



**NETWORK
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ST-2FODP12-LC-100M

4K DisplayPort 1.2 Extender



User's Manual

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Welcome

Congratulations on your purchase of the 4k DisplayPort extender, ST-2FODP12-LC-100M. This manual contains information that will assist you in installing and operating the product.

Product Description

New compact optical DisplayPort extender, ST-2FODP12-LC-100M enables to transmit 4K (4096x 2160) at 60Hz signal up to 100m (328 feet), avoiding any tricks like scaling or data compression for lessening a burden of data transmission. It provides total data throughput 21.6Gbps (5.4Gbps per lane).

The OM3 fiber connection by two (2) LC fibers connect between transmitter and receiver, giving clean, secure and easy installation with perfect electrical isolation, but without electrical hazard and interference. The extender can be operated by either USB power by plugging the USB cable or 3.3V from pin #20 of DisplayPort interface.

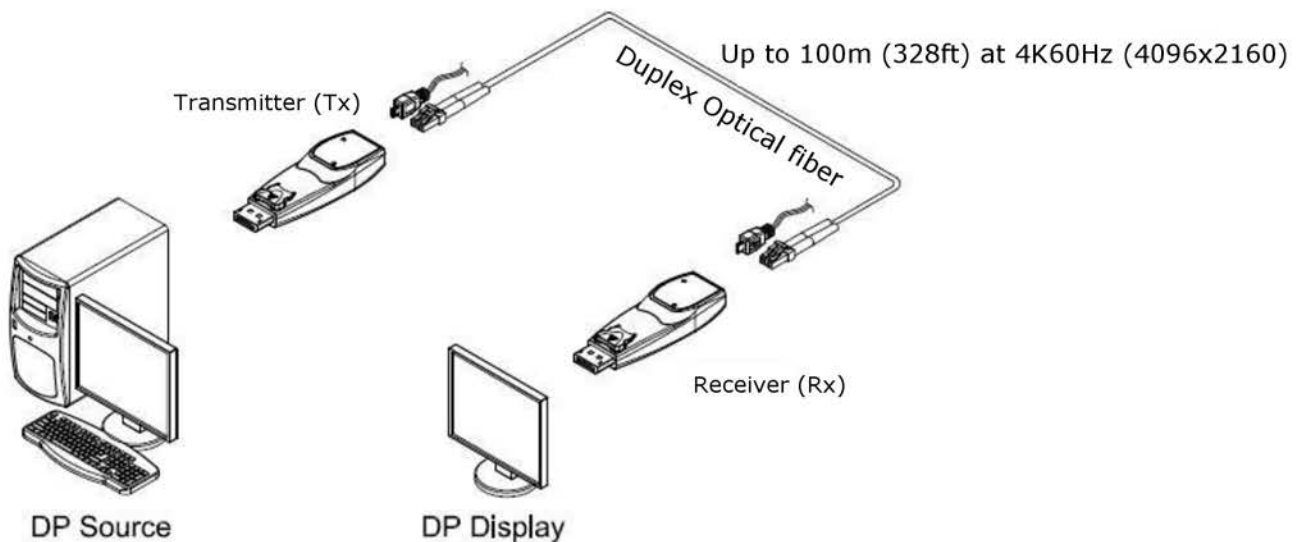


Figure 1 – Overall Connection of ST-2FODP12-LC-100M

System Requirements for Setup

- Hardware requirements**
 - You have to have a DisplayPort source and display. It should support the maximum graphic resolution feature of displays to be connected.
 - No special requirements of memory size, CPU speed and chipsets, if you've already properly installed your DisplayPort systems or graphic cards.
 - Proper initial trial of the entire platform with its application using a short length copper cable is recommended prior to installation with the optical link.

- Software requirements**
 - No special restrictions, if you've already properly installed your DisplayPort systems.

- Power Technical Advisory**
 - Enclosed Power Adaptors and USB cables supply power to both Transmitter and Receiver.

- Connection Advisory**
 - **It is highly recommend that DisplayPort source is directly connected into DisplayPort display output via ST-2FODP12-LC-100M without connection to incompatible distributor, switcher and selector.**

Materials Included:

- One (1) Transmitter (Tx) and One (1) Receiver (Rx)
- One (1) 0.2m Male to Female DisplayPort copper cable
- Two (2) Micro USB to USB cables
- Two (2) 5V 1A power adapter
- User's Manual

※ **Default connection is direct connection to both source (Tx side) and display (Rx side)**

※ **If direct connection is impracticable, 0.2m DisplayPort copper cable is strongly recommended to use on Tx(Display Source) side only**

1-2 System Requirements for Setup

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 in the shipping group.

Step 2

Power on the DisplayPort source and display. Both the transmitter and receiver will be turned on by 3.3V from pin #20 of DisplayPort interface. The USB power is recommend for the stable power supply for both the transmitter and receiver.

Step 3

The Power LED will be turned on when ST-2FODP12-LC-100M is connected to DisplayPort interface of signal source and display and the Status LED will blink three (3) times. Then the Status LED will blink again when the whole connection is made.

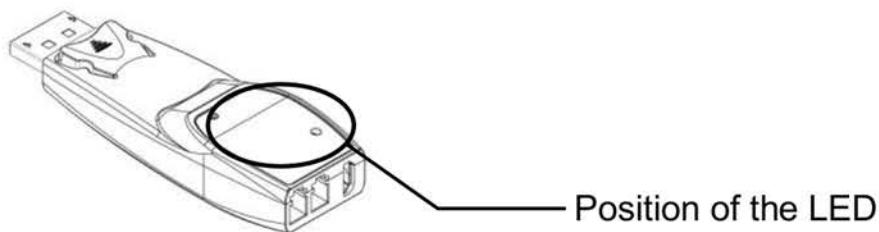


Figure 2 – Position of the LED

Step 4

Connect two (2) LC optical fibers between the transmitter and the receiver and each fiber channel shall be connected as (A) to (A) and (B) to (B) carefully. Ensure the duplex connectors are fully engaged and then, the top LED will begin to blink regularly.



Figure 3 – Fiber Numbering on product label

1-3 Installation

Note1: Please DO NOT look directly into the LC receptacles of the Transmitter, while it is powered on, although this product is regulated strictly enough to operate under the LASER Class I, classified by CDRH/FDA for eye safety.

Note2: The maximum extension length by OM3 fiber is 100 meters (328 feet).

Note3: We recommend NOT to use any intermediate cable or adapter between them to avoid undesirable performance degradation.

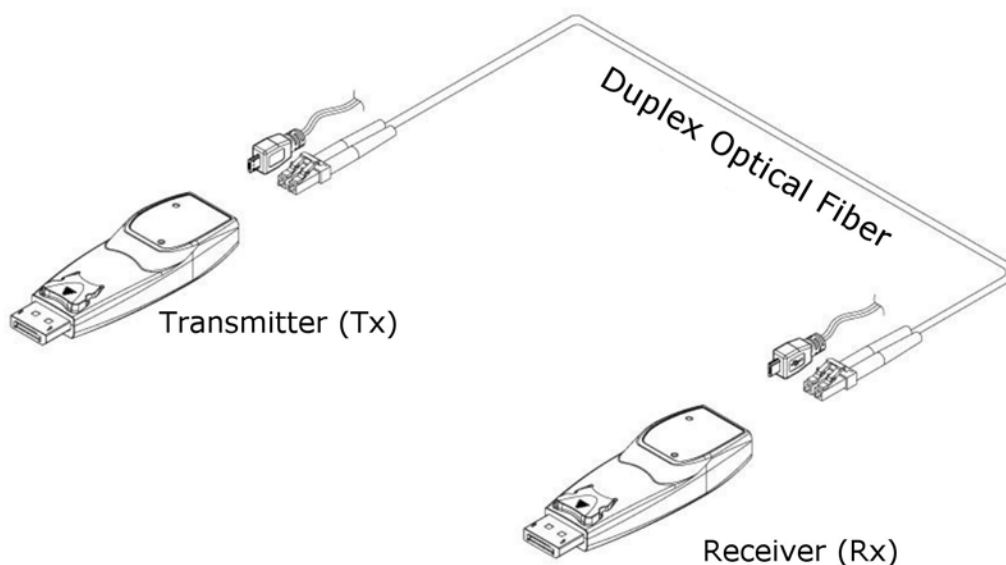


Figure 4 – Connection of optical fiber

Step 5

Connect the transmitter to the DisplayPort source

Step 6

Connect the receiver to the DisplayPort display.

Note: If the connectors are fully engaged, the bottom LED will turn on.

Step 7

If the system does not work properly, go to the page 1-5 trouble shooting.

Troubleshooting

The display shows only black screen.

- Ensure that all plugs and jacks used by USB power supplies are firmly connected. Ensure that the LED is ON.
- Ensure that the DisplayPort is firmly plugged in to the DisplayPort source and display.
- Ensure that the transmitter and receiver modules are plugged correctly to the source and display, respectively.
- Check if the DisplayPort source and display are powered on and properly booted.
- Reset the system by de-plugging and re-plugging the transmitter DisplayPort or receiver DisplayPort, or by de-plugging and re-plugging the USB power cables that are plugged into the transmitter and receiver module.
- Re-boot up the system while connecting the module.

Screen is distorted or displays noises.

- Check if the graphic resolution is properly set. Go to the display properties and tap the settings. Ensure that the resolution is set to less than 4096x2160 at 60Hz refresh rate.
- Reset the system
- Power down, disconnect and reconnect the optical system cable or USB power adapters, and power up

Maintenance

No special maintenance is required for the optical system cables and power supplies. Ensure that the cables and power modules 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 or its authorized distributor.

Technical Support and Service

For technical support or service, contact NTI by calling 330-562-7070.

Product Specifications

- **Compliance with DisplayPort standard:** supports DP 1.2a
- **Extension limit:** 100m (328 feet) for 4K (4096x2160) at 60 Hz refresh rate over duplex LC OM3 fibers (50/125um).
- **Graphic Transmission Bandwidth:** Supports total data rate 21.6Gbps (5.4Gbps per lane).
- Supports **Dual-mode DP (DP++)**
- Supports **auxiliary I²C channel over fiber**

- **Mechanical specifications of transmitter and receiver**
 - **Dimensions(WDH):** 26mm x 72mm x 15mm
- **Environmental Specifications**
 - Operating temperature: 0°C to 50°C
 - Storage temperature: -30°C to 70°C
 - Humidity: 10% to 85%

AC/DC Power Adapter

- **Power Input:** AC 100-240V, 50/60Hz.
- **Power Output:** +5 V, 1A SMPS DC-power Adapter

Certifications

CE / FCC, Class 1 Laser Eye Safety

Certification of Eye Safety

This laser product is certified by CDRH/FDA referred as classified in Laser Class 1 (IEC60825-1).



Caution – Use of controls or adjustments or performances of procedures other than those specified herein may result in hazardous radiation exposure.