MPX 423 A

MEDIA PRESENTATION MATRIX SWITCHER

- Three matrix switchers in one enclosure:
    - 4x2 VGA and stereo audio switcher
    - 4x2 S-video and stereo audio switcher
    - 4x2 composite video and stereo audio switcher

- 350 MHz (-3 dB) RGB video bandwidth

- 150 MHz (-3 dB) video bandwidth

- Two operating modes: Single Switcher or Separate Switcher

- Digital Sync Validation Processing (DSVP™)

- RGB mute

- Input audio gain and attenuation

- Audio output volume control

- Audio breakaway

- RS-232 control

- IP Link™ Ethernet control

- Internal international power supply

The Extron MPX 423 A is a media presentation matrix switcher that combines three independent matrix switchers in a single, compact enclosure: a 4x2 VGA switcher, a 4x2 S-video switcher, and a 4x2 composite video switcher. It is ideal for a variety of applications including classrooms, training and conference facilities, and residential entertainment systems.

Extron® Electronics

DESCRIPTION

The Extron **MPX 423 A** Media Presentation Matrix Switcher is a cost-effective solution for expanding projector input capabilities, while providing an additional output for a second display used in a presentation or for preview monitoring. This compact, integrator-friendly matrix switcher is ideal for a variety of small-scale applications including classrooms, training and conference facilities, and sophisticated home theaters.

When switching the inputs of the MPX 423 A, the user can choose between the Single Switcher mode and Separate Switcher mode. Single Switcher mode turns the MPX 423 A into a single 12 input switcher that routes the signals of the input to the outputs of its group. Outputs of the other groups are muted, while the audio output is restricted to its own group. This is especially useful for feeding projectors or plasmas with auto switching capability.

In Separate Switcher mode, the MPX 423 A effectively becomes three switchers, enabling independent switching to the output of any given I/O group. The MPX 423 A also offers a 12x2 audio switcher that can access the audio of all three video groups. Balanced and unbalanced audio inputs and outputs are provided on convenient captive screw connectors.

Control of the MPX 423 A is provided via the front panel, RS-232, or IP Link™ ethernet control. Housed in a 1U, full rack width metal enclosure, the MPX 423 A can be easily mounted into any rack or podium, or under a desk.
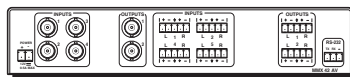
Three Matrix Switchers in One

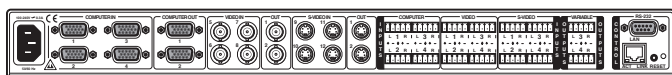| MPX 423 A	Video Signal Type	Video Connectors	Inputs	Ouputs
1	VGA	15-pin HD	4	2
2	S-Video	4-pin mini DIN	4	2
3	Composite Video	BNC	4	2
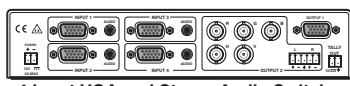
4 Input VGA and Stereo Audio Switcher

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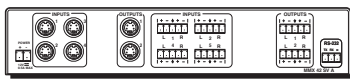
4 Input S-video and Stereo Audio Switcher

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4 Input Composite Video and Stereo Audio Switcher

**↓**

MPX 423 A

FEATURES

- **Bandwidth** – The MPX 423 A provides a minimum of 350 MHz (-3dB) RGB video bandwidth for high resolution computer-video sources, and 150 MHz (-3dB) of video bandwidth for composite-video and S-video sources. This maintains signal integrity and ensures switching and distribution of video signals without degradation.

- **Single Switcher mode** – Allows one-touch switching. When one of the 12 inputs is accessed, the signals of the input will be routed to the outputs of its group. Outputs of the other groups are muted, while audio output is restricted to its own group.

- **Separate Switcher mode** – Allows independent switching to the output of any given I/O group. This effectively divides the MPX 423 A into three separate switchers.

- **RGB Mute** – Allows the user to mute the video outputs, all at once or individually. The image is muted by removing the RGB signals, while leaving the sync signals active, allowing the image to be restored without any visible glitch or distortion.

- **Video genlock (for composite and S-video)** – Allows for vertical interval switching and enables smooth, seamless transitions when switching between synchronous video sources.

- **Digital Sync Validation Processing (DSVP™)** – Extron's exclusive DSVP verifies active sources by displaying horizontal and vertical scan rate information. This allows the monitoring of input signal status information, as well as the scan rate for the computer signal inputs.

- **Audio input gain and attenuation** – Allows users to set the level of gain or attenuation for each audio input channel, eliminating noticeable differences when switching between sources.

- **Speed-sensitive volume control** – Audio volume can be adjusted in 0.5 db or 2.5 dB increments, depending on how fast the volume adjustment knob is turned. This automatic sensitivity control allows the user to easily fine-tune the audio volume.

- **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.

- **RS-232 control** – Using RS-232 serial commands, the MPX 423 A can be controlled and configured via the Extron Windows®-based control program, or integrated into third-party control systems. Extron products use the Simple Instruction Set (SIS™) command protocol, a set of basic ASCII code commands that allow for quick and easy programming.

- **IP Link™** – Specifically engineered to meet the needs of professional A/V environments, IP Link-enabled products offer an integrated Web server with high performance architecture, global compatibility with industry standard Ethernet communication protocols, multi-user support, and a Web-based asset management application specifically designed to work with products that include IP Link technology.

- **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** – The autoswitchable, internal power supply provides worldwide power compatibility.

VIDEO

Routing.. (3) 4 x 2 matrix switchers
Gain .... Unity
Bandwidth
    RGB signals .... 350 MHz (-3 dB)
    S-video or composite video signals.... 150 MHz (-3 dB)
Differential phase error .... 1.0˚ at 3.58 MHz and 4.43 MHz
Differential gain error............................... 1.0% at 3.58 MHz and 4.43 MHz
Crosstalk (RGB signals)............................. <-50 dB @ 10 MHz, <-30 dB @ 100 MHz
Switching speed
    RGB signals' sync .... <5 ms (max.)
    RGB, S-video, composite video.......... 100 ms

VIDEO INPUT

Number/signal type
    RGB/VGA inputs................................ 4 RGBHV, RGBS, RGsB, RsGsBs, component video
    S-video inputs .... 4 S-video
    Composite video inputs .... 4 composite video
Connectors
    RGB/VGA inputs................................ 4 female 15-pin HD
    S-video inputs .... 4 female 4-pin mini DIN
    Composite video inputs .... 4 female BNC
Nominal level .... 1 V p-p for Y of component video and S-video,
    and for composite video 0.7 V p-p for RGB
    0.3 V p-p for R-Y and B-Y of component video,
    and for C of S-video
Minimum/maximum levels
    RGB/VGA inputs................................ Analog: 0.3 V to 1.5 V p-p with no offset
    S-video inputs .... Analog: 0.5 V to 2.0 V p-p with no offset
    Composite video inputs .... Analog: 0.5 V to 2.0 V p-p with no offset
Impedance .... 75 ohms
Horizontal frequency............................... 15 kHz to 145 kHz
Vertical frequency .... 30 Hz to 170 Hz
Return loss
    RGB/VGA inputs................................ <-40 dB @ 5 MHz
    S-video inputs .... <-30 dB @ 5 MHz
    Composite video inputs .... <-30 dB @ 5 MHz

VIDEO OUTPUT

Number/signal type
    RGB/VGA outputs .... 2 RGBHV, RGBS, RGsB, RsGsBs, component video
    S-video outputs................................. 2 S-video
    Composite video outputs.................. 2 composite video
Connectors
    RGB/VGA outputs .... 2 female 15-pin HD
    S-video outputs................................. 2 female 4-pin mini DIN
    Composite video outputs.................. 2 female BNC
Nominal level .... 1 V p-p for Y of component video and S-video,
    and for composite video 0.7 V p-p for
    RGB 0.3 V p-p for R-Y and B-Y of component
    video, and for C of S-video
Minimum/maximum levels
    RGB/VGA outputs .... 0.3 V to 1.5 V p-p
    S-video outputs................................. 0.4 V to 2.0 V p-p
    Composite video outputs.................. 0.4 V to 2.0 V p-p
Impedance .... 75 ohms
Return loss .... -40 dB @ 5 MHz
    RGB/VGA inputs................................ <-40 dB @ 5 MHz
    S-video inputs .... <-30 dB @ 5 MHz
    Composite video inputs .... <-30 dB @ 5 MHz
DC offset
    RGB/VGA outputs .... ±5 mV with input at 0 offset
    S-video outputs................................. 1.5 V with input at 0 offset
    Composite video outputs.................. 1.5 V with input at 0 offset
Switching type.. (S-video and/or composite video) Vertical interval

SYNC

Input type (RGB/VGA group) .... RGBHV, RGBS, RGsB, RsGsBs
Output type (RGB/VGA group) .... RGBHV, RGBS, RGsB, RsGsBs (follows input)
Standards .... NTSC 3.58, NTSC 4.43, PAL, SECAM
Input level... 1.9 V to 5.0 V p-p
Output level... TTL: 5.0 V p-p, unterminated
Input impedance .... 510 ohms
Output impedance .... 75 ohms

Max input voltage .... 5.0 V p-p
Max. propagation delay.......................... 30 ns
Max. rise/fall time .... 4.2 ns
Polarity .... Positive or negative (follows input)

AUDIO

Routing.. 12 x 2 stereo matrix switcher
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 level
S/N.. >90 dB, output 21 dBu, balanced, at maximum
    output (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 .... -100 dB to 0 dB (volume numbers 0 to 100
    in 0.5 dB steps)
NOTE: Attenuation = (volume number - 100).
    The default is -30 dB = volume number 70.

AUDIO INPUT

Number/signal type................................ 12 stereo, balanced/unbalanced
Connectors.. (12) 3.5 mm captive screw connectors, 5 pole
Impedance .... >25k ohms unbalanced, 50k ohms balanced,
    DC coupled
Nominal level .... -10 dBV (316 mVrms)
Maximum level....................................... +20 dBu, (balanced or unbalanced) at 1%THD+N
Input gain adjustment .... –12 dB to +12 dB, adjustable per input
NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AUDIO OUTPUT

Number/signal type................................ 2 stereo, balanced/unbalanced
Connectors.. (2) 3.5 mm captive screw connectors, 5 pole
Impedance .... 50 ohms unbal., 100 ohms bal.
Gain error .... ±0.1 dB channel to channel
Maximum level (Hi-Z)............................. >+20 dBu, balanced or unbalanced at 1%THD+N

CONTROL/REMOTE — SWITCHER

Serial control port .... RS-232, 9-pin female D connector
Baud rate and protocol .... 9600 baud (default), 8 data bits, 1 stop bit, no
    parity
Serial control pin configurations.............. 2 = TX, 3 = RX, 5 = GND
Ethernet control port .... 1 RJ-45 female connector
Ethernet data rate .... 10/100Base-T, half/full duplex with autodetect
Ethernet protocol................................... ARP, DHCP, ICMP (ping), TCP/IP, Telnet, HTTP
Program control .... Extron's control/configuration program for
    Windows® Extron's Simple Instruction Set –
    (SIS™) Microsoft® Internet Explorer, Netscape®
    Navigator®, Telnet

GENERAL

Power.. 100 VAC to 240 VAC, 50/60 Hz, 15 watts,
    internal, autoswitchable
Rack mount .... Yes, with included brackets, part #70-077-03.
    Also furniture mountable with optional Under-
    Desk Mounting Kit, part #70-222-01
Enclosure type .... Metal
Enclosure dimensions............................. 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 knob. Width
    excludes rack ears.)
Product weight....................................... 7.0 lbs (3.2 kg)
Shipping weight .... 10 lbs (5 kg)
DIM weight
    International .... 11 lbs (5 kg)
Listings .... UL, CUL
Compliances.. CE, FCC Class A, VCCI, AS/NZS, ICES
NOTE: All nominal levels are at ±10%

Model	Version Description	Part Number
MPX 423 A	Media Presentation	60-683-01

Specifications are subject to change without notice.

APPLICATION DIAGRAM
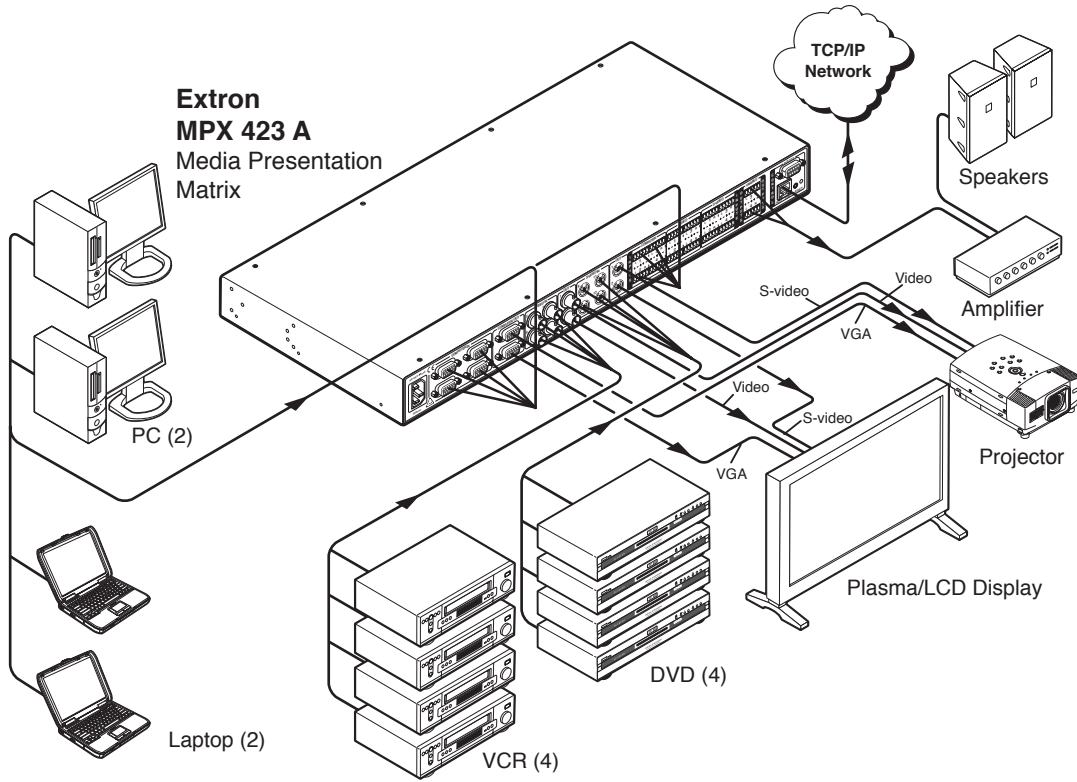
PANEL DRAWINGS
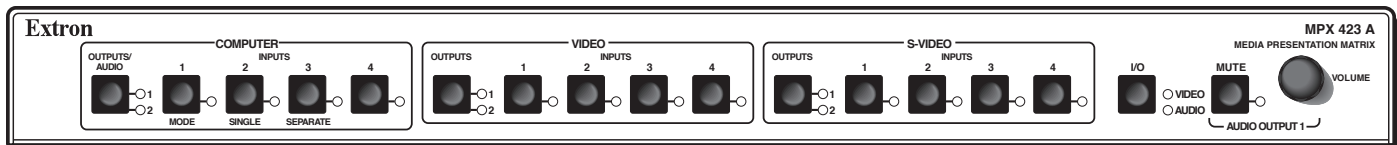
MPX 423 A - Front

MPX 423 A - Back

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REV. B