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HIP-Series HDMI over IP Extender

User Manual

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Getting Started

Dear Customer, thank you for purchasing AG Neovo products. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Notice:

AG Neovo reserves the right to make changes in the hardware, packaging and any accompanying documentation without prior written notice.

Important Safeguards

Please read all of these instructions carefully before you use the device. Save this manual for future reference. What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
- Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
- Repair or attempted repair by anyone not authorized by us.
- Any damage of the product due to shipment.
- Removal or installation of the product.
- Causes external to the product, such as electric power fluctuation or failure.
- Use of supplies or parts not meeting our specifications.
- Normal wear and tear.
- Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Safety Instructions

The HIP-Series, HDMI Extender has been tested for conformity to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment's, the HIP-Series should be used with care. Read the following safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Do not dismantle the housing or modify the module.
- Dismantling the housing or modifying the module may result in electrical shock or burn.
- Refer all servicing to qualified service personnel.
- Do not attempt to service this product yourself as opening or removing housing may expose you to dangerous voltage or other hazards
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Have the module checked by a qualified service engineer before using it again.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

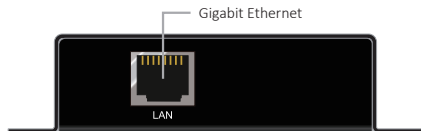
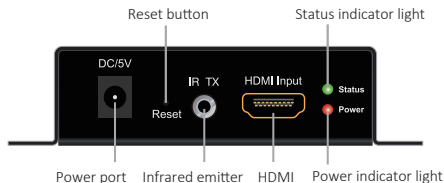
Product Description

Packing Contents

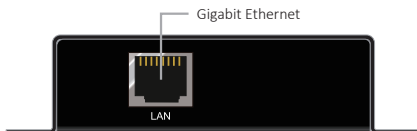
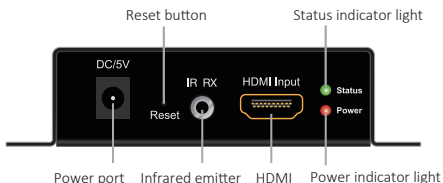
- 1) Main Unit. Transmitter or Receiver
- 2) Power adapter DC 5V/1A
- 3) IR-TX cable & IR-RX cable
- 4) User Manual

Panel Descriptions

Transmitter panel



Receiver panel

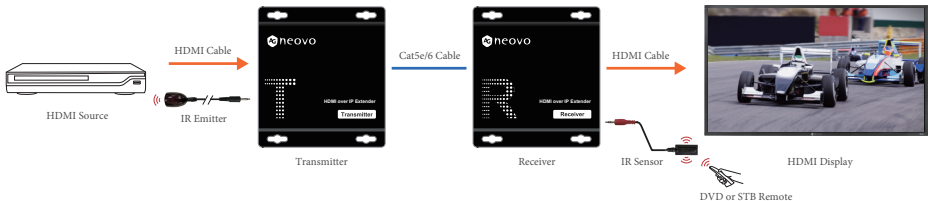


Making Connections and Operations

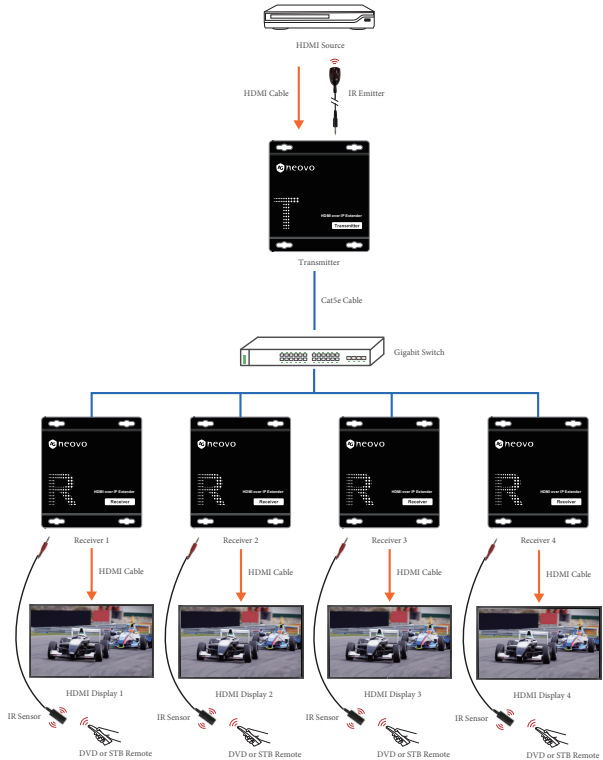
- 1) Connect the HDMI signal source (Such as DVD, STB etc) to HDMI Transmitter.
 - 2) Connect a Cat5e/6 cable to both the LAN of the transmitter and LAN port of the Receiver.
(The cables must follow the standard of EIA-TIA 568B).
 - 3) Connect the HDMI display into the Receiver.
 - 4) Connect the power supply into the Power port.
 - 5) Connect the IR TX cable into IR TX port on the back panel and affix the emitter onto the source IR sensor.
 - 6) Connect IR-RX cable into IR-RX port on the receiver and affix the IR receiver in direct line of site with the handheld remote control. It is recommended to affix the receiver on the display frame/bezel or the display stand.
- Attention: Insert/Extract cables gently.

Applications

Point-to-Point

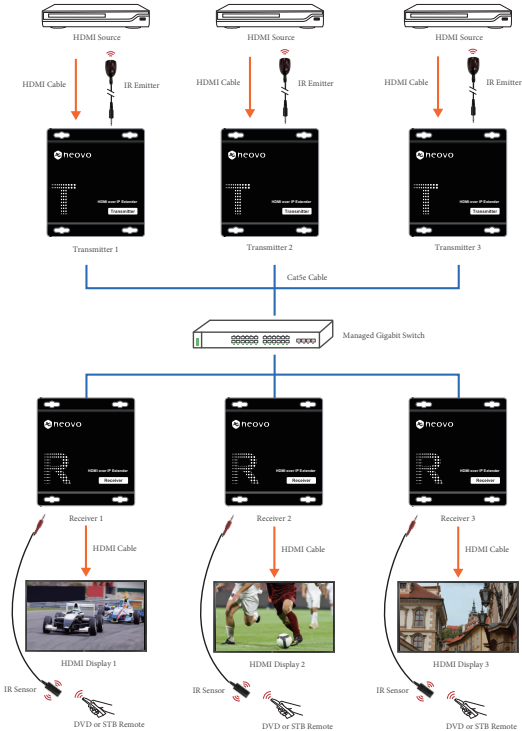


Point-to-Multipoint



Note:
Connect Transmitter
and Receivers LAN ports
to the Ethernet Switch.

Multipoint-to-Multipoint



Notes:

- 1. Connect Transmitters and Receivers LAN ports with a managed Gigabit switch. (a Managed Gigabit Switch with VLAN and IGMP support is recommended).
- 2. An HTTP server is embedded into every HIP-TA and HIP-RA, you can setup the IP address for each unit via web browser.

Setup HIP-TA and HIP-RA

An HTTP server is embedded into every HIP-TA and HIP-RA, you can setup the IP address for each unit via web browser.

The default IP address of the TX is 192.168.168.55, MAC address is: 00:0b:78:00:60:01.

The default IP address of the RX is 192.168.168.56, MAC address is: 00:0b:78:00:60:02.

Step 1: Assign the PC (or laptop) IP address on the computer : “Control Panel”→”Network Connections”→”Local Area Connections Status”→”Properties”→”Internet Protocol (TCP/IP)”, fill in the IP address field with 192.168.168.11 (0-255) and Subnet mask with 255.255.255.0. After that press OK to save the configuration.

Note: The IP address of PC should be different from the IP addresses of HIP-TA and HIP-RA units.

Step 2: Use an Ethernet cable to connect the PC and the extender. the power LED for the extender should become red and the status LED green.

Step 3: Ping the connected device through the sequence on computer:

“Start” → “Run” → input “CMD” → input “ping 192.168.168.55” for HIP-TA or input “ping 192.168.168.56” for HIP-RA, you will receive the reply if the connection is established.

Step 4: Open a browser and type: 192.168.168.55 (default IP for HIP-TA) or 192.168.168.56 (default IP for HIP-RA), You can setup IP address, subnet mask, gateway, and MAC address for the HIP-TA and HIP-RA.

Please set IP address for each TX and each RX, IP:192.168.168.XX (XX:1-255).

all IP address for HIP-TA and HIP-RA must be different.

Please set MAC address for HIP-TA and HIP-RA, MAC:00:0b:78:XX:XX-XX (XX:01-FF),

The MAC address for each TX and each RX must be different.

Step 5: After clicking the “Apply” button, the green LED light on the device will go out, you have successfully set IP address for HIP-TA and HIP-RA.

Note: if you need to restore the device to its factory default settings, please power on the device, wait about 10 seconds after the red LED light turn on, the green LED light starts working, at this time press the reset button for about 5-10 seconds, then the green light will go off, and you have successfully restored the IP address to default factory IP address now.

Choosing a Network Switch

This section provides various general and specific recommendations for switches to use with HIP-Series. However, there is no substitute for testing in real world situations. If you are in doubt about which network switch to use, the safest approach is to select one from the list of recommended switches below.

The Basics In general, the network switches deployed in HIP-Series installation must support the following:

- Gigabit (or faster) Ethernet port
- VLAN tagging
- Multicast forwarding or filtering
- IGMP v2 Snooping (multicast)
- Support for jumbo frames (packets) up to 9216-byte size
- IGMP Snooping
- IGMP Querier
- IGMP Snooping Fast-Leave
- High bandwidth connection between switches

Types of High Performance Switch

A high performance network switch is the means of a successful HIP-Series setup. When choosing a network switch, first select the type:

Layer 2 or Layer 3 Switches

You will need to determine whether you need a layer 2 or a layer 3 switch for your HIP-Series network. Layer 3 switches cost more than layer 2 switches because they are more complex and handle more network traffic. The best way to calculate which type of switch you need is to first determine if you will have a dedicated network for the HIP-Series devices or if the HIP-Series devices will be on a network that shares throughput with other network equipment such as computers, servers and printers. If they share the network with other devices its best to consider a layer 3 switch and use layer 2 switches exclusively for the HIP-Series device connections. For larger installations we recommend using Layer 3 switches.

The major differences are:

- Layer 3 Switch: IP addresses in packets are examined and intelligent forwarding decisions are made. On a larger network broken into subnets across long distances, a layer 3 switch becomes the best choice as they can improve network efficiency and provide better traffic flow. They are better at directing more traffic to different locations on a larger more complex network, and with layer 2 switches working below them.

- **Layer 2 Switch:** Packets are examined and forwarded using only the MAC address. If you have a small central network, a layer 2 switch should do the job. If the network is exclusive and will only transmit the bandwidth of HIP-Series devices, layer 2 switches with the correct settings can get the job done effectively.

Further Considerations

Number of ports: Choose a switch that has enough ports to match the number of HIP-Series devices you will be installing. Switches typically come in 5, 8, 10, 16, 24, 28, 48, and 52-port configurations. If you are installing 12 HIP-TA and 12 HIP-RA, you will need to purchase a switch with at least 24 ports.

Recommended Switches

Manufacturer	Model
D-Link	GDS-1510
Zyxel	GS1920 Series
Cisco	SG300, Catalyst 2960-X/XR
Netgear	GS724T, M4300-28G/52G
H3C	5120 Series
Edgecore Networks	ECS-4120-52T

Features

- Extends 1080p HDMI signals up to 120 m (400 ft) over a single Cat5e/6 cable
- HDMI compliant
- HDCP compliant
- Supports up to 1080p resolutions
- Supports IR transmission for remote control
- Mounting ears for easy installation
- Easy-to-use web GUI
- Supports TCP/IP protocol
- Support Point-to-Point, Point-to-Multipoint and Multipoint-to-Multipoint network configuration

Specifications

Units	HIP-TA	HIP-RA
Unit Description	HDMI over IP Transmitter	HDMI over IP Receiver
HDMI Compliance	HDMI 1.2	
HDCP Compliance	Yes	
Maximum Distance	Cat5e/6: 100 m (330 ft) up to 1080p / Cat5e/6: 120 m (400 ft) when used point-to-point without a network switch	
Compression Technology	Motion JPEG compression with very low latency	
Network Bandwidth	Approximately 90 Mbps	
Video Resolutions	480i / 480p / 720p / 1080i / 1080p	
Audio Support	PCM 2.0	
IR Frequency	38-56 kHz	
Input	RJ45 x 1 / HDMI x 1 / IR-TX port x 1	
Output	RJ45 x 1 / HDMI x 1 / IR-RX port x 1	
Dimensions (L x W x H)	103.5 x 93.5 x 24.6 mm	
Weight	220 g	
Power Supply	DC 5V/1A	
Power Consumption	3W Max Each	
Operating Temperature	-5° to 40°C (32° to 104°F)	
Storage Temperature	-20° to 60°C (-4° to 140°F)	

Relative Humidity	5% to 90% RH (non-condensation)
Package Contents	HIP-TA: HIP Transmitter x 1 / Power Adapter x 1 / IR-TX Cable x 1 / User Manual x 1 HIP-RA: HIP Receiver x 1 / Power Adapter x 1 / IR-RX Cable x 1 / User Manual x 1

Note1: Specifications are subject to change without notice. Mass and dimensions are approximate.

Note2: For Point-to-Multipoint or Multipoint-to-Multipoint applications, the IP and MAC address of each unit must be different.

Appendix

Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzine to clean this unit.

Product Service

Europe
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North and South America
service.us@agneovo.com

Asia and Rest of the World
service@agneovo.com