# **Gefen** HDMI KVM Extender over IP





## EXT-HDKVM-LAN

#### Extend and Distribute HDMI, USB, RS-232, IR, and 2-way audio over a Local Area Network using any combination of HDMI, DVI, and VGA Sender and Receivers

The Gefen HD KVM over IP extends HDMI, USB, 2-way analog audio, RS-232, and IR, over a Gigabit Local Area Network. Resolutions up to 1080p Full HD and 1920 x 1200 (WUXGA) are supported. The Senders and Receivers can be automatically or manually configured to unique IP addresses to allow the connection of multiple units to the same network. Multiple Receiver units can simultaneously connect to any Sender unit within the network regardless of video type to create a virtual crosspoint matrix of 256 Senders and a theoretical limit of just over 65,000 units total, depending on the network bandwidth and number of ports on the network switch. When using HDCP-encrypted content, only HDMI Senders and Receiver units can accept and display the content. Each Receiver unit has a built-in Ethernet switch and two additional RJ-45 Ethernet ports to allow for the connection of computers and other IP-enabled devices. USB 2.0 data rates up to 480 Mbps are supported in addition to backward-compatibility with USB 1.1. Each Receiver unit provides two USB ports with up to 500mA current draw per connector, providing access to keyboard, mouse, and other compatible devices. Bi-directional analog audio capability allows audio to be transported between the Sender and the Receiver units. The built-in mic pre-amp on the Receiver unit ensures compatibility with a variety of microphones. IR commands from the Receiver side can be extended to sources connected to any of the Sender units. RS-232 serial control can also be extended between each Sender and Receiver. The built-in web server interface makes operation, set-up, and configuration simple and intuitive. The Gefen HD KVM over IP is the perfect solution for large scale remote workstation access and digital signage applications.

### **How It Works**

If you will be using multiple Sender units, use the built-in web interface to assign a unique channel ID to each unit. Use the included HDMI cable to connect a computer or other HDMI source to the Sender's HDMI input. Use the included USB and RS-232 cables to connect the computer's USB and RS-232 interfaces to the Sender unit. Connect audio Line In and audio Line Out as needed to the Sender. If your computer or other source is IR controllable, connect a Gefen IR emitter to the Sender and attach it to the IR sensor lens of the source. Connect the HDMI output of the Receiver to your Hi-Def display. Connect your USB devices, RS-232 devices, microphone, and headphones or amplified speakers to the Receiver unit. If the Receiver is not installed in the line-of-sight of the end-user, and IR commands will need to be sent to the source, connect a Gefen IR extender (EXT-RMT-EXTIRC or EXT-RMT-EXTIRN) to the Receiver. Connect the Sender and Receiver units to each other directly or through a Gigabit Ethernet switch, using CAT-5e or better cables. Each cable run can be up to 330 feet (100 meters) in length. If the Sender is connected to your LAN, you can use the two additional RJ-45 ports on the Receiver to connect computers and other IP enabled devices. Connect the included 5V power supplies to the Sender and Receiver units and to available electrical outlets. Power-on all associated equipment. Use the Mode button on the Sender to optimize the picture for sharper still images or smoother video motion. When using multiple Senders and Receivers as a "Virtual Matrix", use the Switch button on the Receiver or the web interface to switch between Senders.

**NOTE:** A Gigabit switch is required. The Gigabit switch must support 8k jumbo frame packets in order for multicast mode to operate. If your LAN is not dedicated to Gefen KVM-LAN products exclusively, then a managed switch is highly recommended. **Gefen LLC.** 

# Features\*

- Extends HDMI, USB, RS-232, bi-directional stereo analog audio, and IR over IP, using a Gigabit Local Area Network
- Supports resolutions up to 1080p Full HD and 1920 x 1200 (WUXGA)
  - Supported HDMI Features:
  - HDCP
  - Deep Color
  - LPCM 7.1 audio, Dolby® TrueHD, and DTS-HD® Master Audio™
  - Lip-Sync pass-through
- Built-in web interface facilitates intuitive set up and operation
- Supports 256 Senders and a total of just over 65,000 Receiver units, depending on the network bandwidth and number of ports on your network switch
- USB 2.0 data rates up to 480 Mbps and backward-compatibility with USB 1.1
- Three-port Gigabit Ethernet switch built into the Receiver unit
- Mode button on Sender for sharpness or motion optimization of image
- Field-upgradable firmware via web server interface
- Locking power supply connectors
- 1U tall, half-rack width enclosures are rack-mountable using EXT-RACK-1U
- Surface mounting brackets included

### Specifications\*

- Maximum Pixel Clock: 165 MHz
- Video Input Connector (Sender): (1) HDMI Type A 19-pin, female, locking
- Video Output Connector (Receiver): (1) HDMI Type A 19-pin, female, locking
- Line Input (Sender): (1) 3.5mm mini-stereo jack
- Line Output (Sender): (1) 3.5mm mini-stereo jack
- Mic Input (Receiver): (1) 3.5mm mini-stereo jack
- Line Output (Receiver): (1) 3.5mm mini-stereo jack
- USB Host Interface (Sender): (1) USB Type B, female
- USB Device Connectors (Receiver): (2) USB Type A, female
- RS-232 Connector (Sender): (1) DB-9, female
- RS-232 Connector (Receiver): (1) DB-9, male
- IR Emitter (Sender): (1) 3.5mm mini-mono jack
- IR Extender (Receiver): (1) 3.5mm mini-stereo jack
- Ethernet connector (Sender): (1) RJ-45, shielded
- Ethernet connectors (Receiver): (3) RJ-45, shielded
- Mode button (Sender): (1) tact-type
- ID Selector switch (Sender): (1) rotary-type
- Switch button (Receiver): (1) tact-type
- Reset button (Receiver): (1) tact-type, recessed
- Link Indicator (Sender/Receiver): (1) LED, green
- Power Indicator (Sender/Receiver): (1) LED, blue
- Power Supply (Sender / Receiver): 5V DC, locking
- Power Consumption (Sender / Receiver): 10W (max.)
- Dimensions (Sender / Receiver) (W x H x D): 8.4" x 1.7" x 4.5" (213mm x 43mm x 113mm)
- Shipping Weight: EXT-HDKVM-LAN: 8.3 lbs. (3.8 kg) EXT-HDKVM-LANTX: 5.7 lbs. (3.0 kg) EXT-HDKVM-LANRX: 4.6 lbs. (2.0 kg)

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