



One (1) fiber Detachable HDMI 2.0 Extender



User Manual HDFX-500-TR

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Welcome!

Congratulations on your purchase of the one (1) fibers HDMI 2.0 extender, HDFX-500-TR. This manual contains information that will assist you in installing and operating the product.

Product Description

HDMI 2.0 optical fiber detachable extender, HDFX-500-TR, extends HDMI 2.0 signal up to 200m (656feet) and transmits 4K UHD (4096x2160) at 60Hz over one LC multi-mode fiber. Leading-edge technology of Opticis allows long distance transmission of 4K signal without any video/audio degradation.

HDFX-500-TR is designed compact enough to be fitted into various installation environments. It gives slim, light, easy installation with perfect electrical isolation, but without electrical hazard and interference.

HDFX-500-TR adopted High-Retention HDMI connector, which allows for more retention force than standard HDMI connector, prevents accidental disconnection. Furthermore, to meet all the needs of the customers, HDFX-500-TR is fully interoperate with using HDFX-700 as a pair.

HDFX-500-TR is compliant with HDMI standards features like CEC, EDID and HDCP 2.2 for better installation flexibility and compatibility. It also supports HDR to deliver more realistic, and objective video signal.

HDFX-500-TR can be operated by either USB power or DDC 5V power from HDMI source (Tx only). Auto Power-Switching feature makes it more reliable on its power supply.

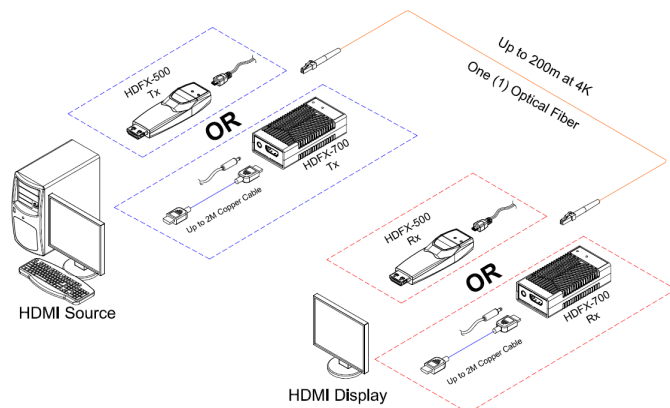


Figure 1 – Overall Connection of HDFX-500-TR

1-1 Welcome, Product Description

System Requirements for Setup

- **Hardware requirements**
 - You must have a HDMI 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 HDMI 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 HDMI systems.
- **Power Technical Advisory**
 - Enclosed Power Adaptors and USB cables supply power to both Transmitter and Receiver.
- **Connection Advisory**
 - **It is highly recommended that HDMI source is directly connected into HDMI display output via HDFX-500-TR without connection to incompatible distributor, switcher and selector.**

The Shipping Group of HDFX-500-TR;

- One (1) Transmitter (Tx) and One (1) Receiver (Rx)
- Two (2) Micro USB to USB cables
- Two (2) 5V 1A power adapter
- User Manual
- HDMI male to HDMI female Cable (0.2m)

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 HDMI source and display. HDFX-500-Tx can be turned on by DDC 5V from pin #18 of HDMI interface, whereas both transmitter and receiver can be operated by USB power. Opticis recommend USB power supply for stable power supply for both the transmitter and receiver.

Step 3

Power LED will turn on when HDFX-500-TR is connected to HDMI signal source and display and Status LED will blink three (3) times. Then Status LED will blink again when the whole connection is made.

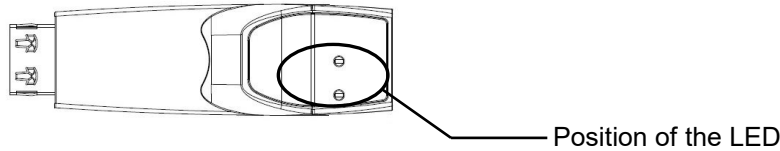


Figure 2 – Position of the LED

Step 4

Connect one (1) LC optical fiber between the transmitter and the receiver. Ensure the connectors are fully engaged and then, the top LED will begin to blink regularly.

Note1: Please DO NOT look directly into the LC receptacles of the Transmitter when 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, it is not recommended to do so.

Note2: The maximum extension length by OM3 fiber is 200 meters (656ft.).

Note3: It is recommended NOT to use any intermediate cable or adapter between them to avoid undesirable performance degradation.

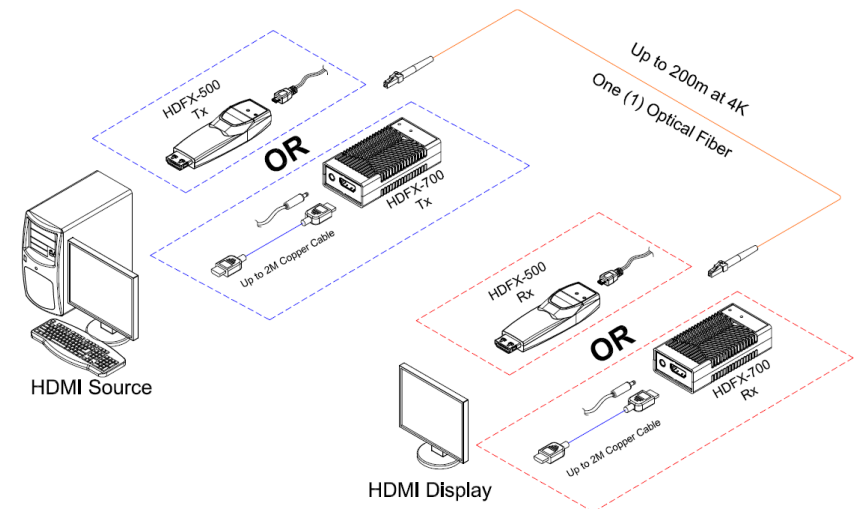


Fig Figure 3 – Connection with optical fiber

Step 5

Connect the transmitter (HDFX-500-Tx) to the HDMI source

Step 6

Connect the receiver (HDFX-500-Rx) to the HDMI display.

Note: When power is supplied, Power LED will turn on. If the connection is fully engaged, Status LED will blink.

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 HDMI connectors are firmly plugged in to the HDMI source and display.
- Ensure that the transmitter and receiver modules plugged correctly to the source and display, respectively.
- Check if the HDMI source and display are powered on and properly booted.
- Reset the system by de-plugging and re-plugging the transmitter HDMI or receiver HDMI, or by de-plugging and re-plugging the USB power cables that are plugged of 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 sets less than 4K UHD (4096x2160) at 60Hz refresh ratio.
- Reset the system
- Power down, disconnect and reconnect the optical system cable or USB power adaptors, 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 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

- **Supports HDMI 2.0 standards feature**
- **Extension limit:** 200m (656feet) for 4K UHD (4096x2160) at 60 Hz (RGB & YCbCr : 4:4:4) refresh rate over one (1) LC OM3 fibers (50/125um).
- **Graphic Transmission Bandwidth:** Supports total data rate 18Gbps (6Gbps per Channel).
- Selectable Option: full interoperable with **HDFX-700-TR** as a pair.
- Complies **CEC, EDID & HDCP 2.2**
- Prevents accidental disconnection by using **High-Retention HDMI connector**
- Supports HDR at 10 bit or 12 bit speeds respectively within its maximum bandwidth, 18Gbps
- **Mechanical specifications of transmitter and receiver**
 - **Dimensions(WDH):** 22mm x 67mm x 14mm
- **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

Warranty Information

1 (One) Year Warranty

Opticis warrants this optical HDMI module 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 remainder 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.

Certifications

CE / FCC, Class 1 Laser Eye Safety

Certification of Eye Safety

This laser product is inside implemented by using 780, 825, 850, 930, 960, 990nm LD Transceivers, manufactured by Opticis Co., Ltd., which are all 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.

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