

# DATA SHEET

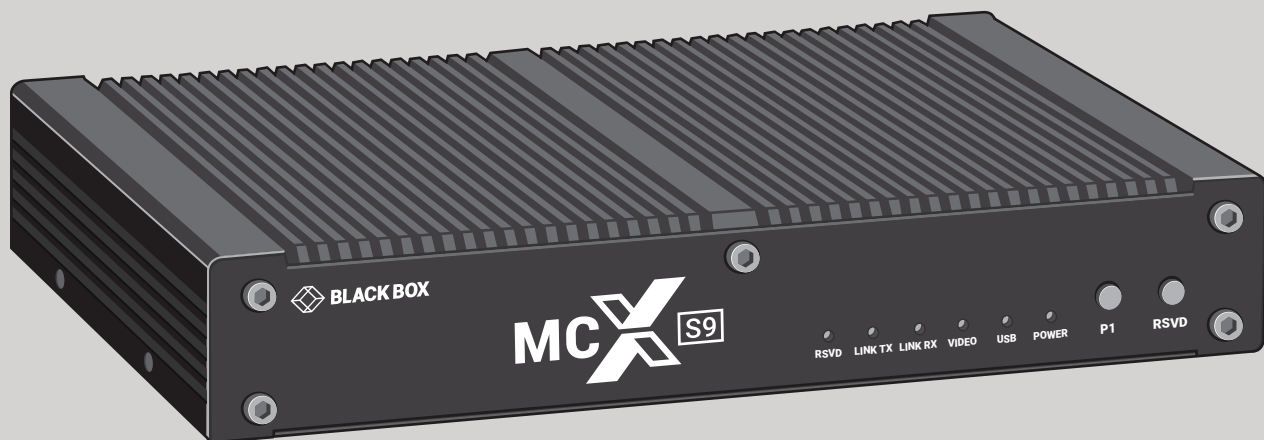
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MCX-S7, MCX-S9 SERIES

# MCX S7 AND S9 NETWORK AV VIDEO ENCODERS AND DECODERS

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24/7 TECHNICAL SUPPORT AT 877.877.2269 OR VISIT [BLACKBOX.COM](http://BLACKBOX.COM)



# OVERVIEW

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## MCX S7 AND S9 NETWORK AV VIDEO ENCODERS AND DECODERS DATA SHEET

### INTRODUCTION

MCX S7 and S9 Network AV Video Encoders and Decoders are the next generation of the Black Box renowned AVoIP product line, MediaCento. MCX is designed for modern network infrastructures using 10G SDVoE technology. It delivers up to 4K 60 Hz 4:4:4 resolutions plus HDR in point-to-point, point-to-multipoint, advanced video walls, and Multiview applications with zero source to screen latency and <100 ms switching time. Additionally, MCX has the ability to extend audio over the AV network or encode 2-channels of Dante audio.

End users can use the tactile interface of the ControlBridge Desktop Touch Panel. Using the MCX API, users can set up layouts and environments for fast and easy switching. Or, let Black Box do it for you with our programming professional services.

Two S7 Encoders and two S7 Decoders are available:

- HDMI 2.0 OVER IP ENCODER AND DECODER, 10G ETHERNET (MCX-S7-ENC AND MCX-S7-DEC)
- HDMI 2.0 OVER IP ENCODER AND DECODER, 10G SFP+ FIBER (MCX-S7-FO-ENC AND MCX-S7-FO-DEC)

Three S9 Encoders and two S9 Decoders are available:

- HDMI 2.0 & DISPLAYPORT 1.2 OVER IP ENCODER, 10G ETHERNET AND FIBER CONNECTIVITY, USB WITH SCALING (MCX-S9-ENC)
- HDMI 2.0 OVER IP DECODER, 10G ETHERNET AND FIBER CONNECTIVITY, USB WITH SCALING (MCX-S9-DEC)
- HDMI 2.0 & DISPLAYPORT 1.2 OVER IP ENCODER, 10G ETHERNET WITH SCALING, COMPACT (MCX-S9C-ENC)

- HDMI 2.0 OVER IP DECODER, 10G ETHERNET WITH SCALING, COMPACT (MCX-S9C-DEC)
- HDMI 2.0 & DISPLAYPORT 1.2 OVER IP ENCODER, DANTE AUDIO ENCODING, 10G ETHERNET AND FIBER CONNECTIVITY, USB WITH SCALING (MCX-S9D-ENC)

Also available are controller appliances for managing an MCX network:

- MCX GEN 2 CONTROLLER IS AN ALL-IN-ONE SDVOE/AVOIP NETWORK CONTROLLER AND MANAGER WITH AN EASY TO USE, INTUITIVE USER INTERFACE. CHOOSE FROM 24, 48, 120, 250, 500, OR UNLIMITED ENDPOINTS.

### FEATURES

- **RESOLUTION MATTERS – DELIVERING UP TO 4K 60 HZ 4:4:4 PLUS UP TO 10-BIT HDR UNCOMPRESSED USING SDVOE**
- **FLEXIBLE DEPLOYMENT OPTIONS – DEPLOY ON 10G NETWORKS OVER ETHERNET, FIBER OR BOTH**
- **GO BEYOND THE BEZEL – ADVANCED SCALING OPTIONS ALLOW FOR MULTI-VIEW, PIP, AND MORE VERSATILITY IN VIDEO WALL DEPLOYMENTS**
- **DANTE SPOKEN HERE – 2 CHANNELS OF DANTE NETWORK AUDIO**
- **ZERO LATENCY – ZERO SOURCE TO DISPLAY LATENCY**
- **SEAMLESS SWITCHING - <100 MS WITH NO ARTIFACTS**
- **INTUITIVE CONTROL – INTUITIVE WEB UI AND TOUCH APPLICATION FOR EASY CONTROL. DISCRETE RS-232, IR, SECONDARY AUDIO CHANNEL PLUS A SEPARATE 1GBE CONNECTION TO INDEPENDENTLY ROUTE, EMBED, AND DE-EMBED UP TO 3 SEPARATE AUDIO STREAMS FEATURE**
- **SWITCH MATRIXING - SEAMLESS MATRIX SWITCH CAPABILITY**
- **VIDEO WALLS - CREATE VIDEO WALLS UP TO 256 SCREENS IN SIZE**



# COMPARISON CHART

FEATURE COMPARISON CHART			
FEATURE	MCX S9 ENCODER/DECODER	MCX S9 COMPACT ENCODER/DECODER	MCX S7 ENCODER/DECODER
VIDEO INPUT	ENCODER: (1) HDMI 2.0, (1) DISPLAYPORT 1.2A	ENCODER: (1) HDMI 2.0, (1) DISPLAYPORT 1.2A	ENCODER: (1) HDMI 2.0
COMPRESSION	UNCOMPRESSED	UNCOMPRESSED	UNCOMPRESSED
SOURCE TO SCREEN LATENCY	0.3 MS 1080P/0.6 MS 4K @ 60 HZ	0.3 MS 1080P/0.6 MS 4K @ 60 HZ	0.3 MS 1080P/0.6 MS 4K @ 60 HZ
VIDEO INPUT RESOLUTION	UP TO 4096 X 2160 @ 60 HZ, 3840 X 2160 @ 60 HZ (4:4:4), AND 3840 X 2160 @ 60 HZ (4:2:0 10-BIT HDR), DETAILS IN SUPPORT INPUT		
HDMI CLOCK RATE	UP TO 594 MHZ	UP TO 594 MHZ	UP TO 594 MHZ
ENCODING OUTPUT CONNECTOR	10G ETHERNET AND 10G FIBER	10G ETHERNET	10G ETHERNET OR 10G FIBER
FAILOVER REDUNDANCY	YES	NONE	NONE
VIDEO OUTPUT RESOLUTION	UP TO 4096 X 2160 @ 60 HZ, 3840 X 2160 @ 60 HZ (4:4:4), AND 3840 X 2160 @ 60 HZ		
AUDIO INPUT	UNBALANCED STEREO 3.5-MM AUDIO	UNBALANCED STEREO 3.5-MM AUDIO	UNBALANCED STEREO 3.5-MM AUDIO
DANTE AUDIO OUTPUT	MCX-S9D-ENC ONLY	NONE	NONE
IR INPUT	3.5-MM JACK CONNECTOR	3.5-MM JACK CONNECTOR	3.5-MM JACK CONNECTOR
CONTROL	(1) RS-232 CONNECTS DEVICES FOR UPGRADING HARDWARE AND FOR BI-DIRECTIONAL COMMUNICATION WITH AN RS-232 CONNECTED DEVICE. (1) LAN CONNECTS TO A SWITCH, ROUTER OR PC FOR UPGRADING AND FOR MATRIX SWITCHING VIA MCX CONTROL		
USB	BUILT-IN EXTREMEUSB MODULE FOR USB 2.0 CONNECTIVITY	NONE	NONE
SUPPORTED AUDIO IN	LPCM, 2.0/5.1/7.1 @ 44.1/48/96/192 KHZ, DOLBY TRUEHD UP TO 7.1 192 KHZ, DTS-HD MASTER UP TO 7.1 192 KHZ, DOLBY DIGITAL AC-3, DTS V1, UNBALANCED STEREO AUDIO		
SUPPORTED AUDIO OUT	DANTE AUDIO 2-CH, 2-CH PCM, LPCM, 2.0/5.1/7.1 @ 44.1/48/96/192 KHZ, DOLBY TRUEHD UP TO 7.1 192 KHZ, DTS-HD MASTER UP TO 7.1 192 KHZ, DOLBYDIGITAL AC-3, DTS V1, UNBALANCED STEREO AUDIO; NOTE: ONLY MCX-S9D-ENC MODEL SUPPORTS DANTE AUDIO	2-CH PCM, LPCM, 2.0/5.1/7.1 @ 44.1/48/96/192 KHZ, DOLBY TRUEHD UP TO 7.1 192 KHZ, DTS-HD MASTER UP TO 7.1 192 KHZ, DOLBYDIGITAL AC-3, DTS V1, UNBALANCED STEREO AUDIO	2-CH PCM, LPCM, 2.0/5.1/7.1 @ 44.1/48/96/192 KHZ, DOLBY TRUEHD UP TO 7.1 192 KHZ, DTS-HD MASTER UP TO 7.1 192 KHZ, DOLBYDIGITAL AC-3, DTS V1, UNBALANCED STEREO AUDIO
VIDEO WALL SUPPORT	YES, UP TO 256 SCREENS	YES, UP TO 256 SCREENS	NONE
MULTIVIEW SUPPORT	YES	YES	NONE
VIDEO MATRIX SWITCHING	YES	YES	YES
VIDEO MATRIX SWITCH TIME	<100 MS	<100 MS	<100 MS
KVM APPLICATIONS	YES	NONE	NONE
USB ROUTING	YES	NONE	NONE
KVM EXTENSION	DIRECT CONNECT KVM EXTENSION. 4K @ 60 HZ UP TO 100M. USB 2.0 EXTENSION COMPATIBLE WITH USB KEYBOARD, MOUSE, STORAGE, ETC., 0.3 MS LATENCY END TO END	NONE	NONE
KVM WITHIN MULTIVIEW	YES	NONE	NONE
KVM MATRIX SWITCHING	YES	NONE	NONE
SUPPORTED VIDEO RESOLUTION	640 x 480 <sup>3</sup> , 800 x 600 <sup>3</sup> , 1024 x 768 <sup>3</sup> , 1280 x 1024 <sup>3</sup> , 1360 x 768 <sup>3</sup> , 1440 x 900 <sup>3</sup> , 1440 x 1050 <sup>3</sup> , 1600 x 1200 <sup>3</sup> , 720 x 480 <sup>7</sup> (480i59), 720 x 480 <sup>7</sup> (480p59), 720 x 576 <sup>6</sup> (576i50), 720 x 576 <sup>6</sup> (576p50), 1280 x 720 <sup>5</sup> (720p50), 1280 x 720 <sup>7</sup> (720p59), 1280 x 720 <sup>8</sup> (720p60), 1920 x 1080 <sup>6</sup> (1080i50), 1920x1080 <sup>7</sup> (1080i59), 1920 x 1080 <sup>6</sup> (1080i60), 1920 x 1080 <sup>1</sup> (1080p23), 1920 x 1080 <sup>2</sup> (1080p24), 1920x1080 <sup>3</sup> (1080p25), 1920 x 1080 <sup>4</sup> (1080p29), 1920 x 1080 <sup>5</sup> (1080p30), 1920 x 1080 <sup>6</sup> (1080p50), 1920x1080 <sup>7</sup> (1080p59), 1920x1080 <sup>8</sup> (1080p60), 1920 x 1080 <sup>10</sup> , 2560 x 1440 <sup>8</sup> , 3840 x 2160 <sup>1</sup> (2160p23), 3840 x 2160 <sup>2</sup> (2160p24), 3840 x 2160 <sup>4</sup> (2160p25), 3840 x 2160 <sup>4</sup> (2160p29), 3840 x 2160 <sup>5</sup> (2160p30), 3840 x 2160 <sup>6</sup> (2160p60), 4096 x 2160 <sup>5</sup> , 4096 x 2160 <sup>8</sup>		
	1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz, 10 = 120 Hz		



# SPECIFICATIONS

## MCX S7 NETWORK AV VIDEO ENCODERS AND DECODERS



### WHAT'S INCLUDED WITH THE ENCODERS

- (1) S7 ENCODER
- (1) 12-VDC, 2-A POWER ADAPTER (WITH US/UK/EU/AU PLUG)
- (1) 3.5-MM, 4-PIN PHOENIX CONNECTOR
- (1) IR EMITTER
- (2) MOUNTING EARS (WITH SCREWS)

### WHAT'S INCLUDED WITH THE DECODERS

- (1) S7 DECODER
- (1) 12-VDC, 2-A POWER ADAPTER (WITH US/UK/EU/AU PLUG)
- (1) 3.5-MM, 4-PIN PHOENIX CONNECTOR
- (1) IR WIDEBAND RECEIVER (30 TO 50 KHZ)
- (2) MOUNTING EARS (WITH SCREWS)

### S7 SERIES SPECIFICATIONS (MCX-S7-ENC, MCX-S7-DEC, MCX-S7-FO-ENC, MCX-S7-FO-DEC)

MODEL	ENCODER	DECODER
<b>VIDEO</b>		
<b>INPUT CONNECTORS</b>	MCX-S7-ENC, MCX-S7-FO-ENC: (1) HDMI 2.0	MCX-S7-DEC: (1) RJ-45 10GBASE-T; MCX-S7-FO-DEC: (1) SFP+
<b>SUPPORTED INPUT</b>	640 x 480 <sup>8</sup> , 800 x 600 <sup>8</sup> , 1024 x 768 <sup>8</sup> , 1280 x 1024 <sup>8</sup> , 1360 x 768 <sup>8</sup> , 1440 x 900 <sup>8</sup> , 1440 x 1050 <sup>8</sup> , 1600 x 1200 <sup>8</sup> , 720 x 480 <sup>7</sup> (480i59), 720 x 480 <sup>7</sup> (480p59), 720 x 576 <sup>6</sup> (576i50), 720 x 576 <sup>6</sup> (576p50), 1280 x 720 <sup>5</sup> (720p50), 1280 x 720 <sup>7</sup> (720p59), 1280 x 720 <sup>8</sup> (720p60), 1920 x 1080 <sup>6</sup> (1080i50), 1920x1080 <sup>7</sup> (1080i59), 1920 x 1080 <sup>8</sup> (1080i60), 1920 x 1080 <sup>1</sup> (1080p23), 1920 x 1080 <sup>2</sup> (1080p24), 1920x1080 <sup>3</sup> (1080p25), 1920 x 1080 <sup>4</sup> (1080p29), 1920 x 1080 <sup>5</sup> (1080p30), 1920 x 1080 <sup>6</sup> (1080p50), 1920x1080 <sup>7</sup> (1080p59), 1920x1080 <sup>8</sup> (1080p60), 1920 x 1080 <sup>10</sup> , 2560 x 1440 <sup>9</sup> , 3840 x 2160 <sup>1</sup> (2160p23), 3840 x 2160 <sup>2</sup> (2160p24), 3840 x 2160 <sup>4</sup> (2160p25), 3840 x 2160 <sup>4</sup> (2160p29), 3840 x 2160 <sup>5</sup> (2160p30), 3840 x 2160 <sup>6</sup> (2160p60), 4096 x 2160 <sup>5</sup> , 4096 x 2160 <sup>8</sup>	
	1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz, 10 = 120 Hz	
<b>OUTPUT CONNECTORS</b>	MCX-S7-ENC: (1) RJ-45 10GBASE-T; MCX-S7-FO-ENC: (1) SFP+	MCX-S7-DEC, MCX-S7-FO-DEC: (1) HDMI 2.0
<b>SUPPORTED OUTPUT</b>	640 x 480 <sup>8</sup> , 800 x 600 <sup>8</sup> , 1024 x 768 <sup>8</sup> , 1280 x 1024 <sup>8</sup> , 1360 x 768 <sup>8</sup> , 1440 x 900 <sup>8</sup> , 1440 x 1050 <sup>8</sup> , 1600 x 1200 <sup>8</sup> , 720 x 480 <sup>7</sup> (480i59), 720 x 480 <sup>7</sup> (480p59), 720 x 576 <sup>6</sup> (576i50), 720 x 576 <sup>6</sup> (576p50), 1280 x 720 <sup>5</sup> (720p50), 1280 x 720 <sup>7</sup> (720p59), 1280 x 720 <sup>8</sup> (720p60), 1920 x 1080 <sup>6</sup> (1080i50), 1920x1080 <sup>7</sup> (1080i59), 1920 x 1080 <sup>8</sup> (1080i60), 1920 x 1080 <sup>1</sup> (1080p23), 1920 x 1080 <sup>2</sup> (1080p24), 1920x1080 <sup>3</sup> (1080p25), 1920 x 1080 <sup>4</sup> (1080p29), 1920 x 1080 <sup>5</sup> (1080p30), 1920 x 1080 <sup>6</sup> (1080p50), 1920x1080 <sup>7</sup> (1080p59), 1920x1080 <sup>8</sup> (1080p60), 1920 x 1080 <sup>10</sup> , 2560 x 1440 <sup>9</sup> , 3840 x 2160 <sup>1</sup> (2160p23), 3840 x 2160 <sup>2</sup> (2160p24), 3840 x 2160 <sup>4</sup> (2160p25), 3840 x 2160 <sup>4</sup> (2160p29), 3840 x 2160 <sup>5</sup> (2160p30), 3840 x 2160 <sup>6</sup> (2160p60), 4096 x 2160 <sup>5</sup> , 4096 x 2160 <sup>8</sup>	
	1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz, 10 = 120 Hz	
<b>AUDIO</b>		
<b>INPUT CONNECTORS</b>	MCX-S7-ENC, MCX-S7-FO-ENC: (1) HDMI, (1) 3.5-mm jack	None
<b>SUPPORTED INPUT</b>	HDMI: LPCM, 2.0/5.1/7.1 channel, 44.1/48/96/192 kHz Dolby True HD, up to 7.1, 192 kHz DTS-HD Master, up to 7.1, 192 kHz Dolby Digital AC-3 (DVD format) DTS version 1 (DVD format); 3.5 mm jack: Unbalanced stereo audio	None



# SPECIFICATIONS

## MCX S7 NETWORK AV VIDEO ENCODERS AND DECODERS

S7 SERIES SPECIFICATIONS (MCX-S7-ENC, MCX-S7-DEC, MCX-S7-FO-ENC, MCX-S7-FO-DEC) (CONTINUED)		
MODEL	ENCODER	DECODER
<b>AUDIO (CONTINUED)</b>		
<b>OUTPUT CONNECTORS</b>	None	MCX-S7-DEC, MCX-S7-FO-DEC: (1) HDMI 2.0, (1) 3.5-mm jack
<b>SUPPORTED OUTPUT</b>	None	HDMI: LPCM, 2.0/5.1/7.1 channel, 44.1/48/96/192 kHz Dolby True HD, up to 7.1, 192 kHz DTS-HD Master, up to 7.1, 192 kHz Dolby Digital AC-3 (DVD format) DTS version 1 (DVD format); 3.5 mm jack: Unbalanced stereo audio
<b>CONTROL</b>		
<b>IR INPUT</b>	(1) 3.5 mm jack connector, connects to an IR receiver for IR communication with an IR transmitter connecting to another device.	
<b>IR OUTPUT</b>	(1) 3.5 mm jack connector, connects to an IR transmitter for IR communication with an IR receiver connecting to another device.	
<b>CONTROL CONNECTORS</b>	(1) 3.5mm 4-pin phoenix connector: for RS-232 communication; (1) RJ-45, 10/100/1000BASE-T Ethernet port	
<b>CONTROL METHOD</b>	Ethernet: PC software: for configuring, controlling and upgrading Web browser: for controlling API set: for integrating with the 3rd party control system RS-232: PC software: for testing and upgrading the device itself Common RS-232 device: for bi-directional communication with an RS-232 device connected to another device	
<b>GENERAL</b>		
<b>OPERATING TEMPERATURE</b>	32 to 104° F (0 to 40° C)	32 to 104° F (0 to 40° C)
<b>STORAGE TEMPERATURE</b>	-4 to +158° F (-20 to +70° C),	-4 to +158° F (-20 to +70° C),
<b>HUMIDITY</b>	10% to 90%, non-condensing	10% to 90%, non-condensing
<b>PRODUCT WEIGHT</b>	3.35 lb. (1.52 kg)	3.35 lb. (1.52 kg)
<b>POWER SUPPLY</b>	12 VDC	12 VDC
<b>TRANSPORT DISTANCE</b>	MCX-S7-ENC: 98.4 ft. (30 m) with CAT6 cable, 328 ft. (100 m) with CAT6a or CAT7 cable MCX-S7-FO-ENC: Depends on SFP+ installed	MCX-S7-DEC: 98.4 ft. (30 m) with CAT6 cable, 328 ft. (100 m) with CAT6a or CAT7 cable MCX-S7-FO-DEC: Depends on SFP+ installed
<b>DIMENSIONS</b>	0.98" H x 6.3" W x 6.7" D (2.5 x 16 x 17.2 cm)	0.98" H x 6.3" W x 6.7" D (2.5 x 16 x 17.2 cm)
<b>ESD PROTECTION</b>	Human-body Model: ±8 kV (Air-gap discharge)/±4 kV (Contact discharge)	



# SPECIFICATIONS

## MCX S9 NETWORK AV VIDEO ENCODERS AND DECODERS



### WHAT'S INCLUDED WITH THE ENCODERS

- (1) S9 ENCODER
- (1) 12-VDC, 3-A POWER ADAPTER (WITH US/UK/EU/AU CORD)
- (1) 3.5-MM, 4-PIN PHOENIX CONNECTOR
- (1) IR EMITTER
- (2) MOUNTING EARS (WITH SCREWS)

### WHAT'S INCLUDED WITH THE DECODERS

- (1) S9 DECODER
- (1) 12-VDC, 3-A POWER ADAPTER (WITH US/UK/EU/AU CORD)
- (1) 3.5-MM, 4-PIN PHOENIX CONNECTOR
- (1) IR WIDEBAND RECEIVER (30 TO 50 KHZ)
- (2) MOUNTING EARS (WITH SCREWS)

### S9 SERIES SPECIFICATIONS (MCX-S9-ENC, MCX-S9-DEC, MCX-S9D-ENC)

MODEL	ENCODER	DECODER
<b>VIDEO</b>		
<b>INPUT CONNECTORS</b>	(1) HDMI 2.0, (1) DisplayPort 1.2a	(1) RJ-45 10GBASE-T, (1) SFP+
<b>SUPPORTED INPUT</b>	640 x 480 <sup>8</sup> , 800 x 600 <sup>8</sup> , 1024 x 768 <sup>8</sup> , 1280 x 1024 <sup>8</sup> , 1360 x 768 <sup>8</sup> , 1440 x 900 <sup>8</sup> , 1440 x 1050 <sup>8</sup> , 1600 x 1200 <sup>8</sup> , 720 x 480 <sup>7</sup> (480i59), 720 x 480 <sup>7</sup> (480p59), 720 x 576 <sup>6</sup> (576i50), 720 x 576 <sup>6</sup> (576p50), 1280 x 720 <sup>5</sup> (720p50), 1280 x 720 <sup>7</sup> (720p59), 1280 x 720 <sup>8</sup> (720p60), 1920 x 1080 <sup>4</sup> (1080i50), 1920x1080 <sup>7</sup> (1080i59), 1920 x 1080 <sup>8</sup> (1080i60), 1920 x 1080 <sup>1</sup> (1080p23), 1920 x 1080 <sup>2</sup> (1080p24), 1920x1080 <sup>3</sup> (1080p25), 1920 x 1080 <sup>4</sup> (1080p29), 1920 x 1080 <sup>5</sup> (1080p30), 1920 x 1080 <sup>6</sup> (1080p50), 1920x1080 <sup>7</sup> (1080p59), 1920x1080 <sup>8</sup> (1080p60), 1920 x 1080 <sup>10</sup> , 2560 x 1440 <sup>8</sup> , 3840 x 2160 <sup>1</sup> (2160p23), 3840 x 2160 <sup>2</sup> (2160p24), 3840 x 2160 <sup>4</sup> (2160p25), 3840 x 2160 <sup>4</sup> (2160p29), 3840 x 2160 <sup>5</sup> (2160p30), 3840 x 2160 <sup>5</sup> (2160p60), 4096 x 2160 <sup>5</sup> , 4096 x 2160 <sup>8</sup>	
	1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz, 10 = 120 Hz	
<b>OUTPUT CONNECTORS</b>	(1) RJ-45 10GBASE-T, (1) SFP+	(1) HDMI 2.0
<b>SUPPORTED OUTPUT</b>	640 x 480 <sup>8</sup> , 800 x 600 <sup>8</sup> , 1024 x 768 <sup>8</sup> , 1280 x 1024 <sup>8</sup> , 1360 x 768 <sup>8</sup> , 1440 x 900 <sup>8</sup> , 1440 x 1050 <sup>8</sup> , 1600 x 1200 <sup>8</sup> , 720 x 480 <sup>7</sup> (480i59), 720 x 480 <sup>7</sup> (480p59), 720 x 576 <sup>6</sup> (576i50), 720 x 576 <sup>6</sup> (576p50), 1280 x 720 <sup>5</sup> (720p50), 1280 x 720 <sup>7</sup> (720p59), 1280 x 720 <sup>8</sup> (720p60), 1920 x 1080 <sup>4</sup> (1080i50), 1920x1080 <sup>7</sup> (1080i59), 1920 x 1080 <sup>8</sup> (1080i60), 1920 x 1080 <sup>1</sup> (1080p23), 1920 x 1080 <sup>2</sup> (1080p24), 1920x1080 <sup>3</sup> (1080p25), 1920 x 1080 <sup>4</sup> (1080p29), 1920 x 1080 <sup>5</sup> (1080p30), 1920 x 1080 <sup>6</sup> (1080p50), 1920x1080 <sup>7</sup> (1080p59), 1920x1080 <sup>8</sup> (1080p60), 1920 x 1080 <sup>10</sup> , 2560 x 1440 <sup>8</sup> , 3840 x 2160 <sup>1</sup> (2160p23), 3840 x 2160 <sup>2</sup> (2160p24), 3840 x 2160 <sup>4</sup> (2160p25), 3840 x 2160 <sup>4</sup> (2160p29), 3840 x 2160 <sup>5</sup> (2160p30), 3840 x 2160 <sup>5</sup> (2160p60), 4096 x 2160 <sup>5</sup> , 4096 x 2160 <sup>8</sup>	
	1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz, 10 = 120 Hz	
<b>AUDIO</b>		
<b>INPUT CONNECTORS</b>	(1) HDMI, (1) DisplayPort 1.2a, (1) 3.5-mm jack	None
<b>SUPPORTED INPUT</b>	HDMI/DP: LPCM, 2.0/5.1/7.1 channel, 44.1/48/96/192 kHz Dolby True HD, up to 7.1, 192 kHz DTS-HD Master, up to 7.1, 192 kHz Dolby Digital AC-3 (DVD format) DTS version 1 (DVD format); 3.5 mm jack: Unbalanced stereo audio	None



# SPECIFICATIONS

## MCX S9 NETWORK AV VIDEO ENCODERS AND DECODERS

S9 SERIES SPECIFICATIONS (MCX-S9-ENC, MCX-S9-DEC, MCX-S9D-ENC) (CONTINUED)		
MODEL	ENCODER	DECODER
<b>AUDIO (CONTINUED)</b>		
<b>OUTPUT CONNECTORS</b>	None	(1) HDMI 2.0, (1) 3.5-mm jack
<b>SUPPORTED OUTPUT</b>	None	HDMI: LPCM, 2.0/5.1/7.1 channel, 44.1/48/96/192 kHz Dolby True HD, up to 7.1, 192 kHz DTS-HD Master, up to 7.1, 192 kHz Dolby Digital AC-3 (DVD format) DTS version 1 (DVD format); 3.5 mm jack: Unbalanced stereo audio
<b>USB</b>		
<b>CONNECTORS</b>	(1) USB Type B	(2) USB Type A
<b>CONTROL</b>		
<b>IR INPUT</b>	(1) 3.5 mm jack connector, connects to an IR receiver for IR communication with an IR transmitter connecting to another device.	
<b>IR OUTPUT</b>	(1) 3.5 mm jack connector, connects to an IR transmitter for IR communication with an IR receiver connecting to another device.	
<b>CONTROL CONNECTORS</b>	(1) 3.5-mm 4-pin Phoenix connector for RS-232 communication; (1) RJ-45 10/100/1000BASE-T Ethernet port	
<b>CONTROL METHOD</b>	Ethernet: PC software: for configuring, controlling and upgrading Web browser: for controlling API set: for integrating with the 3rd party control system RS-232: PC software: for testing and upgrading the device itself Common RS-232 device: for bi-directional communication with an RS-232 device connected to another device	
<b>GENERAL</b>		
<b>OPERATING TEMPERATURE</b>	32 to 104° F (0 to 40° C)	32 to 104° F (0 to 40° C)
<b>STORAGE TEMPERATURE</b>	-4 to +158° F (-20 to +70° C),	-4 to +158° F (-20 to +70° C),
<b>HUMIDITY</b>	10% to 90%, non-condensing	10% to 90%, non-condensing
<b>PRODUCT WEIGHT</b>	3.31 lb. (1.50 kg)	3.31 lb. (1.50 kg)
<b>POWER SUPPLY</b>	12 VDC	12 VDC
<b>TRANSPORT DISTANCE</b>	Twisted-Pair: 98.4 ft. (30 m) with CAT6 cable, 328 ft. (100 m) with CAT6a or CAT7 cable; Fiber: Depends on SFP+ installed	Twisted-Pair: 98.4 ft. (30 m) with CAT6 cable, 328 ft. (100 m) with CAT6a or CAT7 cable; Fiber: Depends on SFP+ installed
<b>DIMENSIONS</b>	MCX-S9-ENC, MCX-S9D-ENC: Including brackets: 1.8" H x 10.4" W x 5.5" D (4.5 x 23 x 13.9 cm) Without brackets: 1.4" H x 9.1" W x 5.5" D (3.5 x 23 x 13.9 cm)	MCX-S9-DEC: Including brackets: 1.8" H x 10.4" W x 5.5" D (4.5 x 23 x 13.9 cm) Without brackets: 1.4" H x 9.1" W x 5.5" D (3.5 x 23 x 13.9 cm)
<b>ESD PROTECTION</b>	Human-body Model: ±8 kV (Air-gap discharge)/±4 kV (Contact discharge)	



# SPECIFICATIONS

## MCX S9 COMPACT NETWORK AV VIDEO ENCODERS AND DECODERS

FRONT VIEW



MCX-S9C-ENC

BACK VIEW



MCX-S9C-ENC

FRONT VIEW



MCX-S9C-DEC

BACK VIEW



MCX-S9C-DEC

### WHAT'S INCLUDED WITH THE ENCODER

- (1) S9 COMPACT ENCODER
- (1) 12-VDC, 3-A POWER ADAPTER WITH US/UK/EU/AU CORD
- (1) PHOENIX PORT (MALE, 3.5-MM, 4 PINS)
- (1) IR EMITTER
- (2) MOUNTING EARS

### WHAT'S INCLUDED WITH THE DECODER

- (1) S9 COMPACT DECODER
- (1) 12-VDC, 3-A POWER ADAPTER WITH US/UK/EU/AU CORD
- (1) PHOENIX PORT (MALE, 3.5-MM, 4 PINS)
- (1) IR WIDEBAND RECEIVER (30 TO 50 KHZ)
- (2) MOUNTING EARS

### S9 COMPACT SERIES SPECIFICATIONS (MCX-S9C-ENC, MCX-S9C-DEC)

MODEL	ENCODER	DECODER
<b>VIDEO</b>		
<b>INPUT CONNECTORS</b>	(1) HDMI 2.0, (1) DisplayPort 1.2a	(1) RJ-45 10GBASE-T
<b>SUPPORTED INPUT</b>	640 x 480 <sup>8</sup> , 800 x 600 <sup>8</sup> , 1024 x 768 <sup>8</sup> , 1280 x 1024 <sup>8</sup> , 1360 x 768 <sup>8</sup> , 1440 x 900 <sup>8</sup> , 1440 x 1050 <sup>8</sup> , 1600 x 1200 <sup>8</sup> , 720 x 480 <sup>7</sup> (480i59), 720 x 480 <sup>7</sup> (480p59), 720 x 576 <sup>6</sup> (576i50), 720 x 576 <sup>6</sup> (576p50), 1280 x 720 <sup>5</sup> (720p50), 1280 x 720 <sup>7</sup> (720p59), 1280 x 720 <sup>8</sup> (720p60), 1920 x 1080 <sup>6</sup> (1080i50), 1920x1080 <sup>7</sup> (1080i59), 1920 x 1080 <sup>8</sup> (1080i60), 1920 x 1080 <sup>1</sup> (1080p23), 1920 x 1080 <sup>2</sup> (1080p24), 1920x1080 <sup>3</sup> (1080p25), 1920 x 1080 <sup>4</sup> (1080p29), 1920 x 1080 <sup>5</sup> (1080p30), 1920 x 1080 <sup>6</sup> (1080p50), 1920x1080 <sup>7</sup> (1080p59), 1920x1080 <sup>8</sup> (1080p60), 1920 x 1080 <sup>10</sup> , 2560 x 1440 <sup>8</sup> , 3840 x 2160 <sup>1</sup> (2160p23), 3840 x 2160 <sup>2</sup> (2160p24), 3840 x 2160 <sup>4</sup> (2160p25), 3840 x 2160 <sup>4</sup> (2160p29), 3840 x 2160 <sup>5</sup> (2160p30), 3840 x 2160 <sup>6</sup> (2160p60), 4096 x 2160 <sup>5</sup> , 4096 x 2160 <sup>8</sup>	
	1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz, 10 = 120 Hz	
<b>OUTPUT CONNECTORS</b>	(1) RJ-45 10GBASE-T	(1) HDMI 2.0
<b>SUPPORTED OUTPUT</b>	640 x 480 <sup>8</sup> , 800 x 600 <sup>8</sup> , 1024 x 768 <sup>8</sup> , 1280 x 1024 <sup>8</sup> , 1360 x 768 <sup>8</sup> , 1440 x 900 <sup>8</sup> , 1440 x 1050 <sup>8</sup> , 1600 x 1200 <sup>8</sup> , 720 x 480 <sup>7</sup> (480i59), 720 x 480 <sup>7</sup> (480p59), 720 x 576 <sup>6</sup> (576i50), 720 x 576 <sup>6</sup> (576p50), 1280 x 720 <sup>5</sup> (720p50), 1280 x 720 <sup>7</sup> (720p59), 1280 x 720 <sup>8</sup> (720p60), 1920 x 1080 <sup>6</sup> (1080i50), 1920x1080 <sup>7</sup> (1080i59), 1920 x 1080 <sup>8</sup> (1080i60), 1920 x 1080 <sup>1</sup> (1080p23), 1920 x 1080 <sup>2</sup> (1080p24), 1920x1080 <sup>3</sup> (1080p25), 1920 x 1080 <sup>4</sup> (1080p29), 1920 x 1080 <sup>5</sup> (1080p30), 1920 x 1080 <sup>6</sup> (1080p50), 1920x1080 <sup>7</sup> (1080p59), 1920x1080 <sup>8</sup> (1080p60), 1920 x 1080 <sup>10</sup> , 2560 x 1440 <sup>8</sup> , 3840 x 2160 <sup>1</sup> (2160p23), 3840 x 2160 <sup>2</sup> (2160p24), 3840 x 2160 <sup>4</sup> (2160p25), 3840 x 2160 <sup>4</sup> (2160p29), 3840 x 2160 <sup>5</sup> (2160p30), 3840 x 2160 <sup>6</sup> (2160p60), 4096 x 2160 <sup>5</sup> , 4096 x 2160 <sup>8</sup>	
	1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz, 10 = 120 Hz	
<b>AUDIO</b>		
<b>INPUT CONNECTORS</b>	(1) HDMI, (1) 3.5-mm jack	None
<b>SUPPORTED INPUT</b>	HDMI/DP: LPCM, 2.0/5.1/7.1 channel, 44.1/48/96/192 kHz Dolby True HD, up to 7.1, 192 kHz DTS-HD Master, up to 7.1, 192 kHz Dolby Digital AC-3 (DVD format) DTS version 1 (DVD format); 3.5 mm jack: Unbalanced stereo audio	None





# SPECIFICATIONS

## MCX S9 COMPACT NETWORK AV VIDEO ENCODERS AND DECODERS

S9 COMPACT SERIES SPECIFICATIONS (MCX-S9C-ENC, MCX-S9C-DEC) (CONTINUED)		
MODEL	ENCODER	DECODER
<b>AUDIO (CONTINUED)</b>		
<b>OUTPUT CONNECTORS</b>	None	(1) HDMI 2.0, (1) 3.5-mm jack
<b>SUPPORTED OUTPUT</b>	None	HDMI: LPCM, 2.0/5.1/7.1 channel, 44.1/48/96/192 kHz Dolby True HD, up to 7.1, 192 kHz DTS-HD Master, up to 7.1, 192 kHz Dolby Digital AC-3 (DVD format) DTS version 1 (DVD format); 3.5 mm jack: Unbalanced stereo audio
<b>CONTROL</b>		
<b>IR INPUT</b>	(1) 3.5 mm jack connector, connects to an IR receiver for IR communication with an IR transmitter connecting to another device.	
<b>IR OUTPUT</b>	(1) 3.5 mm jack connector, connects to an IR transmitter for IR communication with an IR receiver connecting to another device.	
<b>CONTROL CONNECTORS</b>	(1) 3.5-mm 4-pin Phoenix connector for RS-232 communication; (1) RJ-45, 10/100/1000BASE-T Ethernet port	
<b>CONTROL METHOD</b>	Ethernet: PC software: for configuring, controlling and upgrading Web browser: for controlling API set: for integrating with the 3rd party control system RS-232: PC software: for testing and upgrading the device itself Common RS-232 device: for bi-directional communication with an RS-232 device connected to another device	
<b>GENERAL</b>		
<b>OPERATING TEMPERATURE</b>	32 to 104° F (0 to 40° C)	32 to 104° F (0 to 40° C)
<b>STORAGE TEMPERATURE</b>	-4 to +158° F (-20 to +70° C),	-4 to +158° F (-20 to +70° C),
<b>HUMIDITY</b>	10% to 90%, non-condensing	10% to 90%, non-condensing
<b>PRODUCT WEIGHT</b>	3.31 lb. (1.50 kg)	3.31 lb. (1.50 kg)
<b>POWER SUPPLY</b>	12 VDC	12 VDC
<b>TRANSPORT DISTANCE</b>	98.4 ft. (30 m) with CAT6 cable, 328 ft. (100 m) with CAT6a or CAT7 cable	98.4 ft. (30 m) with CAT6 cable, 328 ft. (100 m) with CAT6a or CAT7 cable
<b>DIMENSIONS</b>	1.38" H x 8.27" W x 5.47" D (3.51 x 21.01 x 13.89 cm)	1.38" H x 8.27" W x 5.47"- D (3.51 x 21.01 x 13.89 cm)
<b>ESD PROTECTION</b>	Human-body Model: ±8 kV (Air-gap discharge)/±4 kV (Contact discharge)	



# SOFTWARE

## MCX GEN 2 CONTROLLER (MCX-G2-CTRL-24, -48, -120, -250,-500, -UL)

### OVERVIEW

The MCX Gen 2 controller is an all-in-on SDVoE/AVoIP network controller and manager with an easy to use, intuitive user interface. It has a number of advanced features and provides a extensive analytics for both end users and integrators. These are physical appliances (basically small computers) providing a software interface to manage all MCX encoders/decoders in a customer’s system. Choose from 24, 48, 120, 250, 500, or unlimited endpoints.

### FEATURES

- **SIMPLIFIED SETUP – EASY SETUP PROCEDURES WITH CSV IMPORT CAPABILITY TO ACCOMMODATE LARGE DEPLOYMENTS. ASSIGN ICONS TO BOTH SOURCE AND DISPLAY ENDPOINTS TO ASSIST IN IDENTIFICATION.**
- **-SYSTEM DESIGN TESTING – GRANULAR TESTING OF ALL ENCODER/DECODER FUNCTIONALITY INCLUDING ATTACHED IR OR RS-232 DEVICES. REBOOT AND RESET OPTIONS FOR INDIVIDUAL ENDPOINTS OR AS PART OF GROUP.**
- **-STATUS MONITORING – REAL TIME DATA ON ENCODER/DECODER OPERATIONS AS WELL AS INSIGHT INTO SOURCE AND DISPLAY OPERATION.**
- **-UPDATING – EXTENSIVE FIRMWARE MANAGEMENT, PROVIDING HIGH-LEVEL ADMIN ACCESS TO INDIVIDUAL OR GROUPS OF ENDPOINTS WITH FIRMWARE CLOUD MANAGED FILES.**
- **-SECURITY – INDIVIDUAL ENCRYPTED ENCODER/DECODER PAIRINGS FOR ADDED PROTECTION AGAINST UNAUTHORIZED CONTENT VIEWING. ADDITIONAL PERMISSION SETTINGS TO ALLOW OR DISALLOW CERTAIN ROUTING.**

- **EDID MANAGEMENT – FLEXIBLE EDID HANDLING WITH FULL REPORTING OF MONITOR INFO. EDID VALIDATION PROCESS ENSURES INTEGRITY OF INFORMATION.**
- **CONTROL UI – CREATE BROWSER BASED INTERFACES TO CONTROL YOUR PROJECTS ESSENTIAL FUNCTIONS WITH OUR “NO PROGRAMMING” APPROACH TO GUI DESIGN. CONTROL MATRIX, VIDEO WALL, AND MULTIVIEW FUNCTIONS AS WELL AS EXTERNAL DEVICES SUCH AS DISPLAYS AND MEDIA PLAYERS. YOU CAN ALSO CREATE NO TOUCH UIS WITH OUR PIN-CODED QR SYSTEM. THIS MAKES SETTING UP TOUCH PANELS AND CONTROL BOARDS SIMPLE AND COST-FREE.**
- **EVENTS – AUTOMATE ACTIONS LIKE TURNING ON DISPLAYS UPON SOURCE DETECTION OR INITIATING ROOM OFF PROCEDURES AFTER SOURCE DISCONNECTION. COMBINE WITH MULTIPLE ENCODERS TO CREATE A PRIORITY AUTO SWITCHING SYSTEM.**
- **SCHEDULER – SCHEDULE ANY NUMBER OF PRESET COMMANDS FOR UNATTENDED OPERATION. FROM ENSURING ALL DISPLAYS ARE TURNED OFF AT END OF DAY, TO CHANGING SOURCE CONTENT ON THE LOBBY VIDEO WALL, THE POSSIBILITIES ARE ENDLESS.**
- **AUDIT – ASSET TRACKING OF DEVICES THROUGHOUT ITS LIFECYCLE. THE MCX GEN 2 CONTROLLER LOGS FULL HISTORY OF EVERY DEVICE IT MANAGES, REGARDLESS OF THE LENGTH OF SERVICE.**
- **SLA ADHERENCE – TIME STAMPED LOGGING OF DEVICES TO MEET SYSTEM INTEGRATOR SLA COMMITMENTS. CREATE REPORTS THAT SHOW WHEN AND HOW LONG DEVICES WERE OUT OF SERVICE.**
- **ANALYTICS – BETTER UNDERSTAND AV BEHAVIOR BY STUDYING USER AV INTERACTIONS. CREATE REPORTS TO SHOW WHEN AV WAS USED, HOW LONG, AND EVEN HOW LONG IT TOOK TO START AV IN ANY MEETING.**

