

HFX 100 Tx and HFX 100 Rx • User Guide

This guide describes the function, installation and operation of the HFX 100 Tx transmitter and HFX 100 Rx receiver. Unless otherwise stated, the terms “HFX 100,” “HDMI extender,” and “extender” refer to both units. The term “transmitter” refers to the HFX 100 Tx and the term “receiver” refers to the HFX 100 Rx.

FCC Class A Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. The Class A limits provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference. This interference must be corrected at the expense of the user.

NOTE: For more information on safety guidelines, regulatory compliances, EMI/EMF compatibility, accessibility, and related topics, see the “[Extron Safety and Regulatory Compliance Guide](#)” on the Extron website.

FDA/IEC 60825-1 Requirements

CLASS 1 LASER PRODUCT

Complies with FDA performance standards for laser products except for deviations pursuant to Laser Notice No. 5, dated June 24, 2007.

The product is intended to be used with the fiber optic cables fully installed.

This product meets the applicable requirements of IEC 60825-1, Edition 1 (2007).

Any service to this product must be carried out by Extron Electronics and its qualified service personnel.

About the HFX 100 Tx and HFX 100 Rx

The Extron HFX 100 HDMI extender comprises of a transmitter (Tx) and receiver (Rx) pair, which use one multimode fiber optic cable to transmit a signal up to 300 meters (984 feet). The transmitter accepts a single HDMI input and converts it to a proprietary signal that is sent over the fiber optic cable to the receiver. The receiver converts the signal back to an HDMI output.

The extender supports DDC and HDCP pass-through.

Features

Signal extender — converts the HDMI signal to a proprietary format that can be carried up to 300 meters (984 feet) without loss of signal integrity.

Power supply — Both the transmitter and receiver are powered by a 12 VDC, 1A power supply (provided).

Display Data Channel (DDC) pass-through — ensures that the resolution and refresh rate of the video input signal matches the capabilities of the display device.

High-bandwidth Digital Content Protection (HDCP) pass-through — ensures that HDCP-compliant outputs are able to display HDCP-encrypted content.

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Application Diagram

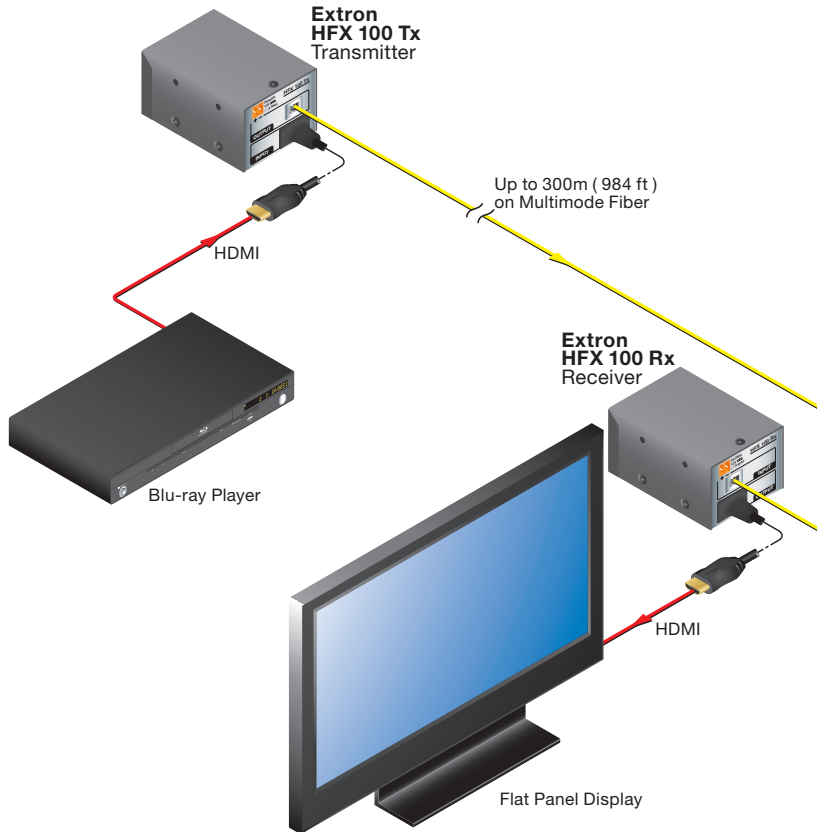
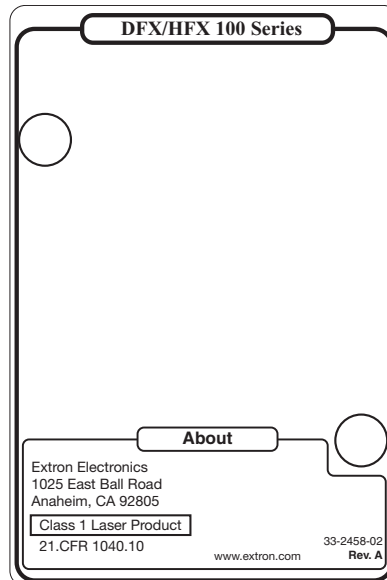


Figure 1. Typical HFX 100 Application

Product Label

This label is affixed to the bottom of the unit.



Panels and Cables

Front Panel

Both the transmitter and receiver have identical front panels.

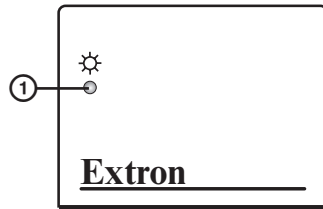


Figure 2. HFX 100 Tx and HFX 100 Rx Front Panel

- 1 **Front Panel LED** — lights amber if the unit (transmitter or receiver) is receiving power from the 12 VDC, 1A power supply. The transmitter LED lights green if the unit is receiving a TMDS clock signal. The receiver LED lights green if the unit is receiving an optical signal.

NOTE: During initialization, the LED may need a few seconds to stabilize to the correct state.

HFX 100 Tx Rear Panel

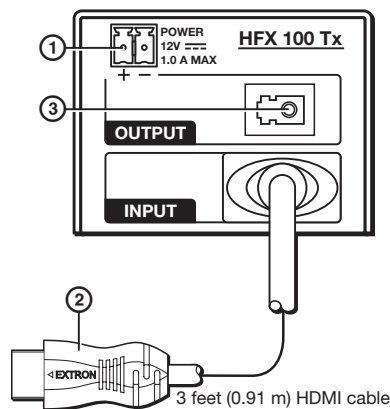


Figure 3. HFX 100 Tx Rear Panel

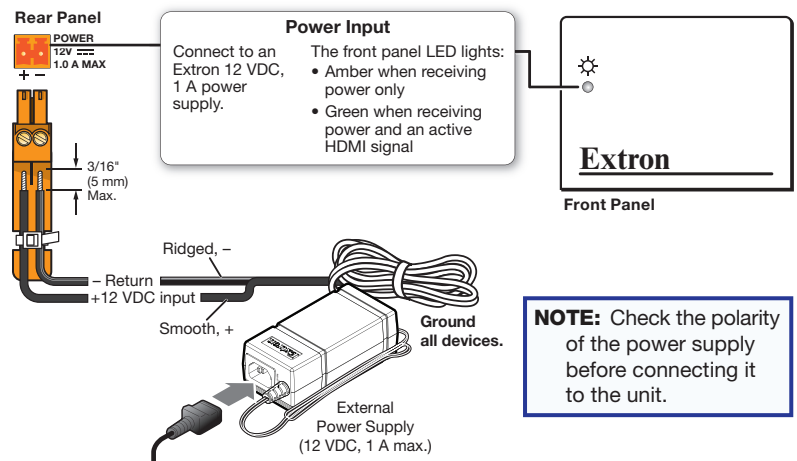


Figure 4. 12 VDC, 1A Power Input

- 1 **12 VDC power input** — Connect the provided 12 VDC, 1A power supply to the rear panel captive screw connector (see figure 4). When power is provided to the unit but there is no HDMI input, the front panel lights amber.

ATTENTION:

- Always use a power supply provided by or specified by Extron. Use of an unauthorized power supply voids all regulatory compliance certification and may cause damage to the supply and the end product.
- Unless otherwise stated, the AC/DC adapters are not suitable for use in air handling spaces or in wall cavities. The power supply is to be located within the same vicinity as the Extron AV processing equipment in an ordinary location, Pollution Degree 2, secured to the equipment rack within the dedicated closet, podium, or desk.
- The installation must always be in accordance with the applicable provisions of National Electrical Code ANSI/NFPA 70, article 725 and the Canadian Electrical Code part 1, section 16. The power supply shall not be permanently fixed to building structure or similar structure.

NOTES:

- The length of the exposed wires in the stripping process is critical. The ideal length is 3/16 inch (5 mm). If it is any longer, the exposed wires may touch, causing a short circuit between them. If it is any shorter, the wires can be easily pulled out even if tightly fastened by the captive screws.
- Do not tin the wires. Tinned wire does not hold its shape and can become loose over time.

- 2 **HDMI input connector** — Connect a HDMI output to this male connector.

NOTE: With appropriate DVI-D to HDMI cables or adapters, the unit will accept DVI-D input.

When the transmitter is receiving an HDMI input signal, the front panel LED lights green.

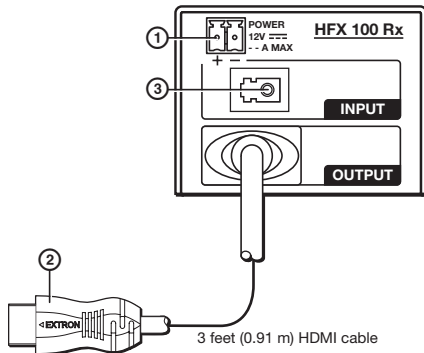
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- ③ **Optical output connector** — Connect one end of one multimode fiber optic cable (not provided) into this LC connector. The other end connects into the LC input connector on the HFX 100 Rx. The cable can be up to 300 meters (984 feet) in length.

CAUTION:

- **Possible damage to eyesight.** The HFX 100 Tx outputs continuous laser (Class 1 rated), which may be harmful and dangerous to the eyes; use with caution. Do not look into the rear panel fiber optic cable connector or into the fiber optic cable itself. Plug the attached dust cap into the optical transceiver when the fiber optic cable is unplugged.
- **Possible radiation exposure.** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

HFX 100 Rx Rear Panel



- ① **12 VDC power input** — Connect the provided 12 VDC power supply to the back panel captive screw connectors. When power is provided to the unit but there is no HDMI input, the front panel lights amber.

See figure 5 and the **attention points** and the **notes** on page 3 before connecting the power supply.

- ② **HDMI output connector** — Connect a HDMI display device to this male connector.

NOTE: With appropriate HDMI to DVI-D cables or adapters, the unit will output an DVI signal.

Figure 5. HFX 100 Rx Rear Panel

- ③ **Optical input connector** — Connect one end of the multimode fiber optic cable (not provided) into this LC connector. The other end connects into the LC output connector on the HFX 100 Tx.

CAUTION:

- **Possible damage to eyesight.** The HFX 100 Tx outputs continuous laser (Class 1 rated), which may be harmful and dangerous to the eyes; use with caution. Do not look into the rear panel fiber optic cable connector or into the fiber optic cable itself. Plug the attached dust cap into the optical transceiver when the fiber optic cable is unplugged.
- **Possible radiation exposure.** Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

When the HFX 100 Rx is receiving optical input, the front panel LED lights green.

Installation

To install the HFX 100 extender, follow these instructions:

1. **Mount the HFX 100 Tx and HFX 100 Rx** in suitable locations (see page 5).
2. **Connect the provided power supply to the HFX 100 Tx** (see page 3). The front panel LED lights amber.
3. Connect the provided power supply to the HFX 100 Rx. The front panel LED lights amber.
4. Connect the transmitter and receiver using a multimode fiber optic cable.
5. Connect the HDMI display device to the HFX 100 Rx. Do not power on the display at this time.
6. **Connect the HDMI source device to the HFX 100 Tx** (see page 3). Do not power on the source at this time.
7. Power on the display device.
8. Power on the source device.

NOTE: The display device must be powered on before the source device to allow correct DDC communication between the display and the source while the source device is booting up.

When the HFX 100 Tx is receiving HDMI input, the front panel lights green.

When the HFX 100 Rx is receiving an optical input, the front panel lights green.

Mounting

Desktop Placement

Attach the four provided rubber feet to the bottom of the HFX 100 transmitter or receiver and place it in any convenient location.

Rack Mounting

UL guidelines for rack mounting

The following Underwriters Laboratories (UL) guidelines are relevant to the safe installation of these products in a rack:

Elevated operating ambient temperature — If the units are installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient temperature. Therefore, install the equipment in an environment compatible with the maximum ambient temperature (T_{ma}: +122 °F, +50 °C) specified by Extron.

Reduced air flow — Install the equipment in the rack so that the equipment gets adequate air flow for safe operation.

Mechanical loading — Mount the equipment in the rack so that uneven mechanical loading does not create a hazardous condition.

Circuit overloading — Connect the equipment to the supply circuit and consider the effect that circuit overloading might have on overcurrent protection and supply wiring. Consider the equipment nameplate ratings when addressing this concern.

Reliable earthing (grounding) — Maintain reliable grounding of rack-mounted equipment. Pay particular attention to supply connections other than direct connections to the branch circuit (such as the use of power strips).

Rack mounting procedure

To mount the unit on a rack shelf, follow the instructions provided with the shelf accessories.

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| Extron USA - West +1.714.491.1500 +1.714.491.1517 FAX | Extron USA - East +1.919.850.1000 +1.919.850.1001 FAX | +31.33.453.4040 +31.33.453.4050 FAX | | | | | | |