C2-2855
Universal Video Scaler PLUS

Key Features

- Up/Down/Cross Conversion
- Digital Inputs: SD/HD/3G-SDI, DVI-U*, HDMI (DVI 1.0, HDCP 1.4)
- Analog Inputs: YUV/YPbPr, RGB/YPbPr, CV, YC
- Digital Outputs: SD/HD/3G-SDI, DVI-U*, HDMI (DVI 1.0, HDCP 1.4)
- Analog Outputs: DVI-U* (RGB/YPbPr/YUV), CV, YC
- Analog: PC to 1920x1080, HDTV to 1080p/60
- HDMI & DVI : PC to 1920x1200, HDTV to 1080p/60
- Supports: NTSC, PAL, PAL-M, PAL-N
- 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 f or RGB sources. 4:2:2 f or SDI, YC and CV sources. HDMI YUV support for either 4:4:4 or 4:2:2 sampling
- Video signal parameter adjustments
- Integral 4x1 Stereo Analog Audio Routing Switcher, fully integrated with digital audio
- Stereo Audio Embedding on capable outputs (DVI-U*, HDMI, SDI)
- RS-232 and IP Interf ace f or Control Sof tware
- Variable Image Zoom to 10X and Shrink to 10%
- Genlock
- Framelock
- PIP, Chromakey and Lumakey
- Optional Single/Dual Rackmount Kit

Overview

The C2-2855 Universal Scaler Plus is first in a new generation of high performance scalers that provides best-in-class video scaling and format conversion along with revolutionary, intuitive user interface tools. The crystal clear OLED display intuitively guides users through setup and control using color-modulated, backlit buttons. Alternatively, a graphic user interface[†] for computer or tablet can be used to set up and control the unit remotely via IP. RS232 is also provided as a direct control interface for 3rd party control systems. The video performance of the C2-2855 is based on tvONE's exclusive CORIO®2 technology, which provides high quality bi-directional conversion and switching between a wide variety of analog and digital video formats. Living up to its designation as a "Universal Scaler" the C2-2855 supports SD/HD/3G-SDI, HDMI, DVI, Composite Video, YC, YUV, YPbPr or RGB, on both inputs and outputs, and the signal parameters of the incoming video may be adjusted. The high resolution RGB/YPbPr output is selectable at virtually any PC or HDTV resolution and NTSC, PAL, PAL-M, and PAL-N standards are all supported. Crisp, clear images are ensured by a high sampling rate and advanced Digital Flicker Elimination circuitry on CV & YC outputs, while full bandwidth chroma sampling ensures faithfully reproduced, high resolution colors. Motion compensation, diagonal interpolation and a 3:2 Pull-down feature provide for the best possible NTSC image quality, while temporal interpolation refines frame-rate conversion by merging successive frames.

Designed for commercial 24/7/365 use, the C2-2855 automatically stores all settings in non-volatile memory for automatic restoration of the most recent settings even when power is switched off. Twelve user-defined presets are readily available for instant, on-the-fly adjustment to diverse customized applications.

tvONE's AutoSet feature automatically sizes and positions computer images to fit exactly on the video display, and the 10X Variable Zoom can enlarge and position any part of an input to fill the entire video output display. Variable Shrink with as much as 90% size reduction allows almost any image to fit on the tiniest screen.

Advanced Features - Keying allows one input to be keyed over a second input. The keyed image may be faded in and out. Precise keying at the pixel level is possible due to 4:4:4 sampling format for RGB sources. Transitions permit Seamless Cut, Fade or Wipe transitions when switching between input sources. Picture-In-Picture (PIP) functionality allows an input to be inset in a window over a second input or vice versa, and the PIP window may be placed anywhere on the screen. Genlock ensures precise synchronization of the incoming signals.

Audio - Integral Stereo Audio switching is provided by an integral 4x1 audio routing switcher. The four impedance-independent unbalanced inputs follow the video input selection. A rear panel terminal block and a 3.5mm jack-socket provides access.

Embedded Audio Support allows any audio input to be embedded on all outputs which support embedded audio data (HDMI/DVI-U/SDI).

The unit is housed in a desktop case and can be rack-mounted with an optional 19-inch rackmount kit that holds one or two units.

* DVI-U, is an interface that is fully DVI-I compliant and offers analog (YC, CV, RGB & YPbPr) & HDMI connectivity in addition to DVI-I, via a range of low-cost dongles.

†Not compatible with previous generation C2 products

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Specifications

Video Input	
Television Standards	NTSC, PAL, PAL-M, PAL-N, SECAM
Composite Video	1x via BNC & 1x via DVI-U*
YC (S-Video)	1x via 4-Pin Mini-DIN & 1x via DVI-U*
HDTV	1x via HDMI (DVI 1.0, HDCP 1.4) & 1x via DVI-U*
SD/HD/3G-SDI	1x via BNC

Computer Inputs	
Signal Type	1x Analog via PC/HD HD15, 1x DVI-U*
Format	RGBHV, RGBS, RGsB, YPbPr, YUV
Sync	TTL Level, 10K , 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 1920x1080, HD to 1080p/60
DVI & HDMI signals	PC to 1920x1200, HD to 1080p/60
Max Horiz Scan Rate	150kHz
Computer Compatibility	PC, Mac, Workstations

Video Outputs	
Television Standards	NTSC, PAL, PAL-M, PAL-N
Impedance	75 Ω
Composite Video	1x via BNC
YC (S-Video)	1x via 4-PIN Mini-DIN
YUV, YPbPr	1x via DVI-U*
HDTV	1x via HDMI
	CEC pass-through for HDMI In to Out
SD/HD/3G-SDI	1x via BNC
Maximum Latency	1-2 Frames

Computer Outputs	
Signal Type	1x DVI-U* & 1 x HDMI
Format	RGBHV, RGBS, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
Analog Signals	PC to 1920x1080, HD to 1080p/60
DVI & HDMI Signals	PC to 1920x1200, HD to 1080p/60
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 or 4:2:2 format depending on input source
Firmware Memory	Flash upgradeable via RS-232 or IP
Video Encoder & Decoder	8-bit Digital
De-Interlacing (NTSC-PAL)	Pixel-level Motion Adaptive, Diagonal Interpolation
Film Mode (NTSC)	3:2 Pulldown
Maximum Latency	1-2 frames
Video Adjustments	CV/YC: Contrast, Brightness, Saturation, Hue (NTSC), Analog RGB/YPbPr levels

Audio Input/Output	
Inputs	3x Unbalanced via Terminals, 1x Unbalanced via 3.5mm jack, 1x HDMI, 1x DVI-U*, 1x SDI

Audio Input/Output continued	
Outputs	Unbalanced via Terminals, 1x HDMI, 1x DVI-U*, 1x SDI
I/O Impedance	Impedance-Independent
De-embedding support	1 stereo pair at 32 kHz, 44.1 kHz, 48kHz from HDMI, 48kHz SDI
Embedded support	1 stereo pair at 48kHz

Operational Modes	
Key	Chromakey or Lumakey
Mix	PC to/from Video and SIS
PIP	Variable Window Size & Position

SDI Jitter	
SMPTE259M-C (SD-SDI)	(270Mbps: 525/625Line) Jitter < 0. 1 UI
SMPTE292M (HD-SDI)	(1.485/1.4835Gbps: 720p, 1035i, 1080i, 1080p) Jitter < 0.2 UI
SMPTE424M (3G-SDI)	(2.97/2.967Gbps: 1080p50/60) Jitter < 0.3 UI

SDI Input Cable Equalization	
Under optimal conditions:	
SMPTE259M-C (SD-SDI)	300m
SMPTE292M (HD-SDI)	166m
SMPTE424M (3G-SDI)	100m

I/O Vertical Rates - SMPTE259M-C (SD-SDI)	
525i (720x487)	59.94Hz
625i (720x576)	50Hz

I/O Vertical Rates - SMPTE292M (HD-SDI)	
720p (1280x720)	29.97, 30, 50, 59.94, 60Hz
1080i (1920x1080)	50, 59.94, 60Hz
1080p (1920x1080)	23.98, 24, 25, 29.97, 30Hz

I/O Vertical Rates - SMPTE424M (3G-SDI)	
1080p (1920x1080)	50, 59.94, 60Hz

Control Methods	
Local	via Front Panel Buttons & OSD
RS-232 Interface	via D9 Female Connector
IP Interface	RJ45 Connector
Control Software included	

Warranty	
Limited Warranty	5 Years Parts and Labor

Regulatory Compliance	
Main Units	FCC Class B, CE, RoHS
Power Supplies	UL, cUL, CE, PSE, GS, RoHS

Mechanical	
Size (H-W-D)	42 x 218 x 189mm (1.63" x 8.6" x 7.4")
Weight (Net)	1.26 Kg (2.78 lbs) excluding PSU

Environmental	
Operating Temperature	0° to +40°C (+32° to +104°F) Ambient
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	12V DC @ 1.5A

Accessories Included
1x Operations Manual on USB stick
1x PC Control Software (Microsoft Vista and above)
1x Quick Start Guide
1x Universal Power Supply ('brick' type)
1x Regional Power Cable

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Optional Accessories	
RM-220	Single/Dual Rackmount Kit

Specifications subject to change

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Panel Drawings