

# Matrox® Monarch™ EDGE

## 4K/Multi-HD Webcasting Encoder



In a media landscape filled with continuously evolving online video platforms (OVPs), traditional broadcasters are beginning to leverage their existing over-the-top (OTT) delivery methods to deliver content specialized for the web. By enhancing their means of linear programming delivery, broadcasters can expand their reach and meet their audiences through new online-only channels. Using the latest in webcasting innovations, such as high-frame rate 4K (HFR), 4K 360 VR, and multi-camera selection, which are only supported on desktop, mobile, and Smart TV web-based video players, broadcasters can easily deliver compelling live content. Designed to take on today's engaging webcasting workflows, Matrox Monarch EDGE provides broadcasters with robust, low-latency, and dynamic H.264 encoding capabilities packaged in a compact, low power, and portable appliance.



### Pristine Quality Delivered to Any Screen

Producing and delivering live events in 4K is becoming more widespread, and homes across the globe are adding increasingly fast network download capabilities, as well as 4K TVs to accommodate this content. OVPs are capable of downscaling content optimized for large 4K TV screens to smaller screens when 4K streams are sent to them. When OVPs let TVs tackle the upscaling of HD content to fill screens, the result is not optimal. Monarch EDGE eliminates any compromise by encoding 4K at high frame rates (50 or 60 fps), while the OVP handles any downscaling. With Monarch EDGE, content providers can deliver a superlative 4K viewing experience.

### Stream Every Angle

Monarch EDGE is a high-density encoding platform that can accept four independent HD inputs and deliver multiple streams per input, ideal for data center installations. One of the latest innovations from YouTube is multi-camera event support, which allows users to view a main camera angle, or switch to a secondary angle if desired. With a single Monarch EDGE device, four different camera angles can be streamed simultaneously.



### Uncompromising H.264 Quality

The H.264 codec is universally accepted for web contribution and live streaming. Monarch EDGE's unique implementation of the codec keeps data rates exceptionally low while minimizing latency without sacrificing quality. Monarch EDGE's independent encoding operations per input can be configured to stream to a single or multiple destinations. Each operation benefits from a powerful scaling and de-interlacing engine to ensure only pristine images and audio are encoded.

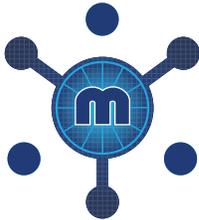
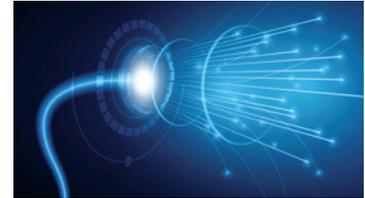


### Webcasting for All

Monarch EDGE supports a variety of streaming protocols. Social media platforms such as Facebook and YouTube use the ever-popular RTMP format. SRT is a new open-source format that provides the reliability of RTMP, while reducing latency, for use on open networks. Dozens of OVPs and the Wowza Streaming Engine media server support this format. On local networks, MPEG-2 TS or RTSP streams can be selected for delivery over in-house networks.

### Connectivity for Today and Tomorrow

Monarch EDGE offers flexible, future-proof connectivity with 3G, 12G SDI, and ST 2110 over 25 GbE network connections. Inputs are auto-detectable and allow for a wide range of connectivity to devices such as cameras, switchers, vision mixers or routers. Additionally, audio can be selected from two channels of embedded audio per video input, or professional XLR connectors.



### Convenient, Centralized Control

Monarch EDGE Control Hub is a powerful application that provides remote-control management and configuration of all network-connected encoders from a central location. This powerful software provides authorized users with high-level views of all devices, and enables full access and control from a single, easy-to-use interface.

### Preview Inputs First

Allowing up to four simultaneous input previews on a single desktop monitor, Monarch EDGE ensures that videos are ready to be webcasted. Monarch EDGE Control Hub allows users to effortlessly configure how they would like to preview sources of input. Users can choose to view one input, cycle through inputs, or view four inputs simultaneously.



### Robust and Practical Design

Monarch EDGE was built with reliability in mind. An LCD screen on the front of the appliance allows users to quickly access its status and configuration settings. A locking power connector safeguards against connection loss during production. Redundant Ethernet (1 GbE) ports allow users to control the device from one port while sending video from a second port. Users can opt to send the same streams from each port while taking completely separate network paths. Finally, Monarch EDGE's compact design ensures it can be installed in a fly-pack, OB van, or with a second Monarch EDGE unit in a 1RU-rack space.



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