C2-2375A Universal Scaler PLUS is based on TV One's exclusive CORIO®2 technology and provides high quality bi-directional conversion between a variety of analog and digital video formats. Input and Outputs can be SD/HD/3G-SDI, DVI, Composite Video, YC, YUV, YPbPr or RGB. 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. **Ten user defined presets** are also available to customize settings for various applications.

The high resolution RGB/YPbPr output is 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. The 2nd DVI and Analog output can be set to be a different video format and resolution.

All the functions can be controlled via the front panel Push Buttons, an **RS-232/422/485 or IP connection**. Windows Control Panel software is provided and most third party control systems interface directly with the entire C2 range of products. A **front panel LCD** makes setup easy. The unit is housed in a standard 1U rack mount case and features an **optional redundant internal PSU** and power inlet.

Variable Zoom to 10X enlarges any part of the computer screen to fill the entire video screen and position controls allow movement to any area desired. **Variable Shrink** to as little as 10% allows fitting the image onto most displays. The advanced Digital Flicker Elimination circuitry and high sampling rate ensures crisp, clear images, while full bandwidth chroma sampling ensures faithfully reproduced, high resolution colors. **Temporal interpolation** greatly improves frame-rate conversion by analyzing and merging successive frames. **Pixel Level Motion Adaptive Diagonal Interpolation and Noise Reduction** ensures high quality de-interlacing of PAL, NTSC and 1080i signals. **3:2 Pull-down** ensures proper 24 fps film extraction from NTSC and 1080i sources.

Advanced Features - The **Key Mode** allows computer graphics to be keyed over an external Composite, YC, or SDI signal. The keyed image may be faded in and out. Due to the 4:4:4 sampling format, precise keying at the pixel level can be achieved. The **Mix Mode** permits Seamless Cut, Fade or Wipe transitions between input sources. The **PIP Mode** allows either of the computer HD15/DVI inputs to be inset in a window over any of the CV/YC/SDI video inputs or vice versa. The PIP window may be placed anywhere on the screen. The **Genlock** feature is SD and HD compatible and ensures precise synchronization of the incoming signals by providing a wide Subcarrier lock range with Subcarrier phase adjust

Key Features of the C2-2375A

- Up-Down-Cross Conversion
- SDI inputs: 1x SD/HD/3G-SDI with re-clocked out
- DVI inputs: 2x DVI
- Analog inputs: 2x CV/YC/YUV/YPbPr
- Genlock inputs: 1x Tri/Bi with loop-through
- SDI outputs: 2x SD/HD/3G-SDI (duplicated)
- DVI outputs: 2x DVI
- Analog outputs: 2x CV/YC/YUV/YPbPr
- 2nd DVI / Analog output can be different format
- Analog: PC to 2048x2048, HDTV to 1080p/60
- DVI: PC to 1920x1200, HDTV to 1080p/60
- Supports: NTSC, PAL, PAL-M, PAL-N, SECAM
- Motion Compensation & 3:2 Pulldown
- Temporal Interpolation & Diagonal Interpolation
- Noise Reduction for PAL, NTSC and 1080i inputs
- Automatic Incoming Resolution Detection
- AutoSet - Automatic picture sizing of PC inputs
- 4:4:4 Full bandwidth sampling
- Video signal parameter adjustments
- Audio de-embed / embed for SDI and DVI
- Closed-caption de-embed / embed for CV / SDI
- AFD and VP packet support for SDI
- Integral Audio Routing
- User-defined Logo insertion
- Borders with variable size and colour
- IP Interface
- Variable Image Zoom to 10X and Shrink to 10%
- Optional Audio Module with AES break-out and adjustable delay
- Optional Tally Module
- Optional Redundant Power Supplies
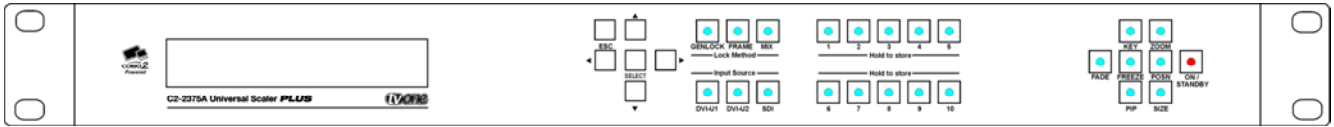- Optional Rear Rack mount supports
- RS-232/422/485 interface

Integral Audio switching is provided to route audio from the (HDMI-compatible) DVI input or SDI input to the DVI and SDI outputs. An optional **Audio Module** can provide AES I/O abilities and audio delay and can link to our A2-7300 range of audio break-out units.
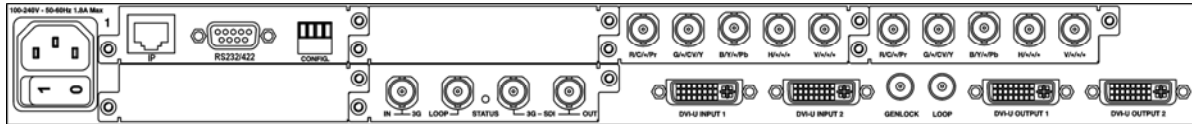
Specifications

Video Inputs	
Television Standards	NTSC, PAL, PAL-M, PAL-N, SECAM
Composite Video	2x via DVI-U or 1x via BNC b/o*1
YC (S-Video)	2x via DVI-U or 1x via BNC b/o*1
YUV /YPbPr	2x via DVI-U or 1x via BNC b/o*1
SD/HD/3G-SDI	1x via BNC, with reclocked output

Computer Inputs	
Analog	2x via DVI-U or 1x via BNC b/o*1
Analog format	RGBHV, RGBS, RGsB, YPbPr
Digital DVI	2x via DVI-U (DVI-I connector)
Analog Sync	TTL Level, 10KΩ, Pos or Neg
Analog Termination	75Ω
R-G-B Level Range	0.5-2.0 Vp-p
Scan Rate Detection	Automatic
Analog Signals	PC to 2048x2048,HD to 1080p/60
DVI Signals	PC to 1920x1200,HD to 1080p/60
Max Horiz Scan Rate	150KHz
Computer Compatibility	PC, Macintosh, Workstations

Video Outputs	
Television Standards	NTSC, PAL, PAL-M, PAL-N, SECAM
Impedance	75Ω
Composite Video	2x via DVI-U or 1x via BNC b/o*1
YC (S-Video)	2x via DVI-U or 1x via BNC b/o*1
YUV /YPbPr	2x via DVI-U or 1x via BNC b/o*1
SD/HD/3G-SDI	2x via BNC (identical)

Computer Outputs	
Analog	2x via DVI-U or 1x via BNC b/o*1
Analog format	RGBHV, RGBS, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
Analog Signals	PC to 2048x2048,HD to 1080p/60
DVI Signals	PC to 1920x1200,HD to 1080p/60
Vertical Refresh Rate	Any to 250Hz
Size and Position	Automatic via AutoSet or Manual
Image Size	User-Definable Presets
Image Freeze	One Video Frame
Settings Memory	Non-Volatile
Zoom Range	Variable to 10X Zoom
Shrink Range	Variable to 10%
Image Mirroring	Horizontal and/or Vertical
Conversion Technology	Proprietary – CORIO®2
Frame-rate Conversion	Temporal
Color Resolution	24-bit (16.8 Million Colors)
Sampling rate / type	162MHz 24-bit 4:4:4
Firmware Memory	Flash, Upgradeable via RS-232
De-Interlacing (NTSC, PAL, 1080i)	Pixel-level Motion Adaptive, Diagonal Interpolation, Noise Reduction.
Video Comb Filter	Adaptive
Film (NTSC, 1080i)	3:2 Pulldown
Video Adjustments	CV/YC: Contrast, Brightness, Saturation, Hue (NTSC). Analog RGB/YPbPr levels

Audio support	
De-embed / embed	DVI & SDI
Delay / mixing	Optional

Closed Captions	
De-embed / embed	SDI (608 & 608 in 708)

Genlock Adjustments	
Subcarrier Lock Range	+/- 200Hz for NTSC Operation (+/- 250Hz for PAL Operation)
Subcarrier Phase	+/- 180° Adjustment

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

I/O Vertical Rates - SMPTE259M-C (SD-SDI)	
525i (720x488)	59.94Hz
625i (720x576)	50 Hz

I/O Vertical Rates - SMPTE292M (HD-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

I/O Vertical Rates – SMPTE425M-A (3G-SDI)	
1080p (1920x1080)	50, 59.94, 60Hz

Control Methods	
Local	via Front Panel Buttons & LCD
RS-232/422/485	via D9 Female Connector
IP Interface	RJ45 Connector

Warranty	
Limited Warranty	5 Years Parts and Labour

Regulatory Compliance	
Main unit	FCC, CE, UL, RoHS

Mechanical	
Size (H-W-D)	Standard 1U
Weight (Net)	4.8KG (with redundant PSU option)

Environmental	
Operating Temperature	0° to +55° C (+32° to +131° 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 (C2-2375A-DP2)	35,000 hours

Power Requirement	
External Power Supply	110v to 240v auto-detecting
Redundancy	Optional redundant internal PSU

Accessories Included	
1x Operations Manual	
1x Front Rack Ears	
1x Power cable	US, UK, Euro or AU

Product Item Number	
C2-2375A	

Optional Accessories	
Tally module	Factory fitted *2
Redundant PSU	Factory fitted
Redundant PSU + inlet	Factory fitted *2
Rack Support Rails (24")	
Rack Support Rails (32")	
Control Software	Downloadable from Website

Notes

(1) BNC break-out splits the DVI-U's analog signals into 5x BNC connectors for ease of use.
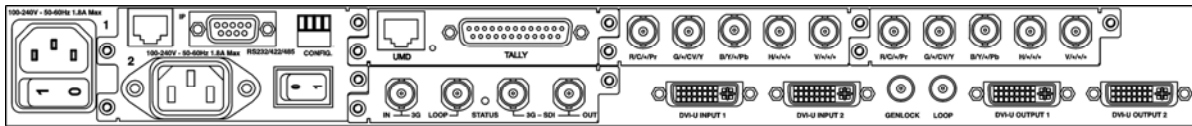(2) Each of these uses one of the 2 spare module slots.

Panel Drawings

(Front panel with front rack supports fitted)

(Rear panel)

(Rear panel shown with optional Tally module and Redundant Power Supply & Inlet fitted)