OVERVIEW

CORIO\textit{master}2 (CM2-547) is a powerful, efficient approach to building large 4K/8K video display systems. Multiple video windows can be positioned on LED, display based videowalls or projector edge blends, displaying any of the sources connected to CORIO\textit{master}2. Windows can be visually “transitioned” into position, resized or rotated to any proportion allowing designers to achieve striking visual effects. Each system can support up to three separate 4.1 Gigapixel video canvases with up to sixty four windows per canvas depending upon the source resolution, frame rate and size of windows. CORIO\textit{grapher}, the control software for the CORIO\textit{master}2 series of processors, is a simple, easy to use design interface that enables window and source positioning and transition effects. This dynamic feature is easily managed through presets in CORIO\textit{grapher} or by simple commands executed by third party control systems. Fifty presets can be saved permanently in the system.
**KEY FEATURES**

- Patented CORIO® video processing technology
- 752Gbit system bandwidth (360Gbit output bandwidth)
- Up to 128 windows per system (40 x 4K60 total)
- Up to 64 windows per canvas
- Manage up to 3x 4.1 Gigapixel canvases (over 12 Gigapixels of design space)
- 4RU frame size
- Modular (8x Video Input Slots, 7x Video Output Slots and 1x Audio Slot)
- Cascadable (future expansion – requires additional expansion module)
- Field upgradable (flash, upgradeable via download)
- Low power consumption when compared to PC based systems
- Uses CORIOgrapher, an easy to use and powerful software interface
- CORIOgrapher live dashboard to switch presets and window sources
- Automatically discover device on the network using CORIOdiscover
- Simultaneous output from 4 to 28x 4K60 outputs and 1 to 20x 4K60 Inputs
- Simultaneous output from 4 to 28x 4K30 outputs and 2 to 24x 4K30 inputs
- From 8 to 56x full HD outputs and 2 to 32x full HD inputs
- Windows and displays can be rotated in 1° increments
- Versatile DVI inputs: (HDMI/DVI/CV/YC/RGB/YPbPr)
- 4K60 input & output modules
- HDMI outputs: (8x 1080P60 or 4x 4K60 modules available)
- 4K HDBaseT inputs
- SDI inputs SD/HD-SDI/3G-SDI to 1080p60
- Luminance Keying feature available on all outputs
- H.264/H.265 4K/30 Streaming Media & 4K Playback Input Module
- High resolution analog inputs
- HDMI inputs & outputs with HDCP handling
- Combination of different size and resolution of displays can be used
- Customizable bezel compensation
- Multi-edge blending of projectors
- Up-down-cross conversion
- EDID manager
- Secure command interface
- REST API
- Real-time status feedback through events
- Simple serial control protocol
- Command line interface – third party control
- Crestron modules available
- IP decoding low latency mode
- IP stream labelling
- Audio support (one stereo pair per canvas)
- Audio module to embed and de-embed
- Custom resolution editor
- Framelock and synclock
- 8HD synchronized playback

**OPTIONS**

- Dual redundant power supply (load balanced)
- Universal DVI adapters
- Optional air inlet filter
- Onsite system commissioning (US Only)

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**Requestable Items**

4RU CORIOmaster2 chassis

Quad 3G-SDI input

Dual 4K Streaming Media Input 128GB SSD

DVI-U input 2x (DVI, RGB/YUV, CV, YC via DVI-I)

HDMI 1080P input 4x

HDMI 4K input 2x

HDMI 4K input 4x

HDBT 4K input 2x (and single ethernet)

Audio I/O module - analog (1xIN, 1xOUT), SPDIF (1xIN, 3xOUT) via terminal block

HDMI 4K output 4x

HDMI 1080P output 8x

Optional dual redundant, hot swappable power supply (400w or 700w load balanced)

Onsite system commissioning (US Only)
Modular Flexibility

CORIOmaster2 can accommodate numerous I/O configurations in the eight input and seven output video slots available; when inserted, the modules are automatically recognized & configured. This flexibility allows end user configurations to be based on their own needs.

Dual 4K HDBaseT
Supports resolutions up to 4096x2160/60p or 500ft reach with HD-ONE DX500.

Quad 3G-SDI Broadcast
Supports resolutions up to 3G-SDI (1080/60p) versions.

Dual 4K HDMI
Supports resolutions up to 4096x2160/60p.

Quad 1080p HDMI
Supports resolutions up to 1920x1080/60p.

Quad 4K60 HDMI
Supports resolutions up to 3840x2160/60p.

Eight HDMI
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.

Dual 4K Streaming & Media
Dual low latency H.264 & H.265 streaming decoder. IP source labeling. Playback of video clips and stills from on-board 128Gb HDD.

Quad 4K HDMI
Supports resolutions up to 4096x2160/60p.

Quad 4K HDMI
Supports resolutions up to 4096x2160/60p.

Quad 4K60 HDMI
Supports resolutions up to 4096x2160/60p.

ADAPTORS
For use with legacy AV formats
## Specification Sheet Version 1.4

**Video Processing Power**
- Parallel Processing Architecture: Yes
- CORIO Video Processing: Yes
- Up/Down/Cross Conversion: Yes
- Number of Canvasses: 3
- 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

### Video Inputs

#### Analog
- Composite Video - Up to 16x via DVI-U
- YC (S-Video) - Up to 16x via DVI-U
- RGBHV, RGBS, RGsB, YPbPr - Up to 16x via DVI-U
- Television Standards - NTSC, PAL

#### Digital DVI
- Up to 16x via Universal DVI (HDMI & HDCP compatible)

#### HDMI
- Up to 32x (HDCP compatible)
- 4K HDMI: up to 24x 4K30 or 20x 4K60
- HDBaseT + Ethernet: Up to 8x 4K30 plus 8x 1080p/30 plus 8x ethernet via RJ45
- IP: Up to 16x 1080P/30 or 8x 4K30 plus 8x 1080p/30 (IP Stream)

**Supported Input Resolutions (depends on modules fitted)**

- (640x480P) 60/72/75/85Hz
- (720x480) 59.94Hz
- (720x480P) 59.94Hz
- (720x576) 50Hz
- (800x600P) 56, 60, 72, 75, 85Hz
- (980x980P) 75Hz
- (1024x768P) 60, 70, 75, 85Hz
- (1152x864P) 70, 75Hz
- (1280x720P) 23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz
- (1280x768P) 60, 75Hz (1280x800P) 60, 75, 85Hz
- (1280x960P) 60, 85Hz
- (1280x1024P) 50, 60, 75, 85Hz
- (1360x768P) 60Hz
- (1366x768P) 60Hz
- (1400x900P) 60Hz
- (1400x1050P) 50, 60, 75Hz
- (1440x900P) 60, 75, 85Hz
- (1600x900P) 60Hz
- (1600x1200P) 60Hz
- (1650x1050P) 60Hz
- (1920x720P) 50, 59.94, 60Hz
- (1920x1080P) 47.96, 48, 50, 59.94, 60Hz
- (1920x1080P) 50, 60Hz
- (3840x2160P) 23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz
- (4096x2160P) 23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz

**Video Outputs**
- HDMI: Up to 56x 1080P/60 HDCP 2.2 compatible
- 4K HDMI: Up to 28x 4K60, HDCP 2.2 compatible
- Color: Proprietary CORIO®
- Conversion Technology: Proprietary CORIO®
- Size and Position: User Adjustable

**Supported Output Resolutions (depends on modules fitted)**

- (1280x720P) 50, 60Hz
- (1920x1080P) 50, 60Hz
- (1920x1080P) 23.98, 24, 25, 29.97, 30, 50, 60Hz
- (3840x2160P) 23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz

**AV over IP (up to 8x module cards)**

- Interface: 1x GbE Ethernet Port
- IP Video Decoding: H.264 (Main, High), MPEG4, H.265/HEVC (Main) 8-bit
- IP Bit Rates: Up to 16x streams up to 50Mbit H264, 25Mbps H265 per stream (dual stream)
- Color Depth: 4:2:0, 4:2:2
- Supported IP Resolutions: Configurable to 3840x2160/30
- Unicast Streams: RTSP, RTP, HTTP, MPEG-TS
- Multicast Streams: RTSP, MPEG-TS

**Media/Images**
- Stills: JPEG, PNG, BMP
- Interfaces: Up to 8x USB3.0, Internal Storage, Network
- Video Codecs: H.264 (CBP, Main, High), H.265/HEVC (Main)
- Video Formats: mp4, mov, mkv, m4v, ts, mts, m2ts, m2p, mpeg2
- Playback Bit Rates: H264 total data handling 100Mbs, single channel up to 50Mbps @4K30 (2nd render HD), H265 total data handling 50Mbps, single channel up to 25Mbps @4K30 (2nd render HD)

**File Playback Resolutions Supported**
- Up to 3840x2160@30fps: Up to 8x (1x per module with 2nd render HD)
- Up to 1080p60@60fps: Up to 16x (2x per module)
- Up to 8x 7680 x 4320: Still images *(scaled to 4K)

**Media Handling**
- External: Up to 8x USB 3.0 interface
- Supported formats: Flash file systems FAT, FAT32, ext3, ext4, NTFS
- Internal: High-speed storage up 128GB per module
- Remote: File transfer supported

**Control Methods**
- RS-232 via D9 Female Connector
- IP Interface RJ45 Connector for both HTTP(s)

**CPU Module**
- Settings Memory: Non-Volatile
- Warranty: Limited Warranty 5 Years Parts and Labor
- Regulatory Compliance: Main unit FCC, CE, RoHS, ULc

**Mechanical**
- Size (H x W x D): 70° x 17° x 12.09" (178mm x 432mm x 307mm), (D) including PSU Handle 12.99" (330mm), (W) including rack ears 19° (483mm)
- Weight (Net): Approx. 22 lbs (10Kg) Chassis Without Modules but included 1x Power Supply

**Environmental**
- Operating Temperature: 32° to 104°F (0° to +40°C)
- Operating Humidity: 10% to 85%, Non-condensing
- Storage Temperature: 14° to +158°F (-10° to +70°C)
- Storage Humidity: 10% to 85%, Non-condensing
- BTU: 1365 BTU (400W), 2390 BTU (700w)
- Fan Noise: 32 to 64 db

**Power**
- Internal Power Supply: 110v to 240v auto-detecting
- Redundancy: Optional Internal Hot Swap PSU with load balancing.
- Consumption: 400W or 700W depending upon version

Specifications subject to change

* using different sized monitors in the same wall can degrade picture quality

* DVI input module only supports 720p frame rates 50, 59.94 & 60Hz