

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. All this is possible in one 4RU chassis.

CORIO®3 video processing technology allows the use of layouts which define where each output is used. Outputs can be grouped together or individually and can be independently rotated through 360° in real-time, without adding additional 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 screens. 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. Up to 4 layouts can be used simultaneously.

Edge blending, monitor walls and multiple projectors can show any combination of inputs by setting up video canvases to design each layout. 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 360° each window on the canvas which is then sent to the predefined layout. Canvases can be duplicated on a number of layouts to permit display in more than one area or used for status display on one monitor of the entire canvas.

The user of the CORIOmaster can dedicate one layout as 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 CORIOmaster for window use on each canvas by the USB connector on the back of the unit.

Control of the CORIOmaster is provided by a multiplatform software package that provides an intuitive way of setting up layouts and defining the video 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 CORIOmaster 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 CORIOmaster is high power in its capabilities, but low in its power consumption. It typically requires only 150 watts, fully loaded. A traditional video system that performs the same task can consume up to ten times as much energy. Over its life, that is a lot of savings.



Standard Front Panel

Key Features of the C3-540

- Single or Multiple Output Layouts (4 Maximum)
- Single or Multiple Canvases (4 Maximum)
- Real-time 360° Individual Output Rotation
- Simultaneous use of Multiple Layouts and Canvases
- One or More Windows (PIP's) on each Canvas with 360° rotation of each window.
- PC Control Software Available
- Low Power Consumption - 150w

Future Releases in 2012

- Projector Off-Axis Correction w/Brightness Control
- Output Warping for Projection on Curved Screens
- Layouts and Canvases Can Be Created Off Line and Saved for Later Recall
- Internal Graphic Image Store
- Multi Access & Control
- Apple Desktop Software
- User selectable Multi Language Software

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 using Layout Individual Output Rotation
- 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
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Note: Any combination of above uses is possible in one CORIOmaster.

Limitless Possibilities to CORIOgraph Your World!

Physical Properties

The C3-540 has 16 Universal AV Module slots available and the CORIOmaster automatically recognizes the modules inserted as either input or output modules. 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 unused slots when powered up they will be made available to the user.

CORIOmaster also provides independent Up, Down and Cross conversion for every output between a variety of analog and digital video formats thru 3G-SDI and WUXGA. The modules selected determine what format will be accommodated and the inputs and outputs available. Signal parameters of the incoming video may be adjusted. All settings are stored in non-volatile memory and are retained even when power is switched off.

User defined presets are also available to customize settings for various applications. Separate third party control using the built in command line interface switches seamlessly between presets.

All the functions can be controlled via serial connection via RS-232/422/485, USB or IP. A front panel LCD option makes direct setup easy. The unit is housed in a standard 4RU rackmount case and features an optional redundant hot swappable internal PSU and power inlet.

Advanced Features

The CORIOmaster includes high 4:4:4 full bandwidth sampling rate ensuring crisp, clear images, while full bandwidth chroma sampling ensures faithfully reproduced, high resolution colors.

Integral digital audio switching is provided to route audio from the DVI (HDMI-compatible) input or SDI input to the DVI and SDI outputs. This can also be controlled by the built in command line interface.

Software Control

The unit is provided with a multiplatform/multi language software package for simple intuitive control of the unit. Starting with the ability to set up the input and output signal requirements, the user is guided through the graphical interface in configuring the outputs into the layouts.

Once the system has been configured your visual artistic talents can be unleashed by positioning, sizing, stretching and rotating windows onto the canvases. Windows can be easily layered and overlapped and layer priority of each window can be easily changed.

The canvases can be designed off-line and then checked and adjusted when connected to the unit.

By use of presets, the different arrangements of the windows can be recalled live by use of simple commands from third party controllers.



Key Hardware Features of the C3-540

- DVI-U Inputs/Outputs: (DVI/HDMI/CV/YC/RGB/YPbPr)
- SDI Inputs/Outputs: (SD/HD/3G-SDI)
- High Resolution Inputs/Outputs:
 - Analog: PC to 2048x2048, HDTV to 1080p/60
 - DVI: PC to 1920x1200, HDTV to 1080p/60 w/EDID
 - SDI: SD, HDTV to 1080p/60
- Supports: NTSC, PAL, PAL-M, PAL-N, SECAM
- HDMI-compatible Input & Output with HDCP
- Automatic Incoming Resolution Detection
- 4:4:4 Full Bandwidth Sampling
- Video Signal Parameter Adjustments
- Up-Down-Cross Conversion
- Interfaces: RS-232/422/485, USB, IP
- Simple Command Line Interface for Third Party Control of Presets and Window Sources
- USB Access to Internal Micro SD Card located on CPU module via Rear Type B Connector
- 4RU Frame Size

Options

- Redundant Hot Swappable Power Supplies
- Tally Module
- Rear Rackmount Supports
- DVI-U Adapters (DVI to other connectors)

Future Planned Options

- UTP, HDBaseT and Fiber Modules

DVI-U

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, RGBS, RGsB. NTSC, PAL, PAL-M, PAL-N, SECAM standards are supported as Y/C and Composite Video. A variety of adapters are available to convert from DVI-I to other connectors.

DVI-U Modules

The system features the following types of modules for the inputs and outputs. All modules only use 1 AV Slot.

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

The high resolution DVI-U outputs are selectable at virtually any PC or HDTV resolution.

SDI Modules

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

Video Walls or Multi input Variation

The standard configuration permits up to 16 inputs (32 HD-SDI) and 16 outputs. For use in Video Wall applications the unit can be ordered with between 2 and 8 inputs allowing the remaining slots to be dedicated to drive a multi monitor wall to a maximum of 28 screens.

Alternatively the unit can be ordered with between 4-8 outputs allowing the remaining slots for input cards to a maximum of 28 inputs (56 HD-SDI)

Data Modules

Tally Module* - Uses 1 of 3 Data Slots Provided

Internal Memory

USB Access to Internal Micro SD Card located on CPU module via Rear Type B Connector

Future Modules

Additional types and formats of Video and Data Modules will be added in the future. Please check our websites for the latest list.

Main Chassis

C3-540-1001 Main Chassis w/Blank Front Panel

- 16 Slots available for Video/Audio Modules
- 3 Slots available for Data Modules
- Up to 32 I/O for DVI, HDMI, 3G-SDI, RGB/YPbPr
- Single Power Supply
- Interfaces for RS-232/422/485, USB IP

Input Modules

CM-DVIU-2IN 2x via DVI-I Connectors

CM-3GSDI-2IN 2x (3G/HD/SD-SDI) via BNC

CM-HSDI-4IN 4x (HD/SD-SDI) via BNC

Scaling Output Modules

CM-DVIU-SC-2OUT 2x via DVI-I Connectors

CM-3GSDI-SC-2OUT 2x (3G/HD/SD-SDI) via BNC

Additional Modules

CM-TALLY* Tally Interface Data Module

CM-4RPS Redundant Hot Swappable Power Supply

Optional DVI-U Adapters

ZDH2050 Composite Video Adapter
DVI-I Male to BNC Female

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

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

ZDH2040 Analog PC Adapter
DVI-I Male to HD-15 Female

ZDB2038 Analog RGBHV Adapter Cable
DVI-I Male to 5-BNC Female – 1.5' (0.5m)

ZDB2044 YPbPr/YUV Adapter Cable
DVI-I Male to 3-BNC Female – 1.5' (0.5m)

ZDB2042 YPbPr/YUV Adapter
DVI-I Male to 3-RCA Female

CMD1939 HDMI Adapter
DVI-I Male to HDMI Female

***Cards to be released during 2012**

Specifications
Computer Inputs

Digital DVI	Up to 16 via DVI-U (HDMI & HDCP compatible)
Analog	Up to 28 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
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

Computer Outputs

DVI Signals	Up to 16 via DVI-U (HDMI & HDCP compatible)
Analog	Up to 28 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 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 24-bit 4:4:4 YPbPr 20-bit 4:2:2
Max. Sampling Rate	162MHz
Firmware Memory	Flash, Upgradeable via micro-SD
De-Interlacing (NTSC, PAL, 1080i)	Pixel-level Motion Adaptive, Diagonal Interpolation, Noise Reduction.
Video Comb Filter	Adaptive
Film (NTSC, 1080i)	3:2 Pull-down
Video Adjustments	CV/YC: Contrast, Brightness

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

Video Inputs

Television Standards	NTSC, PAL, PAL-M/N, SECAM
Composite Video	Up to 28 via DVI-U
YC (S-Video)	Up to 28 via DVI-U
YUV /YPbPr	Up to 28 via DVI-U
SD/HD-SDI	Up to 56 via BNC
SD/HD/3G-SDI	Up to 28 via BNC

Video Outputs

Television Standards	NTSC, PAL, PAL-M/N, SECAM
Composite Video	Up to 28 via DVI-U
YC (S-Video)	Up to 28 via DVI-U
YUV /YPbPr	Up to 28 via DVI-U
SD/HD/3G-SDI	Up to 28 via BNC

3G/HD/SD-SDI

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

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
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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

Note: Preliminary Specifications Only – Subject to Change

Rear Panel Views

Standard Unit with 16 DVI-U Inputs and 16 DVI-U Outputs



Unit with eight DVI-U Inputs, eight 3G-SDI Inputs and 16 DVI-U Outputs



Front Angle View

