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MPX 866 A

MEDIA PRESENTATION MATRIX SWITCHER

- Three Matrix Switchers in one enclosure:
  - 8x6 matrix switcher for VGA
  - 6x6 matrix switcher for composite video and S-video
  - 14x6 matrix switcher for audio
- 300 MHz (-3 dB) RGB video bandwidth, fully loaded for VGA
- 150 MHz (-3 dB) video bandwidth for composite video and S-video
- Composite video and S-video transcoding
- High quality digital decoder with time base stabilization
- Quad standard compatible
- 32 global presets
- Audio input gain and attenuation
- Audio output volume control
- IP Link® Ethernet monitoring and control
- Two RS-232 control ports
- Front panel configuration port
- Compact 2U enclosure

The MPX 866 A media presentation matrix combines three switchers in one box: an 8x6 VGA switcher; a 6x6 composite video and S-video switcher; and a 14x6 audio switcher. The MPX 866 A is ideal for divisible room applications in colleges, universities, hotels, and conference centers.

DESCRIPTION

The **MPX 866 A** is a media presentation matrix switcher that combines three switchers in a single, compact enclosure: an 8x6 VGA switcher; a 6x6 composite video and S-video switcher; and a 14x6 audio switcher.

The MPX 866 A provides outputs to match the VGA, S-video, and composite video inputs found on many projectors. To simplify video signal routing, the MPX 866 A is capable of encoding S-video to composite video and decoding composite video to S-video.

The MPX 866 A provides an ideal, one-box solution for many presentation systems or divisible-room applications, where multiple displays or a variety of room configurations must be supported.

VGA Switcher
As an 8x6 VGA switcher, the MPX 866 A features 300 MHz (-3 dB) RGB video bandwidth, fully loaded. This ensures that the MPX 866 A delivers exceptionally high performance when routing high resolution computer-video. All inputs and outputs are on female 15-pin HD connectors. The VGA switcher is compatible with RGBHV, RGBS, RGsB, RsGsBs, and component analog video formats.

Composite Video and S-Video Switcher
The 6x6 video switcher integrated into the MPX 866 A offers 150 MHz (-3 dB) video bandwidth, fully loaded. All inputs and outputs are on female BNC connectors. Two inputs are configured for composite video only while four of the inputs can accept composite video or S-video.

When switching between video inputs, vertical interval switching is possible for smooth, seamless transitions between synchronous video sources. Two outputs are configured for encoding S-video to composite video while the other two outputs will decode composite video to S-video. The video switcher is compatible with NTSC 3.58, NTSC 4.43, PAL, and SECAM video standards.

Audio Switcher
The MPX 866 A also includes a 14x6 audio switcher, with all inputs and outputs on captive screw connectors. Audio can be switched independently from any video group. The MPX 866 A supports both audio follow video and audio breakaway modes. Full adjustment of both audio input gain and attenuation and audio output volume and muting is available via the front panel, RS-232, or IP Link.

All audio adjustments can be saved when the unit is shut down. When the switcher is powered back up, it recalls the last configuration and the saved audio settings are restored. The advanced audio capabilities of the MPX 866 A facilitate system integration by eliminating the need for separate audio preamplifiers in many system designs, which, in turn, contributes to an overall savings in equipment expense.

Front Panel and RS-232 Control Options
The MPX Plus 866 A is equipped with both primary and secondary RS-232 serial ports for divided room applications. An RS-232 configuration port is featured on the front panel of the MPX Plus 866 A to enable easy configuration without having to access the switcher's rear panel.

IP Link Ethernet Control
The MPX 866 A is equipped with Extron's IP Link, an intelligent network solution specifically engineered to meet the needs of professional A/V environments – from K-12 classrooms to large universities, businesses, and residential media systems.

FEATURES

- **300 MHz (-3 dB) RGB video bandwidth, fully loaded** – Designed for routing most common high resolution computer-video rates without signal degradation. The MPX 866 A provides a minimum 300 MHz (-3 dB) of RGB video bandwidth at full performance capability when one input drives all outputs.
- **150 MHz (-3 dB) video bandwidth, fully loaded** – Ensures switching and distribution of composite and S-video signals without degradation. The MPX 866 A provides a minimum 150 MHz (-3 dB) of video bandwidth at full performance capability when one input drives all outputs.
- **Video genlock (composite video and S-video only)** – Allows for vertical interval switching and enables smooth, seamless transitions when switching between synchronous video sources.
- **Bi-directional video transcoding** – Encodes S-video to composite video and decodes composite video to S-video.
- **High quality digital decoder with time base stabilization** – Broadcast-quality digital decoder eliminates jitter, dot crawl, and other decoding artifacts while also stabilizing and improving the video from older analog VCRs or worn videotapes. This feature applies to composite to S-video decoded signals only.
- **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 output volume control** – Can be set dynamically for each channel through the front panel, IP Link, or serial control, eliminating the need for audio preamplifiers in many system designs.
- **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.
- **Global presets** – Thirty-two global presets can be saved and recalled, with 26 presets accessible via the front panel. This time-saving feature allows you to set up I/O configurations and store them in memory for future use.
- **RS-232 front panel control port** – Using serial commands, the MPX 866 A 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.
- **IP Link Ethernet monitoring and control** – Engineered to meet the needs of professional A/V environments, IP Link enables the MPX 866 A to be proactively monitored and managed over a LAN, WAN, or the Internet, using standard TCP/IP protocols. IP Link provides for remote selection of input and output ties, adjustment and control of audio input and output levels, and advanced system diagnostics.
- **Front panel security lockout** – Prevents unauthorized use in non-secure environments.
- **Rack-mountable** – 2U, full rack width metal enclosure.
- **Internal international power supply** – Provides worldwide power compatibility.

VIDEO

Routing	
RGB/VGA	8 x 6 matrix
S-video/composite video	6 x 6 matrix
Gain	Unity
Bandwidth	
RGB/VGA	300 MHz (-3 dB), fully loaded
S-video/composite video	150 MHz (-3 dB), fully loaded
Differential phase error	1.0º at 3.58 MHz and 4.43 MHz
Differential gain error	1.0% at 3.58 MHz and 4.43 MHz
Crosstalk	
RGB/VGA	<-50 dB @ 10 MHz, <-30 dB @ 100 MHz
S-video/composite video	-50 dB @ 5 MHz
Switching speed	100 ms (max.)

VIDEO INPUT

Number/signal type	
RGB/VGA	8 VGA-UXGA RGBHV, RGBS, RGsB, RsGsBs
S-video/composite video	Up to 4 S-video and 2 composite video or 6 composite video
Nominal level	1 Vp-p for Y of S-video and for composite video 0.7 Vp-p for RGB 0.3 Vp-p for C of S-video
Minimum/maximum levels	
RGB/VGA	Analog: 0.3 V to 1.5 Vp-p with no offset
S-video/composite video	Analog: 0.5 V to 2.0 Vp-p with no offset
Impedance	75 ohms
Horizontal frequency (RGB)	15 kHz to 145 kHz
Vertical frequency (RGB)	30 Hz to 170 Hz
Return loss	
RGB/VGA	<-40 dB @ 5 MHz
S-video/composite video	<-30 dB @ 5 MHz
DC offset (max. allowable, S-video or composite video)	1.5 V
External sync (genlock, S-video or composite video)	0.3 V to 0.4 Vp-p

VIDEO OUTPUT

Number/signal type	
RGB/VGA	6 VGA-UXGA RGBHV, RGBS, RGsB, RsGsBs, (follows input type)
S-video/composite video	2 S-video, 2 S-video or composite video, and 2 composite video
Nominal level	1 Vp-p for Y of S-video and for composite 0.7 Vp-p for RGB 0.3 Vp-p for C of S-video
Minimum/maximum levels	
RGB/VGA	Analog: 0.3 V to 1.5 Vp-p with no offset
S-video/composite video	Analog: 0.0 V to 2.0 Vp-p with no offset
Impedance	75 ohms
Return loss	
RGB/VGA	-40 dB @ 5 MHz
S-video/composite video	-30 dB @ 5 MHz
DC offset	±5 mV with input at 0 offset
Switching type	
RGB/VGA	Triple-Action
S-video/composite video	Vertical interval

SYNC

Input type (VGA group)	RGBHV, RGBS, RGsB, RsGsBs
Output type (VGA group)	RGBHV, RGBS, RGsB, RsGsBs (follows input)
Genlock connector	1 BNC female (video input 1)
Standards	NTSC 3.58, NTSC 4.43, PAL, SECAM
Input level	1.9 V to 5.0 Vp-p
Output level	TTL: 5.0 Vp-p, unterminated for RGBHV, RGBS
Input impedance	510 ohms
Output impedance	75 ohms
Max input voltage	5.0 Vp-p
Max. propagation delay	30 ns
Max. rise/fall time	4 ns
Polarity	Positive or negative (follows input)

AUDIO

Routing	14 x 6 stereo matrix
Gain	Unbalanced output: -6 dB; balanced output: 0 dB
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD + Noise	0.03% @ 1 kHz, 0.3% @ 20 kHz at nominal
S/N	>90 dB, balanced, at maximum output (21 dBu) (unweighted)
Crosstalk	<-120 dB @ 1 kHz, fully loaded
Stereo channel separation	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz
Volume range	-98 dB to 0 dB (volume numbers 0 to 64 in 1.0 dB steps)

AUDIO INPUT

Number/signal type	14 stereo, balanced/unbalanced
Impedance	>25k ohms unbal., 50k ohms bal., DC coupled
Nominal level	-10 dBV (316 mVrms)
Maximum level	+20 dBu, (bal. or unbal.) at 1% THD+N
Input gain adjustment	–18 dB to +24 dB, adjustable per input by RS-232, Ethernet, or front panel

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AUDIO OUTPUT

Number/signal type	6 stereo, balanced/unbalanced
Connectors	(6) 3.5 mm captive screw connectors, 5 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±0.1 dB channel to channel
Maximum level (Hi-Z)	>+20 dBu, bal. or unbal. at 1% THD+N

CONTROL/REMOTE — SWITCHER

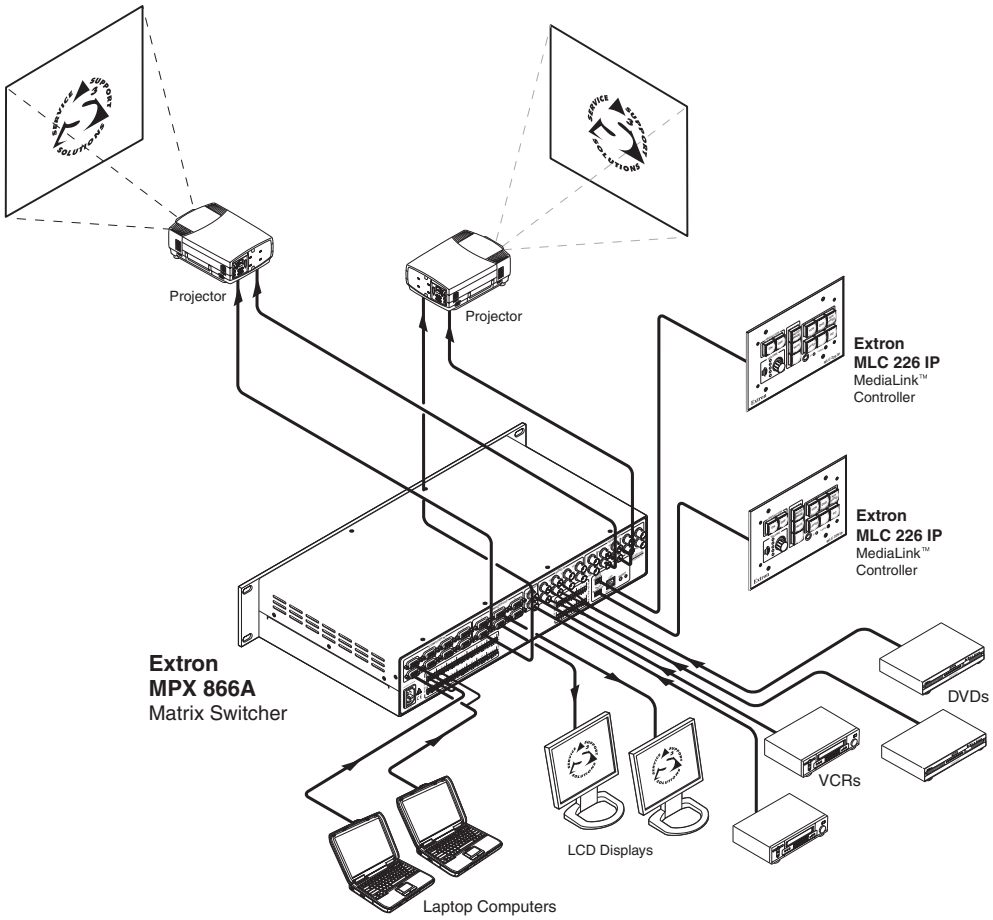
Serial host control port	(2) RS-232: 2 rear panel 3.5 mm captive screw connectors, 3 pole; 1 front panel 2.5 mm stereo mini jack (in parallel with the rear panel secondary port)
Baud rate and protocol	9600 baud; 8 data bits, 1 stop bit, no parity
Serial control pin configurations	Captive screw: 1 = TX, 2 = RX, 3 = GND Mini jack: tip = TX, ring = RX, sleeve = GND
Ethernet host control port	1 RJ-45 female connector
Ethernet data rate	10/100Base-T, half/full duplex autodetect
Ethernet protocol	ARP, DHCP, ICMP (ping), TCP/IP, Telnet, HTTP, SMTP
Default settings	Link speed and duplex level = autodetected IP address = 192.168.254.254 Subnet mask = 255.255.0.0 Gateway = 0.0.0.0 DHCP = off
Web server	Up to 200 simultaneous sessions 1 MB nonvolatile user memory
Power	100 VAC to 240 VAC, 50/60 Hz, 15 watts
Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Rack mount	Yes
Enclosure type	Metal
Enclosure dimensions	3.5" H x 17.0" W x 9.4" D (2U high) 8.9 cm H x 43.2 cm W x 23.9 cm D
Product weight	15 lbs (6.8 kg)
Shipping weight	25 lbs (12 kg)
Vibration	ISTA 1A in carton
Listings	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF	30,000 hours
Warranty	3 years parts and labor

NOTE: All nominal levels are at ±10%.

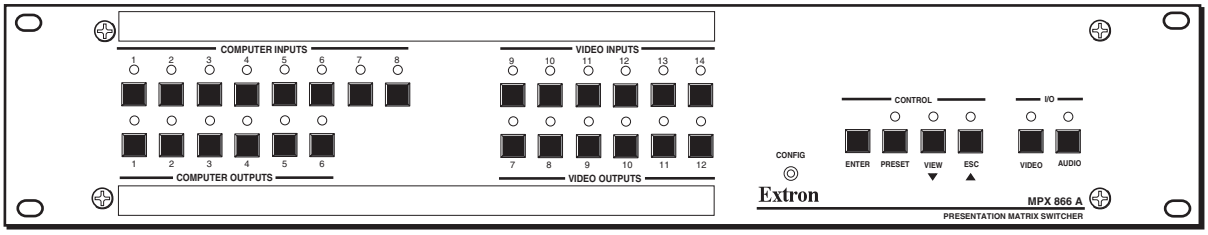
Model	Version Description	Part Number
MPX 866 A	Media Presentation Matrix	60-825-01

Specifications are subject to change without notice.

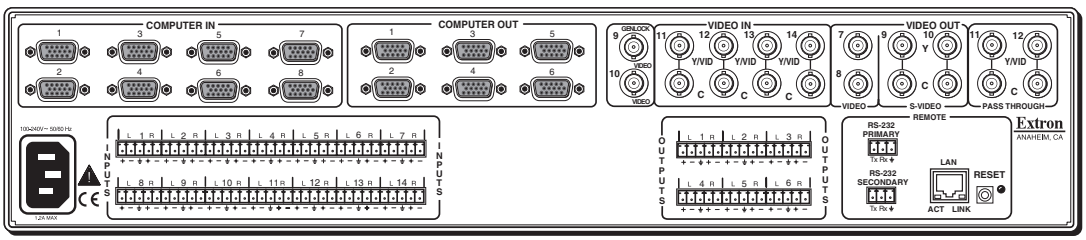
APPLICATION DIAGRAM



PANEL DRAWINGS



MPX 866 A - front



MPX 866 A - back

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