

**BLACK BOX**

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**MCX**

Next-Generation AV over IP



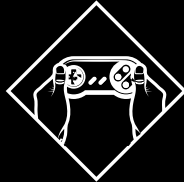
MCX is the next-generation AV-over-IP solution from Black Box. As a Software Defined Video over Ethernet (SDVoE™) enabled solution, MCX utilizes the capabilities of your commonplace modern network infrastructures to deliver up to 4K 60 Hz video and audio over IP without latency or compression. MCX harnesses the power of Ethernet to deliver matrix switch quality performance, but without the limitations. Additionally, MCX can be used for video wall solutions as well as distributing a variety of other AV signals including DisplayPort, USB, and Dante®.



Education



Government



eSports



Hospitality



Restaurants



Corporate

### Ideal for a Wide Range of Industries

Because MCX is an IP-based solution, it can be easily expanded without adding expensive chassis, multiviewers, or processors. This makes it perfect for a wide range of applications. To manage, expand, and maintain your AV network, use the MCX Controller that provides an intuitive, easy to use, and robust software interface that helps you define your AV network applications.



# Benefits of MCX

## Delivers up to 4K 60 Hz 4:4:4 Video

MCX delivers the video quality high-end AV applications require to display eye-catching content: It extends up to 4K 60 Hz 4:4:4 video to an unlimited number of displays without sacrificing latency, video quality or bandwidth. Even better, it supports up to 10-bit HDR using Software-Defined Video over Ethernet (SDVoE) – the latest software-based AV-over-IP platform for extension and control of AV systems on Ethernet or fibre networks.

## Advanced Video Wall Capabilities

MCX allows you to display your video wall content any way you want. It offers advanced video scaling options, such as multi-view, picture-in-picture, split screen and more, that increase versatility in video wall deployments.

## Zero Source to Display Latency

Overcome source to display latency with MCX. This robust video distribution system's glass-to-glass encoding and decoding happen in real time (0.03 milliseconds). This means you never deal with annoying lag that complicates your operation.

## Seamless Switching

MCX switches between video sources in less than 100 milliseconds with no artifacts or screen blink. This means you can switch video content super-fast without any noticeable distortion to your image – a must for professional AV applications.

## Easy, Flexible Deployment

Adding other network AV solutions to your IT infrastructure can be a challenge. Not MCX. This video extension system is designed to work with any modern network, making installation simple. MCX can be deployed on 10G networks over Ethernet.

## Complete Control

You can control MCX with two powerful but easy-to-use tools:

- The MCX Controller makes deployment, configuration, management and system monitoring easy.
- Take command of your MCX AV-over-IP system with the tap of a button or the swipe of a touch panel with Black Box ControlBridge™ or the third-party control platform of your choice.

## Comprehensive Connectivity

You can connect every essential AV distribution device to your MCX through its variety of ports: discrete RS-232, IR, secondary audio channel plus a separate 1-GbE connection to independently route, embed and de-embed up to three separate audio streams.



## Developed with Industry-Leading Technologies

### SDVoE™ (Software Defined Video over Ethernet)

SDVoE technology optimises MCX. SDVoE distributes AV over modern networks without negatively affecting performance, functionality or capability.



### Powered by Dante® Audio

MCX is the first commercially available AV-over-IP solution to incorporate Dante audio transport. Dante audio allows you to extend network audio to other Dante-enabled receiving devices, like mixers and power amplifiers. This gives you more control over your feeds and the ability to matrix switch audio in addition to video.



# Choose the MCX that Maximises AV in Your Application

## MCX S9

Distribute and extend up to 4K 60 Hz 4:4:4 video and audio from any source to any screen over your network. Easily control how your content displays on every screen.

- Advanced scaling options for multi-view, PiP, split screen and more – perfect for video walls
- USB support for audio, webcam, Flash drive, keyboard and mouse
- Transmits up to 4K 60 Hz 4:4:4 uncompressed video
- Supports HDMI 2.0 and DisplayPort 1.2 over IP
- Dante®-enabled model delivers two channels of Dante network audio



MCX-S9-DEC



MCX-S9C-DEC



## MCX S7

Multicast AV signals to an unlimited amount of remote displays without issue. Deploys on any modern network over Ethernet, fibre or both.

- Transmits up to 4K 60 Hz 4:4:4 uncompressed video
- Zero source to display latency and seamless switching
- Ideal for high-performance AV applications that do not require video scaling options
- Supports HDMI 2.0 over IP



MCX-S7-DEC



## MCX Encoder/Decoder Comparison Chart

Product Code	Input Type	Connectivity	SDVoE 4K 60 Hz	Scaling	Dante® Audio	USB
MCX-S7-DEC	HDMI 2.0	10-GbE Copper	Yes	No	No	No
MCX-S7-ENC						
MCX-S7-F0-DEC	HDMI 2.0	10-GbE Fibre	Yes	No	No	No
MCX-S7-F0-ENC						
MCX-S9C-DEC	HDMI 2.0	10-GbE Copper	Yes	Yes	No	No
MCX-S9C-ENC						
MCX-S9-DEC	HDMI 2.0, DP1.2a	10-GbE Copper or Fibre	Yes	Yes	No	Yes
MCX-S9-ENC						
MCX-S9D-ENC	HDMI 2.0, DP1.2a	10-GbE Copper or Fibre	Yes	Yes	Yes	Yes

## MCX Controller

The MCX Controller is an advanced AV over IP manager providing an intuitive user interface for deploying and managing all connected MCX encoders and decoders. Hosted on a small form-factor computer, the software provides advanced AV network control, maintenance, and monitoring tools.

- Features advanced control for your MCX AV network including event automation, scheduling, individual browser based user interfaces and more
- Supports configuration of video walls and multiview
- Enables creation of actionable data including asset tracking, time stamped logging for SLAs and extended usage reports
- Licenses and upgrade licenses for multiple numbers of MCX endpoints available
- Annual system maintenance service required



## MCX Controller Options

Product Code	Description
MCX-G2-CTRL-x	MCX Controller NUC and software, supporting up to 24, 24, 120, 250, 500, or unlimited number of endpoints. (Replace "x" with "24", "48", "120", "250-500" or "UL" for unlimited endpoints)
MCX-G2-CTRL-EXP-x	MCX Controller Upgrade Licenses that let you add more endpoints to your AV network as it grows. (Replace "x" with "24-48", "48-120", "120-250", "250-500", or "UL" for unlimited endpoints)
MCX-CTRL-x-MAINT	Annual MCX Controller Maintenance Service. (Replace "x" with number of supported endpoints: "24", "48", "120", "250", "500", or "UL" for unlimited endpoints)

# Additional Products

## ControlBridge Control Processor and Touchscreen

ControlBridge® is a versatile control processor and touchscreen-based appliance for room automation and intuitive operations control. It allows you to control all aspects of your workspace and AV setup, including AV switching, lighting, window shutters, automated furniture position and video walls.

- Multiple control processors and touchscreen devices (7" and 12") available.
- Bidirectional control of any IP-enabled or I/O device.
- Active matrix touchscreen display offers resolutions of 1280 x 800, 32-bit (true color) images and full-motion streaming video preview.
- Includes built-in microphone, speakers and light and motion sensors.
- Set up through a standard web browser.
- Mobile device support through optional app license.
- Black Box will help you to design a custom interface for your specific requirements.

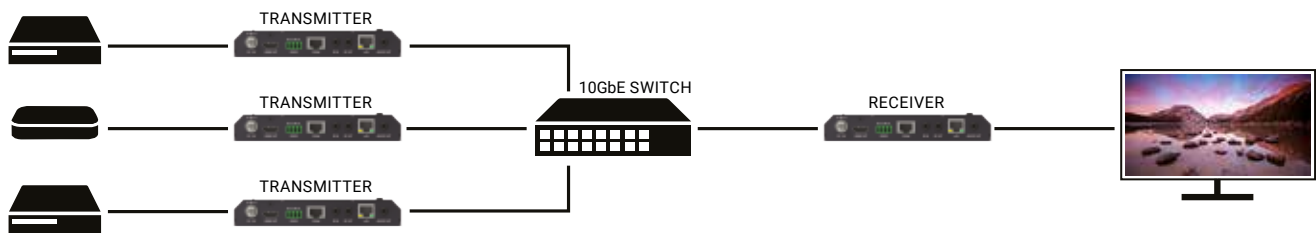


Learn more at [blackbox.com/controlbridge](http://blackbox.com/controlbridge).

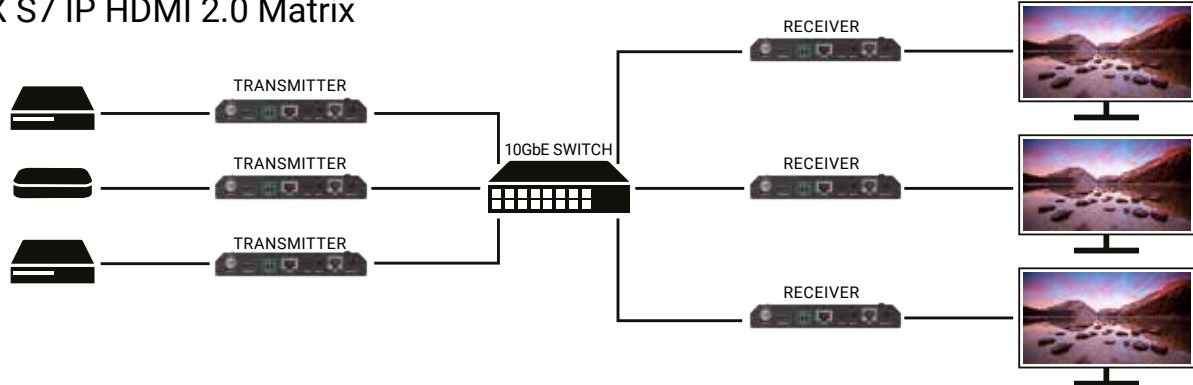
Product Code	Description
CB-TOUCH7-T	ControlBridge Touch Panel, 7"
CB-TOUCH12-T	ControlBridge Touch Panel, 12"
CB-CP100	Control processor for small-sized applications
CB-CP200	Control processor for medium to large-sized applications
CB-APP-LIC	ControlBridge Single-Seat Mobile Device License

## MCX Application Diagrams

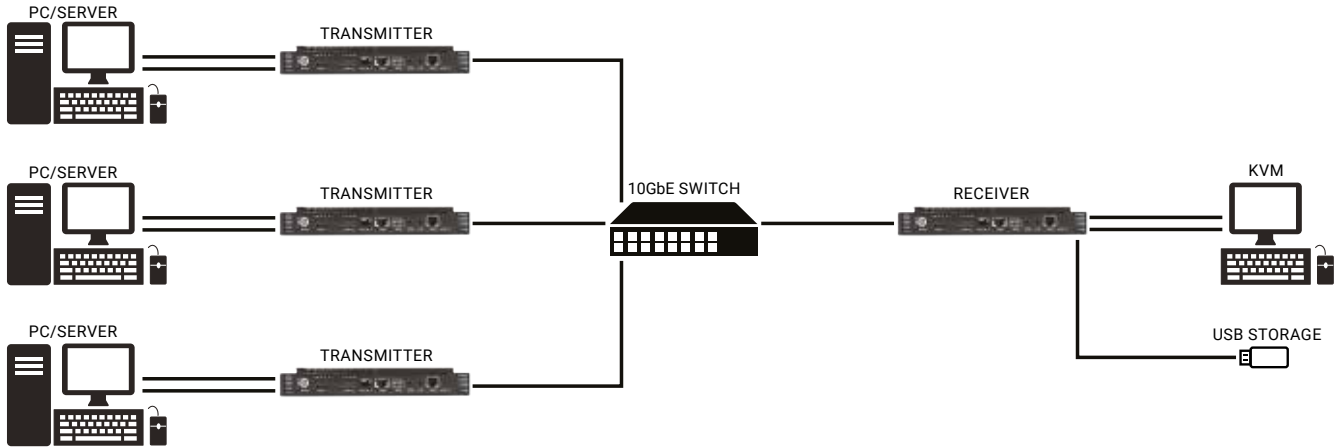
### MCX S7 HDMI 2.0 Distribution



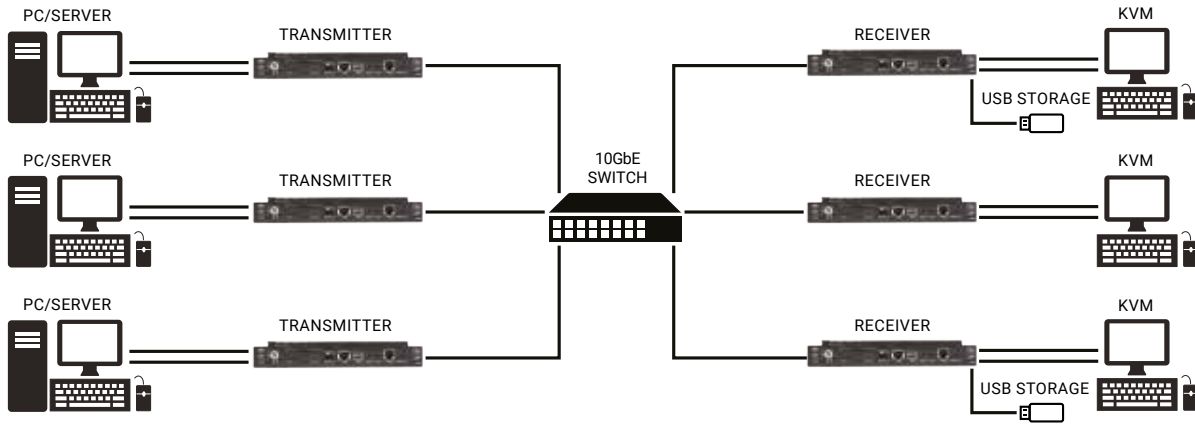
### MCX S7 IP HDMI 2.0 Matrix



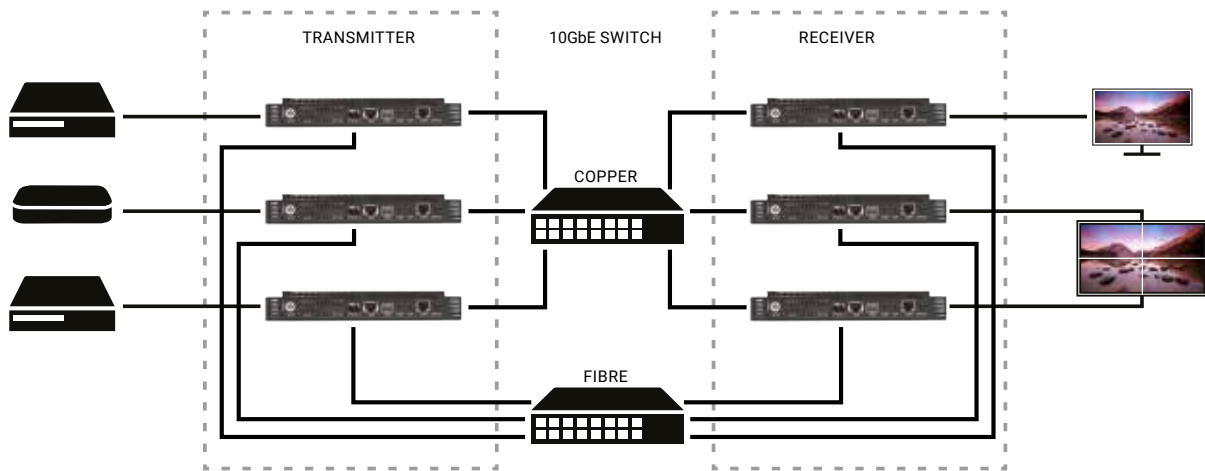
### MCX S9 IP HDMI 2.0/DP1.2 KVM Switching



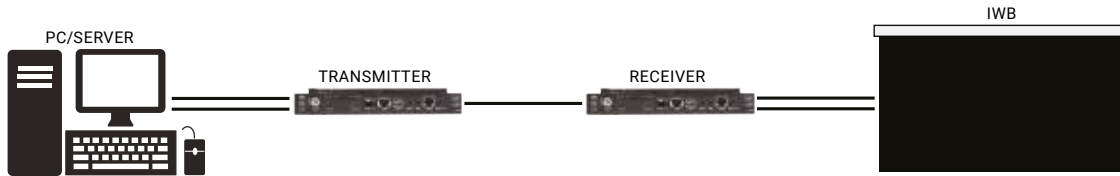
### MCX S9 HDMI 2.0/DP1.2 KVM Matrix



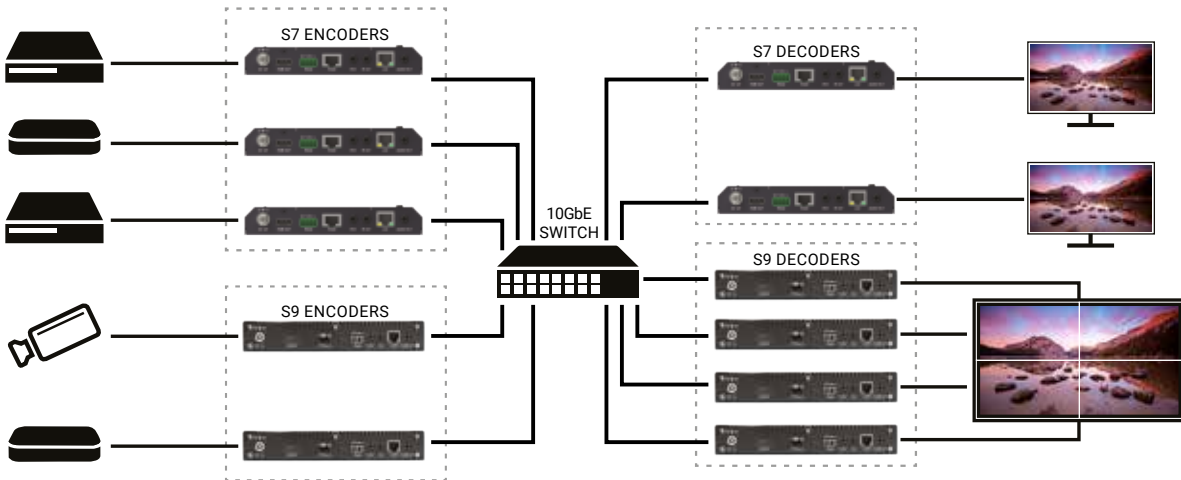
### MCX S9 IP HDMI 2.0/DP1.2 with Failover Redundancy



## MCX S9 HDMI 2.0/DP1.2 KVM



## MCX S7 and S9 Interoperability



## WHY BLACK BOX

### Expertise

Black Box project engineers can assist with system assessment, design, deployment and training.

### Breadth

Black Box offers the most comprehensive suite of engineered AV and infrastructure solutions in the industry.

### Support

Reflecting our commitment to complete satisfaction, our dedicated team of highly trained support technicians is available by phone free of charge, every day of the year.

### Warranties

Multi-year warranties with multi-year extensions and replacement options are available.

### Experience

Providing leading technology solutions since 1976, Black Box helps more than 175,000 customers in 150 countries build, manage, optimise and secure IT infrastructures.

### Centre of Expertise

Black Box offers a Centre of Expertise, featuring professional services and support agreements that help optimise customers' systems and maximise uptime.

### Service Level Agreements

Our service level agreements give customers access to technical support, product training, dedicated application engineers and more.

### Contributing Member of the SDVoE Alliance

Black Box is committed to developing AV-over-IP technology and educating end users about its advantages. That is why we have become a contributing member of the SDVoE Alliance. The alliance is bringing top AV companies together around a standardised hardware and software platform to benefit consumers.

