

CORIOmaster & CORIOmaster mini

All-In-One Creative Videowall Processors

The C3-540 CORIOmaster and C3-510 CORIOmaster mini offer a new, more efficient approach to building video display arrays. tvONE's CORIO®3 technology gives designers and users access to unexplored realms of video processing power. CORIOmaster delivers true power to the technical and imaginative minds driving today's stunning creative and dynamic videowall exhibits.

CORIO3 video processing technology makes the designing of creative and powerful video display systems an entirely visual experience. With tvONE's CORIOgrapher software, a PC is used to design a virtual wall of displays and/or projection screens that can be positioned at any angle or orientation, and multiple projector edge blending is even supported. Then it's a freeform process of creating a Canvas over the virtual displays by sizing, shaping, rotating and positioning each source as required. CORIOmaster manages up to four display canvases simultaneously, and sources can be shared between the canvases.

Using edge blending & bezel compensation, monitor walls and multiple projectors can seamlessly many combinations of inputs by setting up one or more sources that span across the displays. To further assist creative flexibility in the design, windows can be positioned, resized and rotated in 1° increments up to 360° on the Canvas, which is then sent to the videowall.

Using preview windows it is possible to dedicate one canvas as a multi-viewer to display all the video sources on a single monitor for previewing during live events or to use as a source status monitor in various types of installations.

CORIOmaster is incredibly versatile and can be specified in most applications without fear of incompatibility. Nearly any video signal type can be input into the system and then scaled or converted to nearly any

other signal type for output. External format conversion and scaling is unnecessary, so installation is clean and simple.

New in 2015 is the ability to move live video windows seamlessly with source transitions, a resolution editor for custom resolutions and 4K support for the all new 4K input and output modules.

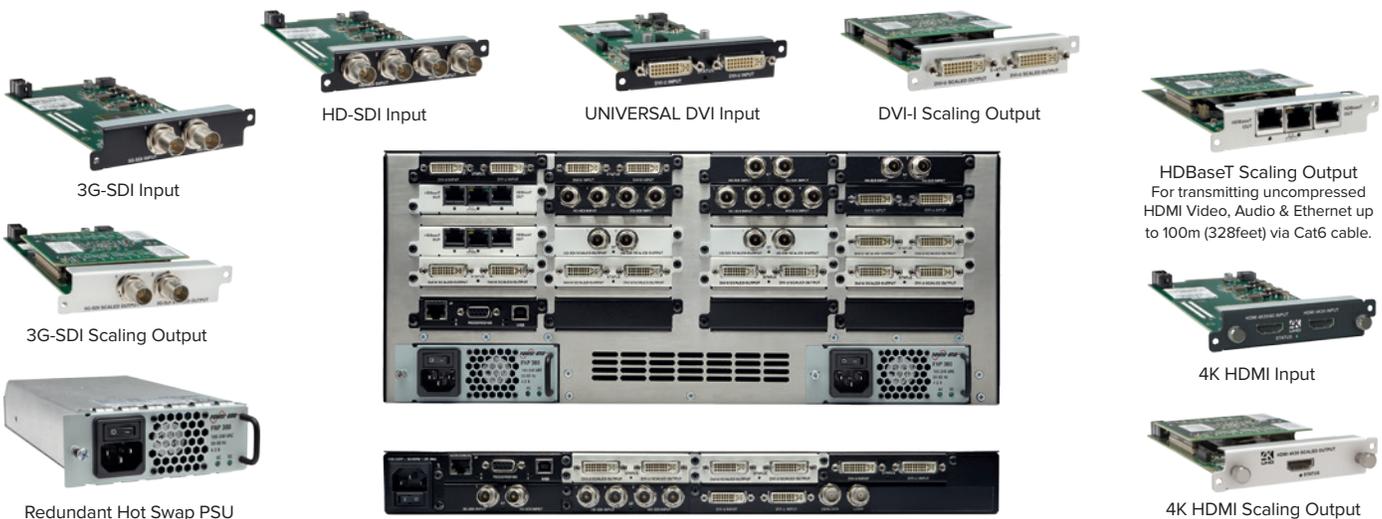
The transition feature initially allows movement of source windows between presets with time duration adjustment by the user for each preset. Source changes by moving windows or static windows is also possible by live switching or via presets. Source effects include fade through black, horizontal shrink and expand, vertical shrink and expand and source spin with one or more effects applied at the same time to each source window. Source transitions are selectable per window on the canvas.

The new resolution editor allows for custom resolutions to be created and uploaded into the unit to be used as input or output resolutions. New resolutions can be created through the unit's API commands for each output or created by using the updated CORIOdiscover app on initial system installation and then selected by the user for each output and auto detected as an input resolution.

The CORIOmaster provides high powered performance but is low on power consumption. In comparison to traditional video systems performing the same tasks may consume as much as ten times the energy.

Modular Flexibility

The CORIOmaster can accommodate numerous I/O configurations in the 16 Universal video slots available, when inserted the modules are automatically recognized & configured. This flexibility allows end user configurations to be based on their own needs. Additional input & output modules for 3G-SDI, HD-SDI, UNIVERSAL DVI, DVI-I and HDBaseT are available.

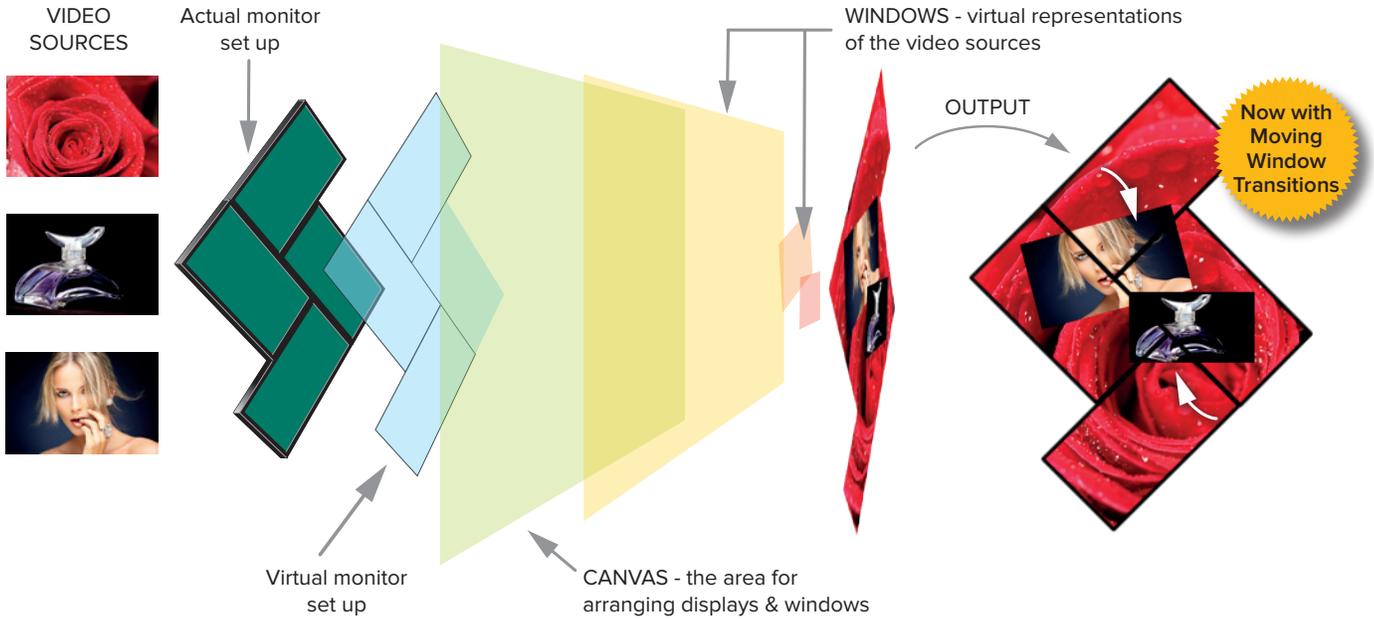


UNIVERSAL DVI - The Universal I/O

The UNIVERSAL DVI interface for the input module utilizes a single DVI-I connector to provide the following signal formats: HDMI, DVI-D, plus analog YUV, YPbPr, RGBHV, RGBS, RGsB, Y/C & Composite Video for all inputs. The DVI-I scalable outputs are selectable at virtually any PC or HDTV resolution



Image Canvas Control



CORIOgrapher v2

CORIOgrapher is the new **CORIOmaster's** control software that allows the user to create up to 4 different Video Walls. You can define each display, its size, position & rotation. Projectors and monitors can be mixed into one Video wall. The Wall Editor is a virtual work area within the **CORIOgrapher** software to position live video windows. Video source windows can be sized, positioned, rotated and window transitions saved in each preset along with window source transitions, all configured easily in the Wall Editor. These setups can be stored as Presets for future usage. The creation of transitions for windows and sources are also set using the **CORIOgrapher** control software.



The image shows the **Resolution Editor** software interface. It features a table of resolutions and a detailed information panel.

#	IO	Name	Width	Height	Frame Rate	Pixel Clock	Actions
64	IO	1920x1080p24	1920	1080	24.000	74.25	Copy
65	IO	1920x1080p25	1920	1080	25.000	74.25	Copy
66	IO	1920x1080p29.97	1920	1080	29.970	74.18	Copy
67	IO	1920x1080p30	1920	1080	30.000	74.25	Copy
68	IO	1920x1080p50	1920	1080	50.000	148.50	Copy
69	IO	1920x1080p59.94	1920	1080	59.940	148.35	Copy
70	IO	1920x1080p60	1920	1080	60.000	148.50	Copy
71	IO	1920x1200p50cvt-vb	1920	1200	49.974	127.75	Copy
72	IO	1920x1200p60cvt-vb	1920	1200	59.950	154.00	Copy
1000	IO	*640x480 59Hz CEA01	640	480	59.941	25.18	Copy Edit Reset
1001	IO	*Empty2	0	0	NaN	0.00	Copy Edit Reset
1002	IO	*Empty3	0	0	NaN	0.00	Copy Edit Reset
1003	IO	*Empty4	0	0	NaN	0.00	Copy Edit Reset
1004	IO	*Empty5	0	0	NaN	0.00	Copy Edit Reset
1005	IO	*Empty6	0	0	NaN	0.00	Copy Edit Reset
1006	IO	*Empty7	0	0	NaN	0.00	Copy Edit Reset
1007	IO	*Empty8	0	0	NaN	0.00	Copy Edit Reset
1008	IO	*Empty9	0	0	NaN	0.00	Copy Edit Reset
1009	IO	*Empty10	0	0	NaN	0.00	Copy Edit Reset

Detailed Information

Name: 640x480p60
 Scan type: p CEA ID: 1
 Pixel Clock: 25.18 MHz Factor: 1000

Horizontal: 800 Vertical: 525
 Active pixels: 640 480
 Front Porch (pixels): 16 10
 Sync Pulse (pixels): 96 2

Back Porch: [blank]
 Polarity: [blank]
 Frequency: [blank]

Discovered CORIO devices

10.1.3.222
 CORIOmatrix
 IP 10.1.3.222, S/N 0000000000000

Buttons: Open, Configure, Update, Resolution Editor

CORIOdiscover

The new 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 **CORIOgrapher** to aid in initial setup of the unit during installation. Communication and firmware updates can also be made through **CORIOgrapher**.

Key Features



Up to 4 simultaneous Canvas outputs with Windows (PIP's) each capable of rotation.



360° output rotation in 1° increments



Transitions - rotate, scale, fade through black and slide between sources

Video CORIOgraphy Design Possibilities

LIVE EVENT

- Stage monitoring • Edgeblending with side projectors

VIDEO WALLS

- Number of displays determined by number of outputs
- Rotation of individual monitors possible

COMMAND & CONTROL

- Monitoring of various video sources & formats

HOSPITAL/HEALTHCARE

- Distribution with Windowing to theatres or other locations
- Status display of video equipment in use

Specifications

Video Processing Power	
Parallel Processing Architecture	Yes
CORIO® Video Processing	Yes
Real Time Video Quality	< 2 frame signal delay from input to output
Up/Down/Cross Conversion	Built-in
Video Walls & Canvases	
Number of Videowalls	4
Display Size Compensation	Yes, different size displays in Videowalls
Rotation	Yes for any outputs & windows.
Edge Blending	Yes
HDCP Key Handling	Yes
Standard Computer Inputs	
Universal DVI (Analog & Digital)	Up to 28 (HDMI & HDCP compliant) High Density ¹ Up to 10 (HDMI & HDCP compliant) High Density ²
Analog Format	RGBHV, RGBS, 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, HDTV to 1080/60p
DVI Signals	PC to 1920x1200, HDTV to 1080/60p w/EDID
Max Horiz Scan Rate	150kHz
Standard Computer Outputs	
DVI-I (Analog & Digital)	Up to 28 (HDMI & HDCP compliant) High Density ¹ Up to 10 (HDMI & HDCP compliant) High Density ²
Analog format	RGBHV, RGBS, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
DVI Signals	PC to 1920x1200, HDTV to 1080/60p w/EDID
Analog Signals	PC to 1920x1080, HDTV to 1080/60p
Size and Position	User Adjustable
Settings Memory	Non-Volatile
Conversion Technology	Proprietary – CORIO®3
Color	RGB/DVI/HDMI/ YPbPr 24-bit 4:2:0, SDI 20-bit 4:2:0
Max. Sampling Rate	162MHz
Firmware Memory	Upgradeable via download.
Video Comb Filter	Adaptive
Video Adjustments	Contrast, Brightness, RGB Gamma
Standard Video Inputs	
Television Standards	NTSC, PAL
Composite Video	Up to 28 via UNIVERSAL DVI ¹ Up to 10 via UNIVERSAL DVI ²
YC (S-Video)	Up to 28 via UNIVERSAL DVI ¹ Up to 10 via UNIVERSAL DVI ²
YUV /YPbPr	Up to 28 via UNIVERSAL DVI ¹ Up to 10 via UNIVERSAL DVI ²
SD/HD-SDI	Up to 56 via BNC (4 input module) ¹ Up to 16 via BNC (4 input module) ²
SD/HD/3G-SDI	Up to 28 via BNC ¹ Up to 8 via BNC ²
4K30	Up to 28 via HDMI ¹ Up to 8 via HDMI ²
4K60	Up to 14 via HDMI ¹ Up to 4 via HDMI ²

Video Outputs	
YUV /YPbPr	Up to 28 via DVI-I ¹ Up to 10 via UNIVERSAL DVI ²
HD/3G-SDI	Up to 28 via BNC ¹ Up to 10 via BNC ²
HDBaseT	Up to 28 via RJ45 ¹ Up to 10 via RJ45 ²
4K30	Up to 14 via HDMI ¹ Up to 5 via HDMI ²
Standard 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
3G/HD/SD-SDI	
SMPT259M-C (SD-SDI Video)	270Mbps < 0.1UI jitter 525/625Line
SMPT292M (HD-SDI Video)	1.485/1.4835Gbps < 0.2 UI jitter 720p, 1035i, 1080i, 1080p
SMPT424M (3G-SDI Video)	2.97/2.967Gbps < 0.3 UI jitter 1080p 50/59.94/60
Control Methods	
RS-232	via D9 Female Connector
IP Interface	RJ45 Connector
Warranty	
Limited Warranty	5 Years Parts and Labor
Regulatory Compliance	
Main unit	FCC, CE, RoHS, UL
Mechanical	
Size (H x W x D)	178 x 482 x 334mm (7.0" x 19.0" x 13.1") ¹ 44 x 482 x 334mm (1.73" x 19.0" x 13.1") ²
Weight (Net)	15Kg (33 lbs) (with redundant PSU) ¹ 5Kg (11.03 lbs) ²
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
BTU	1024 BTU/hr ¹ , 427 BTU/hr ²
Power Requirement	
Power Consumption	Maximum fully populated - 300 watts ¹ , 125 watts ²
Internal Power Supply	110v to 240v auto-detecting
Redundancy	Optional Internal Hot Swap PSU
Accessories Included	
1x Operations Manual	Supplied USB Drive
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

CORIOmaster ¹, CORIOmaster mini ²

Specifications subject to change without notification



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