Model : ATZ HDMI4K+VGA-EM100IR-RX
Description: HDMI4K/VGA over IP Receiver with IR, RS-232, PoE/ LAN & USB/KVM Extension

Front

Rear

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INTRODUCTION:

This unit is part of a 4K UHD Multi-Function Extension system that allows you to extend HDMI or VGA signals along with KVM using the TCP/IP protocol over regular Cat.5e/6/7 network cable. This extender supports the transmission of Ultra High-Definition signals (up to 4K@30Hz YUV 4:4:4 or 4K@60Hz YUV 4:2:0) with audio and USB up to 100m on a single cable. The transmission distance can be further extended (up to 100m per segment) by using gigabit network switches, allowing the user to cascade the system without signal loss or introducing delay.

It is also possible to have the extension system's Transmitter operatein multicast mode, allowing you to send a single AV signal to a large number of Receivers within the same local network. Additionally, that same multicast signal can be used to create large multi-display video walls with amazing simplicity. This system is perfect for both residential and commercial installation environments.

This system also features bi-directional IR and RS-232 pass-through, analog line level in/out, and a microphone input (on the Receiver), providing the user with a variety of audio options. The USB functionality allows the system to act like a remote USB hub which, when combined with the VGA input/output feature, provides a flexible remote KVM platform. Configuration information is provided via On Screen Display (OSD) and control is by WebGUI, Telnet, and front panel controls.

APPLICATIONS:

- HDMI, VGA, USB, Audio, IR, and RS-232 extension
- Broadcasting a system over a single Cat.5e/6 cable
- Multimedia display on a large number of displays via multicast
- Hotel or convention center display multi-monitor broadcast
- Long distance data and video transmission via cascading
- Distributed video matrix system
- Distributed video wall system
- Remote KVM control of a system

SYSTEM REQUIREMENTS:

- HDMI or VGA source equipment such as media players, video game consoles, PCs or set-top boxes.
- HDMI or VGA receiving equipment such as HDTVs, monitors or audio
- Analog audio receiving equipment such as headphones, audio amplifiers or powered speakers.
- A Gigabit Ethernet network switch with jumbo frame support is required. (8K jumbo frames are strongly recommended.)
- A Gigabit Ethernet switch with "IGMP snooping" enabled is required for multicast support.

FEATURES:

- HDMI 2.0 and DVI 1.0 compliant
- HDCP 1.4 & 2.2 compliant
- 1×HDMI input, 1×VGA input & 1×VGA bypass output
- Video, audio and control transmission over TCP/IP in Unicast (point- to-point) or Multicast (single-to-many) modes
- Multi-monitor video wall support with 90° rotation
- HDMI input resolutions up to 4K@60Hz (YUV 4:2:0, 8-bit) or 4K@30Hz (YUV 4:4:4, 8-bit)

Note: *4K@50/60Hz (YUV 4:2:0) sources are automatically converted to 4K@25/30Hz (RGB) for output*

- VGA input and output resolutions up to WUXGA (RB)
- Supports pass-through of audio formats including LPCM 2.0/5.1/7.1, and Bitstream over HDMI

Note: *The optical output on Receivers can only support LPCM 2.0 & Bitstream sources.*

- The analog Line In on the Transmitter sends audio directly to the analog Line Out and is inserted into the HDMI output on connected Receivers
- The Mic In on the Receiver sends audio directly to the analog Line Out on the Transmitter

- Both Tx and Rx may powered directly by PoE when connected to a Gigabit Ethernet switch that provides PoE (802.3af)
- Supports USB keyboard, mouse and storage extension
- Supports IR and RS-232 bypass
- Unit can be controlled via WebGUI, Telnet, and front panel controls

TECHNICAL SPECIFICATIONS:

HDMI Bandwidth	340MHz/10.2Gbps
Input Ports	3×Cat.5e/6/7 (LAN) 1×3.5mm (Microphone Audio) 1×IR Extender [3.5mm]
Output Ports	1×HDMI 1×VGA 1×TOSLINK (S/PDIF Audio) 1×3.5mm (Stereo Audio) 1×IR Blaster [3.5mm] 1×RS-232 [9-pin D-sub] 4×USB Type-A
Supported Resolutions	480i@60Hz - 4K@30Hz (4:4:4, 8-bit) VGA@60Hz - WUXGA@60Hz (RB)
IR Frequency	30 - 50kHz (30 - 60kHz under ideal conditions)
Power Supply	5V/4A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection	Human Body Model: ±12kV (Air Discharge) ±8kV (Contact Discharge)

Dimensions	231.5mm×25mm×108mm (W×H×D) [Case Only] 231.5mm×25mm×120mm (W×H×D) [All Inclusive]
Weight	666g
Chassis Material	Metal
Silkscreen Color	Black
Operating Temperature	0˚C - 40˚C/32˚F - 104˚F
Storage Temperature	–20˚C - 60˚C/–4˚F - 140˚F
Relative Humidity	20 - 90% RH (Non-condensing)
Power Consumption	17.68W

Video Specifications

	Input		Ouput	
Supported Resolutions (Hz)	**HDMI**	**VGA**	**HDMI**	**VGA**
640×480p@60	✓	✓	✓	✓
720×480p@59/60	✓		✓	
720×576p@50	✓	✓	✓	✓
800×600p@60	✓	✓	✓	✓
1024×768p@60	✓	✓	✓	✓
1280×720p@50/59/60	✓	✓	✓	✓
1280×768p@60	✓		✓	
1280×960p@60	✓	✓	✓	✓
1280×1024p@60	✓	✓	✓	✓
1440×480p@60	✓		✓	
1440×576p@50	✓		✓	
1366×768p@60	✓	✓	✓	✓
1600×1200p@60 (RB)	✓	✓	✓	✓
1920×1080p@24/25	✓		✓	
1920×1080p@50/59/60	✓	✓	✓	✓
1920×1200p@60 (RB)	✓	✓	✓	✓

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1920×1080i@50/59/60	✓		✓	
3840×2160p@24/25/30	✓		✓	
3840×2160p@50/60 (YUV	✓		✓	
4096×2160p@24/25/30	✓		✓	

Notes:

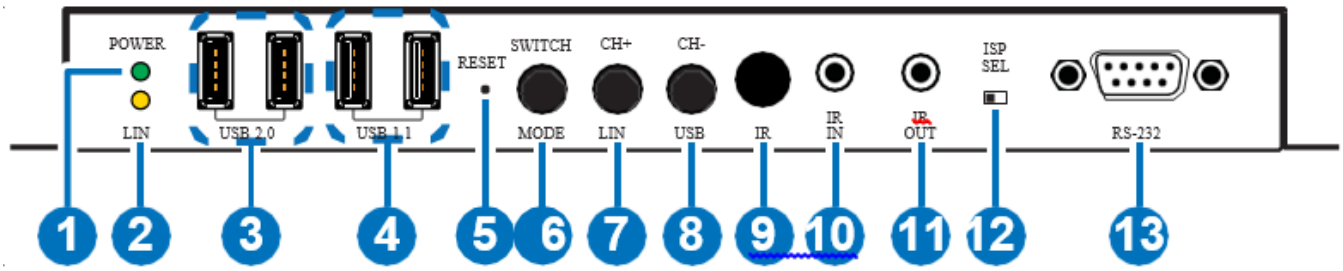
- *HDMI Input: Up to 4096×2160p@60Hz (YUV 4:2:0).*
- *HDMI Output: HDMI input at 4K@60Hz (YUV 4:2:0) will automatically be converted to 4K@30Hz (RGB) for output.*
- *VESA VGA up to 1920×1200@60Hz (Pixel clock<150MHz).*

Audio Specifications

Supported Audio Formats:

Supported Formats (kHz)	HDMI Input	HDMI Output
LPCM 2.0@44.1/88.2/176.4	✓	✓
LPCM 2.0@32/48/96/192	✓	✓
LPCM 5.1@44.1/88.2/176.4	✓	✓
LPCM 5.1@32/48/96/192	✓	✓
LPCM 7.1@44.1/88.2/176.4	✓	✓
LPCM 7.1@32/48/96/192	✓	✓
Standard Bitstream	✓	✓

OPERATION CONTROLS AND FUNCTIONS:
Receiver's Front Panel



(1) POWER LED: This LED will flash while the unit is powering on and will illuminate solidly once it is ready to be used.

(2) LINK LED: If the Transmitter has no network connection the LINK LED will not illuminate. While the Transmitter is attempting to establish a connection with a Receiver the LINK LED will flash. When the Transmitter has established a stable connection with a Receiver the LINK LED will illuminate solidly.

(3) USB 2.0: These 2 USB 2.0 slots provide connections for USB devices requiring higher transfer speeds such as thumb drives.

Note: Isochronous (steady streaming) data devices such as USB cameras and external hard drives are not supported.

(4) USB 1.1: These 2 USB 1.1 slots provide connections for slower USB devices such as keyboards, mice, etc.

Note: Isochronous (steady streaming) data devices such as USB cameras and external hard drives are not supported.

(5) RESET: Press this recessed button to reboot the unit (Settings will not be reset).

(6) SWITCH/MODE: This button controls multiple functions:
(a) Switch Input: Press this button momentarily to switch between the two available video inputs (HDMI and VGA).

Note: Due to the nature of streaming video and HDCP, the switch may take up to 6–10 seconds to complete.

(b) Video Mode: Press and hold this button for 3 seconds to toggle the video data streaming method between "Graphic" and "Video" modes. "Graphic" mode is optimized for high-detail static displays and "Video" mode is optimized for full motion video

(7) CH+/LINK: This button controls multiple functions:

(a) Channel +: Press this button momentarily to increase the streaming channel to the next available channel on the local network.

Note: If no other channels are detected, the channel number will not change.

(b) Video Link: Press and hold the button for 3 seconds to enable or disable the Video Link. When the link is disabled and the Receiver is connected to a display it will show the system's current IP and firmware information.

(c) Reset to Factory Defaults: Press and hold this button when powering the unit on until both the POWER and LINK lights are blinking. Once both lights are blinking you can reboot the unit and all settings will be returned to the factory defaults (Including resetting the IP mode to auto, broadcast channel to 0, and the streaming mode to multicast). A new IP address will be assigned automatically within the 169.254.xxx.xxx address range.

(8) CH−/USB: This button controls multiple functions:

(a) Channel −: Press this button momentarily to decrease the streaming channel to the previous available channel on the local network.

Note: If no other channels are detected, the channel number will not change.

(b) USB: Press and hold the button for 3 seconds to enable/disable the USB connection between the Transmitter and the Receiver. (Multicast Mode ONLY)

Note: In Multicast mode is it only possible to provide USB support to a single Receiver at a time. Enabling USB on one Receiver will disable it on all other Multicast Receivers on the same channel.

(9) IR WINDOW: Accepts IR signals from any standard remote control and sends the signal to the IR Out on the associated Transmitter.

(10) IR IN: Connect to the provided IR Extender to extend the IR control range of remotely located devices. Ensure that the remote being used is within direct line-of-

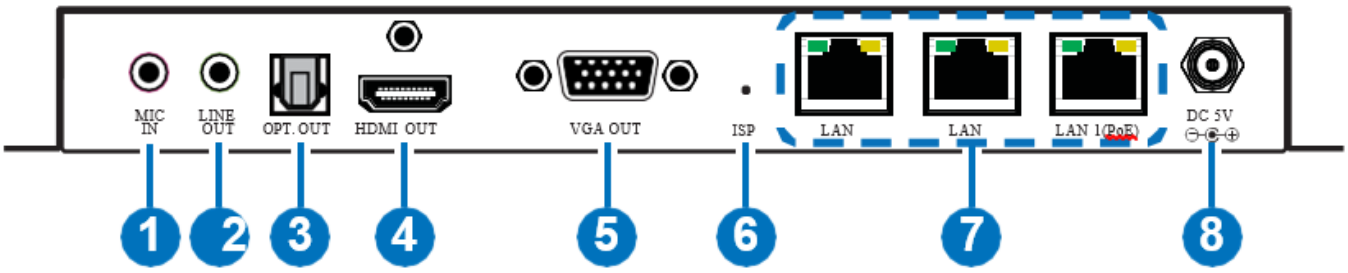
sight of the IR Extender.
(11) IR OUT: Connect to the provided IR Blaster to transmit IR signals from the associated Transmitter to devices within direct line-of-sight of the IR Blaster

(12) ISP SEL: For Factory use only. By default this is set to the left (away from the RS-232 port) and allows normal RS-232 functionality. Setting this switch to the right enables ISP engineering mode.

(13) RS-232: Connect directly to an RS-232 controllable device to receive commands from the device connected to the Transmitter. The baud rate is configurable, but the default baud rate is 115200.

Note: When the Transmitter is in multicast mode every connected Receiver unit can send RS-232 commands to the Transmitter and commands sent from the Transmitter side will be sent to all connected Receivers.

Receiver's Rear Panel



(1) MIC IN: Connect to an analog microphone using a 3.5mm plug. This audio will be sent to the analog audio output on the connected Transmitter. (Unicast mode ONLY)

Note: The Mic In audio channel back to the Transmitter is only active when an analog source is also connected to the Line In port on the Transmitter.

(2) LINE OUT: Outputs stereo audio from the Transmitter (HDMI or Line In, LPCM 2.0 sources only). Connect to powered speakers or an amplifier for stereo analog audio output.

(3) OPT OUT: Outputs audio from the Transmitter (HDMI or Line In, LPCM 2.0 & Bitstream sources only). Connect to powered speakers or an amplifier for stereo analog audio output.

(4) HDMI OUT: Connect to HDMI TVs, monitors or amplifiers for digital video and audio output.

(5) VGA OUT: Connect to a VGA monitor or display for analog video output. (VGA or Non-HDCP HDMI sources only)

Note: PC text and content with fine details may display with some visual artifacts when transmitted at 4K@60Hz (YUV 4:2:0).

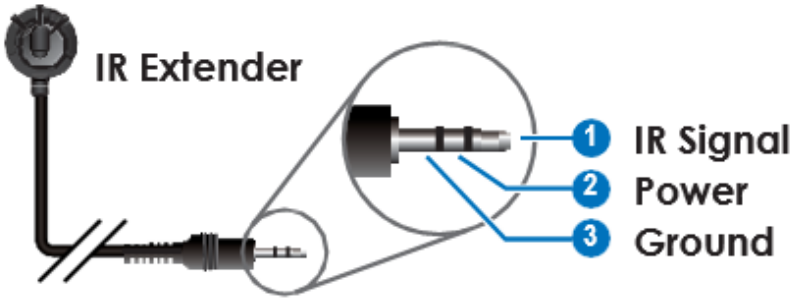
(6) ISP: For factory use only.

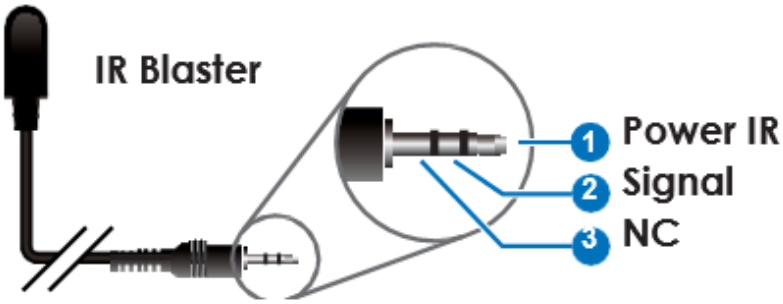
(7) LAN 1 (PoE)~3: Connect via a Gigabit Ethernet switch to compatible Receiver(s) to transmit data, or to a PC/laptop to control the unit via WebGUI.

Note: This unit can be powered directly by the connected Gigabit Ethernet switch if it provides PoE (802.3af). Only LAN 1 port supports PoE. Daisy chaining additional Receivers using LAN 1, 2, or 3 is possible.

(8) DC 5V: Plug the 5V DC power adapter into the unit and connect it to an AC wall outlet for power. (Optional if powered by PoE)

IR Cable Pin Assignments:





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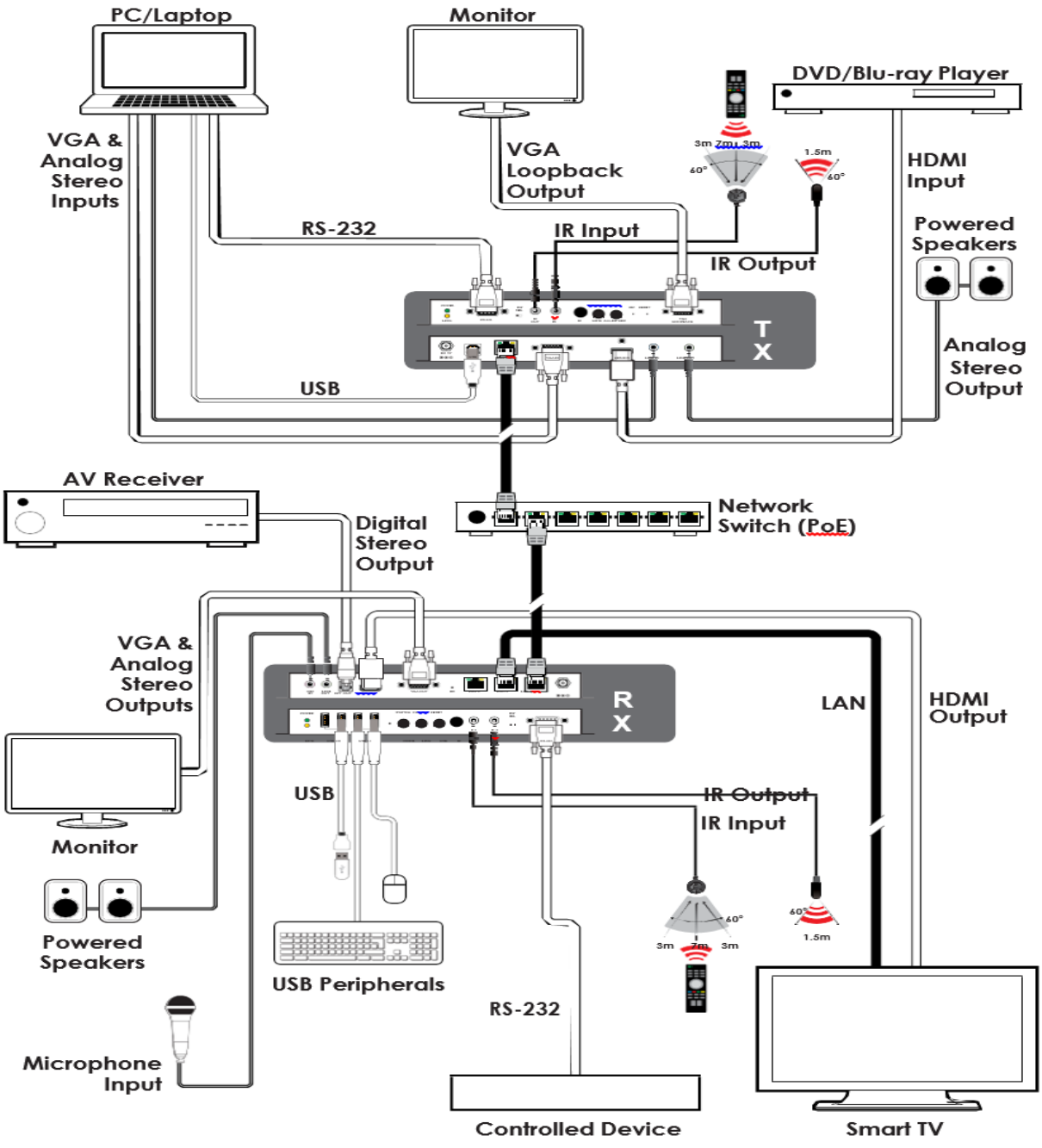
Connection Diagram:



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Packaging Includes:

1× HDMI/VGA over IP Receiver with USB/KVM Extension
1× IR Extender Cable
1× IR Blaster Cable
1× 5V/4A DC Power Adaptor
1× Power Cord
1× Operation Manual

Warranty: 2 Years

Warranty is effective from the date of original delivery.
This warranty shall be void if a serial number has been removed from the product.