

C2-8000 Universal Input Seamless Switcher is based on TV One's exclusive CORIO®2 technology and provides high quality video switching with two-channel bi-directional conversion between a variety of analog and digital video formats. The standard system features multiple DVI-U input modules (allowing any of HDMI, DVI, Composite Video, YC, YUV, YPbPr or RGB) that can be scaled and switched between, along with two independent processing channels. The system can also have 3G-SDI input/output modules fitted, as well as audio I/O.

The high resolution DVI-U (HDMI, DVI, CV, YC, YUV, YPbPr or RGB) outputs are selectable as virtually any PC or HDTV resolution (or SDI with the 3G-SDI I/O module). 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. NTSC, PAL, PAL-M, PAL-N, SECAM standards are supported.

In Switcher mode, transitions include Cross-fade, Push, Wipe and Cut. Independent mode gives two channels of video conversion. Dual PIP mode allows two windows to appear together on the same output. All modes allow Background sources to be used along with Keying and Logo insertion.

Signal parameters of the incoming video may be adjusted. All settings are stored in non-volatile memory and are retained even when power is switched off. 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 RS-232/422/485 or IP connection. Windows Control Panel software 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 standard 1U rack mount case and features an optional redundant internal PSU and power inlet.

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 ensures crisp, clear images, while full bandwidth chroma sampling ensures faithfully reproduced, high resolution colors. Pixel Level Motion Adaptive Diagonal Interpolation and Noise Reduction ensures high quality de-interlacing of PAL, NTSC and 1080i signals. 3:2 Pull-down ensures proper 24 fps film extraction from NTSC and 1080i sources.

Advanced Features - The Key Mode allows one input to be keyed over another. The keyed image may be faded in and out. Due to the 4:4:4 RGB/DVI sampling format, precise keying at the pixel level can be achieved.



Key Features of the C2-8000

- 1RU size
- High quality seamless switching
- Up-Down-Cross Conversion
- DVI-U inputs (HDMI/CV/YC/RGB/YPbPr): up to 12
- SDI inputs: up to 2 SD/HD/3G-SDI + re-clocked out
- DVI-U outputs: 2 (HDMI/CV/YC/RGB/YPbPr)
- SDI outputs: up to 2 (SD/HD/3G)
- Genlock inputs: 1x Tri/Bi with loop-through
- Analog: PC to 2048x2048, HDTV to 1080p/60
- DVI: PC to 1920x1200, HDTV to 1080p/60
- Supports: NTSC, PAL, PAL-M, PAL-N, SECAM
- HDMI-compatible input & output with HDCP
- Motion Compensation & 3:2 Pull-down
- Diagonal Interpolation
- Noise Reduction for PAL, NTSC and 1080i inputs
- Automatic Incoming Resolution Detection
- AutoSet - Automatic picture sizing of PC inputs
- 4:4:4 Full bandwidth sampling
- Variable Image Zoom to 10X and Shrink to 10%
- Chroma and Luma keying
- Fade, Wipe, Push, Cut transitions
- Video signal parameter adjustments
- Audio de-embed / embed for SDI and DVI
- Closed-caption de-embed / embed for CV / SDI
- Integral Audio Routing
- User-defined Logo insertion
- Still image store
- Borders with variable size and colour
- IP Interface
- RS-232/422/485 interface
- Optional Audio Module with AES break-out and adjustable delay
- Optional Tally Module
- Optional Redundant Power Supplies
- Optional Rear Rack mount supports

The Mix Mode permits Seamless Cut, Fade or Wipe transitions between input sources whilst a background is in use. The Genlock reference input is SD and HD compatible and ensures precise synchronization of the incoming signals by providing a wide Subcarrier lock range with Subcarrier phase adjust.

Integral Audio switching is provided to route audio from the (HDMI-compatible) DVI input or SDI input to the DVI and SDI outputs. An optional Audio Module can provide AES I/O abilities and audio delay and can link to our A2-7300 range of audio break-out units.

Specifications
Video Inputs

| | |
|----------------------|-----------------------------------|
| Television Standards | NTSC, PAL, PAL-M/N, SECAM |
| Composite Video | Up to 12x via DVI-U |
| YC (S-Video) | Up to 12x via DVI-U |
| YUV /YPbPr | Up to 12x via DVI-U |
| SD/HD/3G-SDI | Up to 2x via BNC + re-clocked out |

Computer Inputs

| | |
|------------------------|---|
| Digital DVI | Upto 12x via DVI-U (HDMI & HDCP compatible) |
| Analog | Upto 12x via DVI-U |
| Analog Format | RGBHV, RGBS, RGsB, YPbPr |
| Analog Sync | TTL Level, 10KΩ, Pos or Neg |
| RGB Level Range | 0.5-2.0 Vp-p |
| Scan Rate Detection | Automatic |
| Analog Signals | PC to 2048x2048, HD to 1080p60 |
| DVI Signals | PC to 1920x1200, HD to 1080p60 |
| Max Horiz Scan Rate | 150kHz |
| Computer Compatibility | PC, Macintosh, Workstations |

Video Outputs

| | |
|----------------------|---------------------------|
| Television Standards | NTSC, PAL, PAL-M/N, SECAM |
| Composite Video | 2x via DVI-U |
| YC (S-Video) | 2x via DVI-U |
| YUV /YPbPr | 2x via DVI-U |
| SD/HD/3G-SDI | Up to 2x via BNC |

Computer Outputs

| | |
|-----------------------------------|---|
| DVI Signals | 2x via DVI-U (HDMI & HDCP compatible) |
| Analog | 2x via DVI-U |
| Analog format | RGBHV, RGBS, RGsB, YPbPr |
| R-G-B Level | 0.7 Vp-p |
| DVI Signals | PC to 1920x1200, HD to 1080p60 |
| Analog Signals | PC to 2048x2048, HD to 1080p60 |
| Vertical Refresh Rate | Any to 250Hz |
| Size and Position | Automatic via AutoSet or Manual |
| Image Size | User-Definable |
| 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 |
| Conversion Technology | Proprietary – CORIO®2 |
| Frame-rate Conversion | Temporal |
| Color | RGB 24-bit 4:4:4 YPbPr 20-bit 4:2:2 |
| Max. Sampling Rate | 162MHz |
| Firmware Memory | Flash, Upgradeable via RS-232 |
| De-Interlacing (NTSC, PAL, 1080i) | Pixel-level Motion Adaptive, Diagonal Interpolation, Noise Reduction. |
| Video Comb Filter | Adaptive |
| Film (NTSC, 1080i) | 3:2 Pull-down CV/YC: Contrast, Brightness, Saturation, Hue (NTSC). |
| Video Adjustments | Analog RGB/YPbPr levels |

Audio support

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|------------------|------------------------|
| De-embed / embed | SDI & HDMI-I/O via DVI |
| Delay | Via optional module |

Closed Captions

| | |
|------------------|------------------------|
| De-embed / embed | SDI (608 & 608 in 708) |
|------------------|------------------------|

Genlock Adjustments

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|-----------------------|---|
| Subcarrier Lock Range | +/- 200Hz for NTSC Operation (+/- 250Hz for PAL Operation) |
| Subcarrier Phase | +/- 180° Adjustment |

3G/HD/SD-SDI

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|----------------------|----------------------------------|
| SMPTE259M-C (SD-SDI) | 270Mbps < 0.1UI jitter |
| SMPTE292M (HD-SDI) | 525/625Line |
| SMPTE424M (3G-SDI) | 1.485/1.4835Gbps < 0.2 UI jitter |
| | 720p, 1035i, 1080i, 1080p |
| | 2.97/2.967Gbps < 0.3 UI jitter |
| | 1080p 60/59.94 |

HD Resolutions supported (DVI, YPbPr, SDI)

| | |
|-------------------|---|
| 720p (1280x720) | 23.98, 24, 25, 29.97, 30, 50, 59.94, 60Hz |
| 1035i (1920x1035) | 59.94, 60Hz |
| 1080i (1920x1080) | 50, 59.94, 60Hz |
| 1080p (1920x1080) | 23.98, 24, 25, 29.97, 30Hz |
| 1080p (1920x1080) | 50, 59.94, 60Hz |

Control Methods

| | |
|----------------|-------------------------------|
| Local | via Front Panel Buttons & LCD |
| RS-232/422/485 | via D9 Female Connector |
| IP Interface | RJ45 Connector |

Warranty

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|------------------|--------------------------|
| Limited Warranty | 5 Years Parts and Labour |
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Regulatory Compliance

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|-----------|-------------------------|
| Main unit | FCC, CE, RoHS, (UL PSU) |
|-----------|-------------------------|

Mechanical

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|------------------|--|
| Size (H x W x D) | 1.73" x 17.0" x 13.1" |
| | 44 x 431 x 334mm |
| Weight (Net) | Approx. 5Kg (with redundant PSU option) |

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 |
| MTBF | Approx. 35,000 hours |

Power Requirement

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|-----------------------|---------------------------------|
| External Power Supply | 110v to 240v auto-detecting |
| Redundancy | Optional redundant internal PSU |

Accessories Included

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|----------------------|--------------------|
| 1x Operations Manual | |
| 1x Front Rack Ears | |
| 1x Power cable | US, UK, Euro or AU |

Product Item Number

| | |
|---------|---|
| C2-8110 | 6x DVI-U In, 2x DVI-U Out |
| C2-8120 | 8x DVI-U In, 2x DVI-U Out |
| C2-8130 | 12x DVI-U In, 2x DVI-U Out |
| C2-8160 | 10x DVI-U In, 2x DVI-U Out, + Audio Interface |
| C2-8210 | 8x DVI-U, 2x 3G/HD/SD-SDI In 2x DVI-U Out, 2x 3G/HD/SD-SDI Out |
| C2-8260 | 6x DVI-U, 2x 3G/HD/SD-SDI In, + Audio Interface 2x DVI-U Out, 3G/HD/SD-SDI Out |

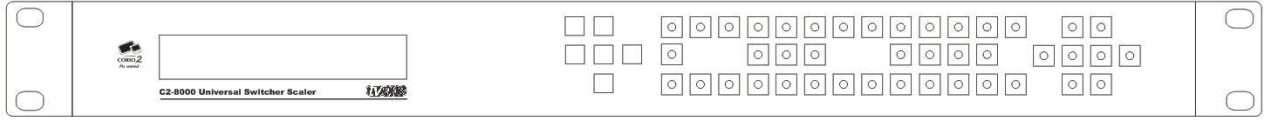
Optional Accessories

| | |
|------------------|---------------------------|
| CM-AUD-8IN-8OUT | Audio delay module (2) |
| CM-1RPS | Redundant PSU (2) |
| RM-120 | Rack Support Rails(24") |
| RM-130 | Rack Support Rails(32") |
| Control Software | Downloadable from Website |

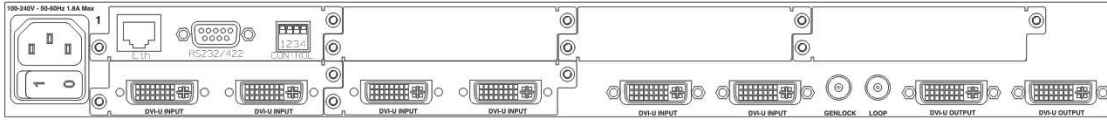
Notes

- (1) Each of these uses a module slot and will reduce inputs.
- (2) These are Factory or TV One Tech Center Fitted only.

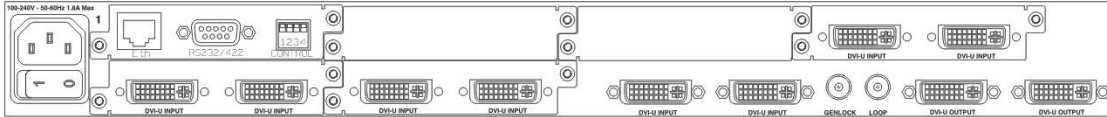
Panel Drawings



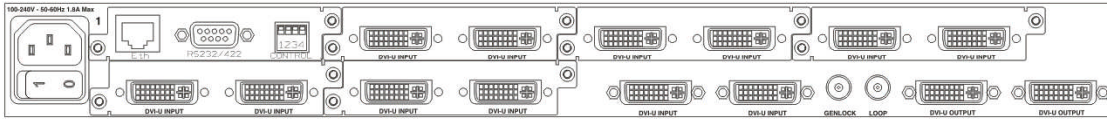
C2-8110



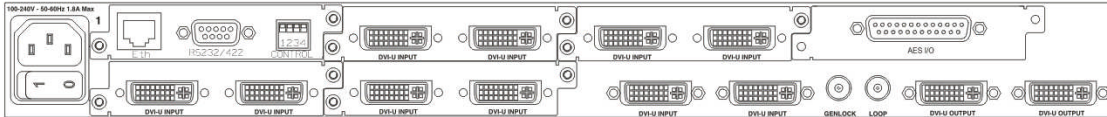
C2-8120



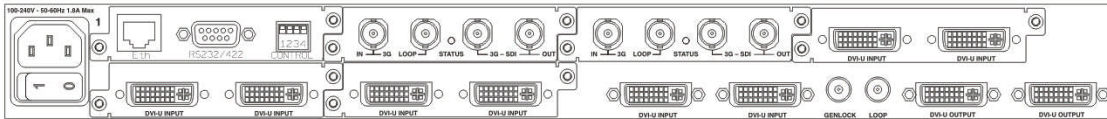
C2-8130



C2-8160



C2-8210



C2-8260

