

# MATROX® VIDEO 4K HDMI IP KVM EXTENDER



## Matrox® Avio 2 IP KVM

- High-performance
- Flexible deployment
- Seamless switching
- Robust security
- IPMX/ST 2110
- Easy to install and use

## Leverage open standards with Matrox Avio 2

The award-winning Matrox Avio N2150 IP KVM extender ensures secure, real-time performance for mission-critical applications that need remote access to computing equipment, delivering unparalleled image quality and support for up to 4K resolution. By leveraging open standards like IPMX, SMPTE 2110, and NMOS, Avio 2 future-proofs your KVM System over IP installation with a scalable, flexible, and easy-to-use solution. Designed for seamless integration with evolving networked infrastructures, Avio 2 is ideal for control rooms, medical applications, broadcast studios, media production, and live events.

### High-performance video

- Deliver uncompressed 4Kp60 4:4:4 video with zero latency over dual 10GbE for high-performance applications.
- Enable real-time, visually lossless video over 1GbE or 10GbE networks using Pro AV Colibri or optional JPEG XS codec.
- Instantly switch between multiple source systems for uninterrupted workflows.

### Flexible deployment

- Configure a single appliance as either a Transmitter or Receiver.
- Connect over fiber or copper (1G or 10Gb SFPs) for multiple deployment options.
- Use an optional RJ45 control port with PoE+ for added flexibility.
- Ensure network redundancy with SMPTE ST 2022-7 for uninterrupted operation.
- Support one-to-one, many-to-one, one-to-many, and many-to-many configurations.

### Seamless switching

- Switch instantly between multiple sources for efficient workflow management.
- Use a modern on-screen display (OSD) for intuitive source selection.
- Assign programmable hotkeys for fast switching between Transmitters.

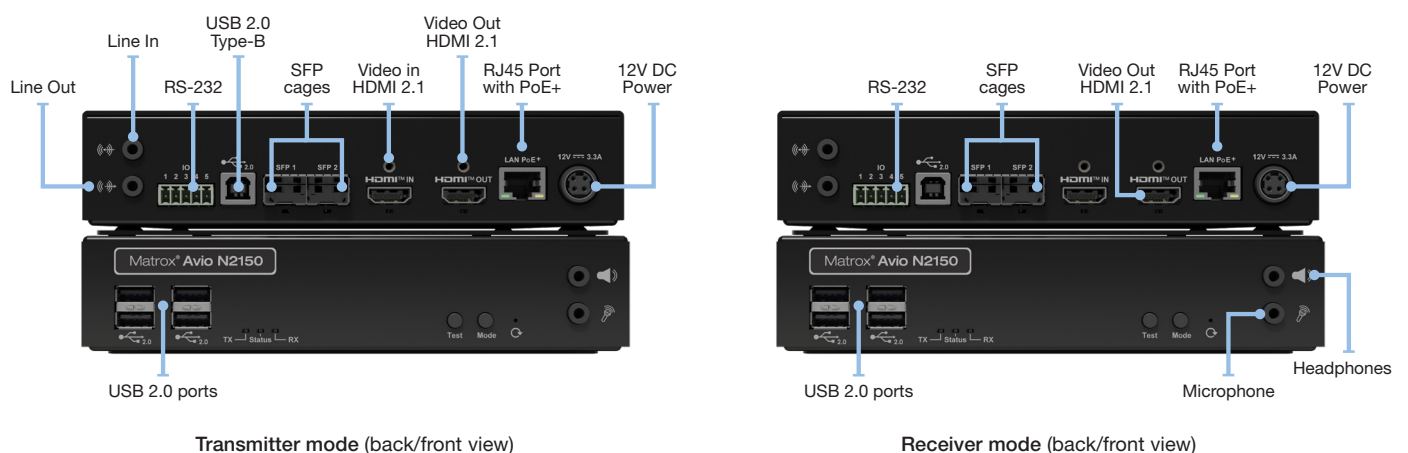
### Robust security

- Protect data with AES 128-bit encryption for audio, video, and USB signals.
- Manage device access through local credentials or Microsoft Active Directory®.
- Secure communication with HTTPS and digital certificate support.

### IPMX/ST 2110

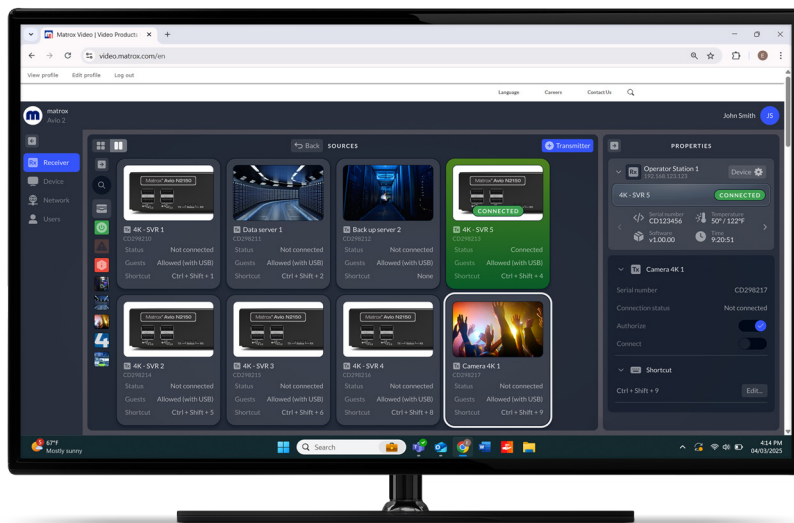
- Easily integrate with other IPMX/ST 2110 devices or equipment to optimize workflows and reduce installation complexity.
- Simplify device discovery and connection management using NMOS open APIs.
- Future-proof installations by adopting a standards-based IP KVM solution.

## Appliance overview



## Easy to use with comprehensive tools for integration

- Configure and setup devices through the easy-to-use Web UI.
  - Flexible EDID management.
  - Authorize devices to connect and organize them in groups.
  - Select keyboard shortcuts for even faster switching.
  - Maintain security certificates, encryption keys and licenses all in one place.
  - Enjoy local or centralized user management with Microsoft Active Directory® integration.
- Streamline firmware updates across multiple devices with Matrox Unified Utility updater tool.
- Customize workflows or build bespoke solutions using the Avio 2's REST API support.
- OEMs can take advantage of Avio 2's white-label options to provide tailored branding opportunities.



WebUI Interface

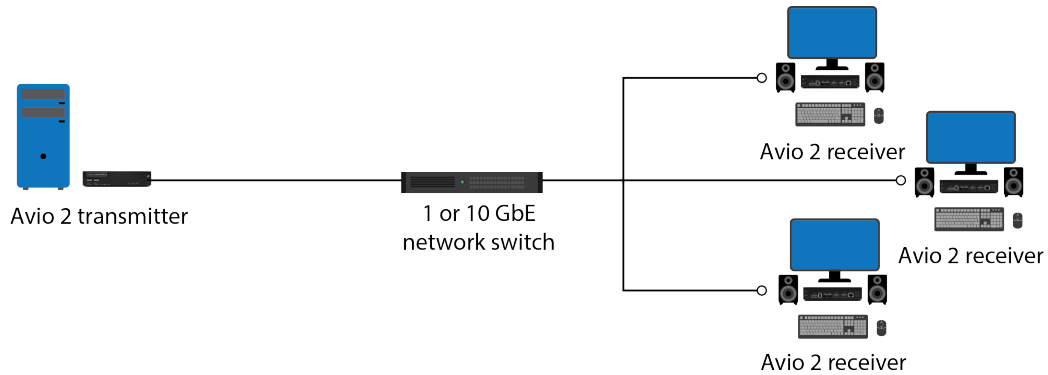


OSD Interface

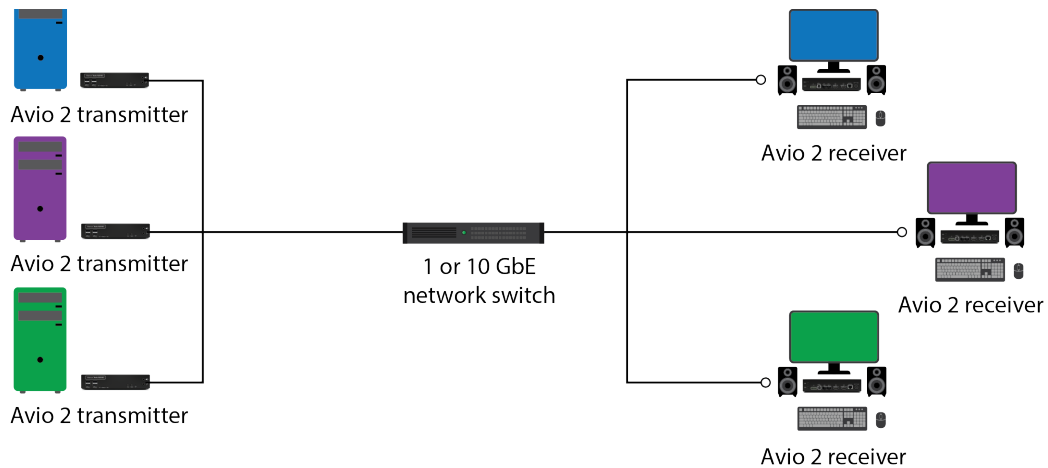
## Flexible, Collaborative Workflows Made Easy

Avio 2 offers the flexibility to easily accommodate collaborative workflows. Whether multiple users need to share a single computer in parallel or a single user requires access to multiple systems from one location, Avio 2 makes visualizing and controlling your KVMA streams intuitive. Using standard network switches and minimal hardware, Avio 2 delivers a streamlined, efficient solution for any setup.

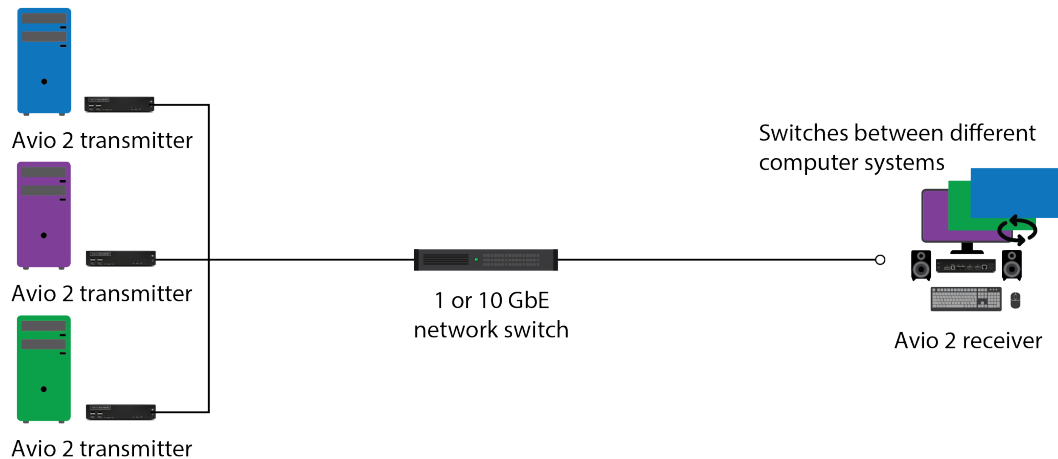
### One-to-many



### Many-to-many

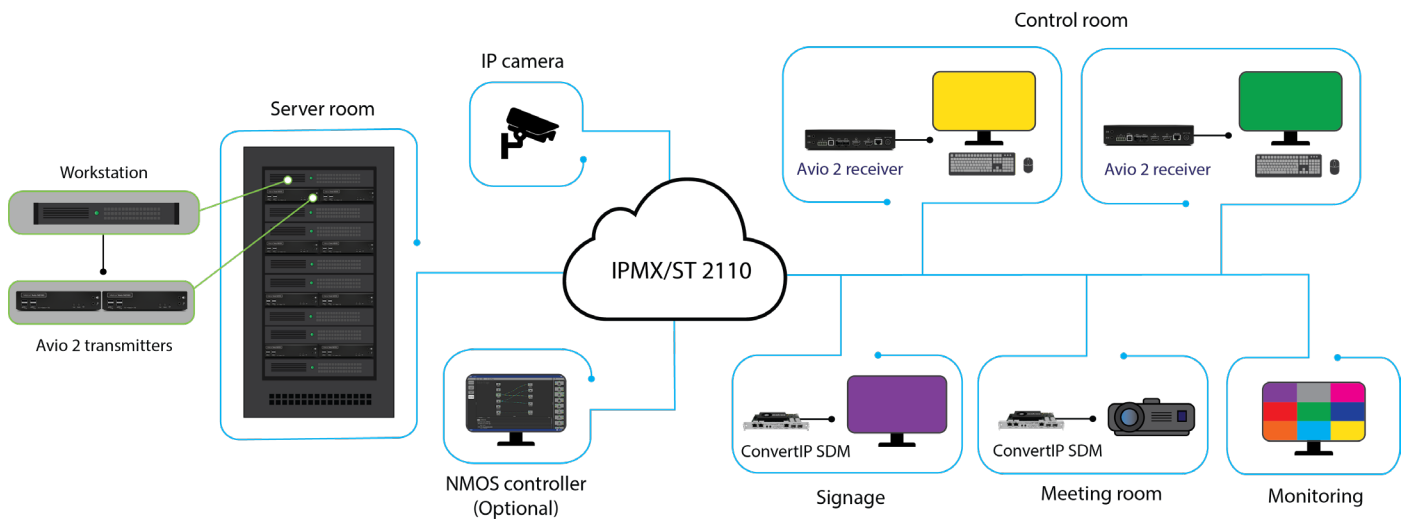


### Many-to-one

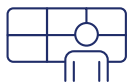


## What is IPMX?

IPMX (Internet Protocol Media Experience) is an open standard designed to enable seamless interoperability between AV-over-IP devices and IP KVMs. Built on established protocols like SMPTE ST 2110 (ST 2110), IPMX enhances workflows by ensuring compatibility across a wide range of devices and applications.



## Markets and applications



Control Rooms



Broadcast &  
Post-Production



Live Events



Medical

# Technical specifications

Product		Avio N2150
Number		<ul style="list-style-type: none"> <li>AV2-N2150</li> <li>AV2-N2150Y (TAA Compliant)</li> </ul>
Form factor		<ul style="list-style-type: none"> <li>Appliance (1U ½R)</li> </ul>
Connectors		
Video input connector		Transmitter mode: <ul style="list-style-type: none"> <li>HDMI</li> </ul> Receiver mode: <ul style="list-style-type: none"> <li>N/A</li> </ul>
Video output connector		Transmitter mode: <ul style="list-style-type: none"> <li>HDMI zero-latency local pass through</li> </ul> Receiver mode: <ul style="list-style-type: none"> <li>HDMI</li> </ul>
Audio input/output		Transmitter mode: <ul style="list-style-type: none"> <li>Line in 3.5 mm, line out 3.5 mm<sup>1</sup></li> </ul> Receiver mode: <ul style="list-style-type: none"> <li>Line out 3.5 mm, mic in 3.5 mm<sup>1</sup>, headphone out 3.5 mm</li> </ul>
Network connectors		<ul style="list-style-type: none"> <li>1x RJ45 LAN control port (1GbE)</li> <li>2x SFP cages for media and/or control (1GbE or 10GbE)</li> </ul>
USB port		Transmitter mode: <ul style="list-style-type: none"> <li>2x USB2.0 Type A for local keyboard and mouse</li> <li>1x USB2.0 Type B for host system connection</li> </ul> Receiver mode: <ul style="list-style-type: none"> <li>4x USB2.0 Type A</li> </ul>
5-pin Phoenix connector		<ul style="list-style-type: none"> <li>RS232<sup>1</sup></li> </ul>
Performance		
Max video resolution		<ul style="list-style-type: none"> <li>4096x2160@60Hz 4:4:4</li> <li>3840x2160@60Hz 4:4:4</li> </ul> All standard desktop GPU resolutions are supported.
Color space and bit depth		<ul style="list-style-type: none"> <li>RGB 4:4:4 8-bit, YUV 4:4:4, YUV 4:2:2, YUV 4:2:0</li> <li>8-bit, 10-bit</li> <li>SDR, HDR</li> </ul>
USB support		<ul style="list-style-type: none"> <li>High Speed USB 2.0: Keyboard, mouse, touchscreens, pen tablets, joysticks, and other USB HID devices, smart card/CAC readers, USB 2.0 (full speed) speakers/sound bars, USB headsets<sup>1</sup></li> </ul>
Audio support		<ul style="list-style-type: none"> <li>Digital embedded audio (HDMI)</li> <li>Stereo analog audio – 2 channels</li> </ul>
Network speed		<ul style="list-style-type: none"> <li>1GbE or 10GbE</li> </ul>
Maximum distance (point-to-point)		Copper SFP: <ul style="list-style-type: none"> <li>1GbE RJ45 Cat5e, Cat6 – 100 m (328 ft)</li> </ul> Fiber SFP: <ul style="list-style-type: none"> <li>OM1(62.5/125µm) multi-mode – 275 m (902 ft.)</li> <li>OM2, OM3, OM4 (50/125µm) multi-mode – 500 m (1804 ft.)</li> <li>OS1, OS2 (9/125µm) single-mode – 10 km (6.20 mi)</li> </ul> Fiber SFP+: <ul style="list-style-type: none"> <li>OM1 (62.5/125µm) multi-mode – 33 m (108 ft.)</li> <li>OM2m, OM3, OM4 multi-mode – 300 m (984 ft.)</li> <li>OS1, OS2 (9/125µm) single-mode – 10 km (6.20 mi)</li> </ul>
On-screen-display (OSD)		<ul style="list-style-type: none"> <li>Available on the RX side</li> </ul>
Encoding Formats		
Video <sup>3</sup>		<ul style="list-style-type: none"> <li>Matrox ProAV</li> <li>ISO/IEC JPEG XS (optional upgrade)</li> </ul> Designed and optimized for 1 Gbps. Can support lower video bandwidth (<100 Mbps) or scale up for maximum quality (≥2Gbps). <sup>5</sup>
Audio		<ul style="list-style-type: none"> <li>Uncompressed PCM (~1 Mbps/ch)</li> </ul>

## Network

Network standard	<ul style="list-style-type: none"> <li>Control Port: 1000 Base-T Ethernet</li> <li>Auto-detect</li> <li>Half/full duplex</li> <li>Media port: 1Gbe, 10GbE</li> </ul>
Supported protocols	<ul style="list-style-type: none"> <li>IPMX</li> <li>SMPTE ST 2110 (-10, -20, -21, -22, -30, -31, and -40)</li> <li>SMPTE ST 2059-2, 2059-1</li> <li>SMPTE ST 2022-7</li> </ul>
Routing scheme	<ul style="list-style-type: none"> <li>Multicast</li> <li>Unicast</li> </ul>
IP addressing	<ul style="list-style-type: none"> <li>IPv4</li> <li>IPv6<sup>1</sup></li> <li>DHCP (default) and static IP</li> </ul>
Link redundancy	<ul style="list-style-type: none"> <li>ST 2022-7</li> </ul>
Link aggregation	<ul style="list-style-type: none"> <li>Available for uncompressed 4Kp60 (Link redundancy is disabled in this mode)</li> </ul>
Command and control	<ul style="list-style-type: none"> <li>HTTPS over TCP</li> </ul>
Discover, registration and control	<ul style="list-style-type: none"> <li>NMOS discovery and control according to standards IS-04 and IS-05 (optional)</li> <li>mDNS Discovery</li> </ul>

## Physical

Product dimensions	<ul style="list-style-type: none"> <li>7.3" (W) x 7.126" (L) x 1.545" (H)</li> </ul>
Unit weight	<ul style="list-style-type: none"> <li>820 g</li> </ul>
Power supply unit	<ul style="list-style-type: none"> <li>External 40W PSU with lockable PSU connector (optional, sold separately)</li> </ul>
PoE+	<ul style="list-style-type: none"> <li>PoE+ IEEE 802.3at</li> </ul>
Cooling	<ul style="list-style-type: none"> <li>Fanless</li> </ul>

## Security

HTTPS digital certificates	<ul style="list-style-type: none"> <li>Yes</li> </ul>
AES encryption	<ul style="list-style-type: none"> <li>AES-128 for audio, video and USB</li> </ul>
User management	<ul style="list-style-type: none"> <li>Local and Microsoft® Active Directory® support for groups and domains</li> </ul>
User roles	<ul style="list-style-type: none"> <li>Admin, user</li> </ul>

## Accessories (sold separately)

	<ul style="list-style-type: none"> <li>Rackmount kit: (Part #: RMK-19TR-A)</li> </ul>
	<ul style="list-style-type: none"> <li>Mounting bracket: (Part #: RMK-6BRKT-A)</li> </ul>
	<ul style="list-style-type: none"> <li>Power supply unit: (Part #: EPS40WKIT-NA, EPS40WKIT-EU, EPS40WKIT-UK, EPS40WKIT-AU, EPS40W-10PK<sup>2</sup>)</li> </ul>
	<ul style="list-style-type: none"> <li>NRG redundant power supply unit: (Part #: NRG-5-1DB or NRG-5-2DB)</li> </ul>
	<ul style="list-style-type: none"> <li>KMLync Switch: (Part #: KMLYNC-4Y-NA, KMLYNC-4Y-EU, KMLYNC-4Y-UK, KMLYNC-4Y-AU)</li> </ul>

## Optional software

	<ul style="list-style-type: none"> <li>JPEG XS codec license: (Part #: AV2-JXS-UPG)</li> </ul>
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## Environmental conditions

Operating conditions	<ul style="list-style-type: none"> <li>Temperature: 0 to 45 degrees Celsius</li> <li>Altitude: 650 hPa (3,580 m) to 1,013 hPa (0 m)</li> <li>Humidity: 20% to 80% non-condensing</li> </ul>
Storage conditions	<ul style="list-style-type: none"> <li>Temperature: -40 to 70 degrees Celsius</li> <li>Altitude: 192 hPa (12,000 m) to 1,020 hPa (-50 m)</li> <li>Humidity: 5% to 95% non-condensing</li> </ul>

## General

EMC/EMI device class	<ul style="list-style-type: none"> <li>Class A</li> </ul>
EMC/EMI compliance	<ul style="list-style-type: none"> <li>CE (EU), FCC (USA), ICES-003 (Canada), KC (Korea), RCM (Aus/NZ)</li> </ul>
Environmental compliance	<ul style="list-style-type: none"> <li>China RoHS, EU RoHS, REACH</li> </ul>
Warranty	<ul style="list-style-type: none"> <li>Three-year limited warranty with free online or telephone support. Extended warranty available. For more information, contact Matrox Video.</li> </ul>

<sup>1</sup> Available in a future software update.

<sup>2</sup> Part #EPS40W-10PK does not include IEC-C14 power cord. These cables must be sourced locally.

<sup>3</sup> Bitrates will vary according to resolution, framerate and codec option.

<sup>4</sup> Follows HDMI 2.0b timing specifications.

#### **Contact Matrox Video**

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