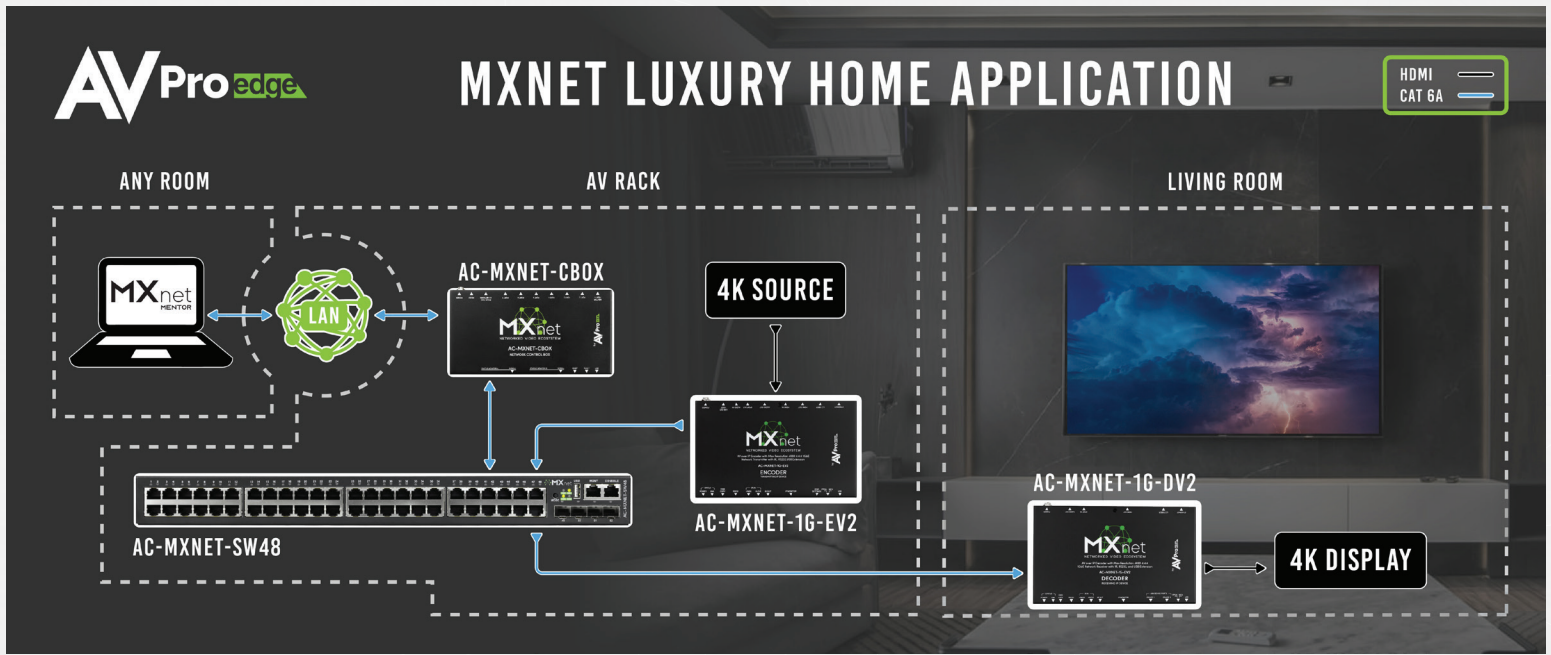# MXNet
NETWORKED VIDEO ECOSYSTEM

MXNet 1G Evolution II Decoder
(AC-MXNET-1G-DV2)

The AC-MXNET-1G-DV2 represents the next step in the evolution of the MXNet AV over IP video distribution ecosystem from AVPro Edge. AC-MXNET-1G-DV2, an Evolution II decoding/receiving device, incorporates a newly designed AVPro Edge application-specific integrated circuit (ASIC) that introduces an improved software-based video encoding/decoding engine into the IC for enhanced video processing. Refinements to the IC include native support for 4K/60fps 4:4:4 signals (RGB and YCbCr @10- and 12-bit), plus extended audio capabilities to support high bitrate multi-channel formats, including Dolby Atmos and DTS:X for IMAX Enhanced soundtracks.

As a member of the AVPro Edge family of AV over IP products, an AC-MXNET-1G-DV2 is the destination endpoint within the MXNet Ecosystem where the signal arrives. At the input side, connected by either category wiring (Cat 5e is recommended) or fiber optic cabling to an MXNet switch or any compatible multicast-capable managed L3 network switch, an AC-MXNET-1G-DV2 receives multicast packeted data from an AC-MXNET-1G-EV2 encoder. This data, encoded using an optimized MJPEG codec, is precisely decoded per its encode rate (200Mbps for 1080p content, 300Mbps for 4K/30fps content, peaking at 850Mbps for 4K/60fps content). Control signals are unpacked and routed, per their intended application.

The new IC developed for Evolution II devices enables the AC-MXNET-1G-DV2 to excel at smoothly decoding 4K/60fps 4:4:4 signals, RGB or YCBCR 10- or 12-bit, with crisp, artifact-free detail and the added punch of dynamic metadata.

PRODUCT SPECIFICATIONS

Video Input / Ingestion:	
Signal Type	DVI 1.0, HDMI 2.0b
Video Resolution	720P@50/60Hz; 1080P@50/60Hz; 4K@50/60HZ 4:4:4*; 4K@30HZ 4:4:4; 4K@60HZ 4:2:0; 4K@24HZ 4:2:0/4:2:2 [Ultrawide Support]
HDR Format	HDR 10, HLG, Dolby Vision @30Hz
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0
Bit Depth per Color	1080P (16Bit), 4k (10, 12 Bit)
Visually Lossless	4096x2160P@60Hz (8 BIT) 4:4:4 or RGB; 3840x2160P@60HZ (12BIT) 4:2:2 DOLBY VISION; 3840x 2160P@60HZ (10BIT) 4:2:2 HDR10/HLG; 1920x1080P@60HZ (12BIT)

Audio:	
Audio Format (end to end)	PCM 2, 5.1, 7.1 Channel, Dolby Digital 5.1 Channel, Dolby Digital Plus, DTS 5.1 Channel, DTS-ES, DTS-HD High Resolution, DTS-HD Master Audio, Dolby Atmos
Audio Format (HDMI Loopout)	Same as End to End
Embedded Audio	Stereo Analog Audio
De-Embedded Audio	Stereo Analog Audio

Ports:	
Ethernet	(1) × female RJ-45, PoE
SFP	(1) × SFP Slot
HDMI	(2) × HDMI Type A 19-pin, female, one HDMI input, one HDMI loop out
Audio	(1) × 5 Pin Terminal Block, Balanced L/R Audio out (1) × 3.5 mm mini stereo jack, Audio in
IR	(3) × 3.5mm mini-stereo jack, one IR-Pass, one IR-EYE, one IR-out
RS232	(1) × 5 Pin Terminal Block
USB	(1) × USB 2.0 Type-B for USB extension & KVM (1) × USB Micro Type-B for MXNET service

Distance:	
Ethernet	100 Meters/ 330 Feet over CAT5e and above
SFP and Fiber	1000BASE-SX SFP Transceiver Module (MMF, 850nm, 550m, LC, DOM)
	1000BASE-LX/LH SFP 1310nm 10km Transceiver Module

Environmental:	
Operating Temperature	23 to 125°F (-5 to 51°C)
Storage Temperature	-4 to 140°F (-20 to 60°C)
Operating Humidity	5-90% RH (No Condensation)

Power:	
Max Power Consumption	6.5W (AVDM 9.5W)
PoE (Power over Ethernet)	IEEE 802.3af (15.4W)
Power Supply Unit	Input: AC 120-240V-50/60Hz 0.8A Output: DC 12V 2A

Dimensions:	
Mounting	Rack and Furniture mount support
Dimensions (Unit Only Width/Depth/Height)	mm: 200 X 120 x 20 inch: 7.87 X 4.74 X 0.79
Dimensions (Packaged Width/Depth/Height)	mm: 310 X 180 x 54 inch: 12.2 X 7.09 X 2.13
Weight (Unit)	1.2 LBS/0.55 KG
Weight (Packaged)	1.7 LBS/0.77 KG
Regulatory	CE/FCC/UL
Product Warranty	10 Years

Specifications subject to change without notice. Mass & dimensions are approximate. *4K60 4:4:4/4k60 4:2:2 Uses ICT Compression

FEATURE SET

- HDMI 2.0
- 18Gbps Bandwidth Support
- HDCP 2.3 (and all earlier versions supported)
- Evolution II ASIC with improved decoding engine
- With "lossy" signals, JPEG 2000 optimizes compression efficiency
- Proprietary MXNet Mentor interface for bandwidth management, real-time status feedback, live diagnostics, EDID configuration and source image thumbnails
- Decodes native 4K/60fps 4:4:4 RGB or YCbCr with dynamic metadata support
- High Bitrate multi-channel support for Dolby Atmos and DTS:X
- Genlock frame-syncing ensures video walls are free from image-tearing
- Near-zero latency, visually imperceptible
- Receives RS-232, IR or USB control signals routed via MXNet Mentor from an MXNET-1G-EV2 transmitter
- USB/KVM support
- Built-in OLED data window provides localized device information at a glance
- Backed by AVPro Edge's 10-year, no-hassle warranty