

ARCHITECTURAL SPECIFICATIONS

CORIOmaster Video wall processor

CORIOmaster, CORIOmaster mini, and/or CORIOmaster micro

(HDCP compliant - HDMI, DVI, VGA, Component, Composite, S-Video, SD-SDI, HD-SDI, 3G-SDI, HDBaseT, streaming RTSP and file playback. RS232, RJ45 Control, Output Video Scaling Video Wall Processor)

DESIGN

- Video wall processor shall include a 5 year warranty with system support for 5 years after discontinuance of the product.
- Video wall processor must support cross conversion of the following signals: DVI, HDMI, VGA, Component, Composite, YC, SD-HDI, HD-SDI, 3G-SDI, HDBaseT. Video wall processors that do not support cross conversion of DVI, HDMI, VGA, Component, Composite, YC, SD-HDI, HD-SDI, 3G-SDI, HDBaseT shall not be accepted.
- Video wall processor must support up/down conversion of the following signals: DVI, HDMI, VGA, Component, Composite, YC, SD-HDI, HD-SDI, 3G-SDI, HDBaseT. Video wall processors that do not support up/down conversion of DVI, HDMI, VGA, Component, Composite, YC, SD-HDI, HD-SDI, 3G-SDI, HDBaseT shall not be accepted.
- Video wall processor must support control via RS-232. Video wall processors that do not support Rs-232 shall not be accepted.
- Video wall processor must support control via RJ45. Video wall processors that do not support RJ45 control shall not be supported.
- Video wall processor must support scaling on all outputs. Video wall processors that do not support scaling on all outputs shall not be accepted.
- Video wall processor must allow less than 2 frames of delay. Video wall processors that allow more than 2 frames of delay in Video shall not be accepted.
- Video wall processor must be a modular based system allowing for multiple configurations of Video in and output cards. Video wall processors that do not allow for modular configurations of I/O ports shall not be accepted.
- Video wall processor shall provide 16 slots for modular configuration where each slot can be an input or an output. Video wall processors that do not allow for 16 slots which can be inputs or outputs shall not be accepted.
- Video wall processor must be able to manage 4 independent, simultaneous, walls with one chassis. Video wall processors that do not manage 4 video walls simultaneously shall not be accepted.
- Video wall processor must support up to 600 Million pixels per second. Video wall processors that do not support 600 Million Pixel per second shall not be accepted.
- Video wall processor must support 14, simultaneous, video channels per wall, with up to 600 Million Pixels per second. Video wall processors that do not support 14, simultaneous, video channels on each wall shall not be accepted
- Video wall processor must support 1-360° rotation on each video source. Video wall processors that do not support 1-360° rotation on all video sources shall not be accepted.
- Video wall processor must support 1-360° rotation on each Output. Video wall processors that do not support 1-360° rotation on all outputs shall not be accepted.
- Video wall processor must be FPGA based, allowing for FW upgrades to new functionality and features. Video wall processors that are not FPGA based shall not be accepted.
- Video wall processor must support custom resolutions. Video wall processors that do not support custom resolutions shall not be accepted.
- Video wall processor must support different size and resolutions of displays within each wall. Video wall processors that do not support different size and resolution displays within each wall shall not be accepted.
- Video wall processor must support Projector edge-blending. Video wall processors that do not support projector edge-blending shall not be accepted.
- Video wall processor must be HDCP compliant. Video wall processors that are not HDCP compliant shall not be accepted.

- Video wall processor must have 50 presets per video wall. Video wall processors that do not have 50 presets for each video wall shall not be accepted.
- Video wall processor must provide Preset driven transitions. Video wall processors that do not support preset driven transitions shall not be accepted.
- Video wall processor must support timeline driven transitions. Video wall processors that do not support timeline driven transitions shall not be accepted.
- Video wall processor must support 4K60 Video sources. Video wall processors that do not support 4K60 shall not be accepted.
- Video wall processor must support 4K30 outputs. Video wall processors that do not support 4K30 shall not be accepted.
- Video wall processor must support Streaming video using RSTP over TCP/UDP and MPEG-TS, Video wall processors that do not support streaming video shall not be accepted
- Video wall processor must support dual simultaneous streaming video up to 1080p @ 60fps in one slot, video processors that do not support dual streams via a single RJ45 shall not be accepted.
- Video wall processor must support dual file playback via USB 3.0 as a .mp4, mpeg-4,mov, and AVI, video processors that do not support these files playback via USB 3.0 shall not be accepted.
- Video wall processor must support dual file playback via internal solid state memory as a .mp4, mpeg-4,mov, and AVI, video processors that do not support these files playback via solid state internal memory shall not be accepted.
- Video processor must support still image store up to 7680x4320, video processors that do not support 8k still images shall not be accepted.
- Video wall processor must have built in true redundant and hot-swappable power supplies. Video wall processor that do not have built in true redundant and hot-swappable power supplies shall not be accepted.
- Video wall processor must support control via 3rd party controller. Video wall processors that do not support 3rd party control shall not be accepted.
- Video wall processor must require no more than 300 watts of power. Video wall processors that require more than 300 watts shall not be accepted.
- Video wall processor must have support to encrypt all networked based communication through AES128 encryption to provide private communication
- Video wall processor must support REST API providing multi-user communication to device.
- Video wall processor must support subscribe to events to provide real time feedback to automatically monitor the performance and events of the videowall and respond accordingly.
- Video wall must support embedded audio through the system from source to display.
- Video wall must support the de-embedding of audio, cross-converted and re-embedded on another source. Must support Input and output volume control together with audio mute.
- Video wall must support analog and S/PDIF audio input or output.
- Video wall must support up to 56 discrete HD displays with ability to place these displays in any orientation.

PROGRAMMING

- CORIOmaster Chassis and Modules:

C3-540	Chassis with 16 Slots available for Audio/Video Modules
C3-510	Chassis with 5 Slots available for Audio/Video Modules plus 2 dedicated Universal DVI input
C3-503	Chassis with 3 Slots available for Audio/Video Modules with S/PDIF out & front panel buttons
CM-DVIU-2IN	Input Module - 2x DVI-U (DVI, HDMI, RGB/YPbPr, YC, CV) via DVI-I
CM-HDMI-4K-2IN	Input module -2x HDMI with 4K30 & 4K60 supported
CM-3GSDI-2IN	Input Module - 2x 3G/HD/SD-SDI via BNC
CM-HSDI-4IN	Input Module - 4x HD/SD-SDI via BNC
CM-HDBT-2IN-1ETH	Input Module - 2x via HDBaseT with 1x Ethernet with 4K30 & 4K60 supported
CM-AVIP-IN-1USB-1ETH	Input module - Dual Channel Decoder via RJ45, 4K file playback via USB 3.0 and 16GB internal SSD

CM-DVI-I-SC-2OUT	Output Module with Scaling - 2x DVI-I via DVI-I Connectors
CM-HDMI-4K-SC-1OUT	Output module with Scaling – 1x HDMI with 4K30 supported
CM-3GSDI-SC-2OUT	Output Module with Scaling - 2x 3G/HD/SD-SDI via BNC
CM-HDBT-SC-2OUT-1ETH	Output Module with Scaling - 2x HDBaseT
CM-AUD-2IN-4OUT	S/PDIF and Analog Audio module (C-540/C3-510 only)
CM-HDMI-SC-4OUT	Quad HDMI scaled output module (C3-540 only)
CM-4RPS	Redundant PSU for 4RU Series Units - User Installable
RM-503-1RU-DUAL	C3-503 Rack Mounting Faceplate
RM-503-SRF	C3-503 Surface Mount
RM-503-1RK-MOD	C3-503 ONErack Mounting Module

TECHNICAL SPECIFICATIONS

ITEM	DESCRIPTION	
Video Processing Power	Parallel Processing Architecture CORIO3 Video Processing Real Time Video Quality Up/Down/Cross Conversion Number of Video walls Display Size Compensation Output Rotation Projector Edge Blending HDCP Key Handling	Yes Yes Yes Yes 4 Yes, different sizes in video walls Yes for any outputs and windows Yes Yes
Computer Input	Digital DVI Analog Analog Format Analog Sync RGB Level Range Scan Rate Detection Analog Signals DVI Signals Max Horizontal Scan Rate	Up to 28 via Universal DVI (HDMI & HDCP compliant) Up to 28 via Universal DVI RGBHV, RGBS, RGsB, YPbPr TTL Level, 10KΩ, Pos or Neg 0.5-2.0 Vp-p Automatic PC to 1920x1080, HD to 1080p60 PC to 1920x1200, HD to 1080p60 150kHz
Computer Outputs	DVI Signals Analog Analog format R-G-B Level DVI Signals Analog Signals Vertical Refresh Rate Size and Position Settings Memory Conversion Technology Color Max. Sampling Rate Firmware Memory Video Comb Filter Video Adjustments	Up to 28 via DVI-I (HDMI & HDCP compliant) Up to 28 via DVI-I RGBHV, RGBS, RGsB, YPbPr 0.7 Vp-p PC to 1920x1200, HD to 1080p60 w/EDID PC to 1920x1080, HD to 1080p60 Any to 250Hz User Adjustable Non-Volatile Proprietary – CORIO®3 RGB 24-bit 4:4:4, YPbPr 20-bit 4:2:2, SDI 20-bit 4:2:0 162MHz Flash, Upgradable via download Adaptive Contrast, Brightness, RGB Gamma
HD Video Resolutions supported (DVI, YPbPr, SDI)	720p (1280x720) 1035i (1920x1035) 1080i (1920x1080) 1080p (1920x1080) 1080p (1920x1080)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz 59.94, 60Hz 50, 59.94, 60Hz 23.98, 24, 25, 29.97, 30Hz 50, 59.94, 60Hz
4K Video Input Resolutions supported (via HDMI and 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	Television Standards Composite Video YC (S-Video) YUV /YPbPr SD-SDI/HD-SDI SD-SDI/HD-SDI/3G-SDI HDBaseT 4K	NTSC, PAL Up to 28 via DVI Up to 28 via DVI Up to 28 via DVI Up to 56 via BNC Up to 28 via BNC Up to 28 via RJ45 Up to 28 via HDMI
Video Decoding	H.264 (CBP, Main, High), H.265/HEVC1 (Main)	Up to 10 via RJ45 Up to 10 via USB 3.0 Up to 10 via Internal Storage
Bit Rates	H.264 (Main, High), H.265/HEVC1 mp4, .mov, .mkv, .m4v, .ts, .mts, .m2ts, .mt2	Up to 50Mbps Up to 50Mbps Single Stream to 100Mbps (per module) Dual Stream to 40Mbps (per module)
Streams	Unicast Streams Multicast Streams	RTSP, RTMP, HTTP, MPEG-TS RTSP, MPEG-TS
Video Outputs	YUV /YPbPr SD-SDI/HD-SDI/3G-SDI HDBaseT 4K	Up to 28 via DVI Up to 28 via BNC Up to 28 via RJ45 Up to 14 via HDMI
3G/HD/SD-SDI	SMPTE259M-C (SD-SDI Video) SMPTE292M (HD-SDI Video) SMPTE424M (3G-SDI Video)	270Mbps < 0.1UI jitter 525/625Line 1.485/1.4835Gbps < 0.2 UI jitter 720p, 1035i, 1080i, 1080p 2.97/2.967Gbps < 0.3 UI jitter 1080p 60/59.94
Still Image support	Up to 7680x4320	Rendered to 4k
Still image file	JPEG, PNG, BMP	
Control Methods	RS-232 IP Interface	via D9 Female Connector RJ45 Connector
Warranty	Limited Warranty	5 Years Parts and Labor
Regulatory Compliance	Main unit	FCC, CE, RoHS, UL
Mechanical C3-540	Size (H x W x D) Weight (Net)	7.0" x 19.0" x 13.1" 178 x 482 x 334mm Approx. 15Kg (33 lbs.) (with redundant PSU option)
Mechanical C3-510	Size (H x W x D) Weight (Net)	1.75" x 19.0" x 13.25" 45 x 482 x 336mm Approx. 5Kg (11.03 lbs.) (with redundant PSU option)
Mechanical C3-503	Size (H x W x D) Weight (Net)	1.73" x 8.54" x 9.61" 44 x 217 x 244mm TBD
Environmental	Operating Temperature) Operating Humidity Storage Temperature) Storage Humidity MTBF	0° to +40° C (+32° to +104° F 10% to 85%, Non-condensing -10° to +70° C (+14° to +158° F 10% to 85%, Non-condensing Approximately 50,000 hours

Power Requirement	Internal Power Supply Redundancy	110v to 240v auto-detecting Optional Internal PSU
Power Consumption	C3-540 C3-510 C3-503	300 watts maximum (fully populated chassis) 125 watts maximum (fully populated chassis) 60 watts maximum (fully populated chassis)
BTU	C3-540 C3-510 C3-503	1024 BTU/hr 427 BTU/hr 205 BTU/hr
Fan Noise	C3-540 C3-510 C3-503	0 - 35°C = 37.7dB(A) Min / 40°C = 50.6dB(A) Max 0 - 35°C = 37.7dB(A) Min / 40°C = 50.6dB(A) Max 0 - 35°C = 28dB(A) Min / 40°C = 34dB(A) Max
Accessories Included	1x Operations Manual 1x Power cable Control Software	US, UK, Euro or AU USB Flash Drive & Downloadable from Website