Video Scaler PLUS

C2-2755

Key Features

- Up/Down/Cross Conversion
- Digital Inputs: SD/HD/3G-SDI, Universal DVI*, HDMI (DVI 1.0, HDCP 1.4)
- Analog Inputs: YUV/YPbPr, RGB/YPbPr, CV, YC
- Digital Outputs: DVI-I, HDMI (DVI 1.0, HDCP 1.4)
- Analog Outputs: DVI-I (RGB/YPbPr/YUV)
- Analog I/O: PC to 1920x1080, HDTV to 1080p/60
- HDMI & DVI I/O: 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
- Calibrate - Automatic picture sizing of PC inputs
- Auto-Switching - Automatically switch between connected inputs
- 4:4:4 Full bandwidth Chroma Sampling for RGB sources. 4:2:2 for 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-I, HDMI)
- RS-232 and IP Interface for Control Software
- Variable Image Zoom to 10X and Shrink to 10%
- Genlock
- Framelock
- PIP, Chromakey and Lumakey

Overview

The C2-2755 Video Scaler Plus is one of 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 Windows 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 C2-2755 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 "Video Scaler" the C2-2755 supports SD/HD/3G-SDI, HDMI, DVI, Composite Video, YC, YUV, YPbPr or RGB, on inputs and HDMI and DVI-I 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. 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.

Twelve user-defined presets are readily available for instant, on-the-fly adjustment to diverse customized applications.

tvONE's Calibrate 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-I).

Auto-Switching function turns the C2-2755 into a powerful standalone device. Allowing the user to connect their source and have it automatically displayed on screen without having to press any buttons.

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.

* Universal DVI (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.

**DVI-I output supports RGB, YPbPr & HDMI via dongle, but not YC, CV

†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 Universal DVI*
YC (S-Video)	1x via 4-Pin Mini-DIN & 1x via Universal DVI*
HDTV	1x via HDMI (DVI 1.0, HDCP 1.4) & 1x via Universal DVI*
SD/HD/3G-SDI	1x via BNC
Computer Inputs	
Signal Type	1x Analog via PC/HD HD15, 1x Universal DVI*
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	720p,1080i,1080p
RGB, YUV, YPbPr	1x via DVI-I**
HDTV	1x via HDMI CEC pass-through for HDMI In to Out
Maximum Latency	1-2 Frames
Computer Outputs	
Signal Type	1x DVI-I & 1 x HDMI
Format	RGBHV, RGBS, RGsB, YPbPr
R-G-B Level	0.7 Vp-p
Analog Signals	PC; 800x600/60 to 1920x1080, HD; 720p/24 to 1080p/60
DVI & HDMI Signals	PC; 800x600/60 to 1920x1200, HD; 720p/24 to 1080p/60
Image Processing Features	
Size and Position	Automatic via Calibrate 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 Universal DVI*, 1x SDI
Outputs	Unbalanced via Terminals, 1x HDMI, 1x DVI-I
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 Still Image
PIP	Variable Window Size & Position
SDI Input Cable Equalization	
Under optimal conditions:	
SMPTE259M-C (SD-SDI)	300m
SMPTE292M (HD-SDI)	166m
SMPTE424M (3G-SDI)	100m
Input Vertical Rates - SMPTE259M-C (SD-SDI)	
525i (720x487)	59.94Hz
625i (720x576)	50Hz
Input 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
Inputs Vertical Rates - SMPTE425M-AB (3G-SDI)	
1080p (1920x1080)	50, 59.94, 60Hz
Outputs Vertical Rates - SMPTE425M-A (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, UL, cUL, KCC
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 SP2 and above)	
1x Quick Start Guide	
1x Universal Power Supply ('brick' type)	
1x Regional Power Cable	
Product Item Number	
C2-2755	
Optional Accessories	
RM-220	Single/Dual Rackmount Kit

Specifications subject to change

tvONE®
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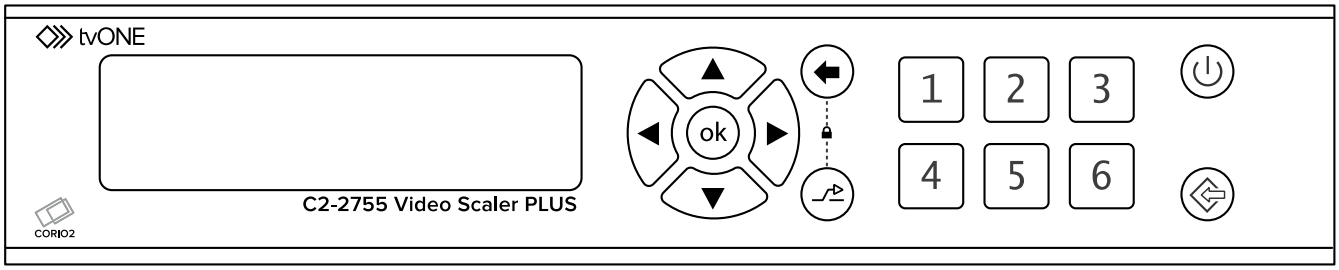
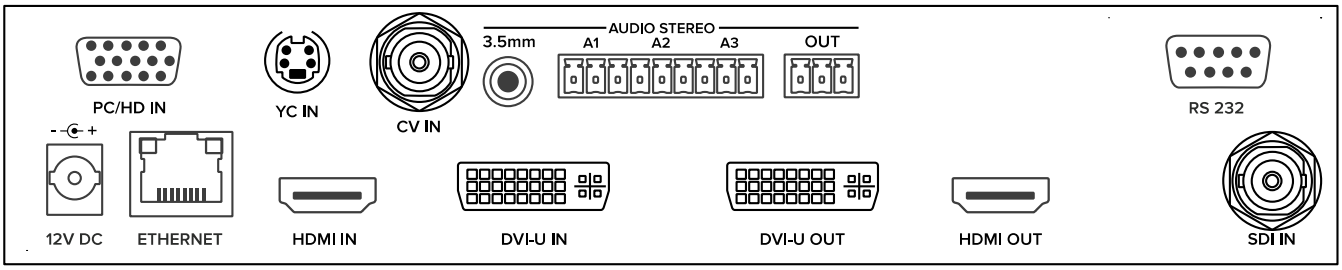
Panel Drawings





Video I/O Interfaces

Connector	C2-2855	C2-2755	C2-2655
HDMI In	✓	✓	✓
Universal DVI In	✓	✓	✓
YC In	✓	✓	✓
CV In	✓	✓	✓
SDI In	✓	✓	
PC/HD In	✓	✓	✓
HDMI Out	✓	✓	✓
Universal DVI Out	✓	DVI-I** only	✓
YC Out	✓		✓
CV Out	✓		✓
SDI Out	✓		✓

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Video resolutions

ALL models support ALL the resolutions below for input.
For output, different models support different resolutions, as shown below.

Resolution	C2-2855	C2-2755	C2-2655	Resolution	C2-2855	C2-2755	C2-2655	Resolution	C2-2855	C2-2755	C2-2655
NTSC 525i	✓		✓	1280x720 23.98Hz	✓	✓	✓	1360x768 60Hz	✓	✓	
PAL 625i	✓		✓	1280x720 24Hz	✓	✓	✓	1365x1024 75Hz	✓	✓	
640x480 60Hz	✓	✓	✓	1280x720 25Hz	✓	✓	✓	1400x900 60Hz	✓	✓	
640x480 67Hz	✓		✓	1280x720 29.97Hz	✓	✓	✓	1400x1050 60Hz RB#	✓	✓	
640x480 72Hz	✓		✓	1280x720 30Hz	✓	✓	✓	1400x1050 60Hz	✓	✓	
640x480 75Hz	✓		✓	1280x720 50Hz	✓	✓	✓	1400x1050 75Hz	✓	✓	
640x480 85Hz	✓		✓	1280x720 59.94Hz	✓	✓	✓	1600x1200 60Hz	✓	✓	
640x480 117Hz	✓		✓	1280x720 60Hz	✓	✓	✓	1680x1050 60Hz	✓	✓	
640x480 138Hz	✓		✓	1280x768 60Hz RB#	✓	✓		1920x1080i 47.96Hz	✓	✓	✓
720x480 59.94Hz	✓		✓	1280x768 60Hz	✓	✓		1920x1080i 48Hz	✓	✓	✓
720x576 50Hz	✓		✓	1280x768 75Hz	✓	✓		1920x1080i 50Hz	✓	✓	✓
800x600 56Hz	✓		✓	1280x768 85Hz	✓	✓		1920x1080i 59.94Hz	✓	✓	✓
800x600 60Hz	✓	✓	✓	1280x800 60Hz RB#	✓	✓		1920x1080i 60Hz	✓	✓	✓
800x600 72Hz	✓	✓	✓	1280x800 60Hz	✓	✓		1920x1080 23.98Hz	✓	✓	✓
800x600 75Hz	✓	✓	✓	1280x800 75Hz	✓	✓		1920x1080 24Hz	✓	✓	✓
800x600 85Hz	✓	✓	✓	1280x800 85Hz	✓	✓		1920x1080 25Hz	✓	✓	✓
800x600 95Hz	✓	✓	✓	1280x960 60Hz	✓	✓		1920x1080 29.97Hz	✓	✓	✓
800x600 112Hz	✓	✓	✓	1280x960 72Hz	✓	✓		1920x1080 30Hz	✓	✓	✓
1024x768 60Hz	✓	✓	✓	1280x960 85Hz	✓	✓		1920x1080 50Hz	✓	✓	✓
1024x768 70Hz	✓	✓	✓	1280x1024 60Hz	✓	✓		1920x1080 59.94Hz	✓	✓	✓
1024x768 75Hz	✓	✓	✓	1280x1024 70Hz	✓	✓		1920x1080 60Hz	✓	✓	✓
1024x768 85Hz	✓	✓	✓	1280x1024 75Hz	✓	✓		1920x1200 50Hz RB#	✓	✓	
1024x768 89Hz	✓	✓	✓	1280x1024 85Hz	✓	✓		1920x1200 60Hz RB#	✓	✓	

RB = reduced blanking