

CORIO[®]master

All-in-one multi-window video processor

standout from
the crowd



Captivate your audience. Create the ultimate video experience for your small, medium and large video walls and LED installations without compromise.

LED Ceiling
Fen Court, London

CORIOmaster. Flexible, Simple, Secure.

We've been engineering the very best video scaling technology for over 30 years. Delivering totally flexible, high quality and low latency performance is part of our DNA. We've continually developed our patented, CORIO® scaling engine to keep you ahead of all your AV challenges. By developing our own architecture, it is simple to upgrade any device to the latest format types and connections as they become available.



Add visual appeal with 360° rotation for video windows and displays.



Intuitive and versatile design software for powerful and creative control.



Keep your information safe using our secure HTTPS SSL connectivity.



Lowest latency in the industry for video and IP streams from source to display.



Be source and display agnostic. Mix and match your inputs and outputs including IP streams.



Effortless multi-user control using our app or real-time RESTful API.



Simplify AV installations with crystal clear audio from your display or to your external audio system.



You can manage up to four independent video wall canvases from a single unit.



Streamline your workflows and monitor system health & security using our advanced feedback logic.

Lexus Lounge,
Bridgestone Area,
USA



Dallas Cowboys, USA



ENDLESS POSSIBILITIES

Three Chassis



- 4RU, 16 module capacity
- Dual redundant PSU option
- Additional slot for audio module



- 1RU, 5 module capacity
- 1 fixed module with dual DVI inputs



- 1/2RU, 3 module capacity
- S/PDIF audio control



Twelve Modules

Dual 4K HDMI input



- Allows resolutions up to 4096 x 2160/60p

Dual 4K Streaming & Media input



- Dual, low latency, H.264 and H.265 network streaming
- Dual 4K playback of clips and stills

Dual 4K HDBaseT input



- Supports resolutions up to 4096 x 2160/60p
- 500ft reach with HD-One DX500

Dual DVI Universal input



- Supports resolutions up to 1920 x 1200/60p

Dual 3G-SDI broadcast input



- Supports resolutions up to 1920 x 1080/60p

Quad HD-SDI broadcast input



- Supports resolutions up to 1920 x 1080/30p

4K HDMI scaled output



- Supports all resolutions up to 3840 x 2160/30p

Quad HDMI scaled output



- Supports resolutions up to 1920 x 1080/60p
- Compatible with CORIOmaster, C3-540

Dual DVI-I Scaled output



- Supports resolutions up to 1920 x 1200/60

Dual HDBaseT scaled



- Supports resolutions up to 1920x1200/60p
- 328ft reach with Magenta Receiver

Dual 3G-SDI broadcast output



- Supports resolutions up to 1920x1080/60p

S/PDIF and Analog Audio



- Embed and de-embed audio from S/PDIF or analog
- Cross convert digital and analog audio

Support legacy equipment with adapters



HDMI



CV



Analog PC



YC (S-Video)



Analog RGBHV



YPbPr/YUV

- DVI-U - one connector, eight adapters - all formats covered!

Custom Control



CORIOgrapher



CORIOmaster app



Third party control



Wall mount control panel

Streaming Media Encoder



- Single channel H.264 video encoder
- Auto discover using CORIOmaster streaming input module
- Simple control using CORIOgrapher
- HDMI or analog audio support
- Supports low latency mode

...this is video processing
without restrictions.

The CORIOmaster difference

Create the ultimate video experience with CORIOmaster, the world's most advanced & flexible family of video processors, allowing any signal in to any signal out in glorious, eye popping 4K quality.

Adobe's global HQ



1. Secure control with simultaneous multi-user access
2. Go large and creative with 360° rotation and up to 56 displays per system
3. Make it sing with embedded audio or external break out

4. Mix low latency AV, IP & Broadcast sources in a single chassis.
5. Manage four video walls from a single chassis
6. Doing LED Right! Pixel perfect set ups - guaranteed

“ We've been very impressed with the C3-503. It is very versatile and very powerful, but also very easy to configure. We did the integration ourselves, and the CORIOmaster worked for us right out of the box. This was one example where the phrase plug-and-play meant what it said.

Peter Ransom,
Kent University, UK





You can trust your reputation with CORIOmaster. It's proven reliability is delivered through a mix of high-quality design, modularity and hand built manufacturing with a 100% test regime. In our stringent, in house, tests we see over 50,000 hours MTBF in even the harshest environmental conditions. This is why we are chosen by military, healthcare and government users globally.

Go large! with your video wall with the option for up to 56 outputs from a single 4RU chassis – just perfect for eye catching video experiences in public venues and retail.



Secure connectivity, multi-user control and event feedback are essential for collaborative and security conscious installations.

- Benefit from our secure HTTPS communications and a REST API for your secure applications.
- Event feedback – pro-actively monitor signal or system glitches for critical signal path management in mission critical environments.
- Multiple control points – up to four users can control the CORIOmaster via REST API which makes programming external control simple and offers new opportunities for multiple canvas systems.
- **CORIO**grapher user management profiles allow easy control of access to CORIOmaster for administrators, power users and users.

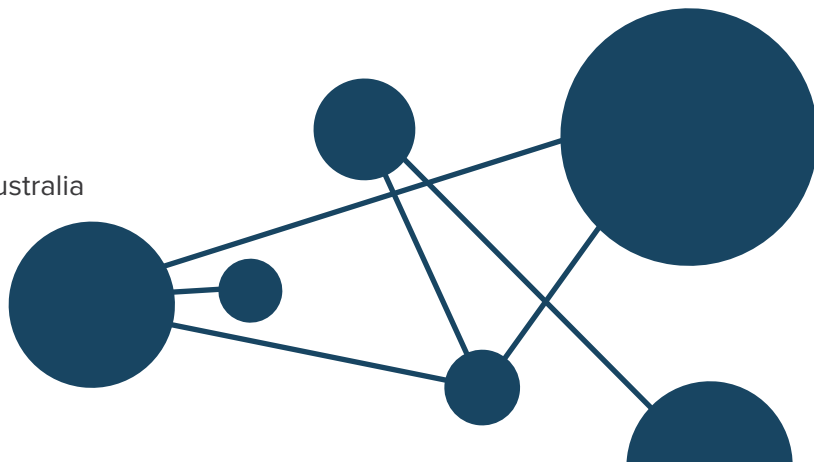


Put the A into AV!

Get your digital audio direct from source to video wall with audio de-embed/re-embed capability. This simplifies install, integration and system complexity. If you need to break out audio, simply add an audio module for both digital and analog connectivity to and from your external systems.



The Cube, Australia



Applications

KTVU FOX 2, USA



Broadcast

1. Manage up to four independent video walls from a single chassis
2. Low latency performance guaranteed
3. Seamlessly combine broadcast, AV and IP feeds with a built-in media player
4. Go large and creative - up to 56 displays per system
5. Secure, encrypted control with simultaneous multi-user access and monitoring



Command & Control

1. Multi-zone capability for control, video and audio
2. Secure control with simultaneous multi-user access
3. Wide range of video formats supported for mission critical operations
4. Never miss a beat with source or system health monitoring
5. Mix low latency AV, IP and broadcast in a single chassis



Public Venues

1. Secure control with simultaneous multi-user access
2. Make it sing with embedded audio or external break out
3. Remote monitoring of sources and system set-up
4. Large, creative edge-blends with mixed orientation and up to 56 outputs
5. Doing LED Right! Pixel perfect set ups - guaranteed
6. Save power with eco mode display switch off capability.



New London Architecture, UK

Edge Hill University, UK

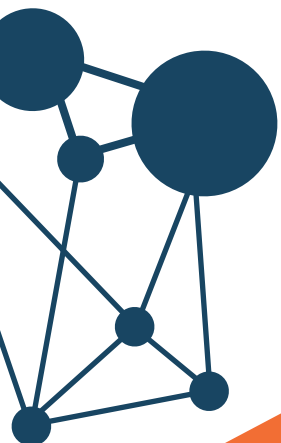


Corporate

1. Secure control with simultaneous multi-user access
2. Experience complete design freedom to create a 'one of a kind' video wall.
3. Make it sing with embedded audio or external break out
4. Mix low latency AV, IP and broadcast sources in a single chassis
5. Manage four video walls from a single chassis



Warwick University, UK





Warwick University, UK

Education

1. Manage four video walls from a single chassis
2. Make it sing with embedded audio or external break out
3. Secure control with simultaneous multi-user access
4. Mix low latency AV, IP and broadcast sources in a single chassis
5. Grab your audience with eye-catching transitions



“The video wall in the entrance area is our showcase for what is happening in the University. CORIOmaster has given us unique flexibility – we can use each screen as an individual display, or combine all four into one massive, and hugely impressive, 16K resolution show screen.”

Ian Mason,
Warwick University, UK

CORIOgrapher

Let your creativity go wild! Rotate sources and displays with complete 360° rotation, mix and match display types, create overlaps or edge-blends and automatically correct for display size and bezels to create unique, eye-catching experiences.

WALL EDITOR

The screenshot shows the main interface of the Wall Editor. At the top, there's a toolbar with icons for alignment, distribution, re-size, snap, color bars, and edge blending. A central canvas displays a grid of display units. On the right, a 'Displays & Windows' panel lists various display slots (Display_14 to Display_30). Below the canvas, a status bar shows coordinates (X: 339.498, Y: 390.498), width (2871.740), height (1675.354), and rotation (0°). A 'Canvas Design Area' is highlighted. At the bottom, there are buttons for 'Presets', 'Take', 'Save on Device', and 'Save to File'. A 'Properties Window' is open on the right, showing settings for 'MIDIA_4K_IN' such as input slot, name, type, quality, resolution, and border settings.

Annotations include:

- Alignment
- Distribution
- Re-size
- Center
- Snap
- Color Bars
- Edge Blending
- Preview Mode
- Audio Management
- Display and Source Control
- Canvas Selection
- Window and Display Coordinates
- Window and Display Rotation
- Aspect Ratio Lock
- Canvas Design Area
- Preset Management
- Take
- Save Options
- Browser for IP Stream and Media
- Properties Window

The dialog box shows RTSP settings for 'Pearl RTSP'. It includes fields for 'URL: http://202.148.33.54/stream.mpeg', 'Duration: 00:00:00', and 'Relay: 0'. A 'Line latency' field is highlighted with a value of '50'. Buttons for 'Update Run' and 'Cancel' are at the bottom.

IP Latency Reduction

The interface shows a 'Media Browser' with a grid of media files. Below it is a 'Playlist Editor' showing a queue of media items. At the bottom, a 'Play Queue' section displays the current media item '2020041401 NORMAL01_1.46' with playback controls and a resolution of '1920x1080p30'.

Media and IP Stream play queue carousel

DASHBOARD

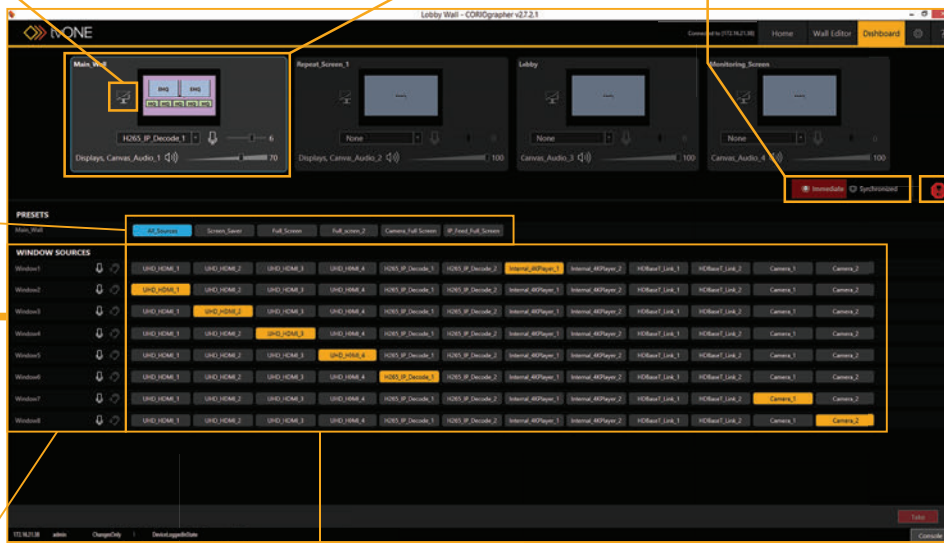
Cut to black and mute

Immediate/synchronized mode

Canvas Audio Control

Global cut to black mute

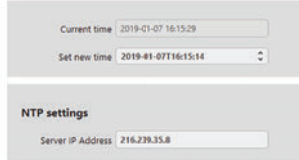
Preset Control



Audio control per window

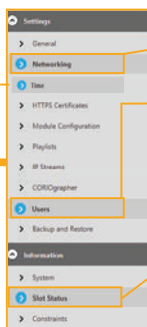
Source Switching

SETTINGS



Network Time Protocol

Secure Networking Setup



Multi-user Login Control

Slot	Name	Audio Enabled	Status	Card Type	HDMI	HDCP	Maximal Resolution	Type
Slot1-01	HDMI_Audio_1	☑	OK	HDMI_AE 2-0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-02	HDMI_Audio_2	☑	OK	HDMI_AE 2-0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-03	HDMI_Audio_3	☑	OK	HDMI_AE 2-0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-04	HDMI_Audio_4	☑	OK	HDMI_AE 2-0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-05	HDMI_IP_Decoder_1	☑	OK	HDMI_AE 0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-06	HDMI_IP_Decoder_2	☑	OK	HDMI_AE 0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-07	Internal_4KPage_1	☑	OK	HDMI_AE 0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-08	Internal_4KPage_2	☑	OK	HDMI_AE 0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-09	HDMI_Link_1	☑	OK	HDMI_AE 2-0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-10	HDMI_Link_2	☑	OK	HDMI_AE 2-0V	Not_Present	OFF	[Dropdown]	[Dropdown]
Slot1-11	Camera_1	☑	OK	SDI_0E 2-0V	Not_Present	OFF	SDI	[Dropdown]
Slot1-12	Camera_2	☑	OK	SDI_0E 2-0V	Not_Present	OFF	SDI	[Dropdown]
Slot1-13	Internal_Audio_1	☑	OK	AUDIO 0-16K-OUT				[Dropdown]
Slot1-14	Internal_Audio_2	☑	OK	AUDIO 0-16K-OUT				[Dropdown]

Input/Output Status

Video Processing Power	
Parallel Processing Architecture	Yes
CORIO3 Video Processing	Yes
Up/Down/Cross Conversion	Yes
Number of Canvasses	4 (C2-503 has 2 canvasses)
Display Size Compensation	Yes, different sizes in video walls (using different sized monitors in the same wall can degrade picture quality)
Output Rotation	Yes for any outputs and windows
Projector Edge Blending	Yes
HDCP Key Handling	Yes
Computer Input (Qty Depends upon INPUT modules fitted)	
Digital DVI	Universal DVI (HDMI & HDCP compatible)
Analog	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	150 kHz
Computer Outputs (Qty Depends upon OUTPUT modules fitted)	
DVI Signals	DVI-I (HDMI & HDCP compatible)
Analog	DVI-I
Analog format	RGBHV, RGBS, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
DVI Signals w/EDID	PC to 1920x1200, HD to 1080p60
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
Video Inputs (Qty Depends upon INPUT modules fitted)	
Television Standards	NTSC, PAL
Composite Video	DVI
YC (S-Video)	DVI
YUV /YPbPr	DVI
SD/HD-SDI	BNC
SD/HD/3G-SDI	BNC
4K/30	HDMI & HDBaseT
4K/60	HDMI & HDBaseT
HDBaseT	RJ45

AV over IP (Qty depends upon chassis limitations)	
Interface	USB3.0, Internal Storage, Network
IP Video Decoding	H.264 (CBP, Main, High), H.265/HEVC1 (Main)
IP Bit Rates	Up to 25Mbps 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	USB3.0, Internal Storage, Network
Video Codecs	H.264 (CBP, Main, High), H.265/HEVC1 (Main)
Video Formats	mp4, .mov, .mkv, .m4v, .ts, .mts, .m2ts, .m2
Playback Bit Rates	Single stream to 100Mbps (per module), Dual Streams to 40Mbps (per module)
File Playback Resolutions Supported	
Up to 3480x2160@30fps	Yes (1 stream per module)
Up to 1080p60@60fps	Yes (up to 2 streams per module)
Up to 7680 x 4320	Still images2
Media Handling	
External	USB 3.0 interface
Supported devices	Flash file systems FAT, FAT32, ext3, ext4, NTFS
Internal	High-speed storage up 128GB per module
Remote	File transfer supported3
Video Outputs (Qty Depends upon OUTPUT modules fitted)	
YUV /YPbPr	via DVI
SD/HD/3G-SDI	via BNC
HDBaseT	via RJ45
HD (720P, 1035i, 1080i, 1080P)	via HDMI
4K	via HDMI
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 60/59.94
Control Methods	
RS-232	via D9 Female Connector
IP Interface	RJ45 Connector for both HTTP(s)
Warranty	
Limited Warranty	5 Years Parts and Labor
Regulatory Compliance	
Main unit	FCC, CE, RoHS, ULc
Mechanical	
See Product Datasheet	
Environmental	
See Product Datasheet	
Power	
Power Supply	110v to 240v auto-detecting (C3-503 has external power supply)
Redundancy	Optional Internal Hot Swap PSU (C3-540 only)

Specifications subject to change ²Images will be rendered to 4K ³Future release – not fully visible, * DVI Input module only supports 720p frame rates 50,59.94, & 60Hz



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