Universal Video Switcher/Scalers

Model C2-1350

C2-1350 Universal Video Scaler is based on TV One's exclusive CORIO®2 technology and provides high quality up, down and cross conversion between standard video, computer and HDTV signals. NTSC and PAL standards are supported. Inputs can be Composite Video, YC, YUV Component, YPbPr (Progressive Scan) Component or RGB. 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. 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. The high resolution RGB/YPbPr outputs are selectable as any computer resolution up to 2048x2048 at any vertical refresh rate or any HDTV resolution up to 1080p. A wide variety of computer signal formats are available to support PC, Mac and Workstation formats. In the standard resolution mode, simultaneous outputs are available for Composite, YC and YUV Component.

All the functions can be controlled via the front panel Push Buttons, an Infrared Control Remote Unit or via an RS-232 connection. A Windows Control Panel is provided and most third party control systems interface directly with the entire C2 range of products. An On-Screen Display is available to assist in setup. Variable Zoom to 10X allows you to enlarge any part of the computer screen to fill the entire video screen and position controls allow you to move around to any area desired. Variable Shrink to as little as 10% allows the image to fit onto most displays. The advanced Digital Flicker Elimination circuitry and high sampling rate insures crisp, clear images, while full bandwidth chroma sampling insures faithfully reproduced, high resolution colors. Motion compensation and a 3:2 Pulldown feature for NTSC greatly improve image quality.

Stereo Audio switching is provided by an integral 4x1 audio routing switcher. The four impedance-independent unbalanced inputs follow the video input selection. A rear panel terminal block provides access.

PIP, Chromakey, Lumakey, Mixing and Genlock are among the advanced standard features. The Key Mode allows computer graphics to be keyed over an external Composite or YC signal or visa versa. 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 glitch-free mixing between the computer image and external video. The PIP Mode allows either of the computer inputs to be inset in a window over either of the video inputs or visa versa. The PIP window may be placed anywhere on the screen. The Genlock feature insures precise synchronization of the incoming signals by providing a wide Subcarrier lock range with Subcarrier phase adjustment. The C2-1350 is housed in a desktop case with an optional rackmount kit.

Edge Blending is a standard feature of the C2-1350. Because of the ability to 'feather' any or all of the edges, multiple images can be aligned vertically, horizontally or both to create unusual displays. Using multiple units, a large number of images may be blended. Edge Blending is not limited to high resolution RGB computer images, but can be applied to any input. Gamma correction is employed to compensate for many of the problems faced when blending between projectors. Special preparation of the video in advance is not necessary, since all processing is done within the unit.

Key Features of the C2-1350

- Inputs: RGB/YPbPr via HD-15, YUV/YPbPr via 3-BNC, CV via BNC, YC (S-Video) via 4-Pin
- All Input Signals are Scalable
- Automatic Incoming Resolution Detection
- AutoSet - Automatic picture sizing
- Computer Resolutions to 2048x2048
- HDTV Resolutions to 1080p
- Multiple Worldwide Television Standards
- 3:2 Pulldown for NTSC Film Mode
- Video signal parameter adjustments
- Outputs include: two RGB/YUV/YPbPr via HD15 and 5-BNC, one CV via BNC and one YC
- Integral 4x1 Stereo Audio Routing Switcher
- RS-232 Interface
- Windows Control Panel
- Variable Image Zoom to 10X and Shrink to 10%
- Genlock With Subcarrier Phase Adjustment
- PIP, Chromakey and Lumakey, Edge Blending
- Optional IR Remote Control
- Optional Single/Dual Rackmount Kit
- Optional Input Expansion with S2 Switchers

Input Expansion to add additional RGB, YPbPr, YUV, Composite or YC inputs is easy by using any of the optional S2 Series Input Expansion Switchers. The S2 unit links to any C2-1000 series unit via an Options Interconnect Cable and becomes an integral part of scaler from a control and operational standpoint. The routing of these additional inputs is controlled directly from the control system of the C2. Multiple different S2 models may be simultaneously connected to a single C2, providing virtually unlimited input flexibility

This symbol on a product indicates that it is powered by CORIO®2 technology, the most flexible video processing engine now available.

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Specifications

Video Inputs	
Television Standards	NTSC, PAL, PAL-M, PAL-N, SECAM
Composite Video	1x via BNC
YC (S-Video)	1x via 4-Pin Mini-DIN Connector
YUV /YPbPr	1x via 3-BNC
Computer Input	
RGB/YPbPr	1x via HD15
Format - Analog	RGBHV, RGBS, RGsB, YPbPr
Sync	TTL Level, 10KΩ, Pos or Neg
Termination	Auto-terminating into 75Ω
R-G-B Level Range	0.5-2.0 Vp-p
Scan Rate Detection	Automatic
PC Resolutions	Any up to 2048x2048
HDTV Resolutions	Any up to 1080p
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	1x via BNC
YC (S-Video)	1x via 4-PIN Mini-DIN
YUV, YPbPr	1x via 3-BNC (shared w RGB Out)
Computer Outputs (2x)	
Format - Analog	RGBHV, RGBS, RGsB, YPbPr
Connectors	1x HD-15 Female and 1x 5-BNC
R-G-B Level	0.7 Vp-p
PC Resolutions	Any up to 2048x2048
HDTV Resolutions	Any up to 1080p
Vertical Refresh Rate	Any to 250Hz
General	
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
Horizontal Filtering	Full Digital
Conversion Technology	Proprietary – CORIO®2
Color Resolution	24-bit (16.8 Million Colors)
Sampling Rate	108MHz
Digital Sampling	24-bit, 4:4:4 format
Firmware Memory	Flash, Upgradeable via RS-232
Video Encoder	8-bit Digital
Video Decoder	9-bit Digital
De-Interlacing (NTSC-PAL)	Pixel-level Motion Adaptive
Comb Filter Decoding	Adaptive
Film Mode (NTSC)	3:2 Pulldown
Video Adjustments	Contrast, Brightness, Saturation, Hue (NTSC), R-G-B Levels

Audio Input/Output	
Inputs	4x Unbalanced via Terminals
Output	Unbalanced via Terminals
Operational Modes	
Key	Chromakey or Lumakey
Mix	PC to/from Video
PIP	Variable Window Size & Position
Genlock Adjustments	
Subcarrier Lock Range	+/- 200Hz for NTSC Operation (+/- 250Hz for PAL Operation)
Subcarrier Phase	+/- 180° Adjustment
Control Methods	
Local	via Front Panel Buttons & OSD
RS-232 Interface	via D9 Female Connector
Infrared Remote	via IRC-5 Remote Unit
Input Expansion Control	via D-15 Options Connector
Warranty	
Limited Warranty	2 Years Parts and Labor
Regulatory Compliance	
Main Units	FCC, CE, RoHS
Power Supplies	UL, CUL, CE, PSE, GS, RoHS
Mechanical	
Size (H-W-D)	41.5x218x150mm(1.63”x8.6”x5.9”)
Weight (Net)	1.26kg (2.77 lbs)
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
Power Requirement	
External Power Supply	12VDC@1A
Accessories Included	
1x Operations Manual	C2-1000 Series
1x Power Adapter	US, UK or Euro
Product Item Numbers	
C2-1350	Universal Video Switcher/Scaler
Optional Accessories	
IRC-5	Infrared Remote Control
RM-220	Single/Dual Rackmount Kit
S2 Series	Input Expansion Switchers

Panel Drawings