

MVX Series

VGA AND STEREO AUDIO
MATRIX SWITCHERS

- Five models in 4x4, 4x8, 8x4, 8x8, and 12x8 I/O sizes
- 300 MHz (-3 dB) RGB video bandwidth, fully loaded
- Inputs and outputs computer-video on 15-pin HD connectors
- Balanced and unbalanced audio outputs
- Audio input gain and attenuation
- Audio breakaway
- Global presets
- RS-232 serial control
- Compact, rack-mountable enclosure



MVX 88 VGA A



MVX 128 VGA A

The Extron MVX Series of VGA and Stereo Audio Matrix Switchers are economical solutions for applications that route computer-video with stereo audio. With wideband performance and convenient 15-pin HD connectors, MVX Series matrix switchers are ideal for applications such as conference rooms, classrooms, mobile and emergency operation centers, and video conference rooms.



Extron® Electronics

www.extron.com

DESCRIPTION

The Extron **MXV Series** Matrix Switchers are designed to route VGA-UXGA computer-video signals with stereo audio. Available in 4x4, 4x8, 8x4, 8x8, and 12x8 I/O sizes, the MXV Series offers wideband switching performance with the convenience of 15-pin HD connectors for all computer-video connections. MXV Series models from 4x4 to 8x8 accept unbalanced stereo audio on 3.5 mm stereo mini jacks, while the 12x8 size accepts either balanced or unbalanced stereo audio on captive screw connectors. All models output balanced or unbalanced stereo audio on captive screw connectors. Using pre-terminated cable assemblies, such as Extron's VGA with Audio Cables, eliminates crimping and makes installations faster and easier.

All MXV Series models are equipped with a full range of control capabilities, including a standard QS-FPC™ - QuickSwitch Front Panel Controller, which provides a discrete button for each input and output, allowing for simple, intuitive operation. In addition, all models are equipped with RS-232 serial control utilizing Extron's SIS™ - Simple Instruction Set command protocol. They can be remotely controlled with the optional Extron MKP 2000 or MKP 3000 X-Y remote control panels, or via a third party control system. An optional handheld IR remote control is also available for most models.

FEATURES

- **300 MHz (-3 dB) RGB video bandwidth, fully loaded** – Designed for routing most common high resolution computer-video rates without signal degradation. The MXV Series provides a minimum 300 MHz (-3 dB) of RGB video bandwidth at full performance capability when one input drives all outputs.
- **Audio input gain and attenuation** – Allows users to set the level of audio gain or attenuation for each audio input channel, eliminating noticeable differences when switching between sources.
- **Audio breakaway** – Provides the capability to break an audio signal away from its corresponding video signal, allowing the audio channels to be operated as a separate matrix switcher.
- **QS-FPC™ - QuickSwitch Front Panel Controller** – Provides a discrete button for each input and output, allowing for simple, intuitive operation.
- **View I/O mode** – Easily view which inputs and outputs are actively connected.
- **Global presets** – Frequently-used I/O configurations may be saved and recalled from the front panel or via serial control. This time-saving feature allows you to set up I/O configurations and store them in memory for future use.
- **RS-232 control port** – Using RS-232 serial commands, the MXV Series can be controlled and configured via the Extron Windows®-based control program, or integrated into third-party control systems. Extron products use the SIS - Simple Instruction Set command protocol, a set of basic ASCII code commands that allow for quick and easy programming. The serial port also makes it easy to install firmware updates.

FEATURES (Cont.)

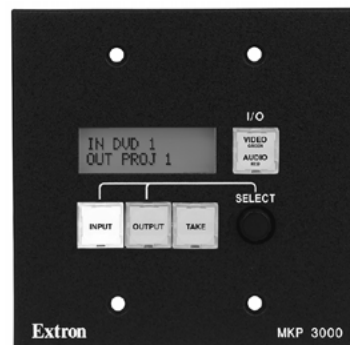
- **Control software** – Provides a graphical, drag-and-drop interface for I/O configuration and other customization functions via RS-232 remote control. This software also offers an emulation mode for configuration of an offsite matrix switcher; the I/O configuration may be saved for future downloading to the matrix switcher.
- **Front panel security lockout** – Prevents unauthorized use when the matrix switcher is installed in an unsecured environment where easy access is not desirable. In lock-out mode, a special button combination is required to operate the front panel.
- **Internal international power supply** – For worldwide compatibility, all models are equipped with an internal, autoswitching power supply that meets or exceeds all appropriate safety certifications.
- **Optional remote control** – Optional X/Y control panels, bus control panels, and keypads provide the flexibility to control an MXV Series matrix switcher from a remote location.

UNIQUE FEATURES FOR 4x4, 4x8, 8x4, 8x8 MODELS

- **Switchable audio output levels** – Output levels can be switched between +4 dBu professional and -10 dBv consumer levels, allowing a mix of professional- and consumer-level audio equipment.
- **Triple Action Switching™ RGB Delay** – Blanks the screen when switching to a new source. The new sync signals precede the RGB signals, so there is no glitch shown during the transition. The time delay between the RGB and sync signals is adjustable up to five seconds.
- **Optional IR 501 handheld IR remote control** – Provides remote control from up to 30 feet (9 meters) away.

UNIQUE FEATURES FOR MVX 128 VGA A

- **ADSP™ - Advanced Digital Sync Processing** – An exclusive, all-digital process that regenerates the sync signal waveform and restores incoming sync level to 5.0 V p-p specifications. This ensures a stable image for improved signal compatibility with any LCD, DLP, plasma, or other digital display device.
- **Audio output volume control** – Can be set dynamically for each channel through the front panel or serial control, eliminating the need for audio preamplifiers in many system designs.



MKP 3000
X-Y Remote Control Panel
with LCD Display



IR 501 Remote

VIDEO	
Gain	Unity
Bandwidth	300 MHz (-3 dB), fully loaded
Crosstalk	
MXV 44/48/84/88.....	<-60 dB nominal @10 MHz, <-39 dB@ 100 MHz
MXV 128.....	-80 dB@ 1MHz; -55 dB @ 10 MHz; -37 dB @ 100 MHz
Switching speed	
MXV 44/48/84/88.....	50 ns (max.)
MXV 128.....	200 ns (max.)

VIDEO INPUT	
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for R-Y and B-Y of component video, and for C of S-video
Min/max levels	0.3 V to 2.0Vp-p with no offset at unity gain
Impedance	75 ohms
Horizontal frequency	15 kHz to 145 kHz
Vertical frequency	30 Hz to 170 Hz
Return loss	<-40 dB @ 5 MHz
DC offset (max. allowable).....	1.5 V

VIDEO OUTPUT	
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video 0.7 Vp-p for RGB 0.3 Vp-p for R-Y and B-Y of component video, and for C of S-video
Min/max levels	0.3 V to 2.0Vp-p (follows input)
Impedance	75 ohms
Horizontal frequency	15 kHz to 145 kHz
Vertical frequency	30 Hz to 170 Hz
Return loss	<-40 dB @ 5 MHz
DC offset (max. allowable)	
MXV 44/48/84/88.....	<20 mV with input at 0 offset
MXV 128.....	±5 mV with input at 0 offset

SYNC	
Input type.....	RGBHV, RGBS, RGsB, RsGsBs
Output type.....	RGBHV, RGBS, RGsB, RsGsBs (follows input)
Standards	Computer scan rates NTSC 3.58, NTSC 4.43, PAL, SECAM
Input level	0.5 V to 5.0 Vp-p
Output level.....	AGC to TTL: 5.0 Vp-p, unterminated
Input impedance	510 ohms
Output impedance	75 ohms
Max. propagation delay	
MXV 44/48/84/88.....	H = 90ns nominal; V = 160ns nominal
MXV 128.....	30ns
Max rise / fall time.....	4ns
Polarity	Positive or negative (follows input)

AUDIO	
Gain	
MXV 44/48/84/88.....	Adjustable
MXV 128.....	Unbal. = -6 dB; Bal. = 0 dB
Frequency response	20 Hz to 20 kHz, ±0.2 dB
THD + Noise.....	0.05% @ 1kHz at nominal level
S/N	>90 dB at maximum output (unweighted)
Crosstalk	<-80 dB @ 1 kHz, fully loaded
Stereo channel separation	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz

AUDIO INPUT	
Impedance	
MXV 44/48/84/88.....	>18k ohms unbalanced, DC coupled
MXV 128.....	>10k ohms bal / unbal, DC coupled
Nominal level	
MXV 44/48/84/88.....	-10 dBV (default), +4 dBu
MXV 128.....	0 dBV, 0 dBu
Maximum level	
MXV 44/48/84/88.....	+12 dBV, (unbalanced) at 1%THD+N
MXV 128.....	+19.5 dBu, bal/unbal, at 0.01% THD+N
Input gain	
MXV 44/48/84/88.....	-18 dB to +10 dB, adjustable per input
MXV 128.....	-18 dB to +24 dB, adjustable per input

NOTE: 0 dBu = 0.775 V, 0 dBV = 1 V, 0 dBV ≈ 2 dBu.

AUDIO OUTPUT	
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain Error.....	±0.3 dB channel to channel
Nominal level	
MXV 44/48/84/88.....	+4 dBu (default), balanced, "Pro" -10 dBV, unbalanced, "Consumer"
MXV 128.....	0 to 64 (-98 dB to 0 dB) in 1 dB increments from steps 1 to 64, 35 dB increment from step 0 to 1
Maximum level	
MXV 44/48/84/88	
Hi-Z	>+22 dBu, balanced at 1%THD+N >+14 dBV, unbalanced at 1%THD+N
600 ohms	>+20 dBu, balanced at 1%THD+N >+12 dBV unbalanced at 1%THD+N
MXV 128	
Hi-Z.....	>-21 dBu, bal/unbal, at 0.01% THD+N
600 ohms	>+15 dBm, bal/unbal, at 0.01% THD+N

CONTROL/REMOTE – SWITCHER	
Serial control port	
MXV 44/48/84/88.....	1 RS-232, 9-pin female D connector
MXV 128.....	1 RS-232 or RS-422, 9-pin female D connector
Baud rate and protocol	
MXV 44/48/84/88.....	9600 baud, 8-bit, 1 stop bit, no parity
MXV 128.....	9600-115200 baud, 8-bit, 1 stop bit, no parity
Control pin configurations	
MXV 44/48/84/88.....	2=TX, 3=RX, 5=GND, 9=hardwired IR input
MXV 128.....	RS-232: 2=TX, 3=RX, 5=GND RS-422: 2=TX-, 3=RX-, 5=GND, 7=Rx+, 8=Tx+
IR controller module	
MXV 44/48/84/88.....	IR 501 (optional handheld IR remote control)
Program control	Extron's control/configuration program for Windows®; Extron's Simple Instruction Set (SIS™)

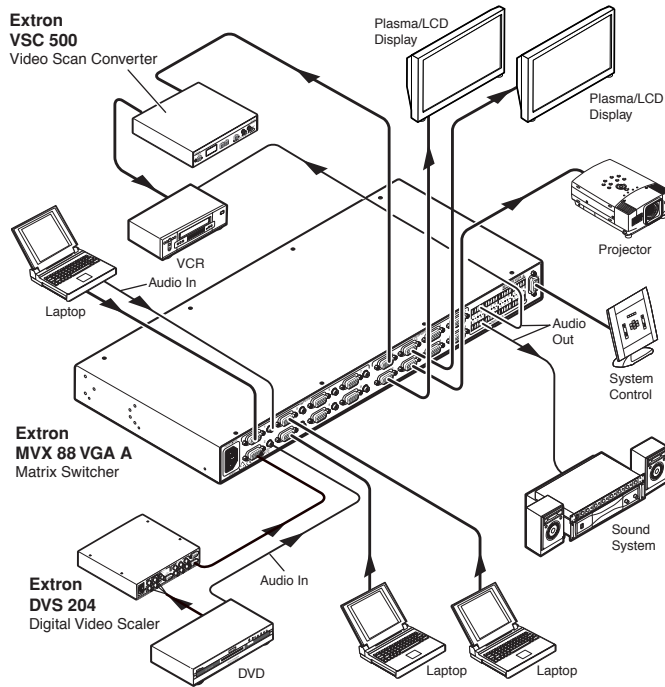
GENERAL	
Power	100 VAC to 240 VAC, 50/60 Hz, 30 watts, internal, autoswitchable
Rack mount	Yes, with included brackets
Enclosure type	Metal
Enclosure dimensions	
MXV 44/48/84/88.....	1.75" H x 17.4" W x 8.5" D (1U high, full rack wide) 4.4 cm H x 44.2 cm W x 21.6 cm D (Depth excludes connectors and knobs. Width excludes rack ears.)
MXV 128.....	3.5" H x 19.0" W x 9.4" D (2U high, full rack wide) 8.9 cm H x 48.3 cm W x 23.9 cm D (Depth excludes connectors and knobs. Width excludes rack ears.)
Product weight	
MXV 44/48/84/88.....	7.0 lbs (3.2 kg)
MXV 128.....	21 lbs (10 kg)
Shipping weight	
MXV 44/48/84/88.....	10 lbs (5 kg)
MXV 128.....	25 lbs (12 kg)
Listings	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF.....	30,000 hours
Warranty.....	3 years parts and labor

All nominal levels are at ±10%

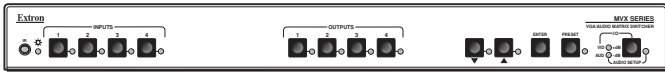
Model	Description	Part Number
MXV 44 VGA A	4x4 VGA and Stereo Audio.....	60-635-21
MXV 48 VGA A	4x8 VGA and Stereo Audio.....	60-636-21
MXV 84 VGA A	8x4 VGA and Stereo Audio.....	60-637-21
MXV 88 VGA A	8x8 VGA and Stereo Audio.....	60-638-21
MXV 128 VGA A	12x8 VGA and Stereo Audio.....	60-799-01

Optional Accessories		
IR 501	Handheld IR Remote Control.....	70-336-01
MKP 3000	X-Y Remote Control Panel.....	60-708-0X

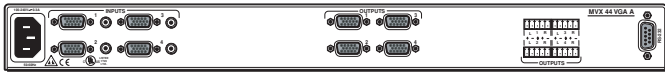
APPLICATION DIAGRAM



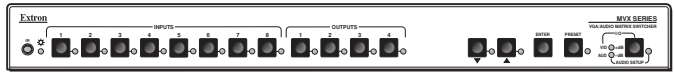
PANEL DRAWINGS



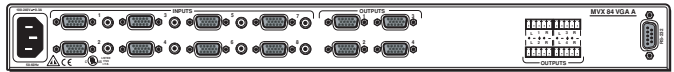
MVX 44 VGA A - Front



MVX 44 VGA A - Back



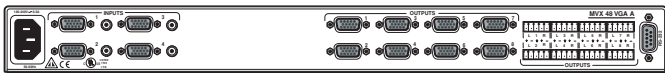
MVX 84 VGA A - Front



MVX 84 VGA A - Back



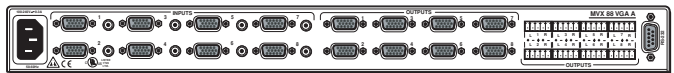
MVX 48 VGA A - Front



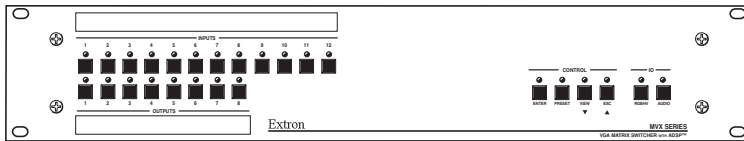
MVX 48 VGA A - Back



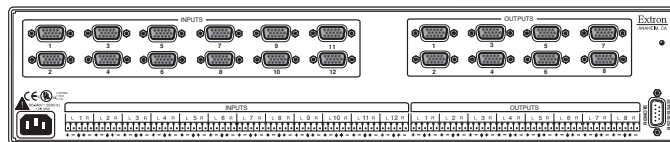
MVX 88 VGA A - Front



MVX 88 VGA A - Back



MVX 128 VGA A - Front



MVX 128 VGA A - Back



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