

CORIO[®]matrix and CORIO[®]matrix mini

Modular AV Routers with Scaling, Format Conversion and Extension



CORIOmatrix & CORIOmatrix mini

Scaling Routing Switchers

AV Pros consider CORIOmatrix and CORIOmatrix mini ideal heart-of-system devices for most presentation rooms. The versatility and adaptability provided by the CORIOmatrix modular design helps integrators overcome the wide ranging challenges of BYOD (Bring Your Own Device) presentation environments.

CORIOmatrix is a high quality modular video and audio matrix routing system that provides 16 modular AV slots (2-4 ports depending on modules selected). All CORIOmatrix scaled output modules provide Up, Down and Cross conversion between a wide variety of analog and digital video formats, including HDBaseT and 3G/HD/SDI.



CORIOmatrix mini is a 1RU version of the CORIOmatrix providing five modular slots (plus two fixed universal inputs).

Both units offer extensive options for Audio Routing, Embedding and De-embedding.

Modular Flexibility

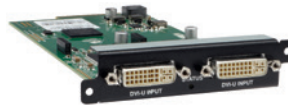
3G-SDI Input



3G-SDI Scaling Output



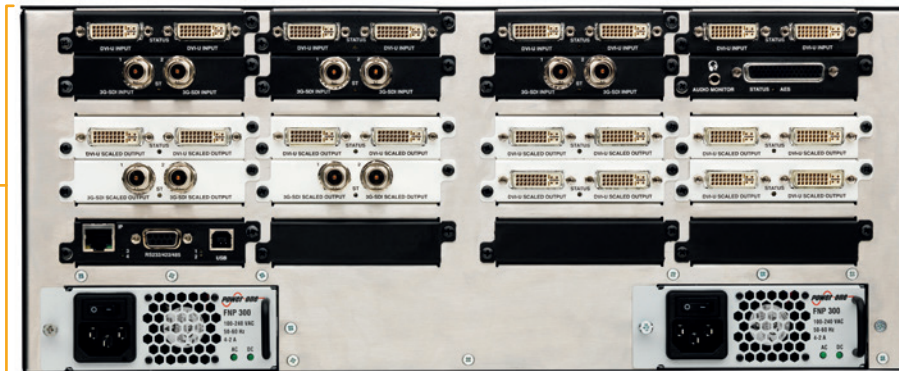
Universal DVI Input



Universal DVI Scaling Output



CORIOmatrix 4RU
16 slots = lots of flexibility in configuration (e.g. 28 in / 4 out)



Universal DVI Adapters



CORIOmatrix mini has 5 configurable I/O slots plus 2 fixed inputs



HD-SDI Input



Universal DVI Monitor Output



HDBaseT Scaling Output



HDBaseT Input



Audio Routing is extremely flexible

Audio follow Video Routing:

(without the optional Audio Module)

Embedded Audio Signals from HDMI or SDI streams can be routed with video even when converting to/from SDI to HDMI.

Breakaway Audio Routing:

(without the optional Audio Module)

Embedded audio streams can be routed independently to any Output(s) regardless of signal conversion.

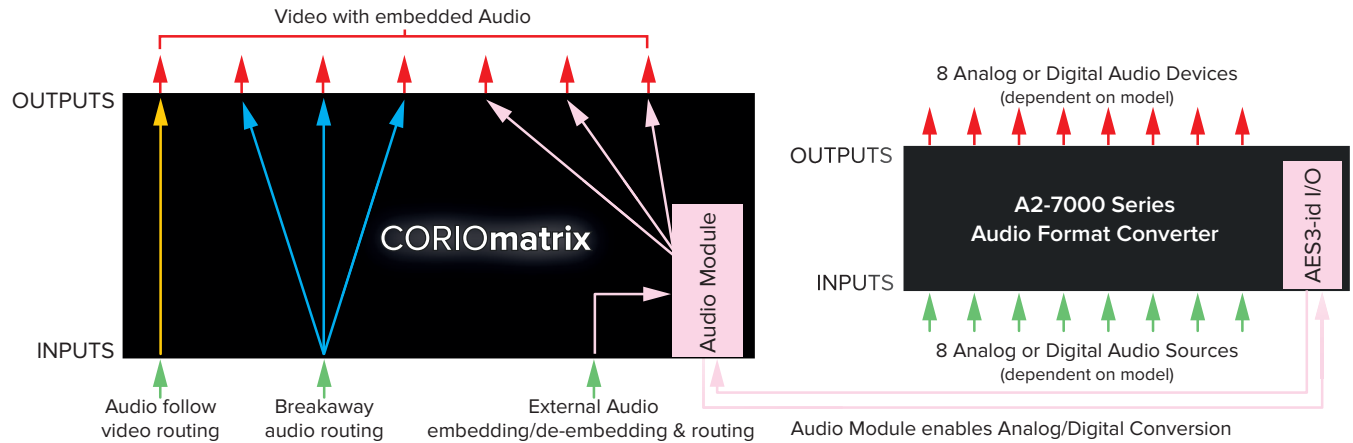
External Analog or Digital Audio Embedding / De-Embedding and routing using the Audio Module and A2-breakout units.

The Audio Module for the CORIOmatrix comes with an 8x8 AES3-Id interface that can be used with the tvONE A2-7322 to add an 8x8 analog stereo matrix to the CORIOmatrix system.

The external unit can be used to embed Analog Stereo Audio Signals into HDMI or SDI Signals.



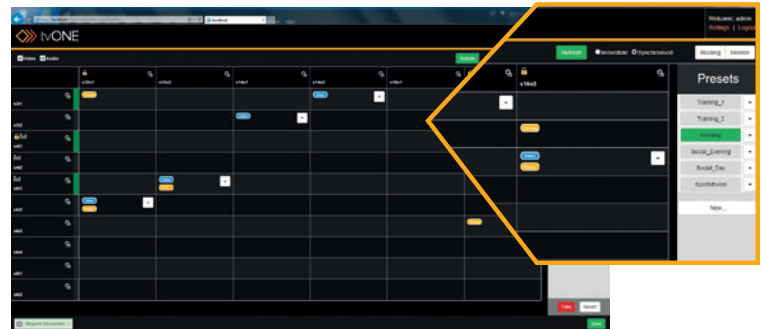
Audio Module



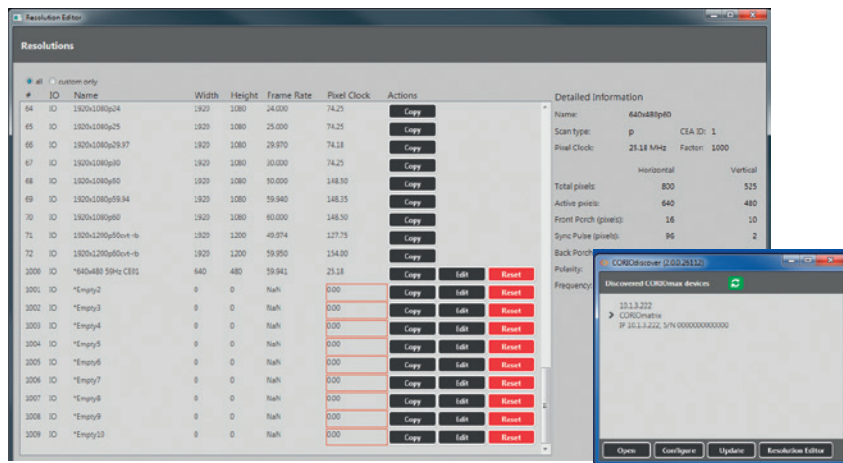
*HDMI signals are either input and/or output via a Universal DVI adapter or output via a HDBaseT module

Web Interface

A web interface is provided for both video and audio routing and setup of the router and can be used as the main control interface if desired. The built-in command line interface easily permits a wide choice of control options. Web GUI control of the monitoring module allows setup of both video outputs to single or dual displays. Input and outputs can be monitored with user configurable window sizes and groups. Digital embedded audio can also be monitored with LED bar indicators.



The web interface allows users to easily create and store presets.



Custom Resolutions

The new CORIOdiscover app allows the user to log into a unit to update the firmware, change communications settings and create new custom resolutions that can be used as an input or output resolution. This app runs independently of the built in web interface to aid in initial setup of the unit during installation.

CORIOmatrix / CORIOmatrix mini Specifications

Computer Inputs - CORIOmatrix	
Analog	Up to 30 via UNIVERSAL DVI
Analog Format	RGBHV, RGsB, YPbPr
Analog Sync	TTL Level, 10KΩ, Pos or Neg
RGB Level Range	0.5-2.0 Vp-p
Scan Rate Detection	Automatic
Analog Signals	PC to 1920x1080, HD to 1080p 60Hz
DVI Signals	PC to 1920x1200, HD to 1080p 60Hz
Computer Inputs - CORIOmatrix mini	
Digital DVI	Up to 10 via UNIVERSAL DVI (HDMI & HDCP compatible)
Analog	Up to 10 via UNIVERSAL DVI
Analog Format	RGBHV, RGsB, YPbPr
Analog Sync	TTL Level, 10KΩ, Pos or Neg
RGB Level Range	0.5-2.0 Vp-p
Scan Rate Detection	Automatic
Analog Signals	PC to 1920x1080p/60, HD to 1080p/60
DVI Signals	PC to 1920x1200, HD to 1080p/60
Max Horizontal Scan Rate	150KHz
Computer Compatibility	PC, Workstations
Computer Outputs - CORIOmatrix	
Digital HDMI	Up to 24 via HDBaseT (HDCP compliant)
Analog	Up to 24 via UNIVERSAL DVI
Analog format	RGBHV, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
DVI Signals	PC to 1920x1200, HD to 1080p 60Hz
Analog Signals	PC to 1920x1080, HD to 1080p 60Hz
3G-HD-SDI	HD to 1080/60p
Size and Position	User Adjustable
Settings Memory	Non-Volatile
Conversion Technology	Proprietary – CORIO®2
Color	RGB/DVI/HDMI/ YPbPr 24-bit 4:4:4, SDI 20-bit 4:2:2
Max. Sampling Rate	162MHz
Firmware Memory	Flash, Upgradeable via micro-SD
De-Interlacing (NTSC, PAL, 1080i)	Pixel-level Motion Adaptive, Diagonal Interpolation
Video Comb Filter	Adaptive
Film (NTSC, 1080i)	3:2 Pull-down
Video Adjustments	Contrast, Brightness
Computer Outputs - CORIOmatrix mini	
DVI Signals	Up to 10 via UNIVERSAL DVI (HDMI & HDCP compliant)
Analog	Up to 10 via UNIVERSAL DVI
Analog format	RGBHV, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
DVI Signals	PC to 1920x1200, HD to 1080p60
Analog Signals	PC to 1920x1080, HD to 1080p60
Vertical Refresh Rates	Any to 250 Hz
Size and Position	User Adjustable
Settings Memory	Non-Volatile
Conversion Technology	Proprietary – CORIO®2
Color	RGB 24-bit 4:4:4, SDI 20-bit 4:2:2
Max. Sampling Rate	162MHz
Firmware Memory	Flash, Upgradeable via micro-SD
De-Interlacing (NTSC, PAL, 1080i)	Pixel-level Motion Adaptive, Diagonal Interpolation, Noise Reduction
Video Comb Filter	Adaptive
Film (NTSC, 1080i)	3:2 Pull-down
Video Adjustments	Contrast, Brightness, RGB Gamma
HD Resolutions supported (HDMI, DVI, YPbPr, SDI)	
720p (1280x720)	(23.98, 24, 25 SDI only), 29.97, 30, 50, 59.94, 60Hz
1035i (1920x1035)	59.94, 60Hz
1080i (1920x1080)	50, 59.94, 60Hz
1080p (1920x1080)	23.98, 24, 25, 29.97, 30Hz
1080p (1920x1080)	50, 59.94, 60Hz (not 4x HD-SDI input module)
Audio Support	
Digital/Analog	48kHz PCM
De-embed/embed	SDI & HDMI-I/O via UNIVERSAL DVI - optional Audio Module with AES break-out. HDBaseT output

Video Inputs - CORIOmatrix	
Television Standards	NTSC, PAL, PAL-N
Digital DVI/HDMI	Up to 30 via UNIVERSAL DVI (HDCP compliant)
Composite Video	Up to 30 via UNIVERSAL DVI
YC (S-Video)	Up to 30 via UNIVERSAL DVI
YUV /YPbPr	Up to 30 via UNIVERSAL DVI
SD/HD-SDI	Up to 60 via BNC
3G-SDI	Up to 30 via BNC
Video Inputs - CORIOmatrix mini	
Television Standards	NTSC, PAL, PAL-M/N
Composite Video	Up to 10 via UNIVERSAL DVI
YC (S-Video)	Up to 10 via UNIVERSAL DVI
YUV /YPbPr	Up to 10 via UNIVERSAL DVI
HD-SDI	Up to 16 via BNC
SD/HD/3G-SDI	Up to 8 via BNC
Video Outputs - CORIOmatrix	
Television Standards	NTSC, PAL, PAL-N
Digital DVI/HDMI	Up to 24 via UNIVERSAL DVI (HDCP compliant)
Composite Video	Up to 24 via UNIVERSAL DVI
YC (S-Video)	Up to 24 via UNIVERSAL DVI
YUV /YPbPr	Up to 24 via UNIVERSAL DVI
SD/HD/3G-SDI	Up to 24 via BNC
Video Outputs- CORIOmatrix mini	
Television Standards	NTSC, PAL, PAL-M/N
Composite Video	Up to 10 via UNIVERSAL DVI
YC (S-Video)	Up to 10 via UNIVERSAL DVI
YUV /YPbPr	Up to 10 via UNIVERSAL DVI
SD/HD/3G-SDI	Up to 10 via BNC
HDBaseT	Up to 10 via RJ45
3G/HD/SD-SDI	
SMPTE259M-C (SD-SDI Video)	270Mbps < 0.1UI jitter 525/625Line
SMPTE292M (HD-SDI Video)	1.485/1.4835Gbps < 0.2 UI jitter 720p, 1035i, 1080i, 1080p
SMPTE424M (3G-SDI Video)	2.97/2.967Gbps < 0.3 UI jitter 1080p 50/59.94/60
SMPTE272M-2004	4 Stereo 24bit Audio Channels (SD-SDI Audio)
SMPTE299M-2004	4 Stereo 24bit Audio Channels (3G/HD-SDI Audio)
Control Methods	
RS-232	via D9 Female Connector
IP Interface	RJ45 Connector
Web UI	Browser
Warranty	
Limited Warranty	5 Years Parts and Labor
Regulatory Compliance	
Main unit	FCC, CE, RoHS, UL
Mechanical - CORIOmatrix	
Size (H x W x D)	178 x 482 x 334mm (7.0" x 19.0" x 13.1")
Weight (Net)	Approx. 15Kg (33 lbs) (with redundant PSU)
Mechanical - CORIOmatrix mini	
Size (H x W x D)	45 x 482 x 336mm (1.75" x 19.0" x 13.25")
Weight (Net)	Approx. 5Kg (11.03 lbs)
Environmental	
Operating Temperature	0° to +40° C (+32° to +104° F)
Operating Humidity	10% to 85%, Non-condensing
Storage Temperature	-10° to +70° C (+14° to +158° F)
Storage Humidity	10% to 85%, Non-condensing
MTBF	Approximately 50,000 hours
Power Requirement	
Internal Power Supply	110v to 240v auto-detecting
Redundancy	Optional Internal PSU - CORIOmatrix Hot Swap
Accessories Included	
1x Operations Manual	-
1x Power cable	US, UK, Euro or AU
PC Control Software	Downloadable from Website
Optional Accessories	See list above and check website for latest list

Specifications subject to change without notification

* Only 5 slots are modular on the CORIOmatrix mini. 1 Universal DVI Input card is included in all frames.

** HDCP protected sources are not allowed to be converted in this way.

