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XTENDEX® Series

ST-1FODVI-L-SC(P)

ST-1FODVI-R-SC

DVI Extender via Fiber Optic Cable

Installation and Operation Manual

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INTRODUCTION

The XTENDEX® DVI Extender via Fiber Optic Cable locates a single link digital DVI-D display up to 3,280 feet (1,000 meters) from a computer using a single SC multimode (50-micron or 62.5-micron) fiber optic strand. Each extender consists of a transmitter that connects to a computer and a receiver that connects to a monitor.

- Complies with DVI 1.0 standards.
- Signal transmission via one strand multimode (50-micron or 62.5-micron) SC fiber optic cable – no RF interference.
- Small form factor – for easy connection and placement.
- Cables can be installed in conduit prior to extender installation.
- Built-in default EDID table can be programmed to support any DVI display device..
- Low RFI/EMI for sensitive applications.
- No software to install.
- The DVI Optical Extender is the ideal solution for a wide range of applications. Examples include:
    - Remote DVI display monitoring for medical, military, aerospace, industrial and traffic control applications.
    - Digital Flat Panel Displays (FPD), Plasma Display Panels (PDP) and projectors in conference rooms and auditoriums.
    - Kiosks with digital FPDs.
    - Color LED signboards, FPDs and PDPs for information display at stadiums.

Use in conjunction with a FIBER-1X4-SMSC to extend up to 4 DVI monitors from a single video source up to 3280 feet (1000 meters) away. (See page 5 for details.)

CAUTION: Do not view directly into laser module of the Tx unit or the fiberoptic cable end (if connected to the Tx unit) with optical instruments. Unit is a class 1M laser product.

Materials Included:

- ST-1FODVI-L-SC(P) or ST-1FODVI-R-SC DVI Extender module (Transmitter or Receiver)
- 100-240VAC, 50 or 60Hz-5VDC/2A AC Adapter (1) (Included with ST-1FODVI-R-SC)
  - AC Adapter for possible use with the Transmitter is optional (order ST-1FODVI-L-SC**P**)
- URL slip with path to User's Manual

Materials required but not supplied:

Fiber optic cable to run between the receiver and transmitter- Available from NTI:
FIBER-S-SCSC-50-xxM simplex single-mode SC Fiber Optic Cable (xx = 50,100,300,500,700 and 1000 meters)

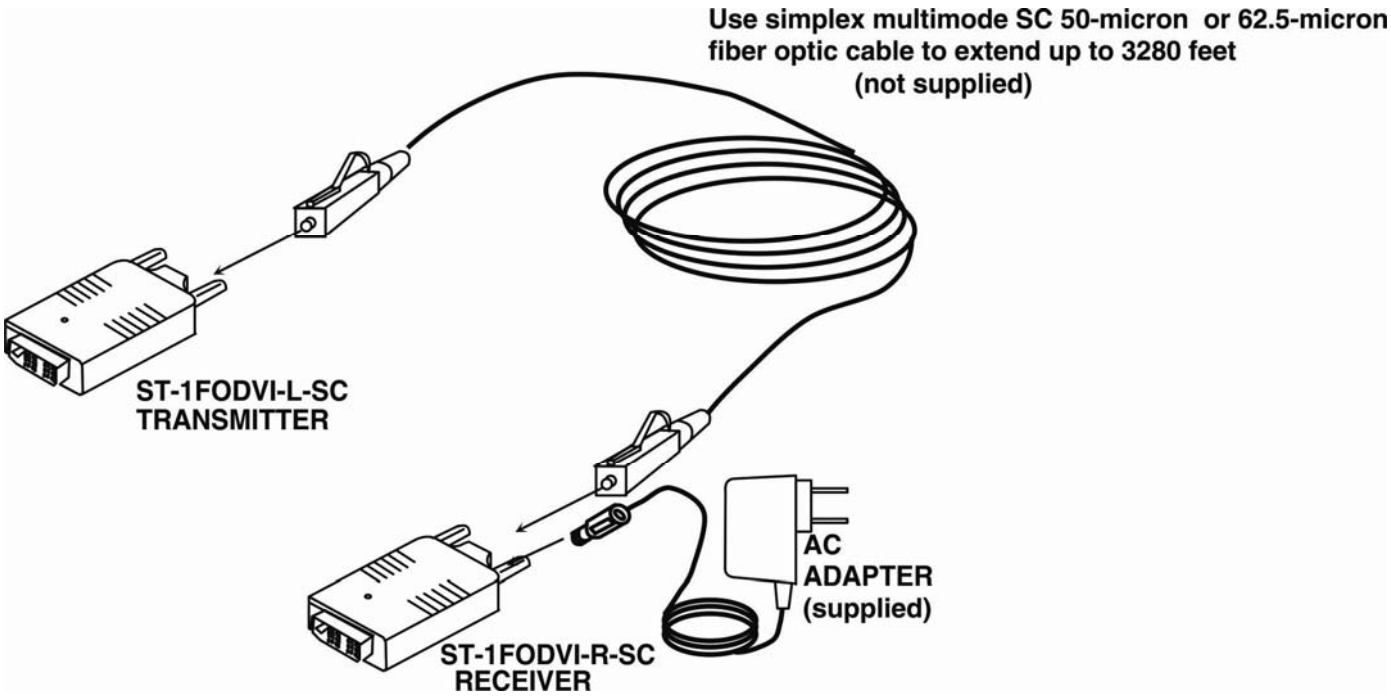

Figure 1- Schematic connection diagram of optical DVI extension modules

System Requirements

❑ Hardware requirements

- Graphic controller with a DVI port in your PC, SUN or Mac systems. It should support the maximum graphic resolution of displays to be connected.
- No special requirements for memory size, CPU speed and chipsets, if you've already properly installed your DVI graphic controllers.

❑ AC/DC Power Adapter Technical Advisory

The transmitter (Tx) module (ST-1FODVI-L-SC) is intended to be powered by your graphic card, depending on the power supply capability of the graphic card you are using. If this is not possible, a separate power supply can be ordered from NTI (#CT7529-PWR-SPLY-STFODVI(-MDP)) or ST-1FODVI-R-SCP includes the AC adapter.

However, the receiver (Rx) module must be powered by the supplied AC power adapter.

Note: In general, most laptops or desktop PCs with PCI Express graphic card require using a separate 5VDC power adapter for the transmitter.

INSTALLATION

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

1. Carefully unpack the material included.

2. Check if the maximum resolution of the display is WUXGA (1920x1200). Otherwise, follow the instructions for **Self-EDID Programming Procedure** on page 6.

3. Plug the included 5VDC power adapter into an AC outlet. Plug the 5V power adapter to the power jack of the receiver. Ensure the red LED is illuminated.

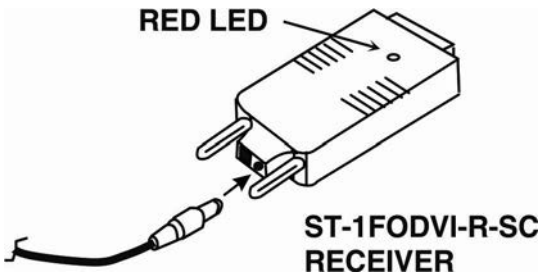

Figure 2- Connection of the power adapter to the receiver

4. Connect simplex optical fiber (not supplied) between the transmitter and the receiver as shown in Figure 3

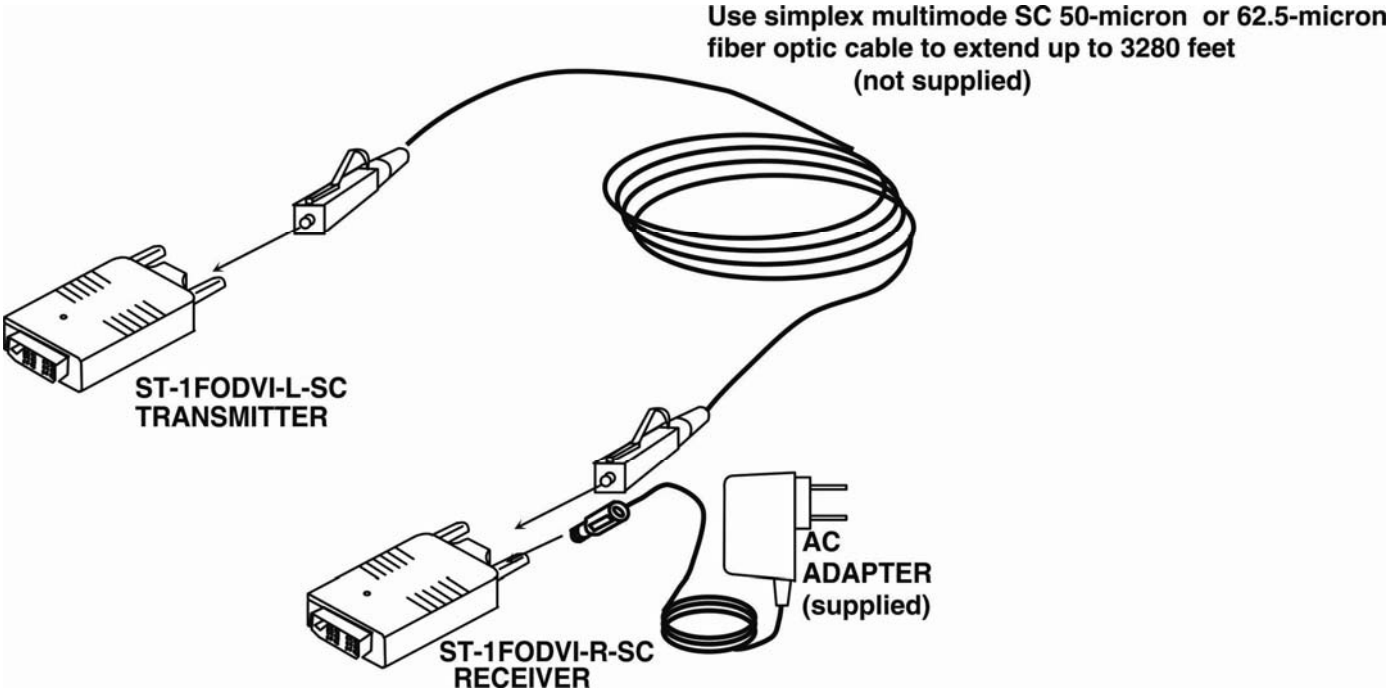

Figure 3- Connection of optical fibers

5. Plug the transmitter to the DVI receptacle of the DVI source (such as a PC).

If the Transmitter's LED does not illuminate, or if it only blinks and does not illuminate solid ON, then disconnect the AC adapter from the Receiver and connect it to the Transmitter instead. If the LED then illuminates, a second AC adapter will be needed. Contact NTI to place your order for a PS4169 (AC adapter with US Plug). If your Transmitter already includes an AC adapter (ST-1FODVI-L-SCP), then connect the AC adapter to the Transmitter.

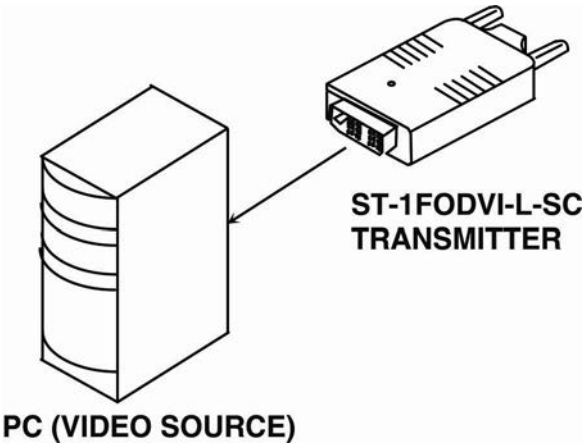

Figure 4- Connection of the transmitter to the DVI source

Note: We recommend NOT to use any intermediate cable or adapter between the transmitter and the DVI source to avoid undesirable performance degradation.

6. Plug the receiver into the DVI receptacle of the display.

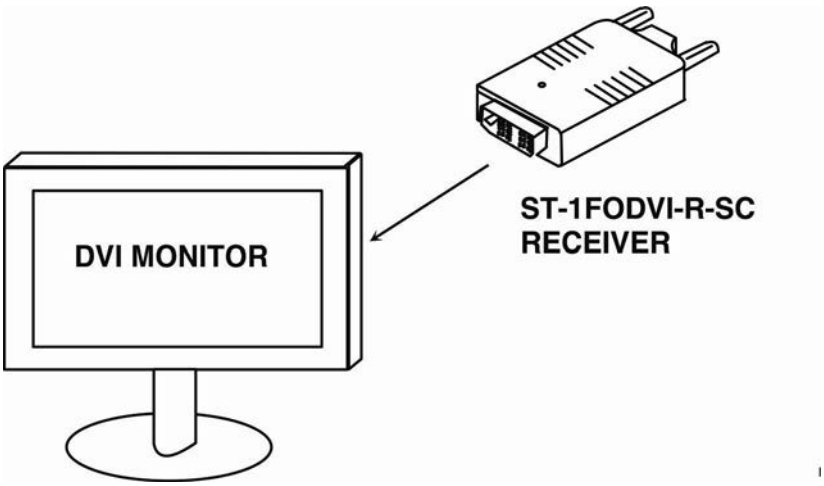

Figure 5- Connection of the receiver to the display

7. Power ON the PC and the display.

Caution: When you touch the surface of modules, the surface of modules may be hot. This is normal.

TIP: If you want to display a video source on multiple monitors via fiber optics, install an NTI FIBER-1X4-SMSC splitter.

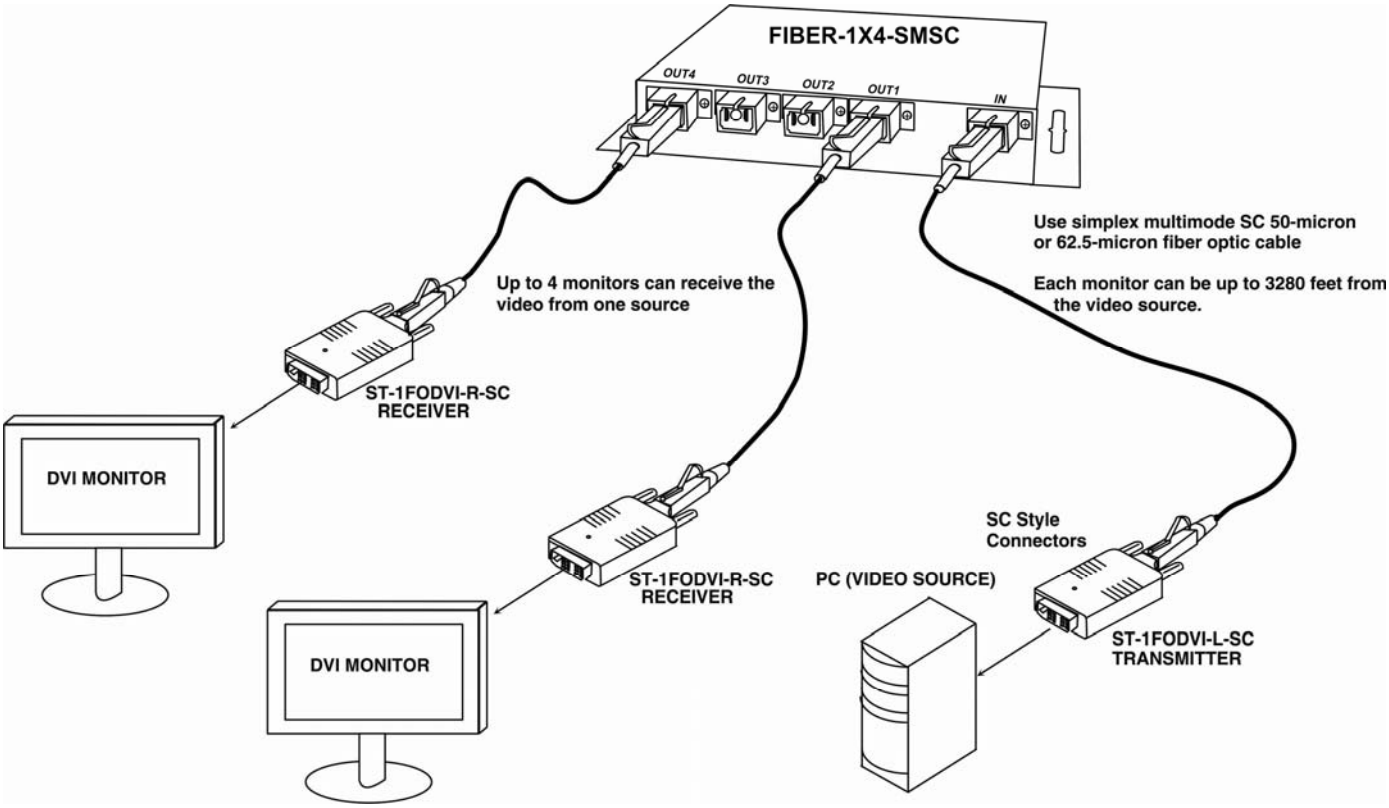

Figure 6-Install FIBER-1X4-SMSC fiber optic splitter

Self-EDID Programming Procedure

The video source generally requires communication of display information (EDID). Display information (EDID) contains resolution and timing information for your display.

ST-1FODVI-SC supports Self-EDID programming. Self-EDID programming means that the EDID from the display is stored in the Transmitter. Use the Self-EDID programming feature if the resolution of the display is **not** WUXGA(1920x1200) because the default resolution setting of the ST-1FODVI-SC is preset at 1920x1200, 60Hz. Follow these steps to record the EDID of the display into the Transmitter unit.

Note1 : If you know that EDID is not required by the video source, Self-EDID programming is not necessary.

Note2 : The default EDID setting of the ST-1FODVI-SC is the VESA standard WUXGA (1920x1200) 60Hz.

1. Power ON the display.

Note: The Transmitter should not be connected to the display when the display is powered ON.

2. Connect the transmitter to the display.

3. Plug the included 5VDC power adapter into an AC outlet. Insert the 5VDC power adapter into the Transmitter.

4. The Self-EDID LED will blink rapidly for a few seconds and then be solid ON. If this does not happen, disconnect the 5VDC power from the Transmitter, wait 10 seconds, reconnect the power, and try again.

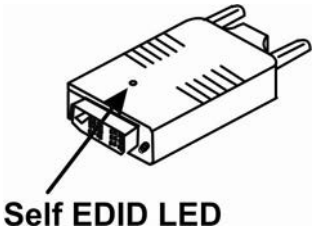

Figure 7- Position of EDID LED

5. Disconnect the Transmitter from the display.

6. Disconnect power from the Transmitter, and connect the Transmitter to the video source.

7. Connect the Receiver to the display, and then power to the Receiver .

8. Connect a multimode optical fiber between the Receiver and Transmitter.

9. Reboot the PC.

If the Transmitter's LED does not illuminate, or if it only blinks and does not illuminate solid ON, then disconnect the AC adapter from the Receiver and connect it to the Transmitter instead. If the LED then illuminates, a second AC adapter will be needed. Contact NTI to place your order for a CT7529 (AC adapter with US Plug). If your Transmitter already includes an AC adapter (ST-1FODVI-L-SCP), then connect the AC adapter to the Transmitter.

TROUBLESHOOTING

The monitor displays only black screen.

– Ensure that all plugs and jacks used by external power supplies are firmly connected. Ensure the blue LED is illuminated.

– Ensure that the DVI ports are firmly plugged-in to the PC and display.

– Ensure that the transmitter and receiver modules are connected correctly to the PC and display, respectively.

– Check if the PC and display are powered ON and properly booted.

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

– Re-boot up the system while connecting the optical DVI extension module.

Screen is distorted or displays noises.

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

– Ensure that the resolution is set to no greater than 1920x1200 at 60Hz refresh ratio.

– Reset the system. Disconnect and reconnect the optical DVI cables or 5V power adapters.

For technical service, contact Network Technologies Inc at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at http://www.networktechinc.com

PRODUCT SPECIFICATIONS

Fiber Optic DVI Extension Modules	
DVI standard compliance	Supports DVI1.0, fully implemented by fiber-optic communication and DDC2B by virtual DDC.
Video Connectors	DVI-D Dual-link connector
Signal type	Single link digital DVI.
Maximum Resolution	1920x1200 at 60Hz
Extension Limit (multi-mode fiber)	3280 feet (1000 meters)
Graphic transmission bandwidth	Supports up to WUXGA at 60Hz, or 1.65Gbps bandwidth
Fiber-optic connection	One female SC fiber connector. Use a simplex multimode SC 50-micron OM2/OM3 or 62.5-micron OM1 multimode fiber optic cable.
DDC connection	Virtual DDC by Auto EDID programming
Receiver Input sensitivity	-16dBm
Environmental Conditions	
Operating temperature	32°F-122°F (0°C to 50°C)
Storage temperature	-4°F to 158°F (-20°C to 70°C).
Humidity	5% to 85% non-condensing RH
General	
Receiver Power	100V to 240V at 50 or 60Hz-5VDC/2.0A via AC Adapter (1)
Transmitter Power	Powered by source unless unavailable- optional 100V or 240V at 50 or 60Hz-5VDC/2.0A adapter is available
Power consumption	Transmitter 0.8W / Receiver 0.6W
Dimensions WxDxH (In.)	1.6x2.6x0.6

Receiver Characteristics

Parameter (per channel)	Symbol	Min	Typ	Max	Units
Wavelength-Lane 0			778		nm
Wavelength-Lane 1			800		nm
Wavelength-Lane 2			825		nm
Wavelength-Lane 3			850		nm
Data Rate per Channel	Pin			1.65	Gb/s
Peak Optical Input Power			0.0	4.0	dBm
OMA Sensitivity		-14.25	-16.00		dBm

Transmitter Characteristics

Parameter (per channel)	Symbol	Min	Typ	Max	Units
Optical Power	Pout	-3.0	0.0		dBm
Optical Modulation Amplitude		-6.25			dBm
Center Wavelength-Lane 0			778		nm
Center Wavelength-Lane 1			800		nm
Center Wavelength-Lane 2			825		nm
Center Wavelength-Lane 3			850		nm
Optical Rise/Fall Time			200		Ps

WARRANTY INFORMATION

The warranty period on this product (parts and labor) is two (2) years from the date of purchase. Please contact Network Technologies Inc at **(800) 742-8324** (800-RGB-TECH) or **(330) 562-7070** or visit our website at http://www.networktechinc.com for information regarding repairs and/or returns. A return authorization number is required for all repairs/returns.

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.

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