# HD-RX3-F

## HDMI® over Fiber Receiver

> *Extends uncompressed digital video, audio, networking, USB HID, and control signals 1000 feet (300 m) over a single multimode fiber*

> *Works reliably without any programming or configuration*

> *Supports HDMI® technology with Deep Color*

> *Also compatible with DVI*

> *Supports 7.1 channel lossless audio up to 48 kHz*

> *Supports DTS® and Dolby Digital® encoded audio*

> *Includes an analog stereo audio output*

> *Handles resolutions up to WUXGA 1920x1200 and HD 1080p60*

> *Passes CEC, EDID, and HDCP*

> *Supports 100BASE-TX Fast Ethernet*

> *Includes universal IR repeater up to 192 kHz*

> *Extends bidirectional RS-232 up to 115k Baud*

> *Includes built-in USB HID mouse/keyboard extender*

> *Provides electrical isolation for outdoor runs*

> *12VDC universal 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 multimode fiber strand[2]. The use of fiber not only facilitates long wire runs, but is also ideal for wiring to outdoor devices and between buildings, providing optical isolation against ground loops, lightning surges, and other electrical disturbances. The HD-RX3-F simultaneously handles high-definition digital video and audio, analog audio[3], Ethernet, USB HID[4], RS-232, and IR signals.

### Robust HD Signal Extension

Crestron HDMI over Fiber technology delivers ultra-reliable extension of uncompressed video and computer signals. The HD-RX3-F handles video resolutions up to Full HD 1080p60, and computer resolutions up to UXGA and WUXGA, with support for HDCP and Deep Color. Audio capabilities include support for Dolby Digital®, DTS®, and uncompressed 7.1 linear PCM, as well as analog stereo signals. In addition to HDMI, the HD-RX3-F is also compatible with DVI display devices using an appropriate adapter or interface cable.[5]

### A Fully Linked Solution

In addition to video and audio, the HD-RX3-F provides for the extension of networking and control signals for a true one-wire AV interface solution. Its 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.[4] 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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**Bottom Panel View**



**Top Panel View**

## SPECIFICATIONS

### Video

**Output Signal Types:** HDMI® w/Deep Color (DVI compatible[5])

**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 165 MHz 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 165 MHz pixel clock

### Audio

**Output Signal Types:** HDMI, analog stereo
**Digital Formats:** Dolby Digital®, Dolby Digital EX, DTS®, DTS-ES, DTS 96/24, LPCM up to 8 channels
**Sampling Rate:** Up to 48 kHz
**Analog Formats:** Stereo 2-channel
**Digital-To-Analog Conversion:** 24-bit 48 kHz
**Analog Performance:** Frequency Response: 20 Hz to 20 kHz ±0.75 dB;
           S/N Ratio: >90 dB, 20 Hz to 20 kHz A-weighted;
           THD+N: <0.05% @ 1 kHz;
           Stereo Separation: >90 dB

### Communications

**Ethernet:** 100BASE-TX Ethernet signal extension
**USB:** Supports USB HID class devices[4]
**Fiber:** 50/125 or 62.5/125 μm multimode optical fiber, 1000 ft (300 m) cable length, 850 nm & 1310 nm transmit, 1550 nm receive[2]

### Connectors

**IR OUT:** (1) 2-pin 3.5 mm 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 3.5 mm 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® 8G fiber optic cable[2]

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

**12VDC 1.5A:** (1) 2.5 x 5.5 mm DC power connector;
12 Volt DC power input;
PW-1215WU power pack included

**AUDIO:** (1) 3.5 mm 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[4]

**HDMI OUT:** (1) 19-pin Type A HDMI female;
HDMI digital video/audio output (DVI compatible[5])

**LAN:** (1) 8-pin RJ45 female;
100BASE-TX Ethernet port

*Note: Mini USB port is for factory use only.*

## Indicators

**Power:** (1) Green LED, indicates operating power supplied via external power pack
**LAN:** (2) LEDs, green indicates Ethernet link status, amber indicates Ethernet activity

## 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, 2.5mm, Universal (Qty. 1 included)

**Available Accessories**

**HD-TX3-F:** HDMI® over Fiber Transmitter
**IRP2:** IR Emitter Probe
**CRESFIBER-SINGLE-SC-P:** CresFiber® Simplex Fiber Optic Cable Assembly, 50/125, SC, 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:** Connectors for CresFiber® 8G Multimode Fiber Optic Cable, SC 50µm, 12-Pack
**CRESFIBER-TK:** CresFiber® Termination Kit
**CBL Series:** Crestron® Certified 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 multimode fiber optic cable. To achieve maximum distance, the cable should be rated for at least 500 MHz*km effective modal bandwidth (EMB) at both 850 nm and 1300 nm.
3. An HDMI input with embedded audio is required for the transmission of analog audio.
4. 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.
5. HDMI requires an appropriate adapter or interface cable to accommodate a DVI signal. CBL-HD-DVI interface cables are available separately.

4.56 in
116 mm

4.75 in
121 mm

4.00 in
102 mm

5.92 in
150 mm

5.73 in
146 mm

1.43 in
37 mm