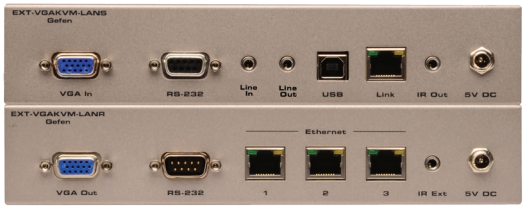
# VGA and KVM Extender over IP


EXT-VGAKVM-LAN

**Extend and Distribute VGA, 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 VGA KVM over IP extends VGA, USB, 2-way analog audio, RS-232, and IR, over a Gigabit Local Area Network. Resolutions up to 1920 x 1200 (WUXGA) are supported. The Sender and Receiver units can be automatically or manually configured to unique IP addresses to allow the connection of multiple Senders and Receivers to the same network. Multiple Receiver units can simultaneously connect to any Sender unit within the network including the Gefen KVM over LAN products with HDMI, DVI, or VGA video, to create a virtual crosspoint matrix of just over 65,000 Sender and Receiver units total, depending on the network bandwidth and number of ports on the network switch (see Notes 1 and 2). Any combination of HDMI, DVI, and VGA Senders and Receivers can be used. 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 Senders units. RS-232 serial control can also be extended between each Sender and Receiver unit. The built-in Web server interface makes operation, set-up and configuration simple and intuitive. The VGA KVM over IP is perfect for large scale remote workstation access and digital signage applications.

## How It Works

If you are connecting multiple Sender units, use the built-in Web interface to assign a unique channel IDs to the Sender units. Use the included VGA cable to connect a computer or other VGA source to the Sender's VGA 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 VGA 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. When using multiple Senders and Receivers as a "Virtual Matrix", you can connect to any of the Senders within the network by accessing the web interface of each Receiver unit via a web browser on a mobile device or computer, or by using the Gefen Keyboard Switching Controller software (available for download at www.gefen.com).

## NOTE:

1. 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.

2. When using HDCP-encrypted content, only HDMI Senders and Receiver units can accept and display the content.

## Features*

- Extends VGA, USB, RS-232, bi-directional stereo analog audio, and IR over IP, using a Gigabit Local Area Network
- Any combination of HDMI, DVI, and VGA Senders and Receivers can be used
- Supports resolutions up to 1920 x 1200 (WUXGA)
- Built-in Web interface for each Sender and Receiver unit provides intuitive control of all features
- Any of the Senders within a network can be accessed by any Receiver unit via a web browser on a mobile device or computer, or by using the Gefen Keyboard Switching Controller software (available for download at www.gefen.com)
- Supports a total of just over 65,000 Sender and 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
- Switch between all available Sender units using the built-in Web interface
- 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 Video Bandwidth: 350 MHz
- Video Input Connector (Sender): (1) VGA HD-15, female
- Video Output Connector (Receiver): (1) VGA HD-15, female
- 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-VGAKVM-LAN: 8.3 lbs. (3.8 kg)
  EXT-VGAKVM-LANTX: 5.7 lbs. (3.0 kg)
  EXT-VGAKVM-LANRX: 4.6 lbs. (2.0 kg)

**Gefen, LLC.**
**20600 Nordhoff Street, Chatsworth CA 91311**
**Tel. (818) 772-9100 (800) 545-6900 Fax (818) 772-9120**
**www.gefen.com**

* Features and specifications subject to change without notice.



REV. A7