



OVERVIEW

C3-503 CORIOmaster micro provides a powerful, efficient approach to building 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 CORIOmaster. 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 2 separate video canvasses with up to 10 windows per canvas depending upon the source resolution, frame rate and size of windows.

CORIOgrapher, the control software for the CORIOmaster 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 CORIOgrapher or by simple commands executed by third party control systems. 50 presets can be saved permanently in the system.

LATEST FEATURES

- ◆ **NEW Dual 4K Output Module** – 4K60 capable module for immersive video experiences. Other modes included cloned 4K60 and independent dual 4K30.
- ◆ **NEW Output Cloning** – easily set up repeat displays, duplicated side screens and facilitate third party screen recording.
- ◆ **Dual HDMI output HD resolution Keying module** – add icons, layer data feeds and areas of interest.
- ◆ **Synchronized playback** – Optional mode for dual 4K streaming and media input module allow synchronized playback of up to 8 HD clips.
- ◆ **Low latency IP mode** – view an incoming IP stream from a live source with a typical latency below 300ms in this mode.
- ◆ **FTP workflows** – Receive media files over the network and store them for playback.
- ◆ **AES Decryption** - Decode IP streams that have been encrypted using the AES CBC standard using 128 or 256-bit key length
- ◆ **EDID manager** – Easily manage system default EDID's and upload new EDID's.
- ◆ **Custom resolution management** - Increased storage for up to 20 custom resolutions.
- ◆ **New look CORIOgrapher** – Design and control your video walls quickly and easily

KEY FEATURES

- ◆ Patented CORIO®3 videowall processing technology
- ◆ 1/2 RU frame size
- ◆ Manage up to 2 canvasses
- ◆ Extremely low latency of typically 1 but maximum two video frames input to output
- ◆ Windows and Displays can be freely positioned, sized, scaled, and freely rotated in 1° increments
- ◆ Customisable borders can also be added to windows
- ◆ Combination of different size and resolution of displays can be used on the same canvas
- ◆ Customizable bezel compensation
- ◆ Multi-Edge blending of projectors
- ◆ Up-down-cross conversion
- ◆ Custom input and output resolutions are supported
- ◆ Secure Command Line Interface and REST API – for third party control
- ◆ Control via serial or network
- ◆ AMX & Crestron modules available
- ◆ Uses CORIOgrapher; simple to use but powerful software interface

OPTIONS

- ◆ Universal DVI adapters
- ◆ Onsite system commissioning (US Only)

Part Numbers

| | | | |
|--------------------------|--|---------------------|---|
| C3-503 | 1/2RU CORIOmaster with 3 slots available for video I/O modules. Interfaces for R2-232 & IP. Single external power supply, SPDIF audio output | CM-HDBT-SC-2OUT | Dual HDBaseT output module with Single Ethernet |
| CM-HDMI-4K-2IN | Dual 4K30 Or Single 4K60 HDMI input module | CM-DVI-I-SC-2OUT | Dual DVI Scaled output module |
| CM-AVIP-IN-1USB-1ETH | 4K Streaming & Media input module (Dual channel HD streaming, 8K still image support, USB 3.0 for File Playback, 16GB Internal SSD storage for Content) | CM-3GSDI-SC-2OUT | Dual 3G-SDI output module |
| CM-AVIP-IN-1USB-1ETH-128 | 4K Streaming & Media input module (Dual channel HD streaming, 8K still image support, USB 3.0 for File Playback, 128GB Internal SSD storage for Content) | CM-HDMI-SC-2OUT-KEY | Dual Keying Output module |
| CM-DVIU-2IN | Dual DVI-U input module (Custom DVI-I adapters provide connections for: composite, S-Video, component, VGA, RGBHV and HDMI (DVI-D connects directly). | ZDH2050 | Composite video adaptor DVI-I |
| CM-3GSDI-2IN | Dual 3G-SDI input module | ZDB2048 | YC (S-Video) adapter DVI-I male to 2-BNC female |
| CM-HDSDI-4IN | Quad HD-SDI input module | ZDS2046 | YC (S-Video) adapter DVI-I male to 4-Pin mini-din female |
| CM-HDBT-2IN-1ETH | Dual HDBaseT Input with Single Ethernet | ZDH2040 | Analog PC adapter DVI-I male to HD-15 female |
| CM-HDMI-4K-SC-1OUT | 4K HDMI scaled output module | ZDB2038 | 1.5' (0.5m) analog RGBHV adapter Cable DVI-I male to 5-BNC female |
| CM-HDMI-4K-SC-2OUT | Dual 4K30 or single 4K60 output module | 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 |
| | | Magenta Encoder-100 | Single channel IP encoder |
| | | FE-1 | Onsite system commissioning (US Only) |

Modular Flexibility

CORIOmaster can accommodate numerous I/O configurations in the 3 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.



Dual 4K output with scaling



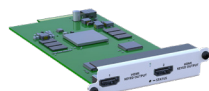
DVI-I Output with scaling



3G/HD/SD-SDI Input



DVI-U Input



Dual Keying Output



3G/HD/SD-SDI Output



4K Streaming Media



HDBaseT Input



HDBaseT Output with Scaling



4K Output with Scaling



HD/SD-SDI Input



4K Input

LATEST FEATURES

Keying

Uses optional keying dual output module CM-HDMI-SC-2OUT-KEY to provide keying using two layers, background and foreground. The module uses a luminance keyer so any video information in the foreground layer that is darker than the defined luminance key level will be keyed out allowing the background layer below it to become visible. There's also a softness factor so that edges appear anti-aliased. Keying is done in real time with no visible latency.

8HD Player

Uses a 4K streaming media and playback module to deliver synchronised playback of up to 8x 1080P/30 stored files. Create and store fully synchronised video groups and deliver to up to eight outputs, for example, a single source can be split into 8 multiple files to create an 8 x 1 synchronised layout. Other layouts are possible depending upon how your displays are arranged and how your source files are created. Files are grouped for synchronised playback and multiple file groups can be added to a playlist for presentation.

Low Latency Streams

When you need to view an incoming IP stream from a live source, enable this feature to process it with the lowest possible latency input to encoder to output from CORIOmaster. Typical latency is below 300ms in this mode. The incoming stream needs to have been configured for low latency streaming. Audio is not supported in low latency mode.

EDID Manager

Manage system default EDID's and upload new EDID's as .edd files and assign these to your inputs as required. User added EDID files can be deleted if no longer needed.

Handle More Custom Resolutions

Increased storage with up to 20 custom resolutions stored in the system. Now up to 20 new custom resolutions can be uploaded, stored, and used in CORIOmaster in addition to the resolutions already supported by default.

IP Stream and Media Playback Labelling

Add customizable labels to IP streams and playback media files Text Labels of up to 20 characters can be added and positioned in one of nine areas on screen. Font size can be adjusted, background and foreground color can be inverted, and borders can be added and customized. There are four user selectable formats for displaying the label, custom text, friendly name or file name, file title or file name or file name only.

FTP

Connect your 4K streaming media and playback module to an FTP server to enable media files to be received over the network and stored for playback. New files uploaded to the server can be synchronized to the module by using a simple API command. Files that are part of a playlist can be updated to the server by uploading them to a sync folder, synchronized with the module using the API command and played automatically by the module when next due to play in a playlist. Download speed to the module is managed so as not to overwhelm your network.

Handle Encrypted Streams

Decode IP streams that have been encrypted using the AES CBC standard using 128 or 256-bit key length.

Increased Number of Stored IP Encoders

Information from up to 40 IP encoders can now be stored and handled by the 4K streaming media and playback module, enabling twice as many decoders to be accessed than before.

SPECIFICATIONS

| Video Processing Power | |
|--|---|
| Parallel Processing Architecture | Yes |
| CORIO3 Video Processing | Yes |
| Up/Down/Cross Conversion | Yes |
| Number of Canvasses | 2 |
| 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 | |
| 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 | 150 kHz |
| 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 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 | 23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz 8-bit |
| 4096x2160 | 50, 59.94, 60Hz 8-bit |
| 4K Video Output Resolutions supported (via HDMI) | |
| 3840x2160 | 23.98, 24, 25, 29.97, 30, 60Hz 8-bit |
| 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 |
| 4K/60 | Up to 2 via HDMI & HDBaseT |
| HDBaseT | Up to 4 via RJ45 |

| AV over IP | |
|---|--|
| Interface | 1 x GbE Ethernet Port |
| Video Decoding | H.264 (Main, High), MPEG4, H.265/HEVC (Main) 8-bit |
| Bit Rates | Up to 50Mbit H264, 25Mbps H265 per stream (dual stream) |
| Colour Depth | 4:2:0, 4:2:2 |
| Colour Depth | Colour Depth |
| Colour Depth | |
| Resolution Support | |
| 640x480p | 60, 72, 75, 85Hz |
| 720x480i | 59.94Hz |
| 720x480p | 59.94Hz |
| 720x576i | 50Hz |
| 720x576p | 50Hz |
| 800x600p | 56, 60, 72, 75, 85Hz |
| 1024x768p | 60, 70, 75, 85Hz |
| 1152x864p | 75Hz |
| 1280x720p | 23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz |
| 1280x768p | 59.94, 60, 75, 85Hz |
| 1280x800p | 60, 75, 85Hz |
| 1280x960p | 60, 85Hz |
| 1280x1024p | 60, 75, 85Hz |
| 1360x768p | 60Hz |
| 1400x1050p | 60, 75Hz |
| 1440x900p | 60, 75, 85Hz |
| 1600x1200p | 60Hz |
| 1680x1050p | 60Hz |
| 1920x1080i | 50, 59.94, 60Hz |
| 1920x1080p | 23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz |
| 1920x1200p | 60Hz |
| 3840x2160p | 23.98, 24, 25, 29.97, 30Hz |
| 4096x2160p | 23.98, 24, 25, 29.97, 30Hz |
| Unicast Streams | RTSP, RTMP, HTTP, MPEG-TS |
| Multicast Streams | RTSP, MPEG-TS |
| Control Interface | via CORIOgrapher |
| Media Handling | |
| External | 1 x USB 3.0 Interface |
| Supported Devices | Flash file systems FAT, FAT32, ext3, ext4, NTFS |
| Internal | High-speed storage up to 128GB |
| File transfer | Remote file transfer supported |
| Maintenance | via CORIOgrapher |
| Media/Images | |
| Interfaces | USB 3.0, Internal Storage, Network |
| Video Codecs | H.264 (CBP, Main, High), H.265/HEVC (Main) |
| Video Formats | mp4, mov, mkv, m4v, ts, mts, m2ts, mt2, mpeg2 |
| Playback Bit Rates (Streaming and Media Playback) | H264 total data handling 100Mbps, single channel up to 50Mbps @4K30 (2nd render HD). H265 total data handling 50Mbps, single channel up to 25Mbps @4K30 (2nd render HD) |
| Still Image | JPEG, PNG, BMP |
| File Playback Resolutions Supported | |
| Up to 3840x2160 @ 30fps | Up to 1 (2nd render HD) |
| Up to 3840x2160 @ 30fps | Up to 2 (Synchronized Mode) |
| Up to 1080p60 @ 60fps | Up to 2 |
| Up to 7680 x 4320 | Still Images |
| Warranty | |
| Limited Warranty | 5 year parts and labor |

SPECIFICATIONS

| Video Outputs | |
|--------------------------------|----------------------------------|
| YUV /YPbPr | Up to 4 via DVI |
| SD/HD/3G-SDI | Up to 4 via BNC |
| HDBaseT | Up to 4 via RJ45 |
| HD (720P, 1035i, 1080i, 1080P) | Up to 4 via HDMI |
| 4K | Up to 4 via HDMI |
| 3G/HD-SD/SDI | |
| SMPT259M-C | 270Mbps < 0.1UI jitter |
| (SD-SDI Video) | 525/625Line |
| SMPT292M | 1.485/1.4835Gbps < 0.2 UI jitter |
| (HD-SDI Video) | 720p, 1035i, 1080i, 1080p |
| SMPT424M | 2.97/2.967Gbps < 0.3 UI jitter |
| (3G-SDI Video) | 1080p 59.94, 60Hz |
| Control Methods | |
| RS-232 | via D9 Female Connector |
| IP Interface | RJ45 Connector for both HTTP(s) |
| Regulatory Compliance | |
| Main unit | FCC, CE, RoHS, ULc |

| Mechanical | |
|-----------------------|---|
| Size (H x W x D) | 1.73" x 8.58" x 9.69" (44 x 218 x 246mm) |
| Weight (Net) | 2.87lb to 3.75lb (1.3kg to 1.7kg) depending upon modules fitted |
| 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 |
| MTBF | Approximately 50,000 hours |
| BTU | 205 BTU/hr |
| Power | |
| External | Input 110V-240V 50-60Hz auto-detecting. Output 12V DC 5A. |
| Connector | Locking |

