

CORIOmaster

Master the art of CORIOgraphy



tvone

CORIOmaster

The C3-540 CORIO[®]master offers a new, more efficient approach to building video systems. Using TV One'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 video displays.

CORIO[®]3 video processing technology allows the use of layouts which define where each output is used. Outputs can be independently rotated through 360° in real-time, without adding delay, for use in creative video wall applications. Projectors can be used off axis with brightness controls to aid in an even distribution of the projected image. Warping controls allow for projection on curved surfaces. Multiple layouts can be used at the same time or one layout can be designed to tie multiple projectors or monitors together as one large image.

Edge blending, monitor walls and multiple projectors can show any combination of inputs by setting up canvases to design each layout without the limitation of a monitor or projector dedicated to just one source input. Multiple canvases can be used at the same time to define multiple layouts to aid in choreographing a video design. To further assist functionality, multiple windows can be used to design a canvas with the capability to resize and rotate each window on the canvas which is then sent to the predefined layout. The same canvas can be sent to more than one layout design. This allows for duplication in more than one area or used for status display on one monitor of the entire canvas.

The CORIO[®]master also includes a multi-viewer to monitor the inputs to aid in previewing the sources during live events or used as a status monitor in various types of installations. Graphic images can be loaded into the CORIO[®]master to use as backgrounds as well as for use on each canvas.

Control of the CORIO[®]master is provided by a multiplatform software package that provides an intuitive way of setting up layouts and defining the canvas to be used for each layout. Presets can be saved and recalled. Changes can be made to the canvas and then transferred to the layout.

The flexibility to use various input formats and the ability to up, down, and cross convert those signals on the outputs of the CORIO[®]master to various displays and projectors of any format allow for easy installation without the use of multiple pieces of equipment to accomplish the same task all accomplished in a 4RU chassis.

The CORIO[®]master is high power in its capabilities, but low in its power consumption. It typically requires only 160 watts, fully loaded. A traditional video system that performs the same tasks can consume ten times as much energy. Over its life, that is a lot of savings.





Key features of the C3-540

- Single or Multiple Output Layouts
- Single or Multiple Canvases
- Real-time 360° Output Rotation
- Projector Off-Axis Correction w/Brightness Control
- Output Warping for Projection on Curved Surfaces
- Simultaneous use of Multiple Layouts and Canvases
- One or More Windows (PIP's) on each Canvas
- Layouts and Canvases Can Be Created Off Line and Saved for Later Recall
- Internal Still Image Store
- 3 Levels of User Access and Control
- PC and Apple Desktop Software
- Controllable by Web Browser
- Low Power Consumption - 160w

Video Choreography Design Possibilities

- **Live Event Using Multiple Projectors**
 - Edgeblending w/Side Projectors
 - Stage Monitoring
- **Video Walls**
 - Number of Monitors Determined by Number of Outputs
 - Rotation of Monitors Possible when setting up layouts.
- **Command & Control**
 - Monitoring of Various Video Sources & Formats
- **Hospital/Healthcare**
 - Distribution with Windowing to Various Operating Rooms or other locations
 - Status Display of Video Equipment in Use

*Any combination of above uses is possible
in one CORIO®master*

Modular Flexibility

There are no dedicated input or output slots when using 2-Channel DVI-U or 3G-SDI modules. The CORIO®master automatically recognizes & configures input or output modules inserted into the available 16 Universal AV slots. This flexibility allows end user configurations to be based on their own needs. Additional DVI-U or 3G-SDI modules can be added later in spare slots without having to reset the unit. The system features the following types of hot swappable modules for the inputs and outputs.

DVI-U Modules

- DVI-U Universal Input Module - 2 Inputs
- DVI-U Universal Scaling Output Module - 2 Outputs

The high resolution DVI-U outputs are selectable as virtually any PC or HDTV resolution. Our exclusive AutoSet feature takes the hassle out of setup by automatically sizing and positioning the computer image to fit exactly on the video screen. NTSC, PAL, PAL-M, PAL-N, SECAM standards are supported.

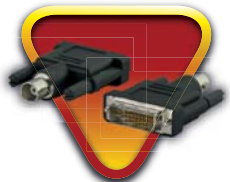
SDI Modules

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

*Use of the four-output module imposes some slot restrictions.

DVI-U - The Universal I/O

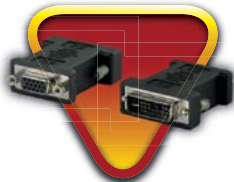
The DVI-U universal interface utilizes a single DVI-I connector to provide the following signal formats: HDMI, DVI-I, plus analog YUV, YPbPr, RGBHV, RBBS, RGsB, Y/C and Composite Video. A variety of adapters are available to convert from DVI-I to other connectors.



ZDH2050 Composite Video adapter - DVI Male to BNC Female



CMD1939 HDMI adapter - DVI Male to HDMI Female



ZDH2040 Analog PC adapter DVI Male to HD-15 Female



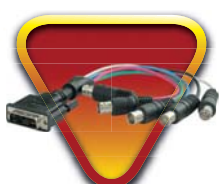
ZDB2048 YC (S-Video) adapter - DVI Male to 2-BNC Female



ZDB2042 YPbPr/YUV adapter - DVI Male to 3RCA Female



ZDB2044 YPbPr/YUV adapter cable DVI male to 3-BNC Female - 1.5' (0.5m)



ZDB2038 Analog RGBHV adapter cable DVI-I Male to 5-BNC Female - 1.5' (0.5m)



ZDS2046 YC (S-Video) adapter - DVI Male to 4-Pin Mini-Din Female

Modules



DVI-U Input module



DVI-U Output module



SDI module

Typical module configurations:



8 Input DVI-U to 8 Output DVI-U



16 Input DVI-U to 16 Output DVI-U



20 Input (16 x DVI-U, 4 x 3G-SDI) to 12 Output (8 x DVI-U, 4 x 3G-SDI)

Data Modules

Tally Module - Uses 1 of 3 Data Slots Provided

Audio Interfaces

The optional CM-AUD-8IN-8OUT Audio Interface Module allows connection to any of the A2-7000 Series external breakout units via HD-44 Connector.

A2-7000 Series external breakout units

A2-7312 Converts AES3-id to 16x BNC Connectors – 8x AES-id In and 8x AES-3id Out



A2-7302 Digital Audio Converter - AES-3id I/O on XLR – 8 AES Stereo In and 8x Stereo Out



A2-7342 Analog Audio Converter - Analog Stereo on XLR – 4x Analog Stereo Ch. In - 4x Analog Ch. Out



A2-7322 Analog Audio Converter – AES-3id to Analog Stereo on Terminal Blocks – 8x Analog Stereo In and 8x Analog Stereo Out, Balanced or Unbalanced



Future Modules

Fiber Optic and UTP I/O modules coming soon. Please check our websites for details of additional types and formats of Video, Audio & Data Modules added in the future.

Limitless possibilities to

Image Layout Control

CORIO[®]3 video processing technology allows the use of layouts which define where each output is used. Multiple layouts can be used at the same time or one layout can be designed to tie multiple projectors or monitors together as one large image.

Edge blending, monitor walls and multiple projectors can show any combination of inputs by setting up canvases to design each layout without the limitation of a monitor or projector dedicated to just one source input. Multiple canvases can be used at the same time to define multiple layouts to aid in choreographing a video design. To further assist functionality, multiple windows can be used to design a canvas with the capability to resize and rotate each window on the canvas which is then sent to the predefined layout. The same canvas can be sent to more than one layout design. This allows for duplication in more than one area or used for status display on one monitor of the entire canvas.

The CORIO[®]master also includes a multi-viewer to monitor the inputs to aid in previewing the sources during live events or used as a status monitor in various types of installations. Graphic images can be loaded into the CORIO[®]master and subsequently used similar to a video input. Control of the CORIO[®]master is provided by a multiplatform software package that provides an intuitive way of setting up layouts and defining the canvas to be used for each layout. Presets can be saved and recalled. Changes can be made to the canvas and then transferred to the layout.

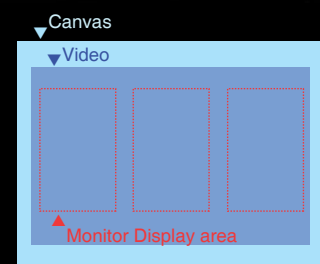
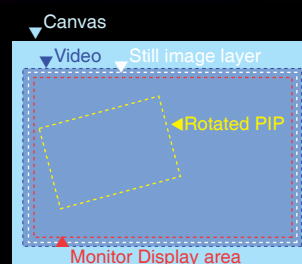


Image Warping

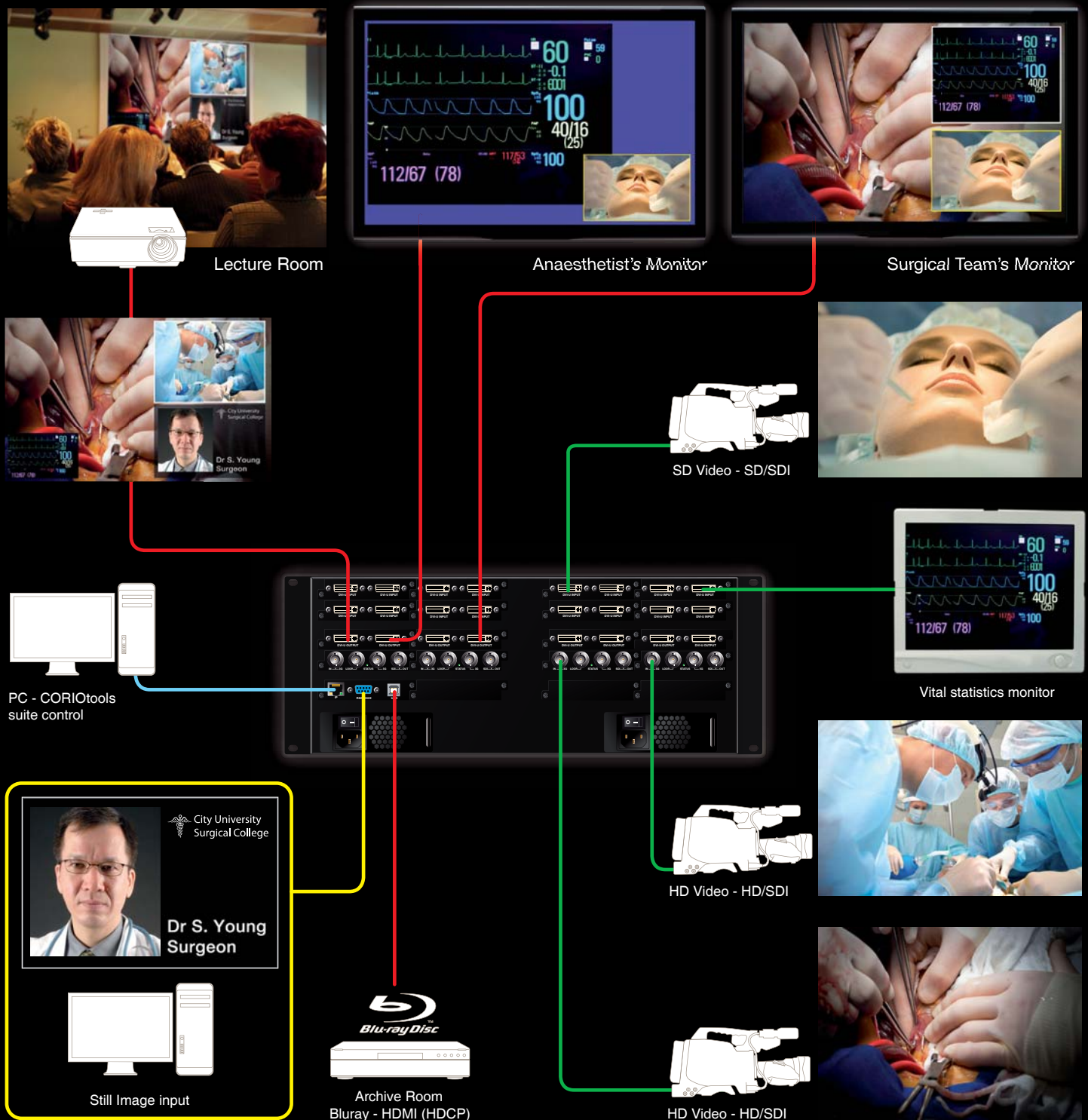
The CORIO[®]master has image warping capabilities that extends to edgeblending. Using image warping two projectors can be placed off-axis and still produce a correctly proportioned, evenly illuminated composite image. This is particularly useful in situations where a projectors beam may be interrupted by the audience with normal projector positioning. Image warping also allows an video to be projected on to a curved surface



CORIOgraph your world!

Application Example

The CORIO® master is the ideal video processing system for applications where distribution with windowing is required to different locations, such as a teaching hospital. Using canvases and layouts, different video displays can be setup and saved as presets for various outputs. While the surgical team and anaesthetist can see information relevant to them, a totally different layout is routed with audio to the lecture room. At the same time another output layout can be fed to an archive room for future reference or tutorials.



Specifications

Video Inputs

Television Standards	NTSC, PAL, PAL-M/N, SECAM
Composite Video	Up to 30 via DVI-U
YC (S-Video)	Up to 30 via DVI-U
YUV /YPbPr	Up to 30 via DVI-U
SD/HD-SDI	Up to 60 via BNC
SD/HD/3G-SDI	Up to 30 via BNC

Computer Inputs

Digital DVI	Up to 30 via DVI-U (HDMI & HDCP compatible)
Analog	Up to 30 via DVI-U
Analog Format	RGBHV, RGBS, RGsB, YPbPr
Analog Sync	TTL Level, 10KΩ, Pos or Neg
RGB Level Range	0.5-2.0 Vp-p
SD/HD/3G-SDI	Up to 16 via BNC with loop out
Scan Rate Detection	Automatic
Analog Signals	PC to 2048x2048, HD to 1080p60
DVI Signals	PC to 1920x1200, HD to 1080p60
Max Horiz Scan Rate	150kHz
Computer Compatibility	PC, Macintosh, Workstations

Video Outputs

Television Standards	NTSC, PAL, PAL-M/N, SECAM
Composite Video	Up to 30 via DVI-U
YC (S-Video)	Up to 30 via DVI-U
YUV /YPbPr	Up to 30 via DVI-U
HD/SD-SDI	Up to 32 via BNC
SD/HD/3G-SDI	Up to 30 via BNC

Computer Outputs

DVI Signals	Up to 30 via DVI-U (HDMI & HDCP compatible)
Analog	Up to 30 via DVI-U
Analog format	RGBHV, RGBS, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
DVI Signals	PC to 1920x1200, HD to 1080p60
Analog Signals	PC to 2048x2048, HD to 1080p60
Vertical Refresh Rate	Any to 250Hz
Size and Position	Automatic via AutoSet
Settings Memory	Non-Volatile
Conversion Technology	Proprietary – CORIO®3
Frame-rate Conversion	Temporal
Color	RGB 24-bit 4:4:4 YPbPr 20-bit 4:2:2
Max. Sampling Rate	162MHz
Firmware Memory	Flash, Upgradeable via micro-SD
De-Interlacing	Pixel-level Motion Adaptive, (NTSC, PAL, 1080i) Diagonal Interpolation, Noise Reduction.
Video Comb Filter	Adaptive
Film (NTSC, 1080i)	3:2 Pull-down
Video Adjustments	CV/YC: Contrast, Brightness, Saturation, Hue (NTSC). Analog RGB/YPbPr levels

Audio Support

De-embed/embed	SDI & HDMI-I/O via DVI with optional audio interface module
Delay	

Closed Captions

De-embed / embed	SDI (608 & 608 in 708)
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3G/HD/SD-SDI

SMPTE259M-C (SD-SDI Video)	270Mbps < 0.1UI jitter 525/625Line
SMPTE292M (HD-SDI Video)	1.485/1.4835Gbps < 0.2 UI jitter 720p, 1035i, 1080i, 1080p
SMPTE424M (3G-SDI Video)	2.97/2.967Gbps < 0.3 UI jitter 1080p 60/59.94
SMPTE272M-2004 (SD-SDI Audio)	8 Stereo 24bit Audio Channels
SMPTE299M-2004 (3G/HD-SDI Audio)	8 Stereo 24bit Audio Channels

HD Resolutions supported (DVI, YPbPr, SDI)

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
1080p (1920x1080)	50, 59.94, 60Hz

Control Methods

USB	via Rear Type B connector
RS-232/422/485	via D9 Female Connector
IP Interface	RJ45 Connector

Warranty

Limited Warranty	5 Years Parts and Labour
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Regulatory Compliance

Main unit	FCC, CE, RoHS, UL
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Mechanical

Size (H x W x D)	7.0" x 19.0" x 13.1" (178 x 482 x 334mm)
Weight (Net)	Approx. 15Kg (33 lbs) (with redundant PSU option)

Environmental

Operating Temperature	0° to +50° C (+32° to +122° F)
Operating Humidity	10% to 85%, Non-condensing
Storage Temperature	-10° to +70° C (+14° to +158° F)
Storage Humidity	10% to 85%, Non-condensing
MTBF	Approximately 35,000 hours

Power Requirement

Internal Power Supply	110v to 240v auto-detecting
Redundancy	Optional Internal Hot Swap PSU

Accessories Included

1x Operations Manual	
1x Power cable	US, UK, Euro or AU
Control Software	Downloadable from Website

Optional Accessories

See list above and check website for latest list

Provisional specifications subject to change

CORIOmaster

by **tvOne**



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