

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

4K modular matrix routers from 2 x 2 to 60 inputs or 24 outputs with scaling, format conversion, audio management and more



The world's most advanced 4K modular multi-format AV matrix with a proven pedigree and uncompromised performance in mission critical environments

CORIOmatrix solves your most challenging AV problems

CORIOmatrix and CORIOmatrix mini are modular systems created for today’s mixed signal environments. When faced with the challenge of combining a wide range of signal types, CORIOmatrix makes the integration simple with flawless 4K performance.

Conquer the AV and Broadcast landscape	Seamlessly mix and match digital AV, broadcast and legacy signals in a single chassis.
Mix and match your content	tvONE’s up/down and cross conversion makes your format, aspect ratio and resolution independent, simplifying your installs.
Manage the unusual	CORIOmatrix supports resolutions from 4K down to 640 x 480 including custom resolutions for LED wall support and unique medical and military resolutions.
Future proof your investment	Our award-winning CORIO® scaling engine supports all current and legacy formats plus it’s simple to add new I/O modules as you need them. CORIOmatrix adapts to your requirements and removes growing pains!
Do more with less	Eliminate system design complexity, headaches and control nightmares with unlimited I/O flexibility while having complete confidence in your inputs and outputs with fully integrated monitoring. Save space and power too!
Set and forget	CORIOmatrix adapts and adjusts to real-time changes in the working environment. Plug and play any signal type, anytime, with complete confidence.

What CORIOmatrix users say:

Some CORIOmatrix users include; Olympus Medical, The European Commission, Bosch, AGI and Wartsila - all depend on rock solid performance backed with source and display independence.



Wartsila

“In our world, we are running a mixture of broadcast and AV signals in parallel. The CORIOmatrix is perfect as it enables us to switch between the two seamlessly, especially the HD-SDI output this is quite unique. We also have a range of other sources - Apple TV, media players, SDI cameras, etc. The integrated multiviewer and its ability to combine scaling saves space, time and complexity - if we had to do this without the CORIOmatrix we would need to integrate a whole load of small little boxes.”

Matthew Hodgkinson,
Senior Design Engineer UK

Audio General Inc. — AGI

“We’re very happy with the CORIOmatrix, it solves numerous problems especially mixing 4:3 and 16:9 signals – it eliminates wiring complexity and simplifies overall control of an installation. With CORIOmatrix the upgrade was NO PROBLEM!”

David Spiegel,
Owner

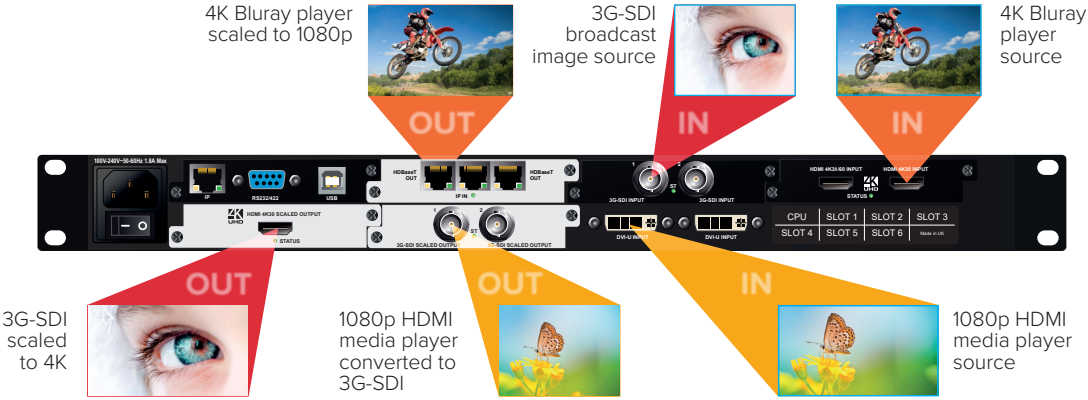


Flexibility and dependability guaranteed!

Mixed signal support – Up/Down/Cross Conversion

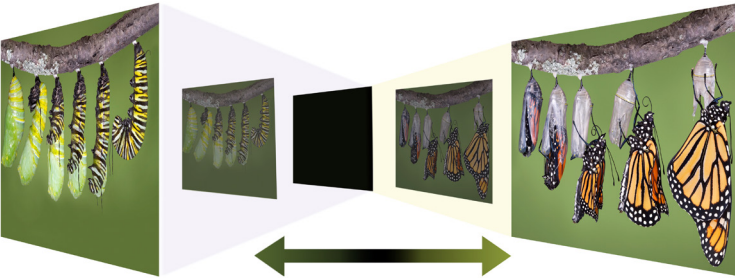
Whatever the source or format, it’s easy to mix and match your content using tvONE’s low latency CORIO® scalers featuring the widest range of resolutions with full control of frame rate, aspect ratio and frame/field handling.

Example:



Clean and fast switching or fade-through-black

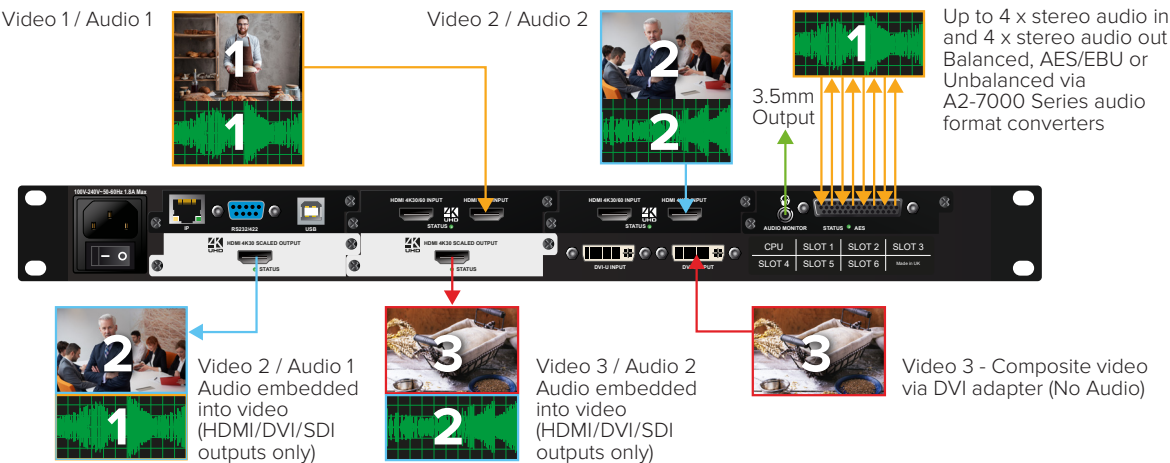
CORIOmatrix delivers a dependable visual experience whatever your source with instant, flawless switching or fade-through-black.



Audio routing

Deliver full audio flexibility with audio following video or easily select independent audio and video sources.

Example:



Fully modular systems – anything in, anything out

CORIOmatrix (4RU) and CORIOmatrix mini (1RU) can accept a huge number of I/O configurations allowing complex functionality to be quickly and simply configured to meet your exact needs. CORIOmatrix is 100% dependable helping you to eliminate show stopping “AV moments” while also being whisper quiet for in-room installs.

Dual 4K HDMI

Quad 2K HDMI

Dual Long Reach 1080p HDBaseT

Dual DVI Universal

Dual 3G-SDI broadcast

Quad 3G-SDI broadcast

HD-SDI broadcast

Audio routing

EASY CONTROL

3rd party control

CORIOmatrix web UI

Input only (not audio)

Input only (not audio)

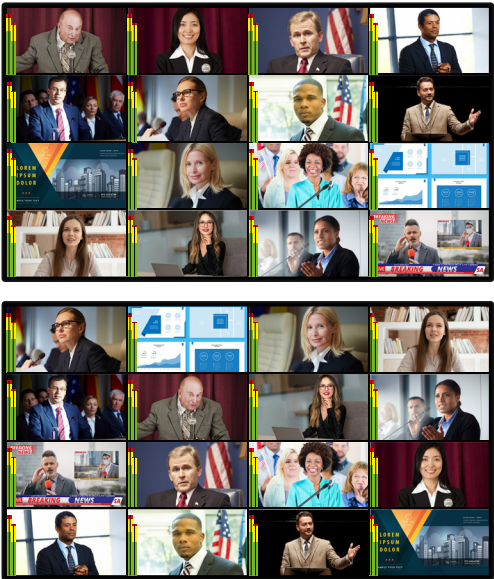
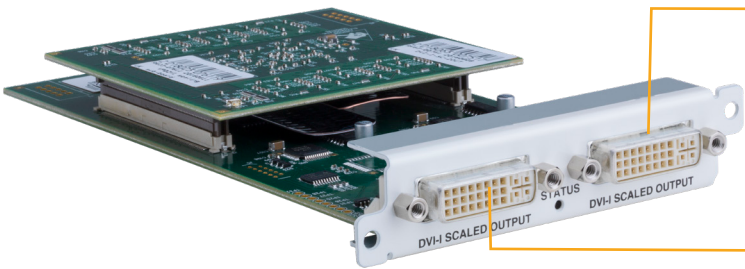
Input only (not audio)

Input only (not audio)

External audio analog or digital

Simplified System Control and Monitoring

Monitor all of your inputs and outputs for ultimate peace of mind using our optional monitoring module



OUTPUT MODULES

Dual DVI Monitoring

4K HDMI Scaled

Dual DVI-U Scaled

Dual HDBaseT Scaled

Dual 3G-SDI

DVI Universal Adapters

HDMI

CV

YC (S-Video)

Analog PC

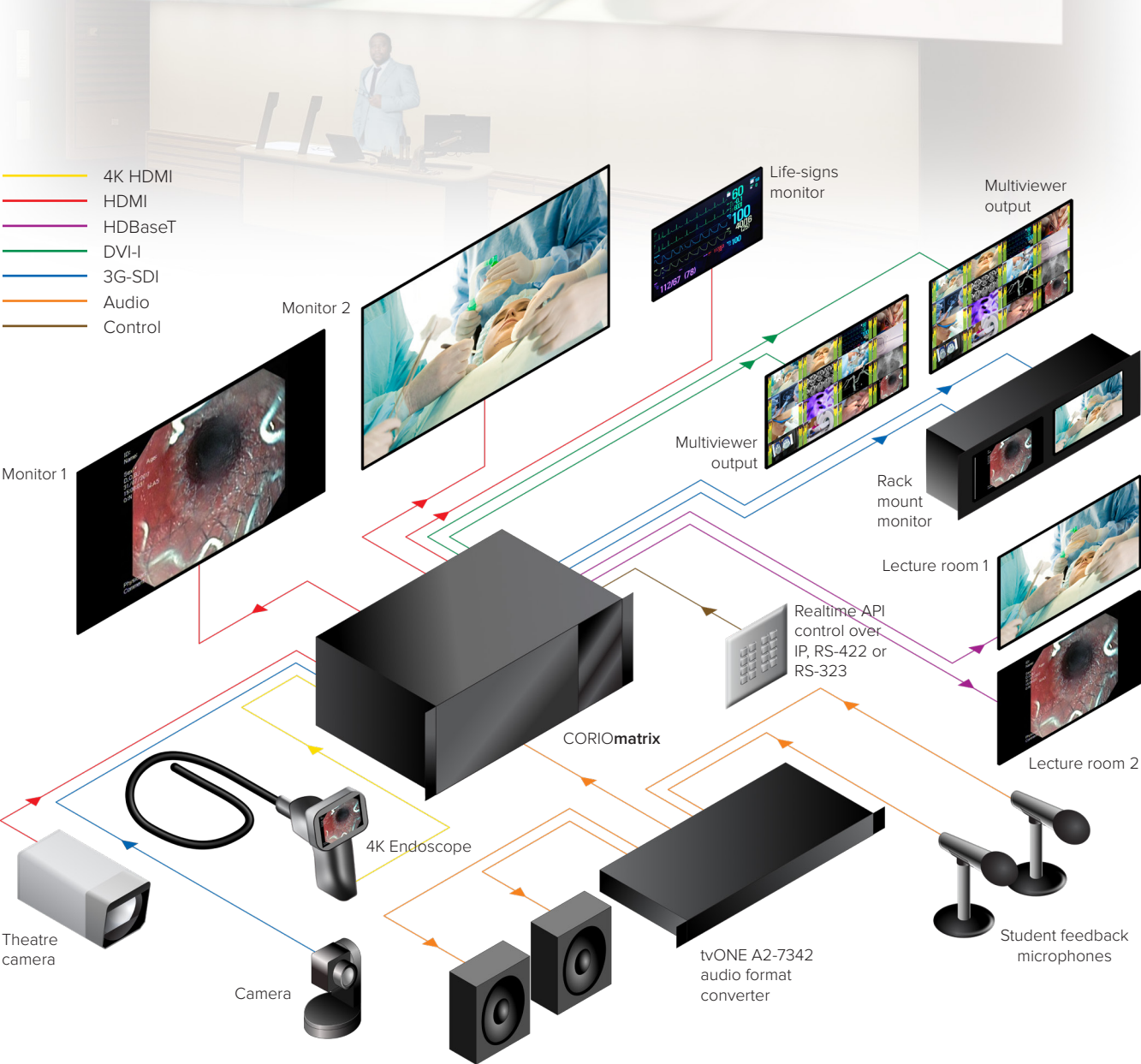
YPbPr/YUV

Analog RGBHV

Easily bridge the digital AV and broadcast landscape with a platform designed for your 24/7 mission critical challenges

CORIOmatrix advantages:

- Proven pedigree in mission critical installations
- High quality 4K video with ultra low latency
- Fully integrated format conversion and scaling
- Fit-for-purpose color management (4:4:4, 4:2:2 and 4:2:0)
- Integrated monitoring multiviewer – have absolute confidence in your inputs and outputs
- Optional video extension capability for remote sources and displays



Eliminate complexity, simplify control – experience pain-free audio and video distribution

CORIOmatrix advantages:

- The widest range of input and output types simplifies your operation
- Mix and match your source seamlessly with clean switching or fade-through-black
- Guaranteed lip sync with our ultra-low latency solution
- Easily extend your video using HDBaseT or SDI on both inputs and outputs
- Integrated monitoring multiviewer for total control and confidence
- Eliminate “AV moments” with proven CORIOmatrix dependability
- Remove LED wall integration challenges with custom resolution support
- Whisper-quiet for in-room operation



CORIOmatrix Family



Specifications

Computer Input	C3-310	C3-340
Digital DVI/HDMI (HDCP compliant)	Up to 10 via Universal DVI	Up to 30 via Universal DVI
Digital HDMI (HDCP compliant)	Up to 16 via Quad HDMI	Up to 60 via Quad HDMI
Analog	Up to 10 via Universal DVI	Up to 30 via Universal DVI
Analog Format	RGBHV, RGB, 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 1080p60	
DVI Signals	PC to 1920x1200, HD to 1080p60	
Max Horiz Scan Rate	150kHz	
Computer Compatibility	PC, Workstations	
Outputs	C3-310	C3-340
Digital DVI/HDMI (HDCP compliant)	Up to 10 via Universal DVI	Up to 24 via Universal DVI
Digital HDMI (HDCP compliant)	Up to 10 via HDBaseT	Up to 24 via HDBaseT
Analog	Up to 10 via Universal DVI	Up to 24 via Universal DVI
Analog format	RGBHV, RGB, 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	
3G-HD-SDI	HD to 1080/60p	
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 Quad inputs (HDMI & 3G-SDI) 4:2:0 4K input module (4:2:0)	
Max. Sampling Rate	300MHz	
Firmware Memory	Flash, Upgradeable via micro-SD	
De-Interlacing (NTSC, PAL, 1080i)	Pixel-level Motion Adaptive	
Video Comb Filter	Adaptive	
Film (NTSC, 1080i)	3:2 Pull-down	
Video Adjustments	Contrast, Brightness	
Audio Support		
Digital/Analog	48kHz PCM	
De-embed/embed	SDI & HDMI-I/O via DVI with optional Audio module with AES break-out. HDBaseT output	
Video 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)	
4K (3840x2160p)	23.98, 24, 25, 29.97, 30Hz (4K input module only)	
4k (4096x2160p)	23.98, 24, 25, 29.97, 30Hz (4K input module only)	
Video Inputs	C3-310	C3-340
Television Standards	NTSC, PAL, PAL-M/N	NTSC, PAL, PAL-M/N
Composite Video	Up to 10 via Universal DVI	Up to 30 via Universal DVI
YC (S-Video)	Up to 10 via Universal DVI	Up to 30 via Universal DVI
YUV /YPbPr	Up to 10 via Universal DVI	Up to 30 via Universal DVI
SD/HD-SDI	Up to 16 via BNC	Up to 60 via BNC
SD/HD/3G-SDI	Up to 16 via BNC	Up to 30 via BNC
3G-SDI	Up to 16 via BNC	Up to 60 via BNC

Video Outputs	C3-310	C3-340
Television Standards	NTSC, PAL, PAL-M/N	NTSC, PAL, PAL-M/N
Composite Video	Up to 10 via Universal DVI	Up to 24 via Universal DVI
YC (S-Video)	Up to 10 via Universal DVI	Up to 24 via Universal DVI
YUV /YPbPr	Up to 10 via Universal DVI	Up to 24 via Universal DVI
SD/HD/3G-SDI	Up to 10 via BNC	Up to 24 via BNC
HDBaseT	Up to 10 via RJ45	Up to 24 via RJ45
4K30 HDMI	Up to 5 via HDMI	Up to 12 via HDMI
3G/HD/SD-SDI		
SMPTE259M-C	270Mbps < 0.1UI jitter	
(SD-SDI Video)	525/625Line	
SMPTE292M	1.485/1.4835Gbps < 0.2 UI jitter	
(HD-SDI Video)	720p, 1035i, 1080i, 1080p	
SMPTE424M	2.97/2.967Gbps < 0.3 UI jitter	
(3G-SDI Video)	1080p 60/59.94	
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 & Modules	FCC, CE, RoHS, UL	
Mechanical		
Size (H x W x D)	1.75"x19.0"x13.25"/15.25" (45x482x336/383mm) (C3-310) 7.0"x19.0"x13.1" (178x482x334mm) (C3-340)	
Weight (Net)	Approx. 5Kg (11.03 lbs) (C3-310) Approx. 15Kg (33 lbs) (with redundant PSU) (C3-340)	
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 (C3-310) Approximately 35,000 hours (C3-340)	
BTU	427 BTU/hr - fully populated (C3-310) 1024 BTU/hr (C3-340)	
Fan Noise	0-35°C = 37.7dB(A) Min @ 1m 40°C = 50.6dB(A) Max @ 1m (C3-310) 40°C = 46.6dB(A) Max @ 1m (C3-340)	
Power		
Internal Power Supply	110v to 240v auto-detecting	
Redundancy	Optional Internal Hot Swap PSU (C3-340 only)	
Consumption (fully populated)	125 watts maximum (C3-310) 300 watts maximum (C3-340)	
Accessories Included		
1x Operations Manual		
1x Power cable	US, UK, Euro or AU	
Control Software	WebUI, no software required to install	