON.
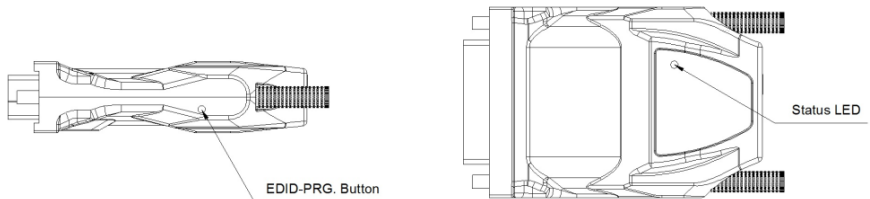
d)   **Connect the transmitter to the display not to the PC.** The status LED will begin to blink rapidly. This indicates that the TX is reading the EDID from the display and storing it in the memory (EEPROM).   After about 7 seconds, the status LED turns OFF to indicate completion of the Self-EDID programming procedure.

e)   Disconnect the transmitter from the display.

6. Troubleshooting & Maintenance

The following table describes some of the symptoms, probable causes and possible solutions in respect to the installation of the 500463.

The display shows only black screen.

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

- Ensure that the DVI connectors are firmly plugged into the Computer and display.

- Ensure that the transmitter and receiver modules are plugged correctly to the Computer and display, respectively.

- Check if the Computer and display are powered on and properly booted.

- Reset the system by de-plugging and re-plugging the transmitter DVI port or receiver DVI port, or by de-plugging and re-plugging the power plugs of transmitter and receiver modules.

- Re-boot the system up while connecting the DVI Fiber Optic Extender.

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 DVI Fiber Optic Extender cables or 5V power adapters.

If you still cannot diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or (+1) 514-905-0588 (International).

Maintenance

No special maintenance is required for the DVI Fiber Optic Extender and power adapters. Ensure that the DVI modules and power adapters are stored or used in an environment free from liquid or dirt contamination.

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

Technical Support and Service

For commercial or general product support, contact your reseller.   For technical service, contact MuxLab by email videoease@muxlab.com or visit its website at www.muxlab.com

Regulatory Compliance

Disclaimer

Information in this document is subject to change without notice. The manufacturer does not make any representations or warranties (implied or otherwise) regarding the accuracy and completeness of this document and shall in no event be liable for any loss of profit or any other commercial damage, including but not limited to special, incidental, consequential, or other damages.

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CE/FCC & Recycling Information

CE Certification
This equipment complies with the requirements relating to Electromagnetic Compatibility Standards EN55022/EN55024 and the further Standards cited therein. It must be used with shielded cables only. It has been manufactured under the scope of RoHS compliance.

FCC Certification
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. You are cautioned that changes or modification not expressly approved by the party responsible for compliance could void your authority to operate the equipment.
This device complies with part 15 of the FCC Rules.
Operation is subject to the following two conditions:
1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation

WEEE (Waste of Electrical and Electronic Equipment), Recycling of Electronic Products

In 2006 the European Union introduced regulations (WEEE) for the collection and recycling of all waste electrical and electronic equipment. It is no longer allowable to simply throw away electrical and electronic equipment. Instead, these products must enter the recycling process.
Each individual EU member state has implemented the WEEE regulations into national law in slightly different ways. Please follow your national law when you want to dispose of any electrical or electronic products. More details can be obtained from your national WEEE recycling agency.

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