



Universal I/O Seamless Switcher

Models C2-3300 Series

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 from standard video formats to Computer or HDTV signals. NTSC and PAL video standards are supported. Each of the 8x Universal Video inputs on HD15 connectors can accommodate Composite Video, YC (S-Video), YUV/YPbPr Component, RGBHV, RGBS or RGsB formats. Compact adapters are available that convert from BNC to HD15 or 4-Pin YC to HD15. 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, an Infrared Remote Control or via an RS-232 or Ethernet IP interface. A Windows Control Panel is provided and most third party control systems interface directly with the entire C2 range of products. 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.

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. The **PIP Mode** allows the computer inputs to be inset in a window over any of the video inputs.



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
- Menu Driven Control via Joystick and LCD
- Remote Controllable via IR, RS-232 or IP
- Multiple Input and Output Connector Choices
- 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 to any input
- Mix function
- Chromakeyer & Lumakeyer

Flexible Upgrade Path

- Audio Upgradable at TV One Service Centers
- Mix/Key/PIP Upgradable at User's Location

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

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.

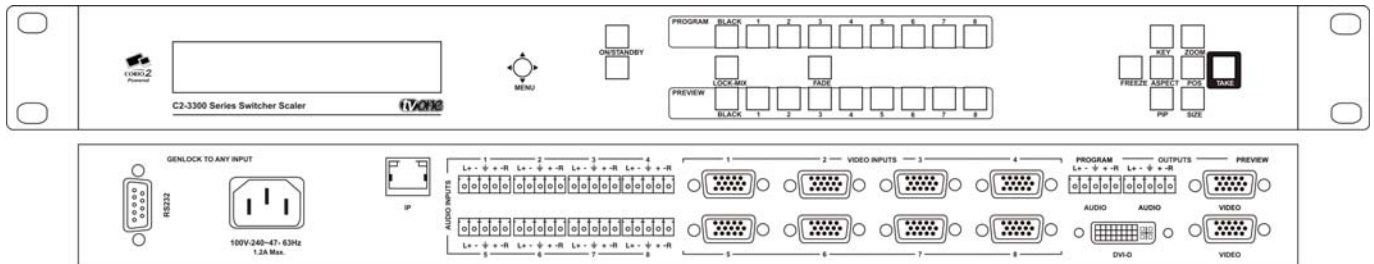


Universal I/O Seamless Switcher Models C2-3300 Series

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	
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
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
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
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.	

Panel Drawings



C2-3360