



Down Converters

Models C2-2100A, 2105A, 2150A, 2155A



C2-2100A Down 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. An analog computer input signal bypass (loop-thru) is also provided. The output is simultaneously available in Composite, S-Video (YC), YUV and YPbPr. NTSC, PAL, PAL-M, PAL-N, SECAM output standards are supported. The **C2-2105A** provides an SD/HD-SDI output as well as all the other features of the C2-2100A.

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, Infrared, RS-232 or IP. 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 desktop 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.

C2-2150A Advanced Features - In addition to all standard C2-2100A 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. The **C2-2155A** provides an SD/HD-SDI Output as well as all the other features of the C2-2150A.



Key Features of the C2-2100A Series

- Inputs: DVI-D, RGB/YPbPr, plus CV/YC for Keying
- Outputs: CV, YC, YUV, YPbPr, plus SD/HD-SDI on models C2-2105A and C2-2155A
- 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
- Mix, PIP, Chroma/Lumakey on models C2-2150A and C2-2155A
- Optional IR Remote Control
- Optional Single/Dual Rackmount Kit
- Optional Input Expansion with S2 Switchers

Input Expansion is possible by using the optional S2 Series Input Expansion Switchers for DVI or RGB/YPbPr. These units link to C2 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 unit and multiple different S2 models may be simultaneously connected.

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 unit 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 DVI-D via DVI-I Connector 1x Analog via HD-15F w/Loop-thru
Format	RGBHV, RGBS, RGsB, YPbPr
Sync	TTL Level, 10K Ω , Pos or Neg
Termination	75 Ω
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	75 Ω
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 (C2-2105A, C2-2155A)
Video Inputs	(Note 1)
Composite Video	1x via BNC (C2-2150A, C2-2155A)
YC (S-Video)	1x via 4-Pin Mini-DIN (C2-2155A)
Genlock (Composite)	1x via BNC (C2-2100A, 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	Pixel-level Motion Adaptive,
(PAL-NTSC)	Diagonal Interpolation

Firmware Memory	Flash, Upgradeable via RS-232
Video Encoder	8-bit Digital

Video Adjustments	CV/YC: Contrast, Brightness, Saturation, Hue (NTSC). Analog RGB/YPbPr levels (C2-2150A, C2-2155A)
Operational Modes	
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 (C2-2105A, C2-2155A)

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

SD-SDI Input Vertical Rates (C2-2105A, C2-2155A)

SMPTE259M-C	
525i (720x488)	59.94Hz
625i (720x576)	50 Hz

HD-SDI Input Vertical Rates (C2-2105A, C2-2155A)

SMPTE292M	
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	via RJ45 Connector
Infrared Remote	via optional IRC-5 Remote Unit
Input Expansion Control	via D-15 Options Connector

Warranty

Limited Warranty	2 Years Parts and Labor
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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)
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Accessories Included

1x Operations Manual	C2-2000A Series
1x Power Adapter	US, UK or Euro

Product Item Numbers

C2-2100A	Basic Version
C2-2105A	Basic Version w/ SD/HD-SDI Out
C2-2150A	PLUS Version w/ Key, Mix, PIP
C2-2155A	PLUS Version w/SD/HD-SDI Out plus Key, Mix, PIP

Optional Accessories

RM-220	Single/Dual Rackmount Kit
IRC-5	Infrared Remote Control Unit
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.
- (3) Balanced Audio (6-inputs) and Audio Delay is available via the S2-106AD accessory.

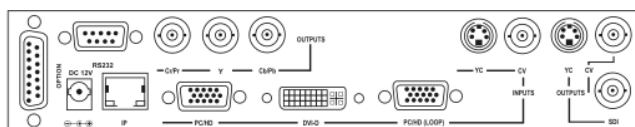
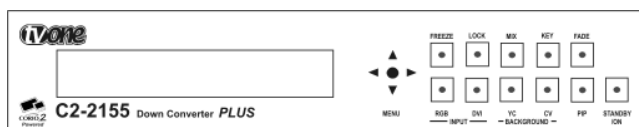
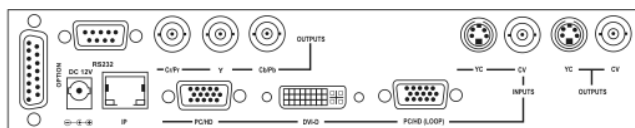
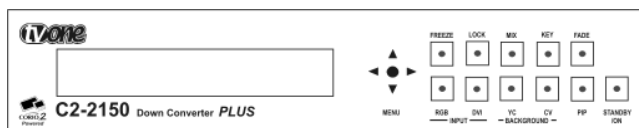
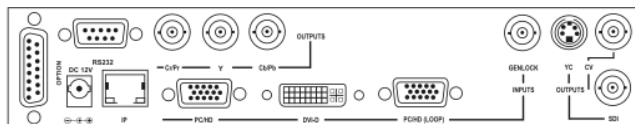
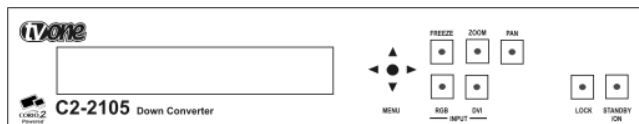
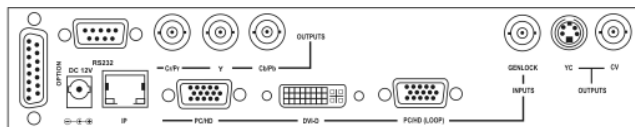


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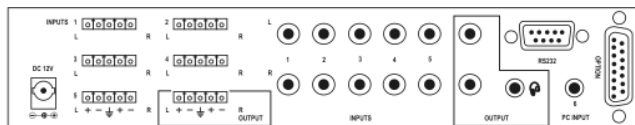
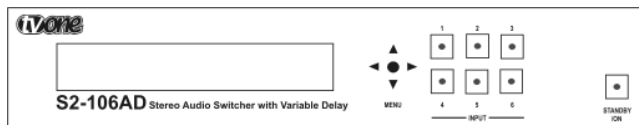
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Panel Drawings



S2-106AD Advanced Audio Processor Module



Typical S2 Input Expansion Modules

