MXnet
NETWORKED VIDEO ECOSYSTEM



MXnet USP Essential Transceiver (AC-MXNET-USP-ES)

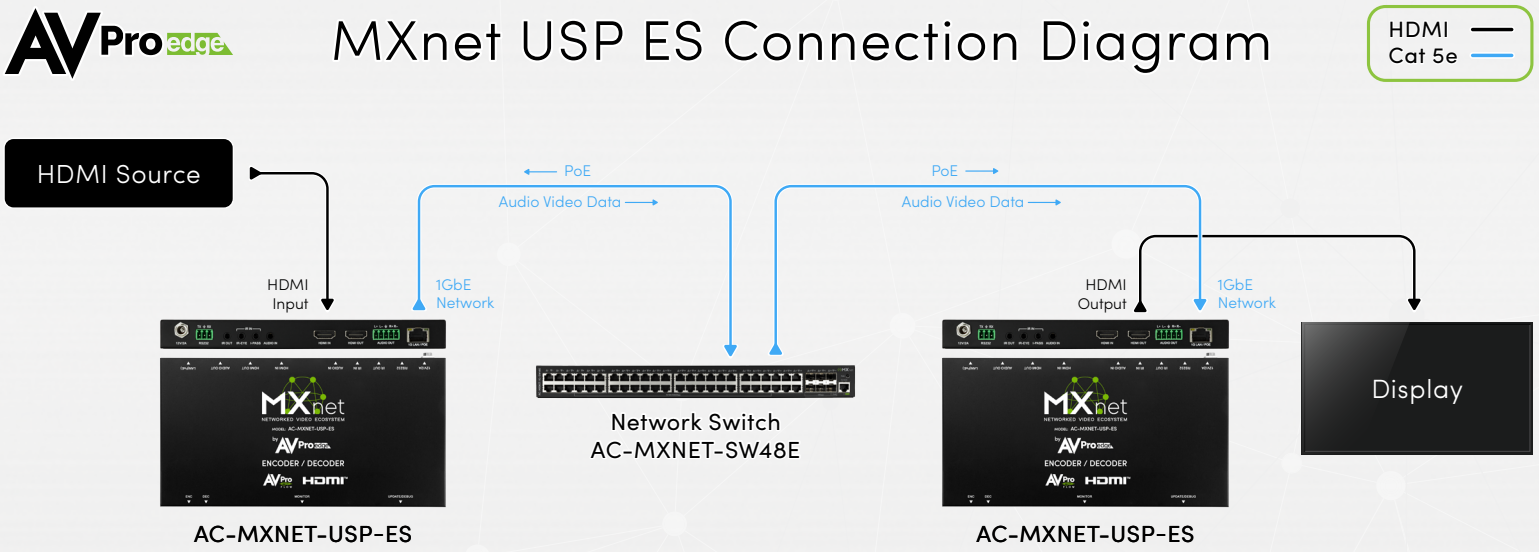
The USP Essential is a versatile 1080p60 AV over IP transceiver powered by AVPro Flow, engineered for dynamic and scalable AV deployments across a wide range of professional environments. Supporting both H.265 and H.264 codecs, the USP Essential delivers efficient, high-quality video distribution over standard IP networks.

The USP Essential is part of the Universal Stream Platform of transceivers, which also includes the USP Plus and USP Pro models. Mix and match USP models giving you the freedom to build the AV system you need, no matter the size, layout, or budget.

The USP Essential is purpose-built for professional AV environments, combining powerful features into one compact device. It delivers unmatched versatility and performance and is ideal for a wide range of commercial applications. From hospitality and higher education to government facilities and transportation hubs.

All USP models are built with AVPro Flow technology which provides interoperability between MXnet endpoints and compatible 3rd-party H.265/H.264 AV equipment. Whether integrating existing H.265/H.264 encoders, software-based decoders, or streaming platforms, AVPro Flow ensures reliable, low-latency video transport across mixed environments.

MXnet USP ES Connection Diagram



PRODUCT SPECIFICATIONS

VIDEO	
Input	1x HDMI 2.0b Type A (Limited)
Output	1x HDMI 2.0b Type A
Max Encoding Resolution	1920x1200p 60Hz 4:4:4 12-bit YCbCr/RGB *Interlaced video is supported only on hardware revision B models.
Max Decoding Resolution	4096x2160p 60Hz 4:4:4 8-bit YCbCr/RGB
HDR	Not Supported
HDCP	1.4 (HDMI Input), 2.3 (HDMI Output)
Codec	H.265/H.264 | AVPro Flow Enabled
AUDIO	
Input	1x 3.5mm Stereo Mini-jack
Output	1x 5-pin Phoenix Balanced Stereo
Formats	2CH PCM
NETWORK	
Ethernet	1x 1GbE RJ-45 (100m/328ft)
End-to-End Latency	≤75ms
Bandwidth	**Encode**: H.265 @ 1200p60: ~ 15Mbps **Decode**: H.265 @ 4K60: ~60Mbps
Stream Protocols	Multicast RTP (Private Stream, AES-256 Encrypted) RTSP, RTMP (Open Stream/AVPro Flow)
CONTROL/USB	
IR	1x IR Receive 1x IR Transmit 1x IR Passthrough
RS232	1x 3-pin Phoenix
USB	1x USB Type C (Debug)
ENVIRONMENTAL	
Operating Temperature	32 to 113°F (0 to 45°C)
Storage Temperature	-4 to 140°F (-20 to 60°C)
Operating Humidity	5-90% RH (Non-Condensing)
Cooling	Passive
Acoustic Noise Level	0dB
POWER	
Power Consumption	Average: 10W Max: 13.3W
PoE (Power over Ethernet)	802.3af PoE (15.4W)
External Power Supply	12V 2A DC (Sold Separately)
DIMENSIONS	
Mounting	Rack mount or surface mount capable Supported Rack Mounts: AC-MXNET-1G-R15, AC-MXNET-1G-R2
Dimensions (Unit only Width/ Depth/Height)	200mm x 104mm x 20mm
Dimensions (Packaged Width/ Depth/Height)	250mm x 185mm x 50mm
Weight (Unit)	1.31 lbs
Weight (Packaged)	1.81 lbs
REGULATORY	
Product Warranty	10 Years
Certifications	CE, FCC

Specifications subject to change without notice. Mass & dimensions are approximate

KEY BENEFITS

- **AVPro Flow Enabled:** AVPro Flow enables interoperability between MXnet and a wide range of H.26x-based third-party AV devices, from lecture capture systems to IP cameras, live streaming platforms or production environments. Whether you're expanding a hybrid workspace, modernizing an existing AV system, or integrating new technology into a live production environment, AVPro Flow ensures you don't have to start from scratch. Gain greater flexibility, broader compatibility, and maximum value from your current and future AV investments.

- **Native Multiview:** With USP Essential, multiview comes standard, no extra hardware or software needed. Display up to four video sources in customizable layouts, perfect for monitoring, collaboration, or dynamic signage. Seamlessly composite streams from any USP encoder or compatible third-party H.265/H.264 IP sources, all within one compact, cost-effective device. It's powerful multiview processing, built right in.

- **Simultaneous Encode/Decode:** Every USP model is a true two-way AV endpoint, capable of sending and receiving streams at once. This dual-functionality unlocks powerful new workflows and can reduce hardware costs, rack space, power consumption, and network complexity. Whether designing a hybrid meeting room, or deploying a large-scale AV distribution system, this dual-functionality means fewer devices, simpler installations, and a more budget-friendly path to scalable AV.

- **Mix and Match:** The USP ecosystem is designed with flexibility at its core allowing you to mix and match any combination of USP Essential, USP Plus, and USP Pro devices within the same network. Each model brings its own strengths while working seamlessly together. This modular approach lets you build exactly what your system needs today, with the freedom to scale or upgrade in the future without ripping and replacing existing infrastructure. It's AV on your terms, powered by one unified platform.

- **Integrated Signage Player:** Every USP device comes equipped with an integrated digital signage player, making it easy to deliver branded content, messaging, or live video without the need for external players or servers. Simply upload and schedule content directly to any USP endpoint, perfect for lobbies, campuses, retail displays, transportation hubs, and more. The USP signage engine turns every screen into a dynamic communication tool, streamlining deployment, reducing hardware costs, and maximizing visual impact.

