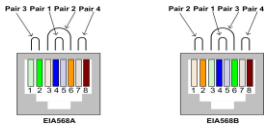
Specifications

Specifications	
Environment	HDMI, VGA and USB connectivity.
Devices	Blu-Ray, projectors, monitors, TV, PC, laptops, servers, and Smart White Boards.
Bandwidth	300MHz
Signals	HDMI 1.4 (4K/30), VGA (1920x1200), USB 2.0 and HDCP 2.2.
Connectors *Note: Cables not included.*	One (1) HDMI receptacle. One (1) Female DB15 connector for VGA. One (1) USB Type B connector. One (1) RJ45S for Ethernet connectivity. One (1) 3.5mm jack for Audio-lin. One (1) 2.1mm jack for power.
Maximum Distance *Based on a maximum length of 6.6ft (2m) of HDMI cable per end.*	Cat5e/6: 330ft (100m) *Note: When installed in an electrically noisy environment, an STP cable must be used. Also, cross-connection reduces the effective distance depending on the grade of twisted cable used.*
Latency	Typical one (1) frame (16ms)
Compression	JPG2000
Bandwidth	Up to 500Mbps
Network Requirement	1 Gig Ethernet with IGMP, Jumbo Frames and PoE
RJ45 Pin Configuration *Reverse Polarity Sensitive. Use EIA/TIA 568A or 586B straight-through wiring.*	**RJ45 Link** Pin 1 (R) Pin 2 (T) Pin 3 (R) Pin 6 (T) Pin 4 (R) Pin 5 (T) Pin 7 (R) Pin 8 (T) 
Power Source	This device supports PoE (PD), an external power supply is not included. It is intended to be powered via a PoE (PSE) Ethernet Switch. If required, an optional power supply may be purchased separately (see West Penn Wire website product page for more details).
PoE	IEEE 802.3af
Power Consumption	3W
Temperature	Operating: 0° to 40°C Storage: -20° to 85°C Humidity: Up to 95% non-condensing
Dimensions	5.03" x 4.53" x 1.66 (128mm x 115mm x 42mm)
Weight (Shipping)	1.35 lbs (0.61 kg)
Compliance	Regulatory: FCC, CE, RoHS Flammability: 94V0
Warranty	3 years
Order Information	AV-IP-WP772-AL HDMI/VGA/USB IP Wall Plate Transmitter (Aluminum) AV-IP-WP772-WH HDMI/VGA/USB IP Wall Plate Transmitter (White)
Companion Product	May be paired with the HDMI/USB IP Receiver (model AV-IP-RX-776)

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HDMI/VGA/USB IP Wall Plate Transmitter

AV-IP-WP772

Quick Installation Guide

Overview

The HDMI/VGA/USB IP Wall Plate Transmitter allows HDMI, VGA and USB equipment to be connected up to 330ft (100m), with video supported at up to 4K (3840x2160) resolution @ 30Hz via one (1) Cat5e/6 unshielded twisted pair cable in a point-to-point configuration. The USB port may be used for extending various USB devices including Smart Boards. Point-to-multipoint and multipoint-to-multipoint configurations are also possible by connecting several Transmitters and Receivers to the same local Ethernet network via an Ethernet Switch. The HDMI/VGA/USB IP Wall Plate Transmitter also supports PoE (PD) if used with a PoE (PSE) Ethernet Switch. Additional Transmitters may be purchased separately depending on the intended application and number of units required.

For the point-to-multipoint and multipoint-to-multipoint configuration the Ethernet Switch must have Gigabit ports, Jumbo Frame capability, DHCP Server capability, PoE, and additionally support the IGMP communication protocol for the multipoint-to-multipoint case.

Applications

Applications include commercial and residential AV systems, classroom systems, digital signage, boardroom systems, conference rooms, and collaborative PC systems.

Installation

1. Identify the connectors on the Transmitter as indicated on the product labels, see the above product view for further details. Note that the Ethernet network connector is on the rear.

2. Verify that the distance between the HDMI/VGA/USB IP Wall Plate Transmitter and other West Penn Wire Receivers (such as the AV-IP-RX776) is within the specifications (see Specifications table for more details).

3. To install the Transmitter:

   3a. For an HDMI source, connect the Transmitter to the HDMI video source with an HDMI compliant cable. For a VGA source, connect the Transmitter to the VGA video source and connect the audio to the Audio-In port with compliant video and audio cables.

   3b. If the application is point-to-point, then connect one (1) length of Cat 5e/6 (or higher) grade UTP cable to the RJ45 LINK connector on the Transmitter. If transmitting over the network, use an Ethernet Switch between Transmitter and Receiver.

4. To install a Receiver (such as the AV-IP-RX776 Receiver):

   4a. Connect the Receiver to the HDMI display equipment with an HDMI compliant cable.

   4b. If the application is point-to-point, then connect one (1) Cat 5e/6 cable (or higher) coming from the Transmitter, to the RJ45 LINK connector on the Receiver. If transmitting over the network, use an Ethernet Switch between Transmitter and Receiver.

5. Following similar instructions to the above, connect the USB port of the Host device to the Transmitter, the USB port of the end device to the Receiver (such as the RX776 Receiver).

6. If the configuration is a point-to-multipoint or multipoint-to-multipoint:

   6a. You will need to use an Ethernet Switch with Gigabit ports and DHCP Server support. In addition Jumbo Frame support is required and IGMP Protocol support is required for the multipoint-to-multipoint case. **Verify that the Ethernet Switch is configured correctly and that the DHCP Server is enabled, that the IGMP Protocol is enabled for multipoint-to-multipoint applications, and that Jumbo Frame is enabled**. See the operating manual for more information about configuring the Ethernet Switch.

   6b. Connect all Transmitters and Receivers to the Ethernet Switch.

   6c. Use the DIP Switches to select a unique Device ID for each Transmitter present on the network and configure each Receiver Device ID to the corresponding selected Transmitter.
   Note: This step is not necessary if the IP Device Controller (AV-IP-NC811) is used.

7. Powering the Transmitter or Receiver via an external power supply is only necessary where PoE (PSE) is unavailable. If PoE is unavailable, connect a 5 VDC power supply to each Receiver and to an AC power outlet. Next connect each Transmitter in the same manner. If power is present, the green power LED on each Transmitter and Receiver will illuminate.

   Note: Power 'ON' the HDMI/VGA/USB IP Wall Plate Transmitter and any other Transmitters and Receivers only after all connections have been made.

8. Power 'ON' the HDMI, VGA and USB equipment and verify the image quality and data transfer.

9. Press and hold the push button for 5 seconds to toggle between Normal and Auto Source Detect mode. In Normal mode, press and release the push button on the front panel to switch between the HDMI and VGA inputs. In Auto Source Detect mode, the HDMI/VGA/USB IP Wall Plate Transmitter will detect and select the first input signal inserted, and will remain selected until the connector is removed.

10. The following diagram illustrates a typical LAN configuration with other compatible West Penn Wire AV over IP devices. The AV-IP-WP772 is compatible with the West Penn Wire AV-IP-RX776 Receiver.

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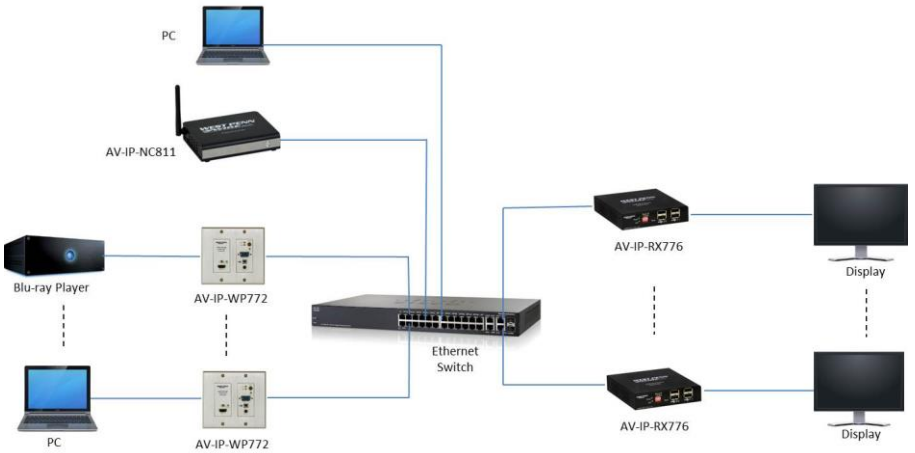

Troubleshooting

The following table describes some of the symptoms, probable causes and possible solutions in regard to the installation of the HDMI/VGA/USB IP Wall Plate Transmitter:

Symptom	Transmitter LEDs		Receiver LEDs		Probable Cause	Possible Solutions
	Power	Link	Power	Link		
No Image or USB signal	OFF	OFF	OFF	OFF	No power	• Check power connections • Check PoE Ethernet Switch Setup
No Image or USB signal	BLINK	OFF	BLINK	ON	Booting	• Wait until booting process is finished
No Image or USB signal	ON	OFF	ON	OFF	No Ethernet Link	• Check Ethernet Switch Status • Check UTP Cables
Info Screen	ON	OFF	ON	BLINK	UTP Cable	• Check the Transmitter UTP cable
Info Screen	ON	ON	ON	OFF	UTP Cable	• Check the Receiver UTP cable.
Info Screen	ON	BLINK	ON	BLINK	No Data Connection	• Check if DIP Switch settings match
Info Screen	ON	ON	ON	BLINK	Wrong setting on Receiver	• Check DIP Switch address of the Receiver
Choppy Video	ON	ON	ON	ON	Configuration	• Check cable length • Check the HDMI or VGA Cable Quality • Check if Jumbo Frame and IGMP are enabled on the Ethernet Switch
Image flickers when powering up nearby equipment	ON	ON	ON	ON	Interference	• Use STP cables

If you still can't diagnose the problem, please contact West Penn Wire Customer Technical Support at 800-245-4964 (toll-free in North America) or at AVsupport@westpennwire.com