AV-IP System & Components

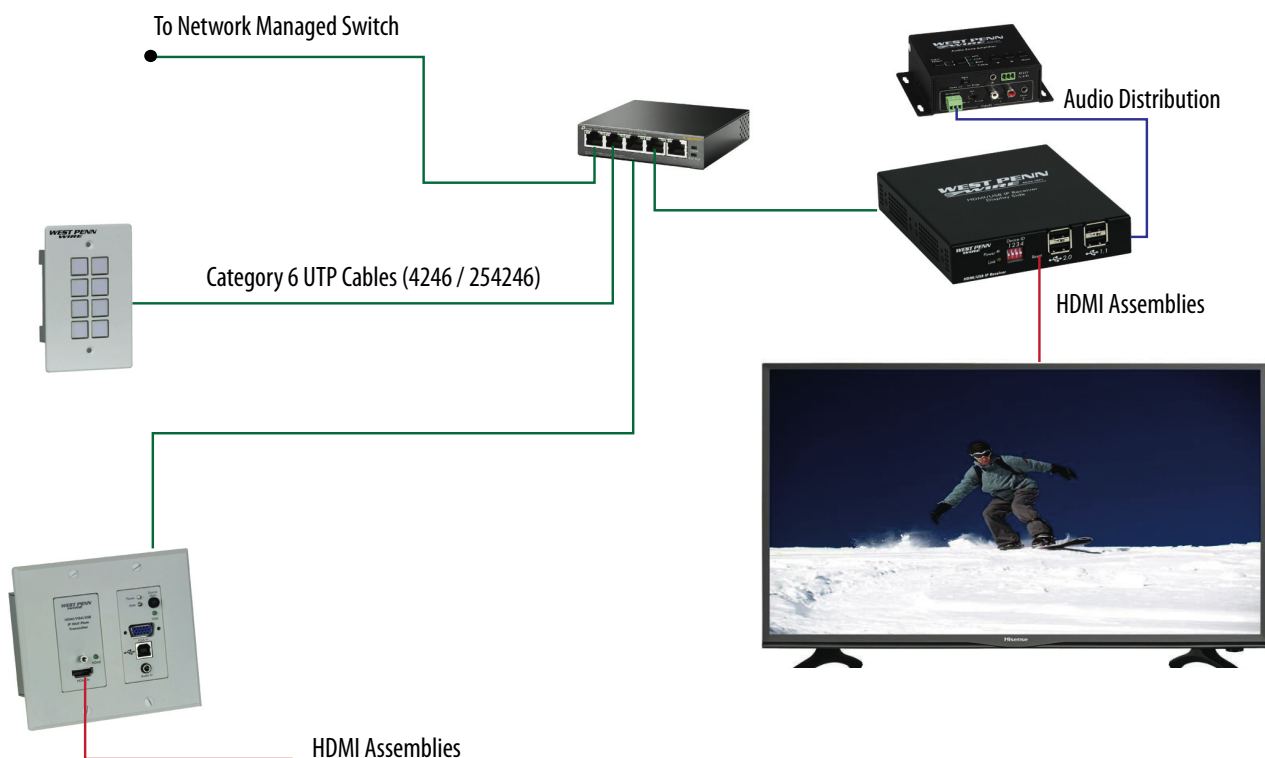## Cost-Effective AV Distribution Systems for Classrooms and Boardrooms

We're at the Intersection of AV and IT

AV over IP (AV-IP) is the transmission of audio-visual data over an Internet, LAN or WAN network. It's replacing traditional circuit-based AV infrastructures with packet-based Internet-Protocol or IP-based streaming infrastructures, while preserving the very best image and sound quality over greater distances.

West Penn Wire offers cost-effective solutions to support the migration to AV-IP, creating the setting for greater innovation and collaboration. Whether it's the boardroom or the classroom, West Penn Wire's AV-IP system and components are providing maximum value to users and their audio and video assets.

Our system is AV-IP for point-to-point in-room AV distribution or can be expanded for AV collaboration, producing a bandwidth-controlled environment, higher resolutions and frame rates, and very low latency.

> Provides HDMI (1080P), VGA with audio and USB from a source or multiple sources to a display location via Category 6 UTP cabling.

> Allows an installer to cable with Category 6 UTP cabling to each device. This is an inexpensive solution over HDBaseT shielded cabling.

> Inputs and audio can be managed by our 8-button controller.

> All components – TX, RX and controller – share a 1G PoE switch. The PoE switch consolidates all West Penn Wire devices into a simplistic power design.

> Supports control of AV signaling.

> All users – from educators to executives – can quickly select the input and manipulate the audio. This is a user-experience advantage over a hardwired rapid-run solution.

To Network Managed Switch

Audio Distribution

Category 6 UTP Cables (4246 / 254246)

HDMI Assemblies

HDMI Assemblies

AV-IP Transmitter

AV-IP-WP772-WH

Overview:

The HDMI/VGA/USB IP Wall Plate Transmitter installs in a double-gang wall box to provide a convenient interface for HDMI / VGA input sources to be extended to one or more displays, and USB 2.0 connectivity to manage Smart White Boards and other USB-based devices. The unit has one HDMI-In, one VGA-In with Audio-In, one USB Type B port, and one Ethernet port. It supports video up to 3840x2160 @ 30Hz, and VGA up to 1920x1200 @ 60Hz. The HDMI/VGA/USB IP Wall Plate Transmitter allows HDMI, VGA and USB equipment to be extended up to 330ft (100m). The unit supports a push button switch and auto switching to select between the HDMI and VGA inputs. The device may be powered via a PoE enabled 1Gigabit Ethernet Switch.

Key Features:

> Extend HDMI, VGA with 2CH audio, and USB 2.0 up to 330ft (100m) over Cat5e/6 cable

> Supports HDMI video up to 4K (3840x2160) @ 30Hz

> Supports VGA video up to 1920x1200

> Selectable HDMI / VGA with audio inputs and auto-switching capability

> Supports point-to-point, point-to-multipoint and multipoint-to-multipoint applications

> Supports 100s of devices depending on network bandwidth

> PoE powered

> Controllable via IP Device Controller (AV-IP-NC811)

Applications:

> Commercial and residential AV systems

> K-6 and K-12 classroom AV systems

> Digital signage

> Boardroom systems
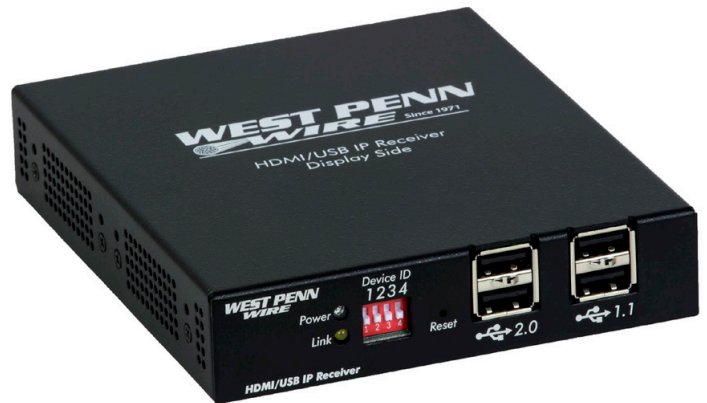
> Collaborative PC systems

> Medical information systems

AV-IP Receiver

AV-IP-RX776

Overview:

The HDMI/USB IP Receiver is able to receive AV signals transmitted by the HDMI/VGA/USB IP Wall Plate Transmitter (Model: AV-IP-WP772) over an IP network, and allows HDMI displays and USB devices such as Smart White Boards to be extended up to 330ft (100m). The unit has one HDMI-Out, two USB 2.0 Type A ports, two USB 1.1 Type A ports, one Audio-Out port, one Mic-In port, and one Ethernet port. It supports HDMI up to 1920x1080 @ 60Hz. The device supports PoE and may be powered via a PoE enabled 1Gigabit Ethernet Switch.

Key Features:

 Extend HDMI and USB 2.0 up to 330ft (100m) over Cat5e/6 cable

> Compatible with AV-IP-WP772 Wall Plate Transmitter

> Supports HDMI video up to 1080p @ 60Hz

> Supports two (2) USB 2.0 & two (2) USB 1.1 Type A ports

> Supports an Audio-Out (for audio extract) and Mic-In port

> Supports point-to-point, point-to-multipoint and multipoint-to-multipoint applications

> Supports 100s of devices depending on network bandwidth

> PoE powered

> Controllable via IP Device Controller (AV-IP-NC811)

Applications:

> Commercial and residential AV systems

> K-6 and K-12 classroom AV systems

> Digital signage

> Boardroom systems

> Collaborative PC systems

> Medical information systems

AV-IP Controller (In Room)

AV-IP-C8-WH

Overview:

The West Penn Wire 8-Button IP Controller is a versatile wall- or tabletop-mounted control panel for West Penn Wire AV over IP devices, TCP/IP & Telnet devices, select Matrix Switches, and third party products. Each button is programmable. The unit supports one (1) Ethernet port (for TCP/IP and Telnet), two (2) RS232 ports, one (1) Infrared port, and two (2) Relay ports for control of end devices. The 8-Button IP Controller can control West Penn Wire products including West Penn Wire's AV over IP system via the AV-IP-NC811 IP Device Controller, and third party TCP/IP, Telnet and RS232 managed Matrix Switches, as well as projectors and projector screens, displays, AV sources and other similar devices. The AV-IP-C8-WH is managed via a web interface to program each key and to support IR learning. Each button on the AV-IP-C8-WH unit can be programmed to execute up to six commands, and can even execute commands programmed on another unit.

Key Features:

> 8-button controller panel

> Buttons can be individually programmed

> Control end devices via TCP/IP, Telnet, RS232, IR & Relay

> Programmable via web interface

> Buttons are backlit & support customizable labels

> May be wall or tabletop mounted

> Supports firmware updates via web interface

> Supports PoE

Applications:

> Commercial and residential AV systems

> K-6 and K-12 classroom AV systems

> Boardroom systems

> Home theater showroom

Ethernet Switches

WPTL-SG1005P

Overview:

> Unmanged Switch for Point-to-Point Applications

> TP-Link: 5-Port Gigabit Ethernet PoE Desktop Switch with 4-PoE Ports, 55W IEEE 802.3af Compliant Computers & Accessories

> 5-Gigabit ports with auto-negotiation sensing the link speed of a network device per port

> Ideal for small installations of 4 PoE devices (IP Phone, Wired Surveillance Camera, Wireless Access Point)

> Max Wattage w/PoE with devices connected: 55W

> Plug-and-play, simple setup with no software or configuration needed

Managed Switches Recommendations for Room Collaboration

Overview:

> Managed Switch

> PoE Capable

> IGMP Required

> Jumbo Frame Required

AV-IP Controller

AV-IP-NC811

Overview:

The West Penn Wire IP Device Controller is a Linux-based PC that allows users to control hub-installed West Penn Wire products via an Ethernet web interface.

When installed on a local area network (LAN), the IP Device Controller will scan the LAN for connected West Penn Wire products allowing the user to auto-discover, configure and control these products through an Ethernet web interface. The Controller may also be used to manage firmware upgrades of connected West Penn Wire devices.

An Application Program Interface (API) is available to allow the West Penn Wire 8-Button IP Controller (AV-IP-NC811) to send commands to the IP Device Controller.

Key Features:

> Centralizes control of West Penn Wire products within a system

> Provides a web interface to manage & control West Penn Wire products

> Provides a control API for the 8-Button IP Controller (AV-IP-NC811)

> Supports I/O presets to be configured

> Serves as a base platform to develop automation control applications

> Supports software upgrades

Applications:

> Commercial and residential AV systems

> K-6 and K-12 classroom AV systems

> Digital signage

> Multi-room systems

> Retail systems

> Collaborative PC systems

> Medical information systems

20 Watt Amplifier

AV-AMP-20W

Overview:

The West Penn Wire 2x20W AMP Mic In, Audio In zone amplifier is a Class D digital amplifier that allows one (1) analog source to feed a pair of 20W per channel stereo speakers. The unit features two (2) stereo Analog Audio input lines and one (1) Mic input, plus two (2) 20W, 4-ohm speaker outputs or one (1) 40W, 8-ohm speaker output. The device supports cascading for additional functionality, and may be locally managed via push buttons, or remotely managed via RS232 and optional IR.

Key Features:

> Two analog stereo audio inputs and one MIC input

> 20W per channel (2 CH) into 4-ohm

> Supports 40W mono

> Cascadable to further amplifiers

> Compatible with Audio Baluns and Audio Matrix Switch

> Volume control, ground loop isolation

> Controllable via pushbuttons, RS232 and optional IR

Applications:

> Audio distribution systems

> K-6 and K-12 classroom AV systems

> Digital signage

> Boardroom systems

> Hospitality industry

> Collaborative PC systems

> Commercial and residential AV systems

Audio Extractor

AV-AUDHDMI-EXT

Overview:

The HDMI Audio Extraction allows one (1) HDMI source to be distributed to one (1) HDMI display. The device supports up to 4K (3840 x 2160) video resolution at 60Hz, 8-bit color and HD audio.

The unit extracts LPCM, Dolby Digital, DTS, Dolby Digital Plus* and Atmos** digital audio from the S/PDIF TOSLINK port and 2CH analog audio from the 3.5mm 2CH audio port. The product is HDCP 2.2 compliant and features LED diagnostics.

Key Features:

> Allows one HDMI 2.0 source to be repeated and distributed to one HDMI display

> HDMI supports 4K video at 60Hz, 8-bit color depth

> HDMI supports LPCM 7.1CH, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS, DTS-HD-Master Audio, and DTS:X

> Extracts LPCM, Dolby Digital, Dolby Digital Plus*, DTS, and Dolby Atmos** digital audio via S/PDIF TosLink

> Extracts 2CH analog audio via 3.5mm jack

* For compressed Dolby Digital Plus signals only (in TV mode).

** For Atmos over compressed Dolby Digital Plus only (in TV mode).

Audio AMP IP

AV-IP-AMPTX Transmitter
AV-IP-AMPRX Receiver

Overview:

The Audio AMP IP Transmitter and Receiver allows one of two 2CH Analog Audio-in and Mic-in signals to be extended over an IP network, and up to 330ft (100m) from an Ethernet Switch via Cat5e/6 cable in a point-to-point configuration. Point-to-multipoint and multipoint-to-multipoint is supported by connecting several Transmitters and Receivers to the same local Ethernet network. Depending on the application one or more Transmitters (AV-IP-AMPTX) can communicate with (or multicast to multiple Receivers (AV-IP-AMPRX).The Transmitter supports PoE (PD) if used with a PoE (PSE) Ethernet Switch. Supports bidirectional RS232 and directional IR transmission initiated via an IP network or via pass-through for remote control of end devices.

Key Features:

> Supports dual 2CH Audio inputs and a Mic input (TX)

> Extend 2CH Audio or Mic signals up to 330ft (100m) over Cat5e/6 cable

> Supports a 2x50W Amplifier, and bridge-mode for 1x100W (RX)

> Supports Digital Audio Out (RX)

> Control input selection, volume, bass and treble (TX)

> Manage TX unit locally via push/turn dial or remotely via AV-IP-NC811 web interface

> Supports point-to-point, point-to-multipoint and multipoint-to-multipoint applications

> Supports 100s of Transceivers depending on network bandwidth

> Supports RS232 and IR transmission for remote control of end devices

> Transmitter may be PoE powered

Cabling

4246

Category 6+ UTP CMR

> 4 Pair 23AWG

> 220" O.D

> TIA568-568-C.2

> CMR Rated

> Colors: Black, Blue, White, Green, Yellow, Orange, Pink, Violet

254246

Category 6+ UTP CMP

> 4 Pair 23AWG

> 225" O.D

> TIA568-568-C.2

> CMP Plenum Rated

> Colors: Black, Blue, White, Green, Yellow, Orange, Pink, Violet

HDMI ASSEMBLIES

CN-HDE-xxxWP

xxx:

001 - 1meter

002 - 2meter

003 - 3meter

005 - 5meter

007 - 7meter

010 - 10meter

015 - 15meter

020 - 20meter

HDMI UltraHD and 4K Molded Assembly (1-5m)
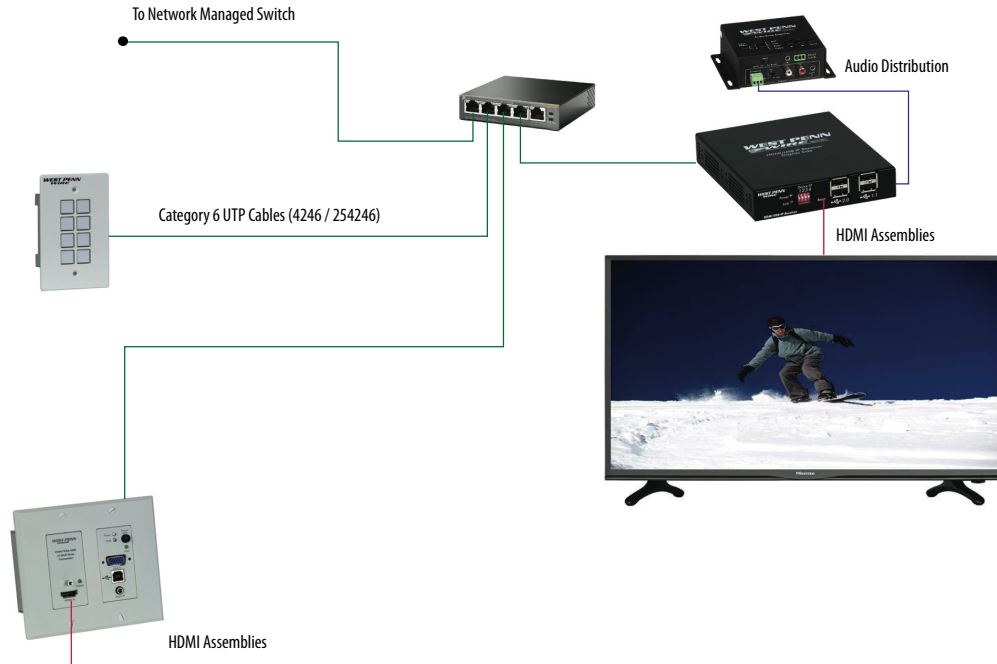1920x1080P 60Hz (7-20m)

USB 2.0 ASSEMBLIES

CN-USBAA2-xx USB A-A 2.0

CN-USBAB2-xx USB A-B 2.0

xx: Replace with 1 or 2 meter

Applications

AV-IP Point to Point

To Network Managed Switch

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AV-IP Room Collaboration

To Network Managed Switch

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To Network
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