## Distribute high-definition audio and video

The Avocent MPX 1500, 1450 and 1550 MPX extenders provide wireless or wired connectivity for distribution of high-definition (HD) content from a source to one or more destinations.

Deployment of a single stream of media to many displays can be accomplished in minutes, even under the most challenging of conditions, with a degree of reliability and quality that rivals a dedicated source device at each and every display. Unlike multiple source devices, however, video and audio remain in perfect lockstep across all displays and failure-prone moving parts are kept to a minimum.

Designed for professional A/V applications involving both motion video and computer graphics, Emerge MPX multipoint extenders feature an integrated digital video interface (DVI-I) connector that supports direct connection to HDMI, DVI-D, DVI-A, RGB and component source and display devices.

The MPX 1550 extender combines Avocent's field-proven MPX extender technology with IEEE 802.11n MIMO-based radios, thereby setting the highest standard for wireless HD video distribution in terms of visual acuity, transmission distance and noise immunity. The MPX 1450 extender offers all the same capabilities and features of the MPX 1550 extender in hardwired environments using the existing network infrastructure.

For ease of installation and configuration, Emerge MPX extenders feature an on-board Web server. The Web interface also offers powerful diagnostic tools for remote or local management.
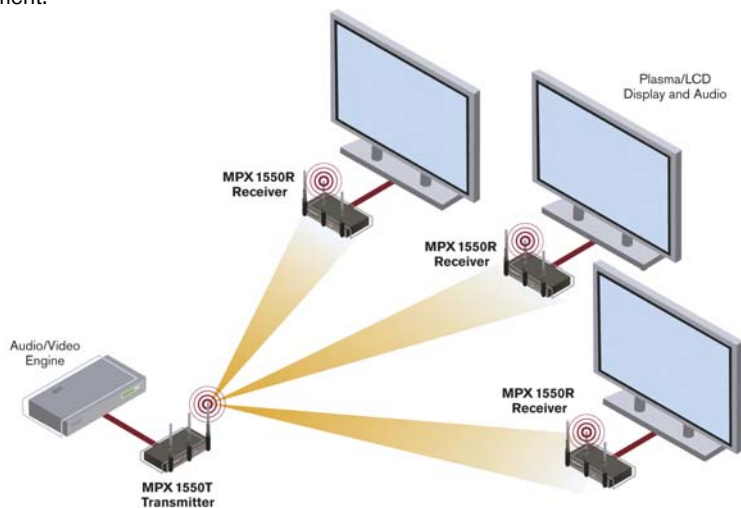
Example- MPX 1550 Extender System Wireless Configuration

The Emerge MPX 1550 extender system (comprised of a transmitter and receiver) integrates Avocent's field-proven MPX video extension and distribution engine with 802.11n radio technology and MIMO-based smart antennas. The result is a video and audio distribution solution that delivers unparalleled performance, range and reliability. MPX 1550 extender products are ideally suited for use in a wide range of critical viewing applications that require one-to-many distribution, such as: informational displays, corporate signage and displays within boardrooms, courtrooms and medical, military and educational facilities.

Benefits

- **Wireless or Wired Extension.** Provides installation flexibility for wireless or wired high-definition applications (MPX 1450 wired extender only)
- **Universal DVI-I Video Port.** The MPX extender system features a single DVI-I media port that supports RGB, component, DVI-A, DVI-D and HDMI video
- **Enhanced Audio.** Supported audio standards include stereo analog audio supported via white and red RCA connectors
- **Point to Multipoint Distribution.** High-definition computer graphics or video and associated audio can be distributed to as many as eight display devices
- **Serial Control.** Support broadcast and bi-directional serial data transfers for management of attached display devices
- **IR Control.** Support broadcast and bi-directional IR data transfers for session control from the point of display or for display control from the location of the source device; mini-jack cables allow IR blasters and receivers to be optimally placed
- **Web Control Interface.** Allows local or remote control and configuration of the system without special software tools
- **Serial Interface.** Allows integration with third-party control systems
- **AES 128 Bit Encryption.** Audio-visual information is encrypted with built-in Advanced Encryption Standard (AES) for secure transmission
- **Small Form Factor.** Small footprint allows convenient installation and saves space where it's needed the most

MPX 1500
Multipoint Extenders

MPX 1500 Transmitter

MPX 1500 Receiver

MPX 1500 Extender System
Specifications

Mechanical / Power / Environmental

Size: 4.55 in. (116 mm) D, 6.92 in. (176 mm) W, 1.00 in. (25.4 mm) H

Weight: 1.4 lbs. (0.64 kg)

Power (AC input/frequency): 100 - 240 VAC / 50 - 60Hz

Inrush Current: 14.2 Amps (AC/DC adapter)

Operating Temperature: 32° to 118.4°F (0° to 48°C)

Storage Temperature: -4° to 140°F (-20° to 60°C)

Humidity: 20% to 80% (Non-condensing)

Altitude: Altitude 10,000 ft. across the operating temperature range, 35,000 ft. across storage temperature range

Shock: 140G - 3 axis

Connections (Front)

2.5mm Mini-Jack: IR input

3.5mm Mini-Jack: IR blaster output, 38KHz +/- 2KHz; the IR blaster port supports enough drive current to handle 4 IR LEDs

RP-SMA Connector (2): Antenna connectors

USB: USB 1.1 (not used at this time)

Connections (Rear)

DC Power: DC barrel connector: 12VDC @ 1.5Amps

Serial (RJ-45): RJ-45 serial port for control of attached display devices. Requires optional DB9-UNI female serial cable. Baud rates up to 38.4K

L1 LAN (RJ-45): IEEE 802.3 10/100 Ethernet, used for Web access
  Note: *MPX receivers offer combined Web/video functionality on a single port*

L2 LAN (RJ-45): IEEE 802.3 10/100 Ethernet, used for streaming video
  Note: *MPX receivers offer combined Web/video functionality on a single port*

DVI-I: AV media port that supports a wide range of digital and analog video modes

RCA Jacks (2): Left and right jacks for unbalanced analog audio

S/PDIF: Digital audio output - Operation of this port may require a firmware upgrade

Video Details

Video Gain: Unity ±1DB

Digital Video Standards: HDCP compliant, HDMI 1.3 compliant, DVI-D DDC2B

Maximum Wired Video Bit Rate: 40 Mbps

Maximum Wireless Video Bit Rate: 20 Mbps

Video Resolutions (RGB):
  Computer (RGB) at 30fps
  • 640x480 @ 60Hz
  • 800x600 @ 60Hz
  • 1024x768 @ 60Hz
  • 1280x720 @ 60Hz
  • 1280x768 @ 60Hz
  • 1360x768 @ 60Hz
  SD video (RGB) at 30 fps
  • 480p @ 60Hz
  • 576p @ 50Hz
  HD video (RGB) at 30 fps
  • 720p @ 50/60Hz

Video Resolutions (component video):
  SD video (component) at 30 fps
  • 480i @ 60Hz
  • 480p @ 60Hz
  • 576i @ 50Hz
  • 576p @ 50Hz
  HD video (component) at 30 fps
  • 720p @ 50/60Hz
  • 1080i @ 50/60Hz

Video Resolutions (HDMI and DVI-D):
  Computer resolution at 30 fps
  • 640x480 @ 60Hz
  • 800x600 @ 60Hz
  • 1024x768 @ 60Hz
  • 1280x720 @ 60Hz
  • 1280x768 @ 60Hz
  • 1360x768 @ 60Hz
  SD video at 30 fps
  • 480i @ 60Hz
  • 480p @ 60Hz
  • 576i @ 50Hz
  • 576p @ 50Hz
  HD video at 30 fps
  • 720p @ 50/60Hz
  • 1080i @ 50/60Hz

Audio Details

Audio: Line audio inputs less than or equal to 10K Ohm with 0-36dB of headroom

Frequency Response: Analog audio frequency response: 20Hz-20Khz with a 3dB per octave roll-off beginning at 14 kHz

Radio Bands

UNII 1: (4 channels) 5.15-5.25 GHz

UNII 3: (4 channels) 5.725 to 5.825 GHz

ISM (11 channels) 2.412 to 2.462 GHz (requires firmware upgrade)

Extension Distances

Wired Distance: Wired distance limitations conform to Ethernet standards for a single subnet (no routing)

Wireless Distance: Up to 300 ft. (90 m) line of sight and 150 ft. (45 m) through interior (gypsum) walls

Regulatory Compliance (CMN: 2003 Series)

Standards: FCC Class B, UL, cUL, RoHS, CE, ICES-003, WEEE

Warranty

MPX 1500 T/R: Two years

MPX 1450 and MPX 1550
Multipoint Extenders

MPX 1450 Transmitter

MPX 1450 Receiver

MPX 1550 Transmitter

MPX 1550 Receiver

MPX 1450 and MPX 1550 Extender System
Specifications

Mechanical / Power / Environmental

Size: 4.55 in. (116 mm) D, 6.92 in. (176 mm) W, 1.00 in. (25.4 mm) H

Weight: 1.4 lbs. (0.64 kg)

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DVI-I: AV media port that supports a wide range of digital and analog video modes

RCA Jacks (2): Left and right jacks for unbalanced analog audio

S/PDIF: Digital audio output - Operation of this port may require a firmware upgrade

Video Details

Video Gain: Unity ±1DB

Digital Video Standards: HDCP compliant, HDMI 1.3 compliant, DVI-D DDC2B

Maximum Wired Video Bit Rate: 80 Mbps

Maximum Wireless Video Bit Rate (MPX 1550 only): 1-to-1 mode (110 Mbps); 1-to-many mode (50 Mbps)

Video Resolutions (RGB):
Computer (RGB) at 30fps
- 640x480 @ 60Hz
- 800x600 @ 60Hz
- 1024x768 @ 60Hz
- 1280x720 @ 60Hz
- 1280x768 @ 60Hz
- 1360x768 @ 60Hz
SD video (RGB) at 30 fps
- 480p @ 60Hz
- 576p @ 50Hz
HD video (RGB) at 30 fps
- 720p @ 50/60Hz

Video Resolutions (component video):
SD video (component) at 30 fps
- 480i @ 60Hz
- 480p @ 60Hz
- 576i @ 50Hz
- 576p @ 50Hz
HD video (component) at 30 fps
- 720p @ 50/60Hz
- 1080i @ 50/60Hz

Video Resolutions (HDMI and DVI-D):
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Frequency Response: Analog audio frequency response: 20Hz-20Khz with a 3dB per octave roll-off beginning at 14 kHz

Radio Bands (MPX 1550 only)

UNII 1: (4 channels) 5.15 to 5.25 GHz: These are available as 2 banded channels

UNII 3: (4 channels) 5.725 to 5.825 GHz: These are available as 2 banded channels

Extension Distances

Wired Distance: Wired distance limitations conform to Ethernet standards for a single subnet (no routing)

Wireless Distance (MPX 1550 extender only): Up to 300 ft. (90 m) line of sight and 150 ft. (45 m) through interior (gypsum) walls

Regulatory Compliance (CMN: 2003 Series)

Standards: FCC Class B, UL, cUL, RoHS, CE, ICES-003, WEEE

Warranty

MPX 1500, MPX 1450 and MPX 1550 T/R: Two years

ORDERING DETAILS - UNITS

Part #	Description
MPX 1500	
MPX 1500T - XXX*	Transmitter (supports up to 8 receivers)
MPX 1500R - XXX*	Receiver
MPX 1450	
MPX 1500T - XXX*	Transmitter (supports up to 8 receivers)
MPX 1500T - XXX*	Receiver
MPX 1550	
MPX 1500T - XXX*	Transmitter (supports up to 8 receivers)
MPX 1500T - XXX*	Receiver

NOTE - Actual part numbers end with country-specific product codes (example - 001 for North America)

ORDERING DETAILS - OPTIONAL ACCESSORIES

Option	Part #	Description
Mounting Options	RMK-56	Table/Desk Mount Bracket
	PBK-01	Optional Power Supply Bracket for MPX Receiver
	DMK-04	Wall Mount Kit for MPX Receiver
	DMK-07	Desk Mount Kit for MPX Transmitter
Adapters	DVI-HDMI/CEC	Adapter for HDMI with CEC for MPX Receiver
	DVI-HD15F	DVI-D Male to HD15 Female Adapter ID Bits
	DVI-BNC3	Adapter for Component Video for MPX T/R
Cables	DB9-UNI	Serial RJ-45 to DB-9 Female Kit Cable, 1 ft.
	DB9-DUAL	Dual DB-9 Female Cable for MPX T/R, 1 ft.
	HDMI-1M	Male to Male 1 Meter Cable for MPX T/R
IR Blasters/ Receivers	IRB-100	Dual IR Blaster with 3.5mm Mini-Jack Cable
	IRB-Y	3.5mm Mini-Jack Splitter for Two IRB-100 Blasters
	IR-RX	IR Receiver - 2.5mm With Connector
Antenna Extension Kits/Antennas	**MPX 1500 and MPX 1550 Extenders**	
	5G-1M	Antenna Extension Kit, 1 Meter Cable
	5G-2M	Antenna Extension Kit, 2 Meter Cable
	5G-3M	Antenna Extension Kit, 3 Meter Cable
	MPX 1500 Extender Only	
	HGA51G-DIR30V	Optional Directional Antenna Kit, 8dB/ High Gain 5.1 Ghz
	LGA55G-OMN	Optional Omni-Directional Antenna Kit, 5.5 Ghz +2dB
	LGA24G-OMN	Optional Omni-Directonal Antenna Kit, Low Gain (1.46dB) 2.4 - 2.5 Ghz
	IGA24G-OMN	Optional Omni-Directional Antenna Kit, Intermediate Gain (3dB) 2.4 - 2.5 Ghz

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