CORIO®**master** micro
C3-503 Series

Key Features

- Patented CORIO®3 Videowall processing technology
- Manage up to 2 videowalls
- Uses **CORIO**grapher v2; simple powerful software interface
- Live dashboard to switch presets and window sources
- NEW 4K Input & Output modules
- NEW Custom Resolution Editor with resolutions auto detected on inputs & selectable on the outputs
- NEW Streaming Media & 4K Playback Module
- NEW S/PDIF Audio output
- NEW 8 front panel buttons for source routing and preset recalling
- Create custom output resolutions
- Auto discover devices on the network
- Outputs rotated in 1º increments
- Combination of different size and resolution of displays can be used
- Adjustable bezel compensation
- Multi-Edge blending of projectors
- Universal DVI Inputs: (HDMI/DVI/CV/YC/RGB/YPbPr)
- NEW 4K HDBaseT Inputs
- HDBaseT Outputs
- SDI Inputs and Outputs: SD/HD-SDI/3G-SDI to 1080p60
- High Resolution Inputs/Outputs: Analog: PC to 1920x1080, HDTV to 1080p/60
- HDMI input & output with HDCP handling
- Up-Down-Cross Conversion
- Control: RS-232, IP
- Command Line Interface – Third party control
- AMX & Crestron modules available
- 1RU, Half Rack Frame size
- Modularity Provides Flexible I/O

Options

- ONE**rack**™ mounting module
- Dual rack mount kit
- Universal DVI adapters
- Onsite System Commissioning

C3-503 CORIO**master** micro offers a new, more efficient approach to building Videowall systems. Using tvONE's latest CORIO®3 technology, it gives the user access to new levels of video processing power to achieve new heights of creative and dynamic videowall displays. Audio support and 8 front panel buttons for source routing and preset recall. All this is possible in one 1RU, half rack sized chassis.

Multiple windows can be used on a video wall to display the physical inputs into CORIO**maste**r. Windows can be sized to fit the wall or multiple windows added, resized and rotated 360 degrees on the video wall independent of the output rotation. Each Micro can support up to 2 separate videowalls and projector edge-blends with up to 14 windows depending on the source resolution, frame rate and size of windows.

New 4K Input & Output Modules
The addition of 4K support consists of two new modules; HDMI 2.0 4K60 input module and the HDMI 1.4 4K30 scaling output module.

New Streaming Media & 4K Playback Module
The Streaming Media & 4K Playback Input Module provides CORIO**master** systems with the ability to bring 2 network streams up to 1080p 60 @ 20mbs in to just 1 slot. As well as playback of 4k UHD or 2x 1080p60 video files. The Streaming Media Input Module also supports still images with full 4K rendering. And with at least 40mbs of total bandwidth you can easily provide high quality content to your video wall and projector edge-blend.

New Transition Effects
CORIOgrapher v2, the control software for the CORIO**master**, CORIO**master** mini and CORIO**master** micro videowall processors now has included simple easy to use window and source transition effects. This new animation feature is controlled by presets in the system. Transition effects occur not only by selecting presets in **CORIO**grapher but also by third party control systems.

Building of presets in the system now save one or any combination of the following window transition effects as part of a single preset:

- **Preset Duration** – 0 to 60.0 seconds
- **Fade through Black** – Source change occurs in black
- **Horizontal Shrink and Expand** – Image shrinks horizontally with source change in the middle and then expands back to previous window size
- **Vertical Shrink and Expand** – image shrinks vertically with source change in the middle and then expands back to previous window size
- **Spin** – Both left and right rotation up to 7 times in either direction with source change in the middle of the duration.
- **Size** – Windows can be sized accordingly and saved in the preset
- **Rotation** – Windows can be rotated independent of Source Spin in 359º/+359º.
- **Movement** – place a window in the desired location on the videowall.

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DVI Modules

tvONE Universal DVI modules allow for direct connections to most common analog or digital sources and destinations.

Custom DVI-I adapters provide connections for: Composite, S-Video, component, VGA, RGBHV and HDMI (DVI-D connects directly).

A DVI module provides 2 connections per AV Slot.

- Universal DVI Input Module
- DVI Scaling Output Module, Same as Universal DVI minus the CV and S-video capability.

HDBaseT Module

- HDBaseT Scaling Output Module - 2 HDBaseT Outputs w/Ethernet
- NEW 4K HDBaseT Input Module - 2 HDBaseT Inputs w/Ethernet

SDI Modules

- 3G/HD/SD-SDI Input Module - 2 Inputs
- HD/SD-SDI Input Module - 4 Inputs
- 3G/HD/SD-SDI Scaling Output Module - 2 Outputs

  The scaling 3G/HD/SD-SDI output module allows any source to be converted to SD-SDI, HD-SDI or 3G-SDI for output.[†]

4K Modules

- 4K30/60 Input module – 2 inputs
- 4K30 Scaling Output module – 1 output

Streaming Media & 4K Playback Module

- Combine Streaming, File Playback and Still Images for each Video Channel
- 2 Video channels 4K/30 & HD or Dual HD Media playback
- Dual Channel HD streaming over IP
- 8K Still Image support[2]
- USB 3.0 port for file playback
- Up to 128GB Internal SSD Storage for content[3]

Future Modules

Additional types and formats of modules will be added.

Main Chassis	
C3-503	Main Chassis w/button Front Panel 3 Slots available for Video Modules Up to 6 I/O for DVI, HDMI, 3G-SDI, RGB/YPbPr, IP Stream Single Power Supply Interfaces for RS-232 & IP S/PDIF Audio output

Input Modules	
CM-DVIU-2IN	2x via DVI-I Connectors
CM-3GSDI-2IN	2x (3G/HD/SD-SDI) via BNC
CM-HDSDI-4IN	4x (HD/SD-SDI) via BNC
CM-HDMI-4K-2IN	2x HDMI
CM-AVIP-IN-1USB-1ETH	Dual Streaming & Content playback
CM-HDBT-2IN-1ETH	2x via HDBaseT with 1x Ethernet

Scaling Output Modules	
CM-DVI-I-SC-2OUT	2x via DVI-I (minus CV & S Video)
CM-3GSDI-SC-2OUT	2x via BNC (3G/HD/SD-SDI)
CM-HDBT-SC-2OUT-1ETH	2x via HDBaseT with 1x Ethernet
CM-HDMI-4K-SC-1OUT	1x via HDMI

Note: Full A-to-D or D-to-A, Format and Framerate Conversion is provided with Scaling Output Modules.

Options	
FE-1	On-site System Commissioning
Optional DVI-U Adapters	
ZDH2050	Composite Video Adapter DVI-I Male to BNC Female
ZDB2048	YC (S-Video) Adapter DVI-I Male to 2-BNC Female
ZDS2046	YC (S-Video) Adapter DVI-I Male to 4-Pin Mini-Din Female
Optional DVI-I Output Adapters & DVI-U Input Adapters	
ZDH2040	Analog PC Adapter DVI-I Male to HD-15 Female
ZDB2038	1.5' (0.5m) Analog RGBHV Adapter Cable DVI-I Male to 5 BNC Female
ZDB2044	1.5' (0.5m) YPbPr/YUV Adapter Cable DVI-I Male to 3-BNC Female
ZDB2042	YPbPr/YUV Adapter DVI-I Male to 3-RCA Female
CMD1941	HDMI Adapter DVI-I Male to HDMI Female

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Specifications

Video Processing Power

Real Time Video Quality	Yes
Up/Down/Cross Conversion	Yes
Number of Video walls	2
Display Size Compensation	Yes, different sizes in video walls
Output Rotation	Yes for any outputs and windows
Projector Edge Blending	Yes
HDCP Key Handling	Yes

Computer Input

Digital DVI	Up to 4 via Universal DVI (HDMI & HDCP compatible)
Analog	Up to 4 via Universal DVI
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, HD to 1080p60
DVI Signals	PC to 1920x1200, HD to 1080p60
Max Horizontal Scan Rate	150kHz

Computer Outputs

DVI Signals	Up to 4 via DVI-I (HDMI & HDCP compatible)
Analog	Up to 4 via DVI-I
Analog format	RGBHV, RGBS, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
DVI Signals	PC to 1920x1200, HD to 1080p60 w/EDID
Analog Signals	PC to 1920x1080, HD to 1080p60
Vertical Refresh Rate	Any to 250Hz
Size and Position	User Adjustable
Settings Memory	Non-Volatile
Conversion Technology	Proprietary – CORIO®3
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 download
Video Comb Filter	Adaptive
Video Adjustments	Contrast, Brightness, RGB Gamma

HD Video Resolutions supported (HDMI, DVI, YPbPr, SDI, & HDBaseT)

720p (1280x720) *	23.98, 24, 25, 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, 50, 59.94, 60Hz

4K Video Input Resolutions supported (via HDMI & HDBaseT)

3840x2160: 4:4:4	23.98/24/25/29.97/30Hz 8-bit
3840x2160: 4:2:0	50/59.94/60Hz 8-bit
4096x2160: 4:2:0	50/59.94/60Hz 8-bit

4K Video Output Resolutions supported (via HDMI)

3840x2160: 4:4:4	23.98/24/25/29.97/30Hz 8-bit

Supported Audio sample rates

DVI and HDMI sources:	48 kHz
Streams and media items:	32 kHz, 44.1 kHz, 48 kHz

Video Inputs

Television Standards	NTSC, PAL
Composite Video	Up to 4 via DVI
YC (S-Video)	Up to 4 via DVI
YUV /YPbPr	Up to 4 via DVI
SD/HD-SDI	Up to 8 via BNC
SD/HD/3G-SDI	Up to 4 via BNC
4K/30	Up to 4 via HDMI & HDBaseT
4K60	Up to 2 via HDMI & HDBaseT
HDBaseT	Up to 4 via RJ45

AV over IP

Interface	Up to 2x 1 GbE Ethernet Port
IP Video Decoding	H.264 (CBP, Main, High), H.265/HEVC1 (Main)
IP Bit Rates	Up to 4x streams up to 25Mbs per stream
Colour Depth	4:2:0, 4:2:2
Supported IP Resolutions	Configurable to 1920x1080p60
Unicast Streams	RTSP, RTMP, HTTP, MPEG-TS
Multicast Streams	RTSP, MPEG-TS

Media/Images

Interfaces	Up to 2x USB3.0, Internal Storage[1], Network[1]
Video Codecs	H.264 (CBP, Main, High), H.265/HEVC1 (Main)
Video Formats	mp4, .mov, .mkv, .m4v, .ts, .mts, .m2ts, .mt2
Playback Bit Rates	Single stream to 100Mbs (per module), Dual Streams to 40Mbs (per module)

File Playback Resolutions Supported

Up to 3480x2160@30fps	Up to 2
Up to 1080p60@60fps	Up to 4
Up to 7680 x 4320	Still images[2]

Media Handling

External	Up to 2x USB 3.0 Interface
Supported devices	Flash file systems FAT, FAT32, ext3, ext4, NTFS
Internal	High speed storage up 128GB[3] per module
Remote	File transfer supported[3]

Video Outputs

YUV /YPbPr	Up to 4 via DVI
SD/HD/3G-SDI	Up to 4 via BNC
HDBaseT	Up to 4 via RJ45
4K	Up to 2 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

Audio Output

RCA socket	48kHz S/PDIF

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)	1.73" x 8.54" x 9.61" (44 x 217 x 244mm)
Weight (Net)	Approx. 1.3Kg (2.9lbs) without video modules

Environmental

Operating Temperature	0º to +40ºC (+32º to +104ºF)
Operating Humidity	10% to 85%, Non-condensing
Storage Temperature	-10º to +70º C (+14º to +158º F)
Storage Humidity	10% to 85%, Non-condensing
MTBF	Approximately 50,000 hours
BTU	205 BTU/hr

Power

External Power Supply	110v to 240v auto-detecting
Redundancy	not available
Consumption	60 watts maximum (fully populated)

[1] Planned update via Firmware
[2] Images will be rendered to 4K
[3] Future Release

Specifications subject to change
* DVI Input module only supports 720p frame rates 50,59.94, & 60Hz
†HDCP protected sources are not allowed to be converted in this way

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Modular Flexibility

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.

3G/HD/SD-SDI Input

HD/SD-SDI Input

HDBaseT Input

4K Streaming Media

4K Input

3G/HD/SD-SDI Output

DVI-U Input

Redundant PSU

DVI-I Output with Scaling

4K Output with Scaling

HDBaseT Output with Scaling