OPTICIS

1 fiber HDMI / RS-232 extender

User's Manual for the HDFX-100-TR & HDFX-10R-TR

CE FCC

Manual Contents

Pictorials

Welcome!

Congratulations on your purchase of the one (1) fiber HDMI extender, HDFX-100-TR and one (1) fiber HDMI and RS-232 extender, HDFX-10R-TR. This manual contains information that will assist you in installing and operating the product.

Product Description

The HDFX-100-TR transmits all HD resolutions up to 1080p at 60Hz of digital graphic data up to 1000 meters (3280 feet) over one (1) SC single-mode fiber, directly connected between HDMI sources and displays. The transmitter, located in a HDMI source and receiver in a display are connected to each of them by a 1.0m HDMI copper cable. HDFX-10R-TR adopts RS-232 port as well as HDMI digital graphic data. Both two (2) models support HDCP (High Definition Contents Protection) interface over the same fiber.

The Shipping Group of HDFX-100-TR and HDFX-10R-TR are;
- **Tx and Rx boxes:** One (1) Transmitter (Tx) Box and One (1) Receiver (Rx) Box.
- **AC/DC power adapter:** Two (2) +5V units
- **User's Manual**
- **Option:** One (1) SC optical cable (single-mode glass fiber), 9-pin D-sub RS-232 cable, 2 pcs x 2 m HDMI copper cable.
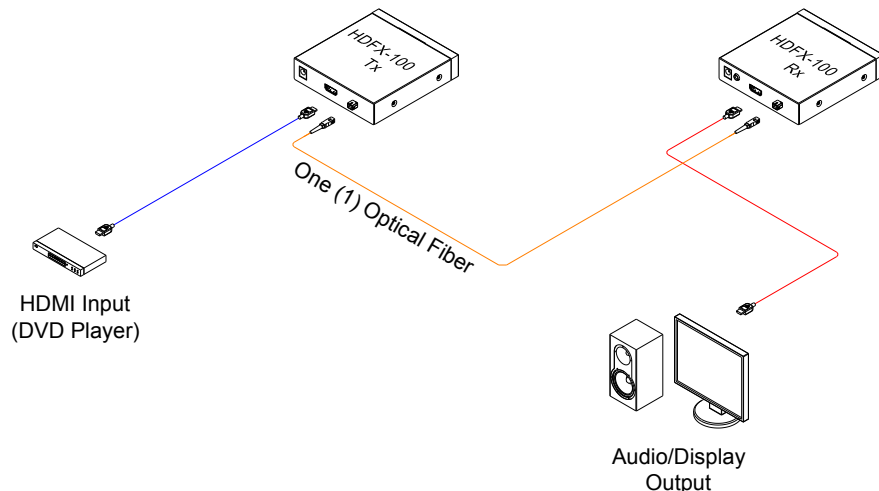

HDMI Input
(DVD Player)

One (1) Optical Fiber

Audio/Display
Output

Figure 1 – Overall Connection of Optical HDFX-100

System Requirements for Setup

☐ **Hardware requirements**
- Most of DVD, Blu-ray or media receiver with HDMI ports are compatible with the extender.
- In case of using computers as a graphic source, regardless of OS version, HDMI ports are required to be embedded.
- Only HDMI TVs or monitors are applicable.
- 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, but make sure that media contents protected by HDCP should be played with HDCP certified players and TVs.

☐ **AC/DC Power Adapter Technical Advisory**
- The power of HDFX-100-TR and HDFX-10R-TR is designed to supply to both boxes of Tx and Rx by plugging the external powers.

☐ **EDID Emulation Advisory**
- Before use the product, the Smart- EDID procedure should be done as shown in the Installation (Step 6)
- We strongly recommend you to do Smart- EDID procedure again if you want to change HDMI display. But, it can be displayed without re-emulation between same resolution TVs.

☐ **Connection Advisory**
- We strongly recommend you to connect HDMI media source directly into HDMI display output via HDFX-100-TR and HDFX-10R-TR without connecting any distributor, switcher, selector etc, which could make incompatibility.

Installation

Important: Please follow 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
Connect the Transmitter to the HDMI sources (DVD, media receiver) over HDMI cable. In case of HDFX-10R-TR, make the RS-232 connection between transmitter and RS-232 devices.
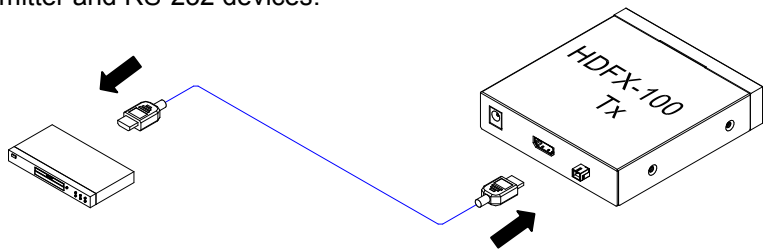
Figure 2 – Connection of HDMI cable between Transmitter box and media receiver

Step 3
Connect the Receiver to the HDMI display over HDMI cable. In case of HDFX-10R-TR, make the RS-232 connection between receiver and RS-232 devices.
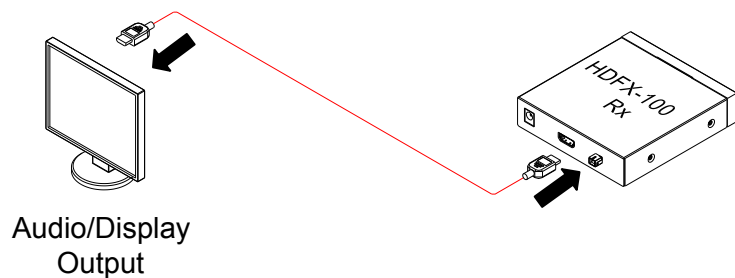
Audio/Display
Output

Figure 3 – Connection of HDMI cable between Receiver box and display

1-3 Installation

Step 4
Remove the module dust covers and connect Transmitter and Receiver over SC to SC single-mode fiber, as shown in Fig. 4. Ensure the SC connector is fully engaged.
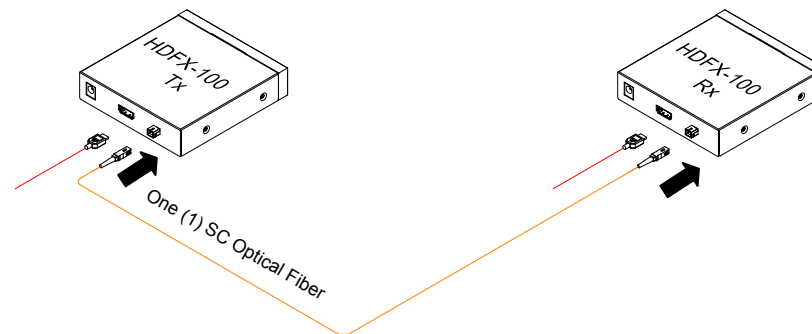
Figure 4 – Connection of one (1) SC single-mode fiber cable

Step 5
Connect the AC/DC power adapters to both of the Transmitter and Receiver and make the device of source and the display power ON.
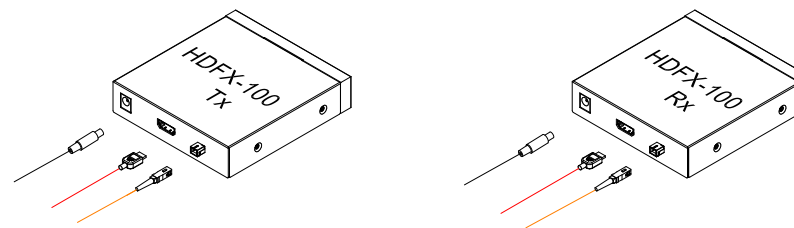
Figure 5 – Connection of AC/DC power adaptor

Notice: Please DO NOT look directly into the SC receptacles of the Transmitter box, 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.

1-4 Installation (continued)

Step 6

(This step 6 should be done only when the initial installation of HDFX-100-TR or HDFX-10R-TR is done or attached display is changed.)

   i)   **Disconnect the HDMI cable from the Transmitter**

  ii) **Disconnect the AC/DC adapter in Transmitter and connect it again to trigger EDID emulation.**

      Then, the Transmitter start to read EDID from display and write in it while HDCP LED in Transmitter flash around 10 sec. (This could be repeated up to twice.)
      HDCP LED in Transmitter will blink at every 0.5 sec. (It means EDID emulation is done.)

 iii) **Connect Transmitter to HDMI sources over HDMI cable again.**

      Then, HDCP LED will be turned off.

Troubleshooting

The display displays only black screen.
- Check that all AC and DC plugs and jacks used by external power supplies (both Opticis and others) are firmly connected.
- Ensure that power bars are live.
- Ensure that the Tx and Rx boxes plug correctly to the media receiver or computer and display, respectively.
- Check if the media receiver or computer and display are powered on and properly booted.
- Re-boot up the system after reconnecting the optical system cable.

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 1080p (1920x1080) at 60Hz refresh ratio.
- Reset the system.
- Power down, disconnect and reconnect the optical system cable or DC 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

One (1) fiber HDMI Extender, HDFX-100-TR and HDFX-10R-TR

- ☐ **Compliance with HDMI standard:** supports HDMI 1.3a, using fiber-optic communication link and fully function in HDCP.

- ☐ **Extension limit:**

  Up to 1000 meters (3280feet) for 1080p at 60Hz over the single-mode fiber

- ☐ **Fiber-optic Connection:** The transmitter and receiver boxes of HDFX-100-TR and HDFX-10R-TR have SC fiber-optic connectors and should be used with Single-mode fiber or 9/125μm or 8/125μm

- ☐ **Initialization Time:** Less than 5 sec. after connecting and playing when reconnect any power/HDMI/fiber optic cable of Tx/Rx while playing.

- ☐ **Mechanical specifications of Tx and Rx boxes**
  - ■ **Dimensions:** 108mm / 25mm / 115mm (W/H/D)

- ☐ **Environmental Specifications**
  - ■ Operating temperature: 0°C to 50°C
  - ■ Storage temperature: -10°C to 85°C
  - ■ Humidity: 5% to 95%

AC/DC Power Adapter

- ☐ **Power Input:** Universal AC 100-240V, 50/60Hz, AC power cord with power jack.
- ☐ **Power Output:** +5 V, 3.0 A SMPS DC-power Adapter
- ☐ **Cord DC Jack:** Core is 5 V and outer cylinder is GND.
- ☐ **Certification: PSE, UL, cUL, FCC, CE, TUV-GS**

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 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.

FCC/CE Statement for regulation of Electro-magnetic emission

This device complies with part 15 of 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. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 and 2 of FCC Rules, EN 55022/55024/61000-3 for CE certification. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and. if not installed and used in accordance with the instruction guide, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult a service representative for help.

Properly shielded and grounded cables and connectors must be used in order to comply with FCC/CE emission limits. Changes or modifications not expressly approved by the party responsible for compliance could void the user s authority to operate the equipment.

Certification for Safety

The extension system is certified pursuant to IEC60065 and its AC/DC power adapter is certified by UL1310, 1950, 60950 for North America, cUL or CSA for Canada, TUV-CE & GS for EU and PSE for Japan.

Certification of Eye Safety

This laser product is inside implemented by using 850nm VCSEL (Vertical Cavity Surface Emitting Laser) Transceivers, manufactured by Opticis Co., Ltd., which are all certified by CDRH/FDA referred in Accession Number 0210774 as classified in LASER Class 1 Eye Safety.

Opticis Locations

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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