



## Universal Input Seamless Switcher

Models C2-3350, C2-3360

**C2-3350 Universal Input Seamless Switcher** is based on TV One's exclusive CORIO®2 technology and provides high quality up, down and cross conversion between standard video formats and Computer or HDTV signals. NTSC, PAL and SECAM video standards are supported. Each of the 8x Universal Video inputs on HD15 connectors can accommodate Composite Video, YC (S-Video), YUV, YPbPr, RGBHV, RGBS or RGsB formats. Compact adapters are available that convert from BNC to HD15 or 4-Pin YC to HD15. Incoming video parameters may be adjusted. The output is selectable as any computer resolution up to 2048x2048 at any vertical refresh rate and all HDTV resolutions up to 1080p as well as Composite and YC.

Two Program outputs are provided. One is Universal Analog via an HD15 that can be set to any analog format and resolution from Composite Video through 1080p HD. The second Program out is provided as DVI-D. The Preview output is an analog RGBHV signal that shows the selected input as a full screen image preview; CV and YC inputs are up-converted to RGBHV for viewing.

All the functions can be controlled via the front panel Push Buttons, Infrared, RS-232 or IP. The CORIOtools Suite integrates fully with the unit. A Windows Control Panel is also provided and most third party control systems interface directly with C2-3000 units. Variable Zoom to 10X allows you to enlarge any part of the video image to fill the entire computer screen and position controls allow you to move around to any area desired. Variable Shrink to as little as 10% allows fitting the image to any display. High bandwidth chroma sampling ensures faithfully reproduced, high resolution colors.

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. 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.

**Advanced Features** of the C2-3350 includes scaling of the RGB or YPbPr inputs, Genlock, Unrestricted Picture-In-Picture (any input over any other), Chromakey, Lumakey and Mixing. The **Key Mode** allows computer graphics to be keyed over an external Composite or YC signal or vice 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** is unrestricted and allows any input to be inset in a window over any other



**C2-3360**

### Key Features of the C2-3300 Series

- Automatic incoming resolution and format detection
- 8x Universal Video Input Seamless Switching
- 1x Program Output (Analog, any format)
- 1x Program Output (DVI-D)
- 1x Preview Output (RGBHV format, all Sources)
- Universal Scaler (Up, Down & Cross Conversion)
- Video Frame Rate Conversion
- Worldwide TV Standards Conversion
- Aspect Ratio Conversion
- 4:4:4 Full bandwidth Chroma Sampling
- Menu Driven Control via Joystick and LCD
- Remote Controllable via IR, RS-232 or IP
- CORIOtools Suite compatible
- Rack-mounting ear kit (to fit to 19" rack width)

### Additional Features of the C2-3350 and C2-3360

- Unrestricted Single Window PIP
- Genlock, Mix, Chroma/Lumakey, Edge Blending

### Additional Features of the C2-3360

- 8x Stereo Differential Stereo Audio Inputs
- Program and Preview Stereo Audio Outputs
- Adjustable Audio Level and Balance
- Audio assignable to any video input

### Flexible Upgrade Path

- Audio - Upgradable at TV One Service Centers
- Mix/Key/PIP/Edge Blend - Upgradable at User's site

input.

**Edge Blending** allows feathering any or all of the edges; multiple images can be aligned vertically, horizontally, or both to create unusual displays. Using multiple units, any number of images can be blended. Gamma correction is employed to compensate for many of the problems faced when blending projectors.

The **C2-3360** model offers Differential Stereo Audio switching provided by an integral 8x1 stereo audio routing switcher. The eight balanced/unbalanced inputs may be set to follow any of the video inputs. The connections are made via terminal blocks on the rear panel. Adjustment of audio volume and balance is possible (MUTE, -15dB to +15dB), plus separate routed outputs for program and preview.



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### Specifications

|                                                                                                                                                                         |  |                                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|
| <b>Video Inputs</b><br>Universal Analog                                                                                                                                 |  | 8x via HD15 Female                                                                  |
| <b>Video Outputs</b><br>Program Channel (2x)                                                                                                                            |  | 1x Universal Analog via HD15F<br>1x DVI-D via DVI-I Connector<br>1x RGBHV via HD15F |
| Preview Channel                                                                                                                                                         |  |                                                                                     |
| <b>Stereo Audio Inputs</b><br>C2-3360 Only                                                                                                                              |  | 8x Balanced/Unbal via Terminals                                                     |
| <b>Stereo Audio Outputs</b><br>C2-3360 Only                                                                                                                             |  | 2x Balanced/Unbal via Terminals<br>(C2-3360)                                        |
| <b>Audio Characteristics</b><br>Type                                                                                                                                    |  | Analog – Balanced or Unbalanced                                                     |
| Frequency Response                                                                                                                                                      |  | 180KHz - 3dB                                                                        |
| Level and Balance                                                                                                                                                       |  | MUTE, -15dB to +15dB                                                                |
| Input/Output Levels                                                                                                                                                     |  | Line Level – all Inputs & Outputs                                                   |
| <b>Video Characteristics</b><br>Video Standards                                                                                                                         |  | NTSC, PAL-B, M, N, SECAM                                                            |
| Composite & YC                                                                                                                                                          |  | NTSC, PAL (Note 1)                                                                  |
| YUV                                                                                                                                                                     |  | NTSC, PAL (Note 1)                                                                  |
| YPbPr                                                                                                                                                                   |  | Up to 1080p @ 60Hz                                                                  |
| RGBHV, RGBS, RGsB                                                                                                                                                       |  | Up to 2048x2048 60Hz                                                                |
| Sync                                                                                                                                                                    |  | TTL Level, 10KΩ, Pos or Neg                                                         |
| Impedance                                                                                                                                                               |  | 75Ω                                                                                 |
| R-G-B Level Range                                                                                                                                                       |  | 0.5-2.0V p-p                                                                        |
| Scan Rate Detection                                                                                                                                                     |  | Automatic                                                                           |
| PC Resolutions                                                                                                                                                          |  | Any up to 2048x2048                                                                 |
| HDTV Resolutions                                                                                                                                                        |  | Any up to 1080p                                                                     |
| <b>General</b><br>Size and Position                                                                                                                                     |  | Automatic via AutoSet or Manual                                                     |
| Image Size                                                                                                                                                              |  | User-Definable Pre sets                                                             |
| 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)                                                        |
| Digital Sampling                                                                                                                                                        |  | 24-bit, 4:4:4 format                                                                |
| Sampling Rate                                                                                                                                                           |  | 162MHz                                                                              |
| Firmware Memory                                                                                                                                                         |  | Flash, Upgradeable via RS-232                                                       |
| 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,<br>Hue (NTSC), R-G-B Levels                       |
| <b>Control</b><br>Local                                                                                                                                                 |  | Push Buttons and LCD                                                                |
| Remote                                                                                                                                                                  |  | IR, RS-232, Ethernet IP                                                             |
| <b>Operational Modes</b><br>Key                                                                                                                                         |  | ChromaKey or LumaKey                                                                |
| Mix                                                                                                                                                                     |  | Fade, Cut or Effect Transitions                                                     |
| PIP (Unrestricted)                                                                                                                                                      |  | Any source over any other source                                                    |
| Edge Blending                                                                                                                                                           |  | Top, Bottom, Right or Left Side                                                     |
| <b>Mechanical</b><br>Desktop Case (HWD)                                                                                                                                 |  | 44x420x200mm (1.75"x17"x7.9")                                                       |
| With Rack Ears (HWD)                                                                                                                                                    |  | 44x482x200mm (1.75"x19"x7.9")                                                       |
| Weight (Net)                                                                                                                                                            |  | 3.2kg (7.0 lbs)                                                                     |
| <b>Warranty</b><br>Limited Warranty                                                                                                                                     |  | 5 Years Parts and Labor                                                             |
| <b>Environmental</b><br>Operating Temp.                                                                                                                                 |  | 0° to +45° C (+32° to +113° 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                                                          |
| <b>Power Requirement</b><br>Mains                                                                                                                                       |  | 100-240V AC (47-63 Hz), 20W                                                         |
| <b>Regulatory Approvals</b><br>Video Scaler Unit                                                                                                                        |  | EN55103-1 & 2, EN60065, FCC,<br>RoSH                                                |
| Power Supplies                                                                                                                                                          |  | UL, CUL, CE, PSE, GS, RoHS                                                          |
| <b>Product Item Numbers</b><br>C2-3350                                                                                                                                  |  | No Audio - With Mix/Key/PIP                                                         |
| C2-3360                                                                                                                                                                 |  | With Audio - With Mix/Key/PIP                                                       |
| <b>Accessories Included</b><br>1x Power Adapter                                                                                                                         |  | US, UK, Euro or AU                                                                  |
| 1x Operations Manual                                                                                                                                                    |  | C2-3300 Series                                                                      |
| 2x ZCH3000-1                                                                                                                                                            |  | HD15M to BNC Male CV Adapter                                                        |
| 1x ZSH3000-1                                                                                                                                                            |  | HD15M to 4-Pin Mini-DIN YC                                                          |
| 1x Rackmount Kit                                                                                                                                                        |  | Set of attachable ears                                                              |
| Windows Control Panel                                                                                                                                                   |  | Downloadable form website                                                           |
| <b>Optional Accessories</b><br>ZCH3000-1                                                                                                                                |  | Additional HD15M to BNC Male CV Adapt                                               |
| ZSH3000-1                                                                                                                                                               |  | Additional HD15M to 4-Pin Mini-DIN YC                                               |
| CHB1609-2                                                                                                                                                               |  | 0.7m (2') HD15M to 3 BNC Female Cable                                               |
| ZHB1870-6                                                                                                                                                               |  | 2m (6') HD-5M to 3 BNC Male Cable                                                   |
| ZHR1720G-6                                                                                                                                                              |  | 2m (6') HD15M to 3 RCA Male Cable                                                   |
| ZHB1719G-6                                                                                                                                                              |  | 2m (6') HD15M to 5 BNC Male Cable                                                   |
| CC-300                                                                                                                                                                  |  | Hardware Control Panel                                                              |
| RM-110                                                                                                                                                                  |  | Rear Rack Rail Support System                                                       |
| <b>Notes</b><br>(1) Composite, YC and YUV/YPbPr signal may be fed directly via an HD15 cable or via the breakout cable and adapters listed in the Optional Accessories. |  |                                                                                     |

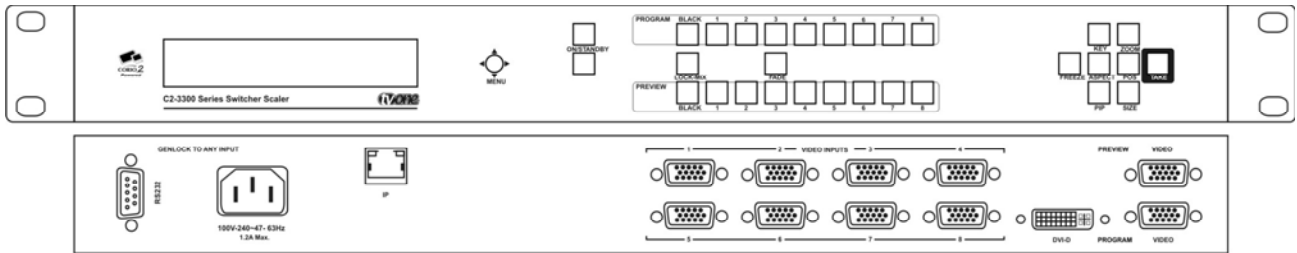


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### Panel Drawings

#### C2-3300 – C2-3350



#### C2-3310 – C2-3360

