

# Optima

Distribution Matrix

## I/O RANGE \*

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

## SIGNAL TYPES

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



The Optima is designed with a platform base on which more than 15 signal types can be stacked. It can easily handle the signal diversity of an entire installation, replacing multiple small routers. The Optima is ideal for any mid-range routing application including sports bars, meeting rooms, education and government facilities.

### ULTRA-FLAT RESPONSE

The video frequency response in the Optima Series is a tight  $\pm 3$  dB, unlike other manufacturers who specify only  $-3$  dB to allow for the use of excessive peaking, damaging the signal, to record a wider bandwidth.

### CUSTOMIZABLE

The Optima is easy to customize. Simply mix and match available boards in the same enclosure (as space allows), or in multiple linked enclosures. This allows for multiple signal types in various I/O ranges that can be viewed under one point of control.

### VIRTUAL MATRIX

For even more flexibility, virtual matrix programming levels allow multiple enclosures (switchers) to be treated as a single router, or single enclosures to be treated as multiple independent systems.

### MULTIPLE CONTROL OPTIONS

Choose from local control panel or blank front panel. All models come with standard RS-232 control port, support AutoPatch's simple BCS serial control protocol, and ship with free APControl software. AutoPatch also provides remote and TCP/IP control options.

\*The available I/O range for each signal type varies.

 **AUTOPATCH**  
High Performance Signal Routing

**GENERAL**

AC Power:	100-240 VAC single phase, 47-63 Hz
Power Consumption (max):	150 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" (48cm) width with mounting ears
Height:	5.2" (13.21 cm) height 3 RU
Weight:	12 lbs (5.44 kg) per loaded enclosure
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:	<+/- 0.2dB 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) >120 dB (20 Hz to 20 kHz, Vin = +20 dBu)
Signal to Noise Ratio:	<-110 dB (1 kHz, Vin = +20 dBu)
Crosstalk:	
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 Volts (unterminated) +/- 2.5 Volts (terminated)
Input Impedance:	75 Ω
Output Level (max):	+/- 5 Volts (unterminated) +/- 2.5 Volts (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):	+/- 3.0 Volts (unterminated) +/- 1.5 Volts (terminated)
Input Impedance:	75 Ω
Output Level (max):	+/- 3 Volts (unterminated) +/- 1.5Volts (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)**

Standard:	Conforms to SMPTE 259M
Input Impedance:	75 Ω
Output Impedance:	75 Ω
Output Level:	0.8 Vpp +/- 10%
Timing Jitter:	<0.1 UI @ 360 Mbps
Alignment Jitter:	<0.1 UI @ 360 Mbps
Rise and fall time:	600 ps, +/- 100 ps
Rise and fall overshoot:	<0.1%
Bit Rates:	143 Mbps, 177 Mbps, 270 Mbps, 360 Mbps, 540 Mbps*
Data Type:	8 bit or 10 bit
Auto Cable Equalization:	Up to 350m of Belden 8281 or equivalent at 270 Mbps
CDR (Reclocking):	Yes
Connectors:	BNC

**DIGITAL VIDEO (DVI)**

Pixel Bandwidth (Bit Rate):	1.65 Gbps
Resolution 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 id the supported signal type)

\*540 Mbps is untested

**FEATURES**

- Lifetime Warranty
- AutoAssist 24-hour technical support
- Ultra-Flat Response
- TCP/IP control option available
- Choice of front panel control or blank front panel
- Remote control options available
- Virtual matrix levels
- RS-232 control port
- Breakaway
- Groupings
- Global and local presets
- Programmable macro functions
- Volume control (standard audio)
- Supports simple AutoPatch BCS serial control protocol
- Ships with free APControl software
- Linkable enclosures
- Rack mounting ears included
- Audio connections support balanced or unbalanced

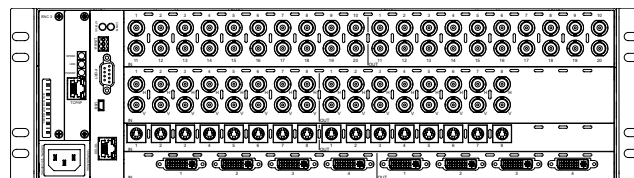


We stand behind every unit we sell with our exclusive AutoPatch Lifetime Warranty.



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International 509.235.2636

Our trained technical staff is available 24 hours a day, every day of the year, to answer installation and technical questions.



20x20 composite + 8x8 Y/c + 8x8 S-video + 4x4 DVI  
1 of thousands of available configurations



**AUTOPATCH™**  
High Performance Signal Routing

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