Matrox MHDX/I Dual-channel H.264 Encoder for broadcast streaming and recording

Inputs and Outputs		
Supported	Progressive 1920x1080 @ 60/59 94/50/30/29 97/25/24/23 98 Frames per second 1280x720 @ 60/59 94/50 Frames per	
HDMI Video	second Interlaced 1920x1080i 29 97/25 Frames per second	
Input		
HDMI Video	Preview output of video input signal. Preview output is available when source SDI or HDMI. Note that when input is an	
Output	SDI resolution, the HDMI preview output will show video windowboxed on an HD output.	
Supported SDI	Progressive 1920x1080 @ 60/59.94/50/30/29.97/25/24/23.98 Frames per second 1280x720 @ 60/59.94/50 Frames per	
Video Input	second Interlaced 1920x1080i @ 29.97/25 Frames per second 720x486i @ 29.97 Frames per second 720x576i @ 25	
video input	Frames per second Compliant with SMPTE 259M/292M/424M (Level A) / 425M	
SDI Video	0 frame latency passthrough of Input signal. Output is a clean distribution of SDI incoming signal. Hardware bypass	
Output	relay present in SDI signal path is "closed" on power failure.	
Audio Input	Processes the first two channels of audio embedded in HDMI or SDI input signals. Unbalanced analog stereo input via	
	1/8" (3.5mm) jack. Line Level	
	Passthrough of 8 channel of embedded audio channels in HDMI and SDI signals. Unbalanced analog stereo output via	
Audio Output	1/8" (3.5mm) jack—passthrough of input. Line Level Note that all outputs are active regardless of audio and video input	
	selection.	
Extra features	Video Input Format is Auto-Detected in SDI and HDMI. All outputs are active regardless of audio and video input	
	selection.	
Frame Synchronization		
Frame	The Monarch HDX contains frame synchronization circuitry designed to compensate for disruptions of the input signal.	
Synchronization	This circuitry is in place for both SDI and HDMI inputs. Streaming and recording operations will proceed cleanly with	
Synchronization	repeated or dropped frames.	
H.264/MPEG-4 Part 10 (AVC) Video Encoder		
Resolutions	Selectable encoding resolutions ranging from: 128x128 to 1920x1080	
Bit Rates	Single Encoder - Streaming mode: 20 Mbps Single Encoder - Recording mode: 30 Mbps Dual Encoder - Maximum of 10	
Ranges	Mbps for streaming channels Maximum of 30 Mbps combined for both channels	
Encode Frame	Encode frame rates selection includes 60/50, 30/25/24 and 15/12.5.	
Rates		
Encoding	Baseline. Main and High	
Profiles		
Encoding	2.0, 3.0, 3.1, 4.0, 4.1 Level Support GOP Size Variable bit rate support Average max/min data rate controls Deblocking	
Controls	Filter	
MPEG-4 AAC Audio Encoder		
Standard	AAC-LC	
Sample	32 44 1 and 48 kHz when digitized from an analog source	
Frequency		
Channels	2 channels Stereo (L/R)	
Bit Rates	Range from 32 kbps to 256 kbps Note that audio codec settings are applied to both encoders.	
Scaler		
	High Quality multi-tap 10 bit Down Scaler and De-Interlacer Available to both streaming and recording operations	
H.264 Input pre	eview Stream	
Resolution	320x180	
Average Bitrate	100-300 kbps	
	RTSP Note the preview encoder is automatically disabled when primary encoder resolution are at the max to ensure	
Stream Type	best streaming and/recording performance.	
Recording File F	iormat	
File Type	Industry Standard MP4 and MOV files with two channels of embedded AAC audio	
	Maximum file length of 300 minutes—irrespective of storage type used. File splitting feature allows a user to record	
Recording	continuously for long periods by defining file segment sizes. The Monarch HDX will create these seguential file	
Lengths	segments over the course of the recording operation without losing a single frame of video. File segment can have a	
	length of 1 to 300 minutes.	
Network Interfaces		
Connector	RI45 providing 10/100/1000 Base-T Ethernet with Static or DHCP addressing	
Protocols	RTMP_RTSP/RTP_IPv4 Support Unicast and Multi Unicast (number of clients may vary from 3 to 10)	
User Interface		
Computer		
Computer Based control	HTTP via standard PC or Mac web browser using Monarch HDX Command Center.	
Daseu control		
riysical	On Device push buttons for independent streaming and recording with Start/Stop control	
Internace Store to Times for File Decording		
Storage Types f		
	ISUBBORT FOR NUES (3.1) and FAL32 file system The Monarch HDX will support writing to USB3 devices at USB2 speeds	

2 x USB 2.0	Also note, there is a very high variability in the performance capabilities of "thumb" drives (even USB3 versions). Many
	are optimized for "read" operations while the Monarch HD