

HD-RX3-F

HDMI® over Fiber Receiver

- > Extends uncompressed digital video, audio, networking, HID, and control signals 1000 feet over a single multimode fiber
- > Works reliably without any programming or configuration
- > Supports HDMI® with Deep Color
- > Supports 7.1 channel lossless audio up to 48 kHz
- > Also compatible with DVI components^[4]
- > Includes analog stereo audio output
- > Handles resolutions up to 1920x1200 and 1080p60
- > Passes CEC, EDID and HDCP
- > Supports 100Base-T Fast Ethernet
- > Includes universal IR repeater up to 192kHz
- > Extends bidirectional RS-232 up to 115k Baud
- > Includes built-in USB HID mouse/keyboard extender^[3]
- > Provides electrical isolation for outdoor runs
- > 12VDC power pack included

Crestron® HDMI over Fiber Transmitters and Receivers deliver professional-grade digital HD AV signal extension for use in the home, classroom, auditorium, or corporate boardroom. Without any special setup or configuration, the HD-RX3-F receiver works with an [HD-TX3-F](#) transmitter^[1] to enable wire runs up to 1000 feet (300 m) over a single, thin multimode fiber strand^[2]. The HD-RX3-F simultaneously handles high-definition digital video and audio, analog audio, Ethernet, USB HID^[3], RS-232, and IR signals.

The Strengths of Fiber

A Crestron HDMI over Fiber solution lets you hide your wiring in plain sight without drilling holes or tearing into walls. Using our ultra inconspicuous [CresFiber® CLEAR](#) fiber optic cable^[1], wiring can easily be concealed along baseboards and in corners, perfect for retrofits and historically significant interiors.

Crestron offers a full line of rugged [CresFiber](#) fiber optic cables and installation tools to facilitate running through conduits, walls, and ceiling spaces. HDMI over Fiber is also ideal for wiring to outdoor devices and between buildings, providing optical isolation against ground loops, lightning surges, and other electrical disturbances.

Robust HD Signal Extension

Crestron HDMI over Fiber delivers ultra-reliable extension of uncompressed HDMI signals over any distance up to 1000 ft (300 m). Without relying on signal-degrading compression or IP streaming, Crestron HDMI over Fiber technology transports the full HD signal to your display — intact and uncompromised.

The HD-RX3-F handles HD video resolutions up to 1080p60, and high-res computer resolutions up to UXGA and WUXGA, with full support for HDCP, Deep Color, and 7.1 lossless audio. In addition to HDMI, it is also



compatible with DVI display devices using an appropriate adapter or interface cable^[4]. A mini-TRS stereo audio output is also provided to feed analog audio signals to the unbalanced input of an amplifier or some other audio component.

A Fully Linked Solution

In addition to video and audio, the HD-RX3-F provides for the extension of numerous networking and control signals for a true one-wire AV interface solution. Its 10/100 Ethernet port affords high-speed LAN connectivity over the full 1000 ft length of fiber. The USB HID port allows a keyboard, mouse, or other USB HID compliant device to be connected at the receiver and used to control a computer or other host at the transmitter location.^[3] Additional IR and bidirectional RS-232 control signals may also be routed to control a display device and other equipment.

Comprehensive without Complication

Crestron HDMI over Fiber affords a very dependable signal extension solution that's simple to implement. No special configuration or programming is required — just connect your source and display and enjoy high-quality HD video and audio from across the room — or from another entire building. The HD-RX3-F is housed in an attractive, compact enclosure, with provisions for mounting to any flat surface, or to one rail of a 19" EIA equipment rack.

Crestron offers the fiber optic cable, connectors, and termination kit for a complete, easy wiring solution. A range of professional AV interface cables and wall plates is also available to complement the HD-RX3-F for a total custom installation solution.^[1]

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HD-RX3-F — Front and Rear Views

SPECIFICATIONS

Video

Output Signal Types: HDMI, DVI^[4]

Formats: HDMI w/Deep Color, DVI, HDCP content protection support

Resolutions, Progressive: 640x480@60Hz, 720x480@60Hz (480p), 720x576@50Hz (576p), 800x600@60Hz, 848x480@60Hz, 852x480@60Hz, 854x480@60Hz, 1024x768@60Hz, 1024x852@60Hz, 1024x1024@60Hz, 1280x720@50Hz (720p50), 1280x720@60Hz (720p60), 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1365x1024@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1080@24Hz (1080p24), 1920x1080@25Hz (1080p25), 1920x1080@50Hz (1080p50), 1920x1080@60Hz (1080p60), 1920x1200@60Hz, 2048x1080@24Hz, 2048x1152@60Hz, plus any other resolution allowed by HDMI up to 165MHz pixel clock

Resolutions, Interlaced: 720x480@30Hz (480i), 720x576@25Hz (576i), 1920x1080@25Hz (1080i25), 1920x1080@30Hz (1080i30), plus any other resolution allowed by HDMI up to 165MHz pixel clock

Audio

Output Signal Types: HDMI supporting lossless multi-channel up to 7.1, DisplayPort Multimode^[4], analog stereo

Formats, HDMI: Dolby Digital®, Dolby Digital EX, DTS®, DTS-ES, DTS 96/24, up to 8ch PCM

Sampling Rate: Up to 48 kHz

Formats, Analog: Stereo 2-channel

Digital-To-Analog Conversion: 24-bit 48 kHz

Performance (analog): Frequency Response: 20Hz to 20kHz ± 0.75 dB;
S/N Ratio: >90dB, 20Hz to 20kHz A-weighted;
THD+N: <0.05% @ 1kHz;
Stereo Separation: >90dB

Communications

Ethernet: 10BaseT/100BaseTX Ethernet signal extension

USB: Supports USB HID class devices^[3]

Fiber^[2]: 50/125 or 62.5/125 μ m multi-mode optical fiber, 1000 ft (300 m) cable length, 850 nm & 1310 nm transmit, 1550 nm receive

Connectors

IR OUT: (1) 2-pin 3.5mm detachable terminal block;

IR/Serial repeater output port;

IR output up to 192 kHz;

1-way serial TTL/RS-232 (0-5 Volts) up to 19200 baud

COM: (1) 3-pin 3.5mm detachable terminal block;

Bidirectional RS-232 port;

Up to 115.2k baud, software handshaking support

MM OPTICAL: (1) SC female optical fiber connector;

Multimode fiber input;

Connects to MM OPTICAL port of an HD-TX3-F transmitter via CresFiber or CresFiber 8G fiber optic cable^[2]

G: (1) 6-32 screw, chassis ground lug

12VDC 1.5A: (1) 2.5mm barrel DC power jack;

12 Volt DC power input (PW-1215WU power pack included)

AUDIO: (1) 3.5mm TRS mini phone jack;

Unbalanced stereo line-level audio output;

Output Impedance: 100 Ohms;

Output Level: 2 Vrms maximum

USB HID: (1) USB Type A female;

USB host port for connection of a mouse, keyboard, or other USB HID-compliant device^[3]

HDMI OUT: (1) 19-pin Type A HDMI female;

HDMI digital video/audio output;

Also supports DVI^[4]

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LAN: (1) 8-wire RJ45 female w/2 LED indicators;
10BaseT/100BaseTX Ethernet port;
Green LED indicates link status;
Amber LED indicates Ethernet activity

Note: Mini USB port is for factory use only.

Indicator

(1) green LED, indicates operating power supplied via external power supply

Power Requirements

Power Pack: 1.5 Amps @ 12 Volts DC;
100-240 Volts AC, 50/60 Hz power pack, model PW-1215WU, included

Environmental

Temperature: 32° to 104°F (0° to 40°C)
Humidity: 10% to 90% RH (non-condensing)

Enclosure

Chassis: Aluminum w/polycarbonate label overlay and (4) integral mounting flanges
Mounting: Freestanding, surface mount, or attach to a single rack rail

Dimensions

Height: 5.92 in (150 mm)
Width: 4.56 in (116 mm)
Depth: 1.43 in (37 mm)

Weight

17.9 oz (508 g)

MODELS & ACCESSORIES

Available Models

HD-RX3-F: HDMI® over Fiber Receiver

Included Accessories

PW-1215WU: Wall Mount Power Pack 12VDC, 1.5A, Universal (Qty. 1 included)

Available Accessories

HD-TX3-F: HDMI® over Fiber Transmitter
IRP2: IR Emitter Probe
CNXP-XX: Custom Serial Interface Cable
CRESFIBER-SINGLE-SC-P: CresFiber® Simplex Fiber Optic Cable Assembly, 50/125, SC, Plenum
CRESFIBER-SINGLE-SC-ARMORED-P: CresFiber® ARMORED Simplex Fiber Optic Cable Assembly, 50/125, SC, Armored, Plenum
CRESFIBER-SINGLE-SC-CLEAR-NP: CresFiber® CLEAR Simplex Fiber Optic Cable Assembly, 50/125, SC, Non-Plenum

CRESFIBER8G-NP: CresFiber® 8G Multimode Fiber Optic Cable, 50/125 x4 breakout, non-plenum

CRESFIBER8G-P: CresFiber® 8G Multimode Fiber Optic Cable, 50/125 x4 breakout, plenum

CRESFIBER-CONN-SC50UM-12: CresFiber® Fiber Optic Cable Connector (AFL Telecommunications™), SC 50µm, 12-Pack

CRESFIBER-TK: CresFiber® Termination Kit (AFL Telecommunications™)

CBL Series: Crestron® Certified HDMI® Interface Cables

MP-WP Series: Media Presentation Wall Plates

MPI-WP Series: Media Presentation Wall Plates - International Version

Notes:

1. Item(s) sold separately.
2. For MM OPTICAL fiber wiring, use [CresFiber 8G](#) or other quality 50/125 or 62.5/125 µm simplex multimode fiber optic cable. To achieve maximum distance the cable should be rated for at least 500MHz*km effective modal bandwidth (EMB) at both 850nm and 1300nm.
3. USB hubs, either internal or external, are not supported. For full keyboard and cursor control, Crestron suggests using a keyboard with built-in pointing device.
4. HDMI requires an appropriate adapter or interface cable to accommodate a DVI signal. [CBL-HD-DVI](#) interface cable available separately.

This product may be purchased from an authorized Crestron dealer. To find a dealer, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/salesreps or by calling 800-237-2041.

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