

**C2-3300 Universal Input Seamless Switcher Series** 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. A Windows Control Panel is 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 insures 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.

**C2-3310** and **C2-3360** models offer 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.

**C2-3350** and **C2-3360** models offer a wide variety of additional capabilities, including 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 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.



**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
- Rack-mounting ear kit (to fit to 19" rack width)

### Additional Features of the C2-3310 and 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

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

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

### Flexible Upgrade Path

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

### C2-3000 Series Model Overview

**C2-3300** - Basic Unit, No Audio or Key/Mix/PIP

**C2-3310** - Basic Features plus Audio

**C2-3350** - Basic Features plus Key/Mix/PIP

**C2-3360** - Basic Features plus Audio and Key/Mix/PIP

The **PIP Mode** is unrestricted and allows any input to be inset in a window over any other 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.

**Upgradability** is taken to a new level in the C2-3000 Series. A basic C2-3300 or C2-3350 may have audio added at any TV One Technical Support Center by adding the Stereo Audio switching board. Adding the Mix/Key/PIP features can be done by firmware upgrade at the user's location in the field. So, the upgrade path is easy from the basic to the most advanced model.



## Universal Input Seamless Switcher

Models C2-3300, C2-3310, C2-3350, C2-3360

### Specifications

#### Video Inputs (All Models)

Universal Analog 8x via HD15 Female

#### Video Outputs (All Models)

Program Channel (2x) 1x Universal Analog via HD15F

1x DVI-D via DVI-I Connector

Preview Channel 1x RGBHV via HD15F

#### Stereo Audio Inputs

C2-3310, C2-3360 8x Balanced/Unbal via Terminals

#### Stereo Audio Outputs

C2-3310, C2-3360 2x Balanced/Unbal via Terminals

#### Audio Characteristics

(C2-3310, C2-3360) Type Analog – Balanced or Unbalanced

Frequency Response 180KHz - 3dB

Level and Balance MUTE, -15dB to +15dB

Input/Output Levels Line Level – all Inputs & Outputs

#### Video Characteristics

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

#### 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)

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,

Hue (NTSC), R-G-B Levels

#### Control

Local Push Buttons and LCD

Remote IR, RS-232, Ethernet IP

#### Operational Modes

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

#### Mechanical

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)

#### Warranty

Limited Warranty 2 Years Parts and Labor

#### Environmental

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

#### Power Requirement

Mains 100-240V AC (47-63 Hz), 20W

#### Regulatory Approvals

Video Scaler Unit EN55103-1 & 2, EN60065, FCC,

RoSH

Power Supplies UL, CUL, CE, PSE, GS, RoHS

#### Product Item Numbers

C2-3300 No Audio - No Mix/Key/PIP

C2-3310 With Audio - No Mix/Key/PIP

C2-3350 No Audio - With Mix/Key/PIP

C2-3360 With Audio - With Mix/Key/PIP

#### Accessories Included

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

#### Optional Accessories

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

#### Notes

(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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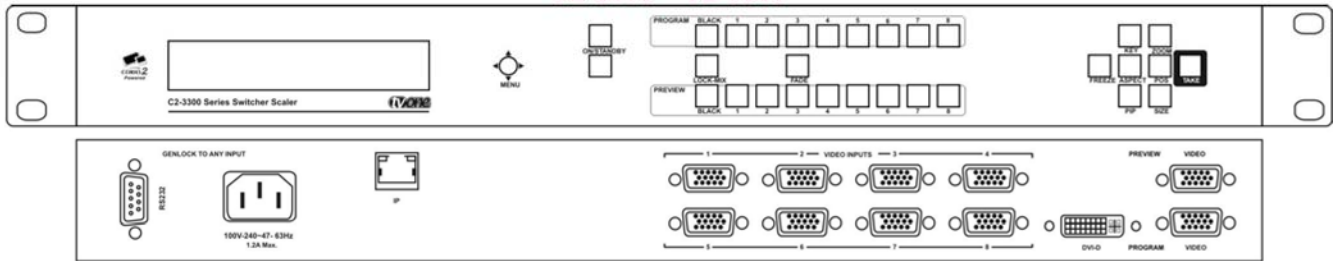


# Universal Input Seamless Switcher

Models C2-3300, C2-3310, C2-3350, C2-3360

## Panel Drawings

### C2-3300 – C2-3350



### C2-3310 – C2-3360

