DVI/PC to HD/SD Converters

Models C2-2105A, 2155A

C2-2105A DVI/PC to HD/SD Converter is based on TV One's exclusive CORIO®2 technology and provides high quality conversion from DVI and analog PC or HD sources to standard video formats. The input can be any analog computer resolution up to 2048x2048 and 1080p or any DVI resolution up to 1920x1200 and 1080p. A wide variety of computer signal formats are available to support PC, Mac and Workstation formats. 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. The output can be SD/HD-SDI, YUV, YC, Composite Video, YC or YPbPr (Progressive Scan) Component. NTSC, PAL, PAL-M, PAL-N, SECAM output standards are supported.

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. All the functions can be controlled via the front panel Push Buttons, an Infrared Control Remote Unit, an RS-232 or IP connection. A Windows Control Panel 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 esktop case and an optional rackmount kit is available that holds one or two units.

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 insures crisp, clear images, while full bandwidth chroma sampling insures faithfully reproduced, high resolution colors. Temporal interpolation greatly improves frame rate conversion by analyzing and merging successive frames. Pixel Level Motion Adaptive Diagonal Interpolation insures high quality de-interlacing of PAL and NTSC signals. The Composite Video Genlock feature insures precise synchronization of the incoming signals by providing a wide Subcarrier lock range with SC phase adjustment.

PIP, Chromakey, Lumakey and Mix are among the advanced features added in the C2-2155A version, which also has all C2-2105A features. The Key Mode allows computer graphics to be keyed over an external Composite or YC 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 inputs to be inset in a window over either of the video inputs or vice versa. The PIP window may be placed anywhere on the screen.

Input Expansion is possible by using the optional S2 Series Input Expansion Modules for DVI or RGB/YPbPr. These units link to C2-2105A/2155A unit via an OPTIONS Interconnect Cable and become an integral part of the main unit from a control and operational standpoint. The routing of these additional inputs is controlled directly from the control system of the C2-2105A/2155A and multiple different S2 models may be simultaneously connected.

Key Features of the C2-2105A, C2-2155A

- DVI/PC to HD/SD Conversion
- Digital Inputs: DVI-D
- Analog Inputs: RGB/YPbPr (CV, YC for Keying)
- Digital Outputs: SD/HD-SDI
- Analog Outputs: YUV, YPbPr, CV, YC
- 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
- Automatic Incoming Resolution Detection
- AutoSet - Automatic picture sizing of PC inputs
- 4:4:4 Full bandwidth Chroma Sampling
- Video signal parameter adjustments
- Integral 4x1 Stereo Audio Routing Switcher
- RS-232 and IP Interface & Windows Control Panel
- Variable Image Zoom to 10X and Shrink to 10%
- Genlock With Subcarrier Phase Adjustment
- PIP, Chroma/Lumakey (C2-2155A)
- Optional IR Remote Control
- Optional Single/Dual Rackmount Kit
- Optional Input Expansion with S2 Switchers

Advanced Stereo Audio processing and switching is available via the optional S2-106AD Input Expansion Switcher, providing six differential audio inputs, which can be used for low impedance balanced or high impedance unbalanced sources. The user controls audio level, audio sampling frequencies and up to 999ms of adjustable audio delay independently for each input. The unit has numerous choices for audio I/O connectors, including a terminal block. The S2-106AD connects to the C2-2105A/2155A via the OPTIONS interconnect cable and is then fully integrated into the control system of the host unit.

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Specifications

Computer Inputs	
Signal Type	1x Analog via HD-15F w/Loop-thru 1x DVI-D via DVI-I Connector
Format	RGBHV, RGBS, RGsB, YPbPr
Sync	TTL Level, 10KΩ, Pos or Neg
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 1920x1024,HD to 1080p/60
Vertical Refresh Rate	Any to 250Hz
Max Horiz Scan Rate	150KHz
Computer Compatibility	PC, Macintosh, Workstations
Video Outputs	
Television Standards	NTSC, PAL, PAL-M, PAL-N, SECAM
Impedance	75Ω
RGB/YPbPr Loop-thru	1x Active Buffered via HD-15
Composite Video	1x via BNC
YC (S-Video)	1x via 4-PIN Mini-DIN
YUV, YPbPr	1x via 3-BNC
SD/HD-SDI	1x via BNC
Video Inputs	(Note 1)
Composite Video	1x via BNC (C2-2155A)
YC (S-Video)	1x via 4-Pin Mini-DIN (C2-2155A)
Genlock (Composite)	1x via BNC (C2-2105A)
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
Framerate Conversion	Temporal
Color Resolution	24-bit (16.8 Million Colors)
Sampling Rate	162MHz
Digital Sampling	24-bit, 4:4:4 format
De-interlacing (PAL-NTSC)	Pixel-level Motion Adaptive, Diagonal Interpolation
Firmware Memory	Flash, Upgradeable via RS-232
Video Encoder	8-bit Digital
Video Adjustments	R-G-B Levels
Operational Modes	(C2-2155A)
Key	Chromakey or Lumakey
Mix	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°

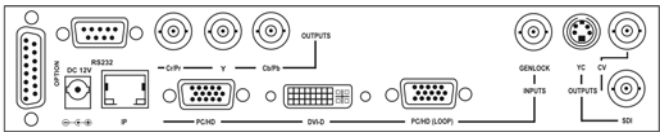
SDI Jitter	
SMPTE259M-C (SD-SDI)	(270Mbps:525/625Line) Jitter 0.070 +/-0.01 UI
SMPTE292M (HD-SDI)	(1.485/1.4835Gbps: 720p, 1035i, 1080i, 1080p) Jitter 0.176 +/- 0.02 UI
Input Vertical Rates - SMPTE259M-C (SD-SDI)	
525i (720x488)	59.94Hz
625i (720x576)	50 Hz
Input Vertical Rates - SMPTE292M (HD-SDI)	
720p (1280x720)	23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz
1035i (1920x1035)	29.97, 30Hz
1080i (1920x1080)	25, 29.97, 30Hz
1080p (1920x1080)	23.98, 24, 25, 29.97, 30Hz
Control Methods	
Local	via Front Panel Buttons & OSD
RS-232 Interface	via D9 Female Connector
IP Interface	RJ45 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)	1.28kg (2.82 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@1.5A (Note 2)
Accessories Included	
1x Operations Manual	C2-2000A Series
1x Power Adapter	US, UK or Euro
Product Item Numbers	
C2-2105A	Basic Version
C2-2155A	PLUS Version with Key, Mix, PIP
Optional Accessories	
RM-220	Single/Dual Rackmount Kit
S2 Series	Input Expansion Switchers
Control Software	Downloadable form Website

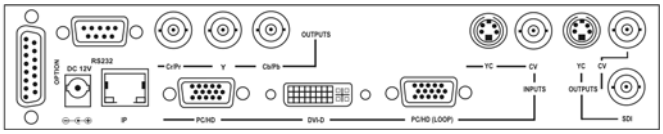
Note

(1) The C2-2155A uses the Composite Video input provided for Key/Mix/PIP functions as a Genlock input. The C2-2105A has a dedicated Composite Video Genlock input.

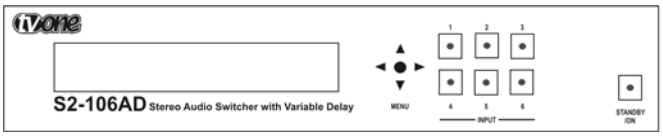
(2) The C2 unit uses less than 1A, however, if an S2 unit is powered via the OPTIONS connector, 1.5A is required.

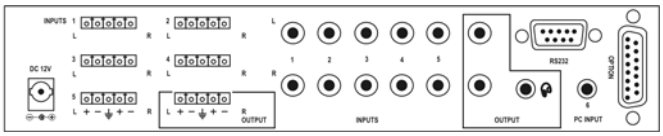
Panel Drawings





S2-106AD Advanced Audio Processor Module





Typical S2 Input Expansion Modules