CORIO®master & CORIO®master mini

All-In-One Creative Videowall Processors

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The C3-540 CORIO**master** and C3-510 CORIO**master 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. CORIO**master** 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 **CORIO**grapher 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. CORIO**master** 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.

CORIO**master** 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 and the added resolution editor for custom resolutions.
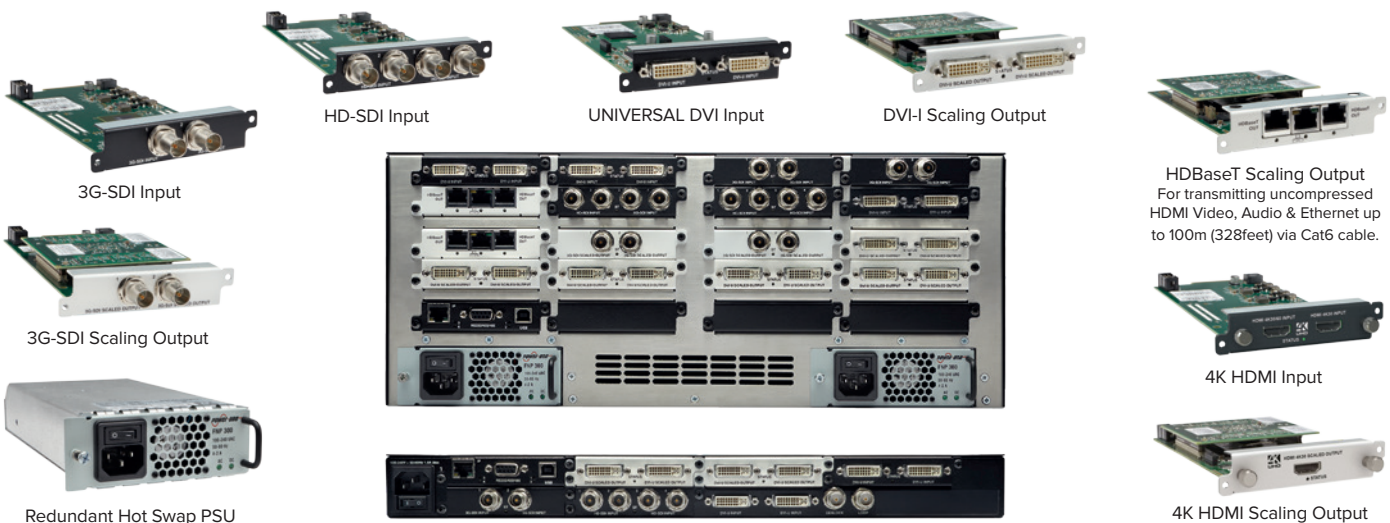
The transition feature initially allows movement of source windows between presets with time duration adjustment by the user for each preset. Source changes by moving windows or static windows is also possible by live switching or via presets. Source effects include fade through black, horizontal shrink 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 CORIO**master** 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 CORIO**master** 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.
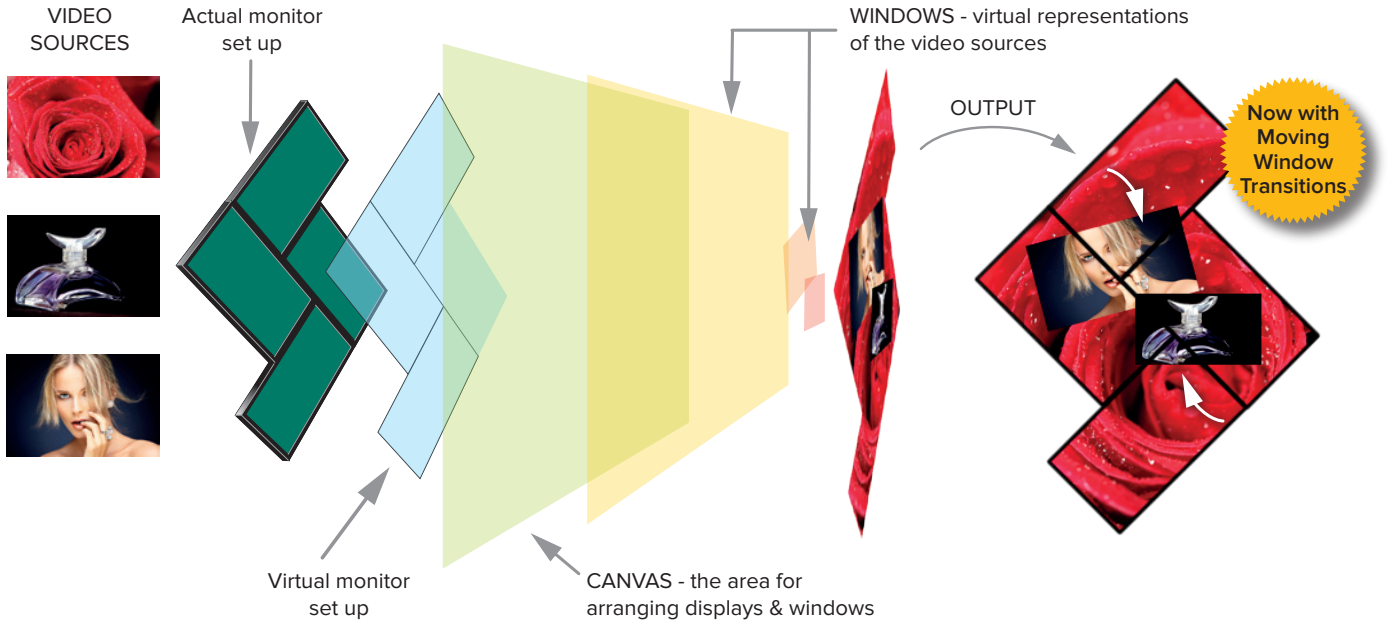

HD-SDI Input

UNIVERSAL DVI Input

DVI-I Scaling Output

3G-SDI Input

3G-SDI Scaling Output

Redundant Hot Swap PSU

HDBaseT Scaling Output
For transmitting uncompressed HDMI Video, Audio & Ethernet up to 100m (328feet) via Cat6 cable.

4K HDMI Input

4K HDMI Scaling Output

UNIVERSAL DVI - The Universal I/O

The UNVERSAL 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
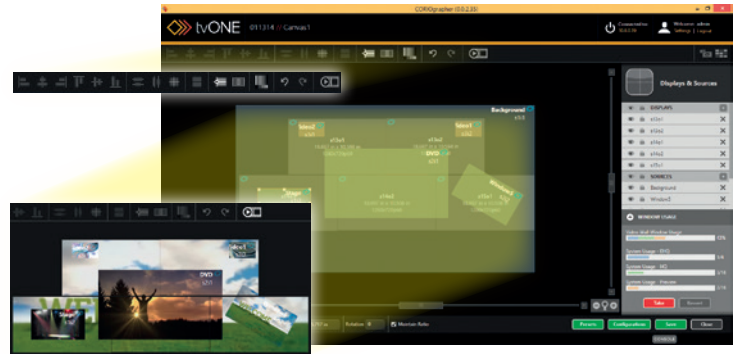

HDMI adapter

CV adapter

Analog PC adapter

YC (S-Video) adapters

Analog RGBHV adapter

YPbPr/YUV adapters

Image Canvas Control

VIDEO SOURCES

Actual monitor set up

WINDOWS - virtual representations of the video sources

OUTPUT

Now with Moving Window Transitions

Virtual monitor set up

CANVAS - the area for arranging displays & windows

CORIOgrapher

CORIOgrapher is the new CORIO**master**'s control software that allows the user to create up to 4 different Canvases; a graphical representation of the physical display(s), to define each display, its size, position & rotation. Projectors and monitors can be mixed into one canvas. The canvas is a virtual work area within the **CORIO**grapher 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 on the canvas. These setups can be stored as Presets for future usage. The creation of transitions for windows and sources are also set using the **CORIO**grapher control software.

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 **CORIO**grapher to aid in initial setup of the unit during installation. Communication and firmware updates can also be made through **CORIO**grapher.
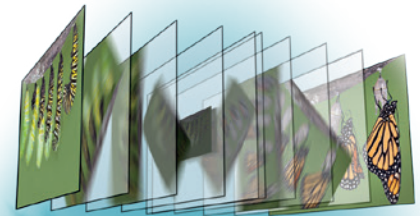
Key Features

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	
Parrallel 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 & Canvas	
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 8 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	
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 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

Power Requirement	
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

CORIO**master** [1], CORIO**master mini** [2]   Specifications subject to change without notification