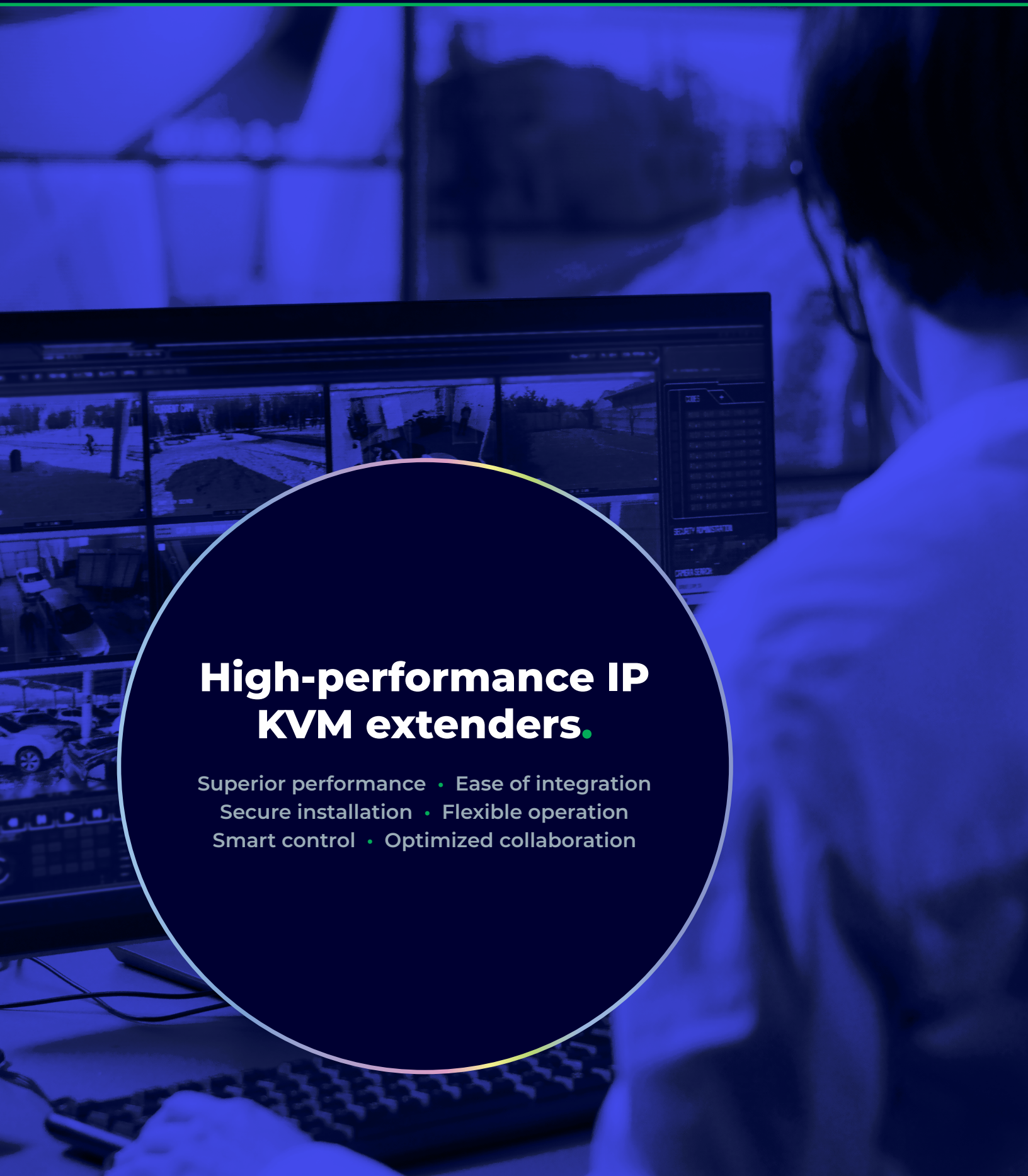
Matrox® **Extio 3 Series**



High-performance IP KVM extenders.

Superior performance • Ease of integration
Secure installation • Flexible operation
Smart control • Optimized collaboration

Flexible. Secure. Easy.

Matrox® Extio™ 3 is the world's first IP KVM extender to deliver 4Kp60 4:4:4 UHD performance and multi-display capabilities at unprecedented low bitrates. Leveraging a standard 1 Gigabit Ethernet (GbE) network, Extio 3 works with commercial off-the-shelf (COTS) network switches and significantly diminishes the total cost of ownership to deliver a scalable KVM matrix switching solution.

Matrox KVM extenders help to centralize hardware in a climate-controlled server room to increase security, protect systems against environmental hazards, and reduce system noise and heat emissions. The Matrox Extio 3 IP KVM extender grants seamless remote access to these secured systems, plus the added benefit of smart control of multiple systems over the IP network. This IP KVM extender is ideally suited for process control, industrial automation, healthcare, transportation, emergency and dispatch centers, military, defense, government, broadcasting and post-production, and many other industries and applications.

Flexible operation

- Deploy as a point-to-point or a networked KVM extender, evolving as needs expand while future-proofing investments.
- Configure over LAN, WAN, or internet networks to support distributed workforces and work-from-home scenarios.
- Transport signals over Cat5e, or optionally upgrade to multimode or single-mode fiber-optic support.
- Create a scalable KVM matrix over IP, supporting one-to-one, one-to-many, many-to-one, or many-to-many configurations.
- Increase efficiency with Aggregator Mode, by controlling multiple systems with a single keyboard and mouse. Work across a multi-monitor workspace and map each system to a screen, or monitor four systems on one 4K display with Tile View.

Superior performance

- Extend ultra-high resolution desktops (3840x2160 @60Hz) at unprecedented low bitrates with the world's first 4Kp60 4:4:4 IP KVM extender.
- Support quad-monitor configurations (4x 1920x1080 @60Hz) with a single transmitter and receiver pair, improving operator workflow across an expansive multi-monitor workspace.
- Deliver pristine image quality, smooth video playback, and excellent keyboard and mouse responsiveness at a distance with Matrox-patented technology.

Smart and secure control

- Configure, manage, and monitor all Extio 3 devices from a central location on the network via the Extio Central Manager (ECM) software.
- Select and instantly switch to systems through the on-screen-display (OSD), an intuitive user interface that features the thumbnail previews of available source systems.
- Create a secure KVM installation through a password-protected environment—AES 128-bit hardware encryption ensures safe transmission of all audio, video, and USB signals over the network.
- Integrate with Microsoft® Active Directory Services for user authentication.
- Benefit from an IPSec VPN client for private communications over the internet and multi-factor authentication for enhanced protection against cyber attacks.

Ease of integration

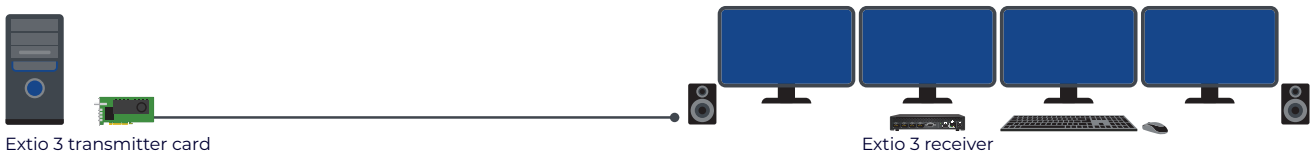
- Leverage existing IT networking equipment and standard Gigabit Ethernet infrastructure for seamless deployment and operations.
- Simplify network management with low bandwidth utilization, as well as boost scalability.
- Guarantee a ready fit into certified systems with plug-and-play deployment—there is no need to install additional software.
- Optimize rack space with two options for the transmitter unit—either a rack-mountable appliance, or an integrated PCIe® card that takes zero rack space.

Optimized collaboration

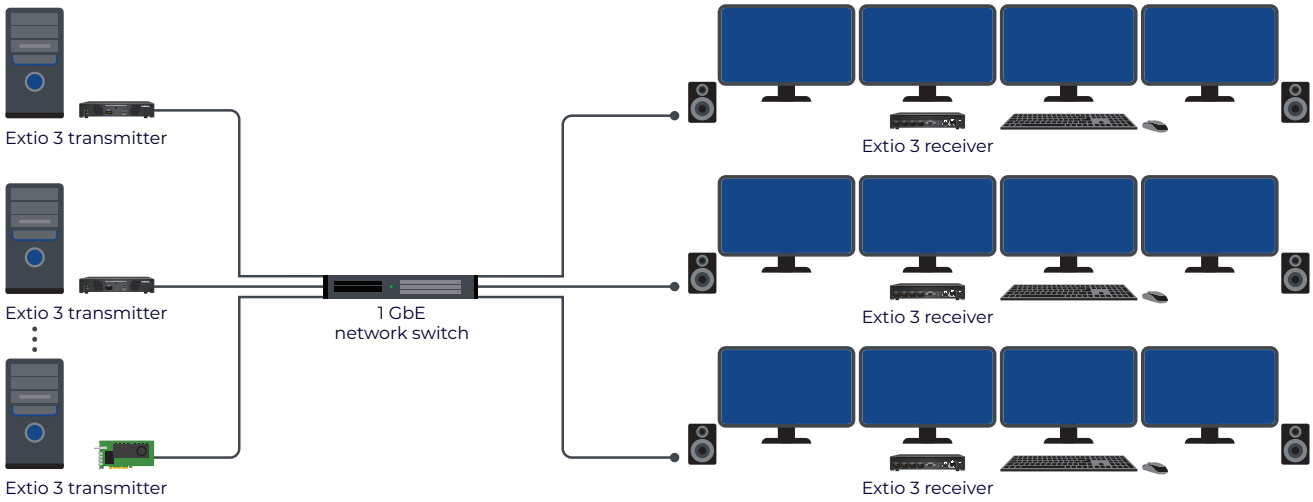
- Extend systems over standard 1 GbE network—connecting to and controlling systems from any remote location on the IP network—and maximize information flow for improved collaboration and decision making.
- Display Extio 3 video streams on a central video wall powered by Matrox Mura IPX capture and IP encode/decode cards for effective visualization.

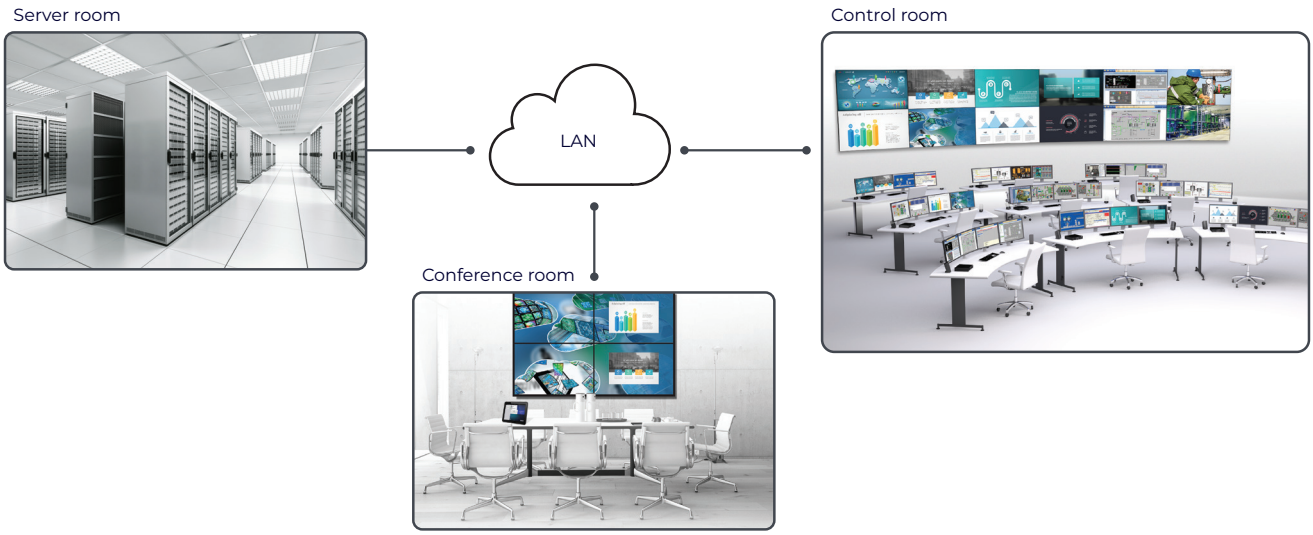
4Kp60 4:4:4 extension over 1GbE at unprecedented low bitrates

Point-to-point operation



Networked operation





Display Extio 3 video streams on a central video wall for effective visualization

Easy-to-use Matrox Extio Central Manager software and APIs.

Secure, centralized management of all networked Extio 3 IP KVM extenders is overseen through Matrox Extio Central Manager, an easy-to-use software to configure, manage, and monitor Extio 3 transmitter and receiver units. Extio Central Manager delivers smart control over the network, with an intuitive interface that facilitates discovery of networked Extio units, manages connections, and offers options to setup device parameters. A complimentary software, Extio Central Manager works with all networked Extio devices to provide smart control of IP KVM installations.

Device setup

Automatically discover all units on the subnet and manually add units outside the subnet. Assign friendly names to units to easily identify them, and create logical groups of devices to filter views and save time by applying the same settings to multiple units simultaneously. Manage EDID communication between the host system and the displays to simplify deployments. Set up network redundancy for automatic failover operation in the case of a communication link failure.

Secure access

The password-protected KVM environment protects installations—create and manage user rights directly through Extio Central Manager, or use Microsoft Active Directory Services to manage user authorization authentication. Extio 3 units further safeguard installations by use of HTTPS—a secure communication protocol for sending control commands over the network—and by transmitting AES encrypted audio, video, and USB signals. Extio 3 provides options to support only USB human interface devices (HID) such as keyboard and mouse, and either block all USB 2.0 devices or authorize approved ones.

Connection Broker

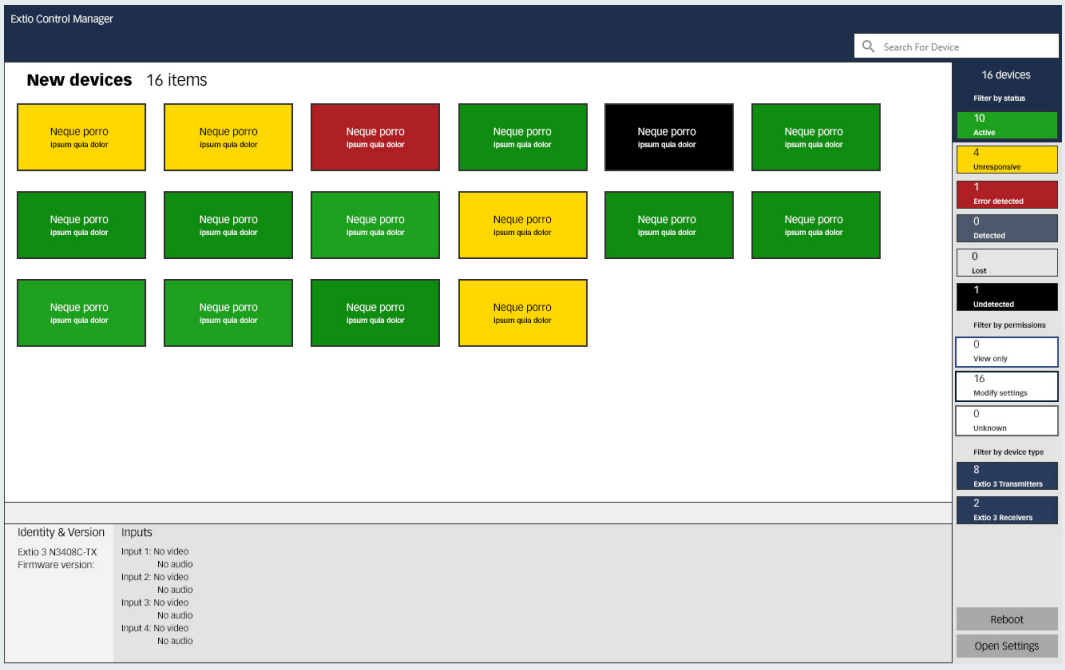
Create and manage connections between Extio 3 transmitter and receiver units. Connection Broker routes any host system to any remote user station, forming one-to-one, many-to-one, one-to-many, or many-to-many configurations, for easily building a scalable KVM matrix-switching environment over a standard Gigabit network.

Device monitoring

See system functionality at a glance through a vibrant, color-coded visual interface. Log and monitor critical performance parameters, or use the Simple Network Management Protocol (SNMP) for monitoring units through third-party network management software.

Remote access control

Preview authorized computer desktops from the receiver unit through the on-screen-display (OSD), which provides ready connection access to host systems and programmable hotkeys to instantly switch to a favorite system.

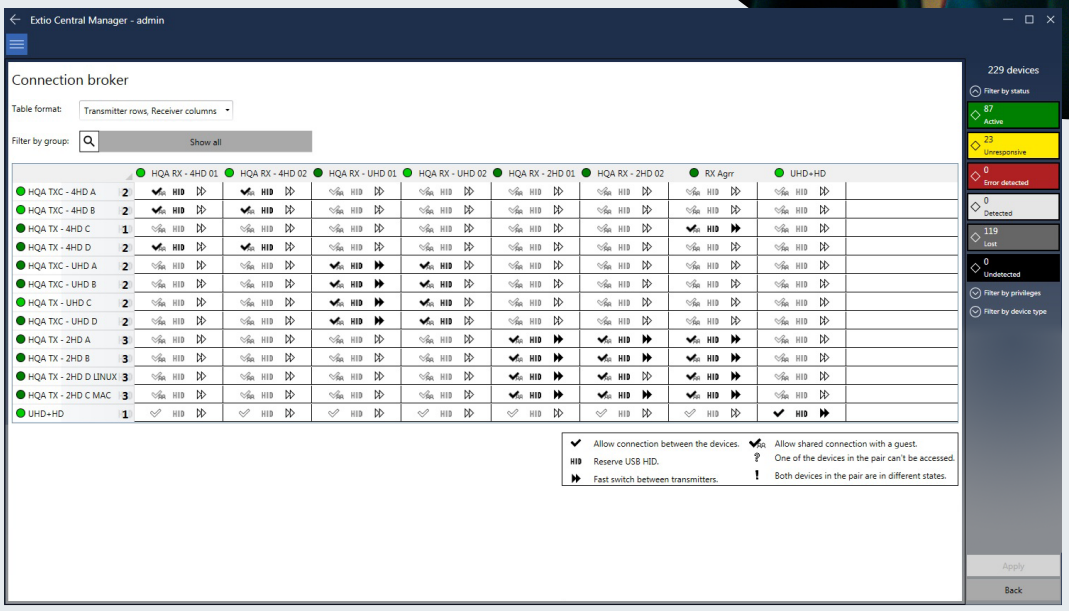


Matrox Extio Central Manager allows administrators to easily discover, configure, and monitor Extio 3 units on the network

Matrox Extio Central Manager APIs and white-label options
Integrators and developers gain command-level access to build personalized Extio Central Manager applications and/or integrate Extio 3 functionality into existing or even third-party applications. White-label options let OEMs and integrators customize the appearance of the Extio Central Manager user interface for easy re-branding of Matrox software with enterprise naming, logos, colors, and identity.

Firmware Updater tool
Separate Extio Firmware Updater tool ensures the most current version of the software is running and allows for system-wide or adapted Extio 3 firmware updates.

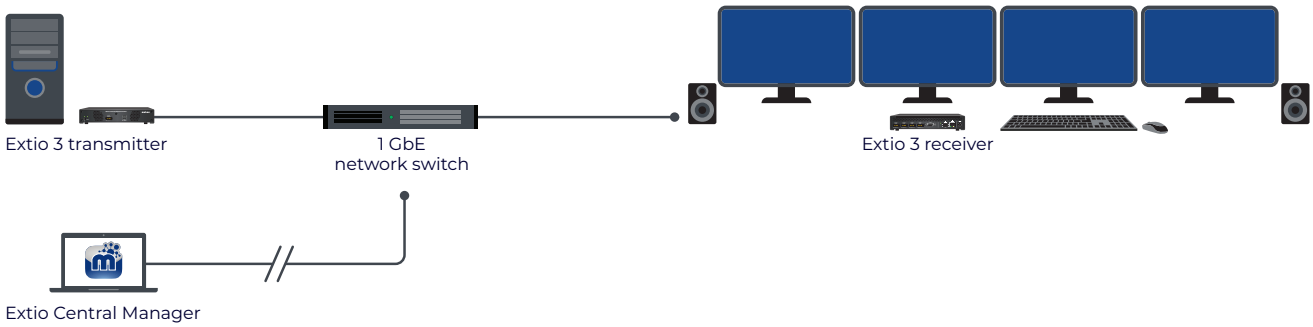
Supported operating systems
Microsoft® Windows® 10 (64-bit), Windows 7 (32-bit), Windows 7 (64-bit), Server® 2016, Server 2012 R2, and Server 2008 R2 operating systems are supported.



Extio Central Manager provides a matrix view of all Extio 3 units through Connection Broker - create and manage connections between Extio 3 transmitter and receiver units

Distributed model.

Extio 3 supports a distributed model of operation—once all the units are configured with Extio Central Manager, the settings and parameters reside in each transmitter and receiver unit. If the central system running the ECM software gets disconnected from the KVM network for some reason, all the Extio 3 units will continue to operate. Unlike other IP KVM solutions, the control system does not become a single point of failure, and does not stop the entire KVM network from working.

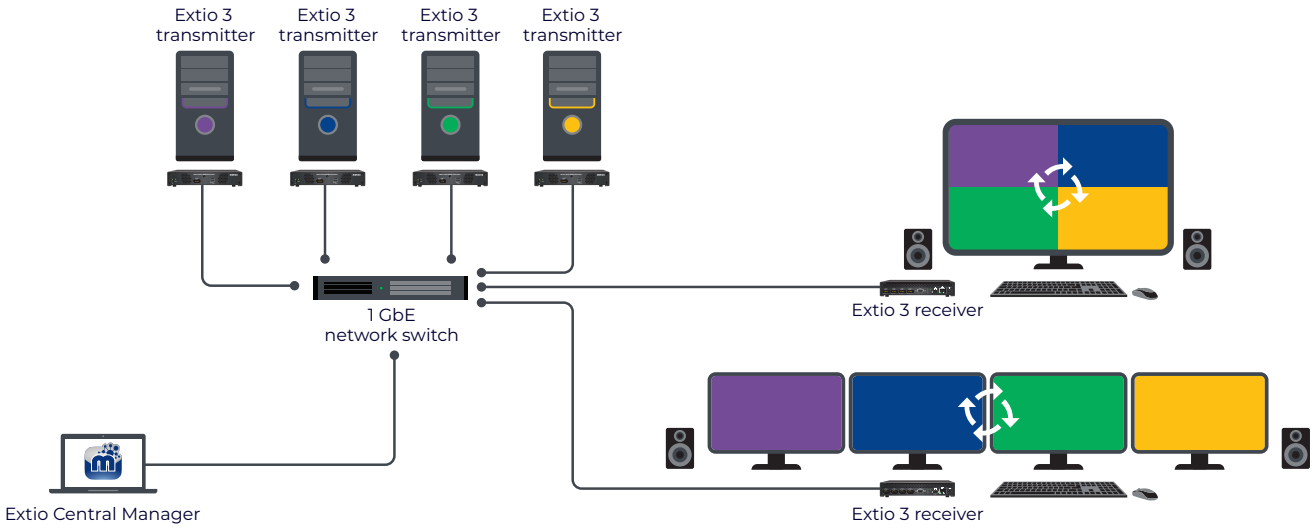


Extio Central Manager's distributed model of operation eliminates single point of failure

Efficient multi-system control.

Work more efficiently and increase productivity with Extio 3's Aggregator Mode that allows users to view and operate multiple source computer systems from any Extio receiver unit located at a remote multi-display station, and control them with a single keyboard and mouse set. Aggregator Mode streamlines operations, improving ergonomics, and decluttering of the workspace. The Tile View feature offers an even more efficient way to control multiple systems from a single remote workspace, by displaying up to four separate systems on a single 4K monitor. Control can be shifted from one computer to another seamlessly by moving the mouse freely across multiple desktops. At the instant the mouse cursor moves from the current desktop to the next, the control is smoothly and automatically transferred to the target source system. Programmable hotkeys can also be used for switching between multiple predefined layouts.

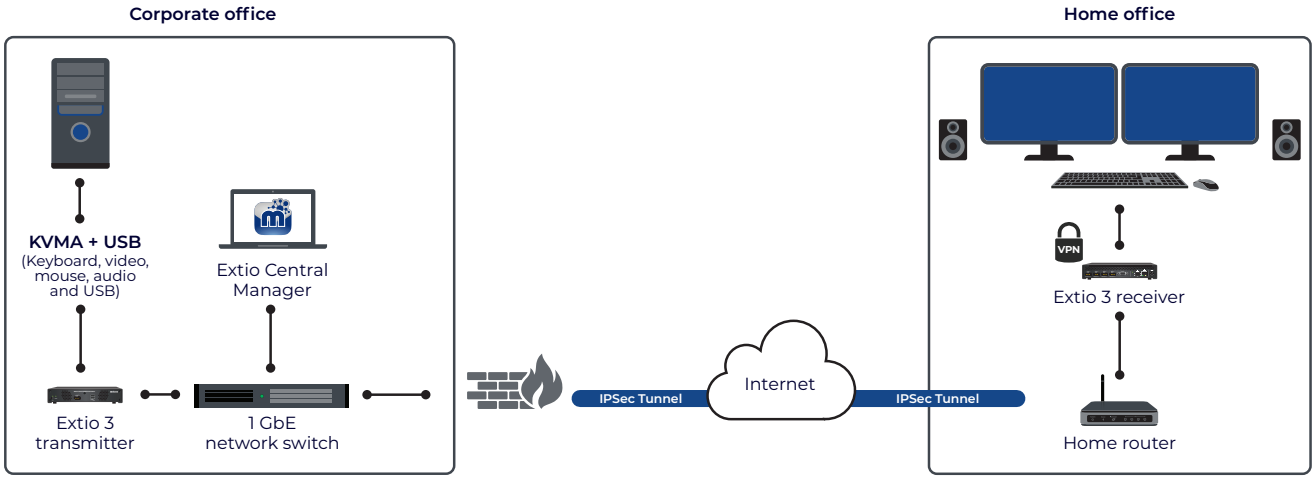
The built-in Aggregator Mode supports both independent and stretched desktop configurations. It does not require any software to be installed on the source computer system, and no additional hardware is required for enabling unified multi-system control, avoiding another point of failure and simplifying the KVM installation.



Control multiple computers from a single remote 4K or multi-display station via USB mouse switching

Extio 3 over Internet.

Extio 3 over Internet delivers an optimal remote KVM experience by enabling power users, knowledge workers, and broadcast operators and directors to remotely control, share, and manage powerful workstations or specialized equipment as they would on-premises. Integrating advanced security features such as IPSec VPN, multi-factor authentication, and AES 128-bit hardware encryption, Extio 3 ensures secure and safe transmission and communication of high-quality video, audio, and USB signals over LAN, WAN, and internet.



Matrox Extio 3 provides secure, seamless KVM extension over internet for remote workforces

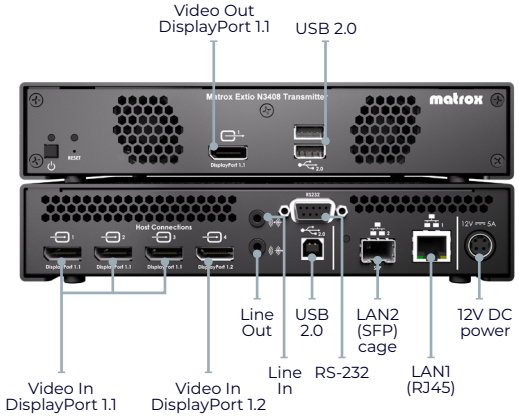
Markets and applications.

Matrox KVM extenders are a perfect fit for many industries. Have a specific idea in mind? Contact our sales team and work together to build a solution.

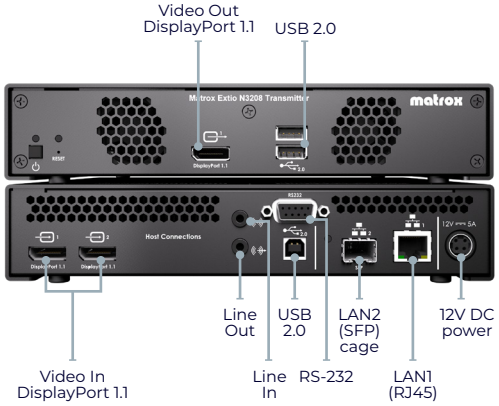
- Process control & industrial automation
- Healthcare
- Broadcast & post-production
- Transportation
- Military & defense
- Government
- Emergency operation & dispatch centers
- Education

Appliances and cards overview

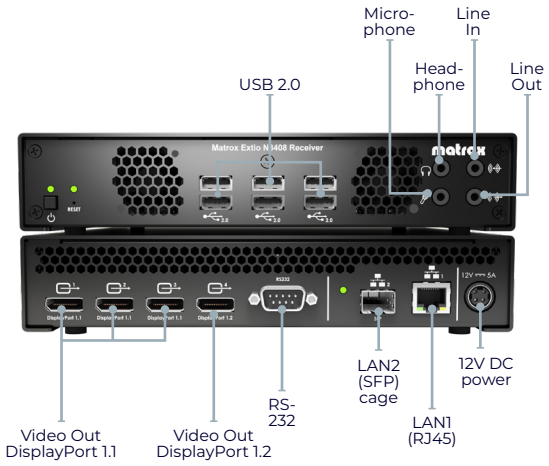
Matrox Extio 3 N3408 transmitter appliance (front/back view)



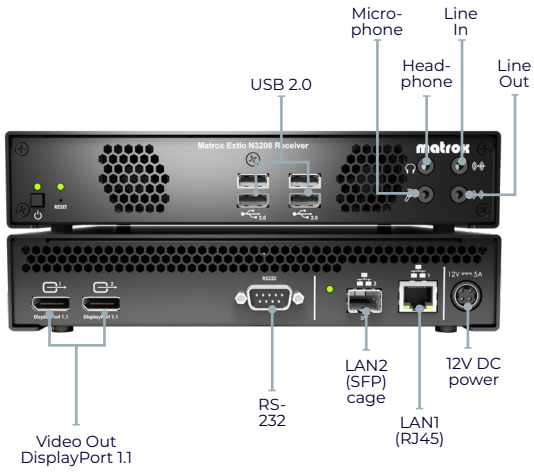
Matrox Extio 3 N3208 transmitter appliance (front/back view)



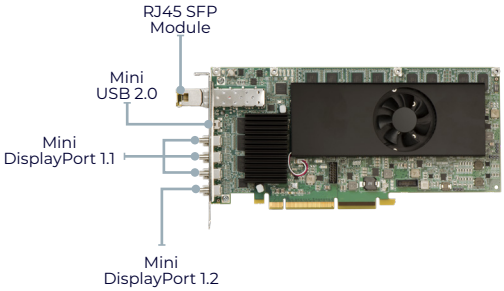
Matrox Extio 3 N3408 receiver appliance (front/back view)



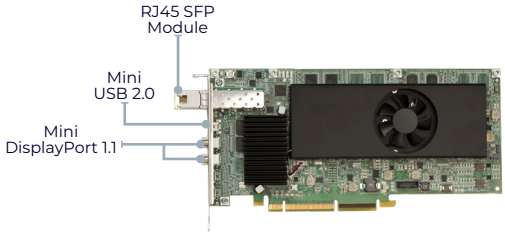
Matrox Extio 3 N3208 receiver appliance (front/back view)



Matrox Extio 3 N3408 transmitter card



Matrox Extio 3 N3208 transmitter card



Technical specifications

Product	Extio 3 – N3408	Extio 3 – N3208
Part number	• **Transmitter appliance** (XTO3-N3408TX) • **Transmitter card** (XTO3-N3408CTX) • **Receiver appliance** (XTO3-N3408RX)	• **Transmitter appliance** (XTO3-N3208TX) • **Transmitter card** (XTO3-N3208CTX) • **Receiver appliance** (XTO3-N3208RX)
Connectivity		
Video input	• **Transmitter appliance:** - 3x DisplayPort 1.1 - 1x DisplayPort 1.2 • **Transmitter card:** - PCI Express x8 electrical and x16 mechanical - 3x mini DisplayPort 1.1 - 1x mini DisplayPort 1.2	• **Transmitter appliance:** - 2x DisplayPort 1.1 • **Transmitter card:** - PCI Express x8 electrical and x16 mechanical - 2x mini DisplayPort 1.1 - 1x mini USB 2.0 Type B
Video output	• **Transmitter appliance:** - 1x DisplayPort 1.1 • **Receiver appliance:** - 3x DisplayPort 1.1 - 1x DisplayPort 1.2	• **Transmitter appliance:** - 1x DisplayPort 1.1 • **Receiver appliance:** - 2x DisplayPort 1.1
Link connector	• **Transmitter appliance:** - 1x RJ45 network port - 1x SFP cage (optional RJ45 or fiber-optic transceiver) • **Transmitter card:** - 1x RJ45 copper transceiver (option to replace with fiber-optic transceiver) • **Receiver appliance:** - 1x RJ45 network port - 1x SFP cage (optional RJ45 or fiber-optic transceiver)	
USB ports	• **Transmitter appliance:** - 1x USB 2.0 (type B) • **Transmitter card:** - 1x Mini USB 2.0 (type B) • **Receiver appliance:** - 6x USB 2.0 (type A)	• **Transmitter appliance:** - 1x USB 2.0 (Type B) • **Transmitter card:** - 1x Mini USB 2.0 (Type B) • **Receiver appliance:** - 4x USB 2.0 (Type A)
Audio input	• **Transmitter appliance:** - Line in 3.5 mm • **Receiver appliance:** - Line in 3.5 mm, mic in 3.5 mm	
Audio output	• **Transmitter appliance:** - Line out 3.5 mm • **Receiver appliance:** - Line out 3.5 mm, headphone out 3.5 mm	
RS-232	• **Transmitter appliance:** - 1x 9-pin D-type (female) • **Receiver appliance:** - 1x 9-pin D-type (male)	
Bus interface	• **Transmitter card:** - PCI Express x8 electrical and x16 mechanical	
Performance		
Video resolutions	• 1x 3840x2160 @60Hz • 2x 3840x2160 @30Hz • 2x 2560x1600 @60Hz • 3x 1920x1200 @60Hz • 4x 1920x1080 @60Hz • 4x 1920x1200 @50Hz A wider range of resolution is supported, including mixed resolutions or pivoted displays. Contact matrox for additional information.	• 1x 2560x1600 @60Hz • 2x 1920x1200 @60Hz A wider range of resolution is supported, including mixed resolutions or pivoted displays. Contact matrox for additional information.
Color space and chroma sub-sampling	• RGB: 8:8:8 • YUV: 4:4:4	

Performance (cont.)	Extio 3 – N3408	Extio 3 – N3208
USB support	· High Speed USB 2.0 · Keyboard, mouse, touchscreens, USB 2.0 mass storage device, industrial keyboards, smart card/CAC readers, USB 2.0 (full speed) speakers/sound bars and other USB HID devices.	
Audio support	· Digital audio embedded in DisplayPort · Stereo analog audio (available with appliances)	
Link redundancy	· Yes (available with appliances)	
Maximum distance on copper cables (Point-to-Point)	· Cat5e, Cat6—100 m (328 ft)	
Maximum distance on fiber-optic cables (Point-to-Point)	· OM2, OM3, OM4 (50/125µm) multi-mode - 550 m (1804 ft.) · OM1 (62.5/125µm) multi-mode - 275 m (902 ft.) · OS1, OS2 (9/125µm) single-mode - 10 km (6.20 mi)	· OM2, OM3, OM4 (50/125µm) multi-mode - 550 m (1804 ft.) · OM1 (62.5/125µm) multi-mode - 275 m (902 ft.) · OS1, OS2 (9/125µm) single-mode - 10 km (6.20 mi)
Maximum distance over IP	· LAN · Private WAN · Internet* * Network conditions vary per region. For optimal user experience we recommend a ping time of less than 20ms and +/- 10% WC jitter. Please contact Matrox for additional details.	· LAN · Private WAN · Internet* * Network conditions vary per region. For optimal user experience we recommend a ping time of less than 20ms and +/- 10% WC jitter. Please contact Matrox for additional details.
Network		
Network standard	· 1,000 base-T Ethernet · Auto-detect · Half/full duplex	
Routing scheme	· Unicast · Multicast · Multi-unicast	
IP addressing	· IPv4 or IPv6 · DHCP (default) and static IP	
Physical		
Product dimensions	· **Transmitter appliance:** - 1U ½ R - 7.45 x 1.676 x 8.526 inches - 18.9 x 4.26 x 21.66 cm · **Transmitter card:** - Full height, ¾ length - 9.020 x 4.376 inches - 22.91 x 11.12 cm · **Receiver appliance:** - 1U ½ R - 7.45 x 1.676 x 8.526 inches - 18.9 x 4.26 x 21.66 cm	· **Transmitter appliance:** - 1U ½ R - 7.45 x 1.676 x 8.526 inches - 18.9 x 4.26 x 21.66 cm · **Transmitter card:** - Full height, ¾ length - 9.020 x 4.376 inches - 22.91 x 11.12 cm · **Receiver appliance:** - 1U ½ R - 7.45 x 1.676 x 8.526 inches - 18.9 x 4.26 x 21.66 cm
Power supply unit	· External PSU · Lockable PSU Connector	
Additional features	· **Transmitter appliance:** - 3x LED indicators (status and power) - 1x power & 1x reset button · **Transmitter card:** - 1x LED indicators (status and power) · **Receiver appliance:** - 3x LED indicators (status and power) - 1x power & 1x reset button	· **Transmitter appliance:** - 3x LED indicators (status and power) - 1x power & 1x reset button · **Transmitter card:** - 1x LED indicators (status and power) · **Receiver appliance:** - 3x LED indicators (status and power) - 1x power & 1x reset button

Hardware & software	Extio 3 – N3408	Extio 3 – N3208
Hardware included	• **Transmitter appliance:** - 4x 6ft power cord for North America/Japan, UK, Australia/China, Continental Europe/China - USB-A To USB-B 6ft cable • **Transmitter card:** - Mini USB-A To USB-B 2ft cable • **Receiver appliance:** - 4x 6ft power cord for North America/Japan, UK, Australia/China, Continental Europe/China	• **Transmitter appliance:** - 4x 6ft power cord for North America/Japan, UK, Australia/China, Continental Europe/China - USB-A To USB-B 6ft cable • **Transmitter card:** - Mini USB-A To USB-B 2ft cable • **Receiver appliance:** - 4x 6ft power cord for North America/Japan, UK, Australia/China, Continental Europe/China
Accessories (sold separately)	• Rack Mount Kit (RMK-19TR-A) - Rack mounting shelf (19 in / 48.26 cm) - Pan head Phillips screws (4x 10-32 x 3/4 in) - Pan head Phillips screws (4x 12-24 x 3/4 in) - Flat head Phillips screws (6x M3 x 6 mm) • Under Desk Mounting Brackets (RMK-UDMKIT-A) - 2x brackets - Pan head screws (2x 6mm M3) • KMLync Keyboard and Mouse Switch (KMLYNC-4Y-XX) - XX= NA, EU, UK, AU • 3.5mm Audio Stereo Cable (CAB-AUDIO-TRS6F) - 1x 3.5mm Audio Stereo Cable 6ft • Mini DisplayPort Secure Cable solution (SK-SLNB-6) - 6x secure c-clips - 6x thumb screws • Multi-Mode Fiber Optic Transceiver (XTO3-SFPMM) - 1x 1.25Gbps SFP mulitmode transceiver • Single-Mode Fiber Optic Transceiver (XTO3-SFPSM) - 1x 1.25Gbps SFP single-mode transceiver • Secure Mini DisplayPort to DisplayPort Adapter (CAB-MDP-DPF)* - 1x Mini DisplayPort to DisplayPort Adapter cable • NRG Redundant Power Supply Unit - Rack tray with one NRG RPSU pre-installed (part number: NRG-5-1DB) - Rack tray with two NRG RPSU pre-installed (part number: NRG-5-2DB) *Not recommended for 4K60 resolutions	
Software	• Extio Central Manager (free download)	• Extio Central Manager (free download)
General		
Supported operating systems (software)	• **Extio Central Manager Software** - Microsoft® Windows® 10 (64-bit), Windows 7 (32-bit), Windows 7 (64-bit), Server® 2016, Server 2012 R2, Server 2008 R2	• **Extio Central Manager Software** - Microsoft® Windows® 10 (64-bit), Windows 7 (32-bit), Windows 7 (64-bit), Server® 2016, Server 2012 R2, Server 2008 R2
EMC/EMI device class	• Class A	
EMC/EMI compliance	• CE (EU) • FCC (US) • KC (Korea) • RCM (AU/NZ) • VCCI (Japan)	
Warranty	• Two-year limited warranty with free online or telephone support • Extended warranty available. For more information, contact Matrox Video	

1. Other resolutions are also supported.
2. Network conditions vary per region. For optimal user experience, we recommend a ping time of less than 20ms and +/- 10% WC jitter. Please contact Matrox Videofor additional details.

Contact Matrox Video
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