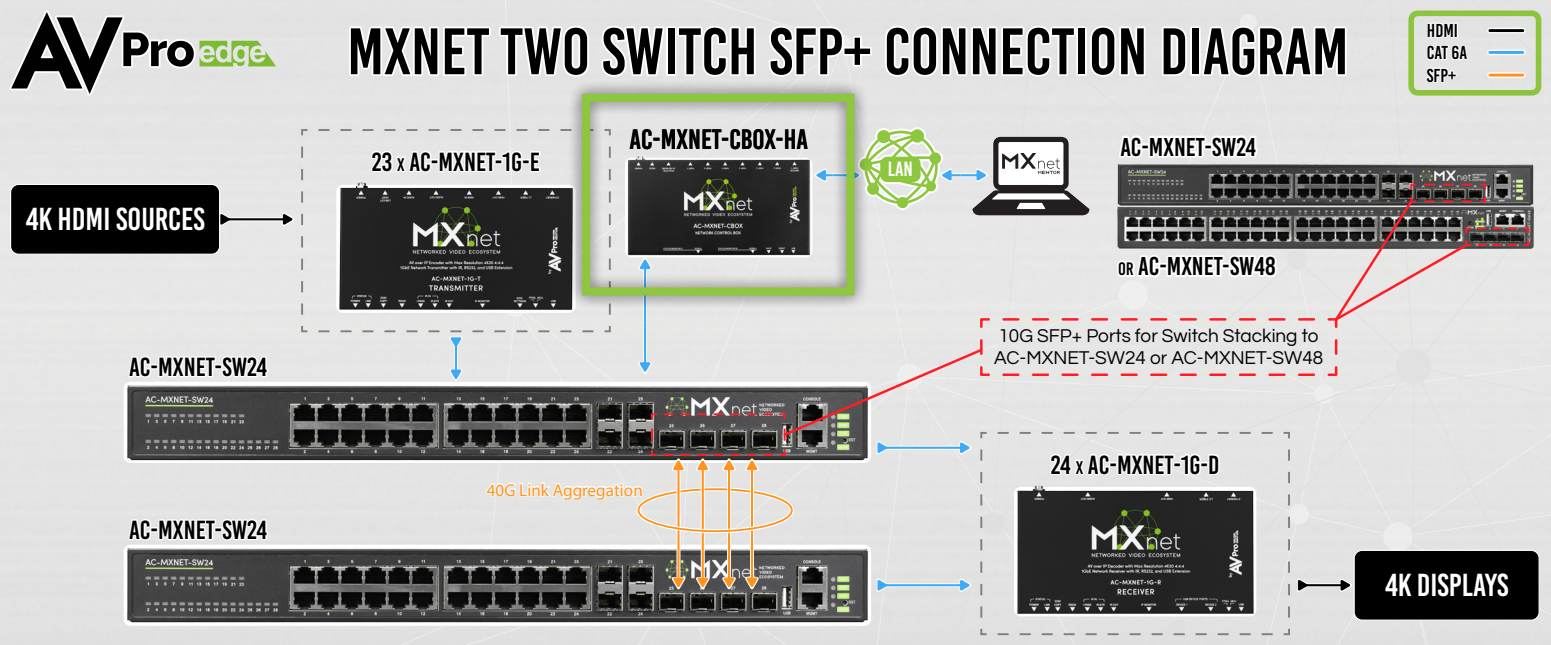# MXnet

NETWORKED VIDEO ECOSYSTEM

MXnet 1G Control Box
(AC-MXNET-CBOX-HA)

The CBOX is the system control component for an MXnet 1G ecosystem and is responsible for setup, control, diagnostics, troubleshooting, and endpoint updating. An AC-MXNET-CBOX-HA is a specially-equipped CBOX featuring a High Availability port tethered to a second, identical AC-MXNET-CBOX-HA. Configuration software in System Utilities provides naming conventions to designate one CBOX as being in a Main/Active operational state while the second CBOX remains in Backup/Standby status. The RJ45 communication interface connecting the two units enables RS-232 heartbeat monitoring, with the backup CBOX checking for the presence of the Active CBOX, launching the standby unit from into active mode if, during the repetitive three-second status interval check, the main unit fails to deliver its active RS-232 'heartbeat' acknowledgment.

AVPro Edge developed the AC-MXNET-CBOX-HA for large deployments, which are prohibited from experiencing a single moment of control absence. However, installed systems of any size may enjoy the backup control redundancy security provided. Virtual Router Redundancy Protocol software is pre-installed on every AC-MXNET-CBOX-HA device.

After configuration as a high availability system, each CBOX (active and standby) has a fixed IP address. An external service virtual IP manages all control requests for encoders and decoders to ensure seamless failover and service continuity regardless of which box is active.

MXNET TWO SWITCH SFP+ CONNECTION DIAGRAM

HDMI
CAT 6A
SFP+

AC-MXNET-CBOX-HA

23 x AC-MXNET-1G-E

4K HDMI SOURCES

AC-MXNET-SW24
OR AC-MXNET-SW48

10G SFP+ Ports for Switch Stacking to AC-MXNET-SW24 or AC-MXNET-SW48

AC-MXNET-SW24

40G Link Aggregation

AC-MXNET-SW24

24 x AC-MXNET-1G-D

4K DISPLAYS

PRODUCT SPECIFICATIONS

Ports	
Ethernet	(8) × female RJ-45, one with PoE
SFP	0
HDMI	N/A
Audio	N/A
IR	N/A
RS232	(1) × 5 Pin Terminal Block for MXnet System Control (1) x female RJ-45 RS-232 port (HA)
USB	(1) × USB Type C for MXnet service
Distance:	
Ethernet	100 Meters/ 330 Feet over CAT5e and above
SFP and Fiber	N/A
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	4.5W
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 104 x 20 inch: 7.87 X 4.09 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)	1.31 LBS/0.596 KG
Weight (Packaged)	1.75 LBS/0.79 KG
Regulatory	CE/FCC/UL
Product Warranty	10 Years

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

FEATURES

- Must be used in like-kind pairs (not compatible with previous CBOX versions)
- Virtual Router Redundancy Protocol software pre-installed; configured via System Utilities
- High-availability architecture configurable for zero or minimal downtime.
- RS-232 heartbeat monitoring for seamless failover activation
- Virtual IP-based switching for simplified network management

KEY BENEFITS

High Availability

A deployed system will operate at a high level, continuously, having 99.999% control availability shared between two AC-MXNET-CBOX-HAs. Control will only be lost by a system-wide catastrophic event like a power failure.

Failover Monitoring

An RJ45, RS-232 communication interface monitors 'heartbeat' signals from Main CBOX. Pre-installed Virtual Router Redundancy Protocol software facilitates the failover process. The Standby box assumes the active IP address if a temporary or permanent event occurs to the Main CBOX.

Virtual IP-Based Switching

Configured for High Availability, each CBOX has a fixed IP address, while a third external IP address functions as virtual. All management and control requests for endpoint devices must be sent to this VIP address, ensuring both AC-MXNET-CBOX HA units have identical data should a failover event occur. This allows the system to continue functioning interruption-free and without reconfiguration.

Simplified Network Management

By using VIP-based switching, an installation or programming team is only required to know a single IP address, the VIP, regardless of which AC-MXNET-CBOX HA is designated as active.