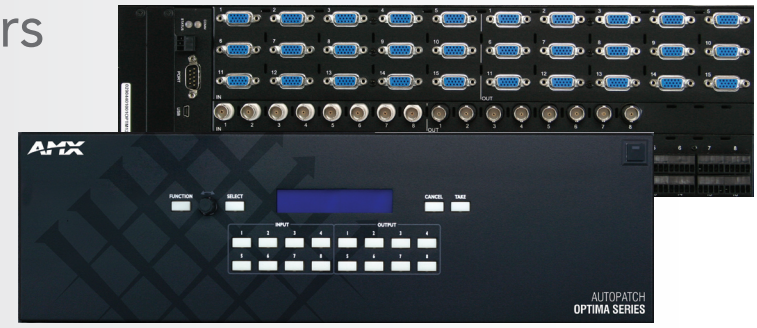
AutoPatch Matrix Switchers

Optima mix-and-match

analog / digital / CatPro

matrix switcher



This unique mix-and-match style matrix switcher has more than 50 board options. Simply choose the boards that fit your integration puzzle and populate the enclosure with any combinaton of boards.

CONSOLIDATE SPACE WHILE EXPANDING CONTROL

Eliminate multiple small matrix switchers with one Optima switching system and combine everything under a single control view. This allows ultimate routing flexibility, consolidates power consumption, saves rack space, uses a single RS-232 connection on your control master and much more.

SUPERIOR PERFORMANCE

Manage the signal distribution for an entire facility with a single routing system without sacrificing quality. The Optima maintains the Ultra-Flat bandpass and superior specifications AutoPatch is known for wheater the system has a single signal type or every available signal type.

- Ultra-Flat Response
- RS-232 control port; simple BCS serial control protocol
- Optional TCP/IP control via APWeb
- Choice of front panel control or blank front panel
- Standard volume control (analog audio)
- Vitrual Matrix technology allows endless possible breakaway and "signal follow signal" user de fined routing scenarios
- Groupings, macros, and global and local presets

BOARD OPTIONS*

4x2,4x4, 4x8
8x4, 8x8
16x16, 16x24
20x4, 20x20
24x4, 24x16
36x4

AVAILABLE SIGNAL TYPES*

Composite, S-video, Y/c
HDTV, Y/Pb/Pr, YUV
RGB, RGsB, RGBS, RGBHV
SD-SDI, HD-SDI, DVI
Mono audio, Stereo audio
S/PDIF, TosLink,
AES 75 Ω

RGBHV + Stereo (in) to CatPro (RJ-45) out

*The available I/O range for each signal type may vary. Please see the complete "Optima Configuration Guide on www.amx.com for a complete board list and simple mix-and-match configuration instructions.

GENERAL

AC Power:	100-240 VAC single phase, 50-60 Hz
Power Consumption (max):	125 Watts per loaded enclosure
Humidity:	0 to 90% non-condensing
Operational Temperature:	32° to 110° F (0 to 43° C)
Enclosure Dimensions:	12" (30.5 cm) depth 17.4" (44.2 cm) width without mounting ears 18.9" (48 cm) width with mounting ears
Height:	3.5" (8.9 cm) height 2 RU
Weight:	10 lbs (4.54 kg) per loaded enclosure 2 RU
Height:	5.2" (13.21 cm) height 3 RU
Weight:	12 lbs (5.44 kg) per loaded enclosure 3 RU
Approvals:	CE, UL, CUL

STANDARD AUDIO

Input Level (max):	+22 dBu, balanced
Input Impedance:	18 kΩ
Output Level (max):	+22 dBu, balanced
Output Impedance:	50 Ω
Frequency Response:	<+/-0.2 dB 20 Hz to 20 kHz
THD + Noise:	<0.03% (20 Hz to 20 kHz, Vin = -10 to +10 dBu), <0.01% (20 Hz to 20 kHz, Vin = 0 to +22 dBu)
Signal to Noise Ratio:	>120 dB (20 Hz to 20 kHz, Vin = +20 dBu)
Crosstalk:	<-110 dB (1 kHz, Vin = +20 dBu) Output Volume Control
Adjustment Range:	+10 dB to –70 dB (mute)
Connectors:	5T

DIGITAL AUDIO (S/PDIF & TosLink)

Resolution:	16 to 24 bit
Sample Rate:	32 kHz, 44.1 kHz, 48 kHz, 96 kHz
Rise & Fall Time:	<20 nS
Jitter:	<5 nS
Input Signal Amplitude:	0.2 Vpp to 2.5 Vpp terminated (S/PDIF)
Output Signal Amplitude:	0.4 Vpp to 1.0 Vpp terminated into 75 Ω (S/PDIF)
CDR (Reclocking):	Yes
Connectors:	S/PDIF (RCA) & TosLink (optical)

STANDARD VIDEO

Input Level (max):	+/-5 V (unterminated) +/-2.5 V (terminated)
Input Impedance:	75 Ω
Output Level (max):	+/-5 V (unterminated) +/-2.5 V (terminated)
Output Impedance:	75 Ω
Frequency Response:	50 MHz or better (+/-3dB) 15 MHz or better (+/-1 dB)
Crosstalk:	<-60 dB (f = 5 MHz)
Differential Gain:	<0.2% or better (f = 3.58 MHz)
Differential Phase:	<0.2° or better (f = 3.58 MHz)
Signal to Noise Ratio:	> 65 dB (Vin = 0.7 V, 100% IRE)
Connectors Options:	BNC, S-video

WIDEBAND VIDEO

Input Level (max):	+/-3 V (unterminated) +/-1.5 V (terminated)
Input Impedance:	75 Ω
Output Level (max):	+/-3 V (unterminated) +/-1.5 V (terminated)
Output Impedance:	75 Ω
Frequency Response:	300 MHz or better (+/-3 dB) 100 MHz or better (+/-1.5 dB)
Crosstalk:	<-60 dB (f = 5 MHz) <-35 dB (f = 150 MHz)
Signal to Noise Ratio:	> 65 dB (Vin = 0.7 V, 100% IRE)
Connector Options:	BNC, HD-15

DIGITAL VIDEO (SD-SDI/HD-SDI)

Standard (SD - SDI):	Conforms to SMPTE 259M
Standard (HD - SDI):	Conforms to SMPTE-259M & SMPTE-292M
Input Impedance:	75 Ω
Input Level (max):	0.8 Vpp, +/-10%
Output Impedance:	75 Ω
Output Level (max):	0.8 Vpp, +/-10%
Timing Jitter:	< 0.1 UI @ 360 Mbps (SD - SDI) < 0.1 UI @ 1.485 Gbps (HD - SDI)
Alignment Jitter:	< 0.1 UI @ 360 Mbps (SD - SDI) < 0.1 UI @ 1.485 Gbps (HD - SDI)
Rise and Fall Time:	600 ps, +/-100 ps
Rise and fall overshoot:	< 0.1%
Bit Rates (SD - SDI):	143 Mbps, 177 Mbps*, 270 Mbps, 360 Mbps, 540 Mbps* Data not available for 177 & 540 Mbps bit rate)
Bit Rates (HD - SDI):	143 Mbps, 177 Mbps*, 270 Mbps, 360 Mbps, 540 Mbps*, 1.485 Gbps (Data not available for 177 & 540 Mbps bit rate)
Data Type:	8 bit or 10 bit
Auto Cable Equalization (SD - SDI):	Up to 350m of Belden 8281 or equivalent @ 270 Mbps
Auto Cable Equalization (HD - SDI):	Up to 140m of Belden 1694A or equivalent at 1.485 Gb/s Up to 100m of Belden 8281 or equivalent at 1.485 Gb/s
CDR (Reclocking):	Yes
Connectors:	BNC

DIGITAL VIDEO (DVI)

Pixel Bandwidth (Bit Rate):	1.65 GbpsResolution Support
(CRTs and Flat Panels):	Up to 1600x1200 @ 60 Hz refresh rate
Specification Compliant:	DVI 1.0, DVI-D
Skew Tolerance:	Up to one pixel clock cycle (high clock and data jitter tolerance)
DDC Support:	Provided by the Optima
Connectors:	DVI-I (DVI-D is the supported signal type) *540 Mbps is untested

RGBHV + Stereo In to CatPro Out

Signal Types:	Input: RGBHV + Stereo Audio (HD-15 & 5T) Output: CatPro RGBHV + Stereo Audio (RJ-45)
Maximum Resolution:	1600x1200(4:3) and 1920x1080p(16:9) @ 60Hz up to 1000 ft
RGB In Signal Level Range (max):	+0.75 V to -0.3 V typical (terminated)
RGB Out Signal Level Range (max):	+0.75 V to -0.3 V typical (terminated, user adjustable with gain and peak using CatPro Receiver)
RGB Out Skew Adjustment:	0 to 62 ns, in 2 ns increments on RGB channels (user adjustable using CatPro Receiver)
RGB In/Out Impedance:	75
RGB SNR:	> 50 dB (Vin = 0.7 V, 100% IRE)
RGB Crosstalk:	< -60 dB (f = 5 MHz) < -45 dB (f = 30 MHz)
Sync In Impedance:	2.2k
Sync In/Out Polarity:	Active High or Low (output follows input polarity) Sync
Out Signal Levels:	Low = 0 V, High = +5 V (unterminated)
Audio In/Out Signal Type:	
Stereo, Balanced or Unbalanced In / Unbalanced OutAudio In/Out Signal Level (max):+8 dBu	
Audio In Impedance:	18k
Audio Output Impedance:	< 5
Audio Frequency Response:	< ± 0.3 dB, 20 Hz to 20 kHz
Audio THD+N:	< 0.04 %, 1 kHz, -10dBu to +4dBu
Audio Crosstalk:	< -95 dB (1 kHz, Vin = +4 dBu)
Audio SNR:	> 85 dB, 20 Hz to 20 kHz Vin=+8dBu
Audio Out Volume Adj. Range:	Mute to +6 dB (user adjustable at CatPro Receiver)
	RGBHV + Stereo Out Connector Female RJ-45
Compatible Cable Types:	Category Cable 5, 5e, 6, 6e, Skew Free UTP, and STP * * All measurements were taken using Cat5e Cable

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