

CALICO | PRO

C7-PRO-4200

VIDEO PROCESSOR



TENTATIVE SPECIFICATIONS (Prototype Still Under Development)

Main Features	
FPGA video processing	CALICO core (patented video processing)
Set up and control Software	CALICO studio (free download and free to use. From https://tvone.com)
Video windows	>256 (TBD)
Four design canvases (over 16 Gigapixels of design space)	4.1 gigapixels per canvas. Canvases are massive real world design spaces. Place displays and contents freely and accurately.
Field upgradable	Firmware updates using CALICO studio
Output mapper	32 maps per output (used for DVLED mapping and for monitoring to create virtual outputs)
Input mapper	32 maps per input (create virtual / mapped sources from a single input)
HDR (High Dynamic Range)	HDR10 and HLG (Hybrid Log Gamma) - freely convert any input to any output* (for high bandwidth modules)
Custom resolution engine	Available for inputs and outputs (with restrictions)
Window source cropping	Any input / dependent on system bandwidth (live crops from any input source)
Canvas watch	Used for monitoring, multiviewing. Any output including mapped outputs. Any and/or all available outputs can be set to canvas watchers.
Labelling	labels, source, text and images (upload images via CALICO studio for backgrounds, keys, graphics and labels). Labels can be linked to video windows, crops, and outputs
Presets	Up to 500 with effects and transitions
Any output any canvas	Any output including mapped outputs on any canvas in any position and orientation
Optional expansion modules (Increase the number and/or type of I/O connections, and add new features and functionality)	7x High Bandwidth Input + 4x SB Input modules with 4x High Bandwidth Output modules Can be fitted as a future upgrade. Installable from the rear of the unit.
Internal storage	3GB (images, EDID's, fonts and labels)
Syncronisation	BNC ref input and loop, Framelock to any input video source, synclock using internal clock
Audio	One stereo pair per canvas. Input (44.1kHz and 48kHz) Output (48kHz). Expansion module available for analog and digital audio ingest and break-out
Display agnostic	Designed for DVLED controllers / displays / projectors
4U compact size	Rack mount or desktop (removable rack ears and feet are included)
EDID manager	New EDID manager (TBD)
Secure access	User login with 3 levels of access available (Admin / Power-user / User)
Secure connection	HTTPS
Low power consumption	TBD but under 700w
OLED display	IP address, device name and status messages (customizable using CALICO studio, content, brightness and ON/OFF)
Integrated carry handles	Easy rack installation and transport.
Rugged all metal cabinet and chassis	Solid aluminum front panel and powder coated steel cabinet
Front panel illumination	Fully controllable via CALICO studio (brightness level and ON/OFF)
Designed for continuous use	24/7, 365 days a year operation, with 5-year limited warranty. Perfect for mission critical applications
Smart cooling system	140mm intake and exhaust fans
Included stainless steel fan filter	For dusty operating environments. Only requires cleaning periodically, no need to replace, removable from the rear without de-installation.
Video Processing	
CALICO video processing	CALICO FPGA core (10-bit 4:4:4)
Parallel processing architecture	Yes
Video / graphics layers	>256 including video windows, keys, graphics, labels, background images)
Video latency (input to output)	Min 1 frame, max 2 frames regardless of I/O
Up/down/cross conversion	Yes (all inputs and outputs)
Number of canvases	4
Canvas size	(64,000 x 64,000) pixels per canvas
Keying	Luminance Keying (any layer to layer below / keys cannot be overlapped). Adjustable key-range and focus adjustment
Fading	Fade to Black / fade to transparent
Display size compensation	Yes, different physical sizes in video walls (Physical Mode)
Output rotation	Yes for any outputs, windows and labels (360° rotation in increments)
Output mapper	Yes (All outputs)
Projector edge blending	Yes (all outputs)
HDCP key handling	Yes, HDCP 2.2 (Expansion modules may have different specifications depending on connectivity)

Video Inputs	
Module Dependent	Max HD 44 inputs, Max 4K 36 inputs
HDCP	2.2 / 1.4
Chroma sub-sampling (10-bit)	4:2:2
Chroma sub-sampling (8-bit)	4:4:4
Color space	SDR YUV (L) BT.601, BT.709, SDR RGB (L) BT.709, RGB (F) BT.709, HLG YUV (L) BT.2020, HDR10 YUV (L) BT.2020 and auto detect
Video Outputs	
Module Dependent	Max HD 32 outputs, Max 4K 16 outputs
HDCP	2.2 / 1.4
Chroma sub-sampling (10-bit)	4:2:2
Chroma sub-sampling (8-bit)	4:4:4
Color space	SDR YUV (L) BT.601, BT.709, SDR RGB (L) BT.709, RGB (F) BT.709, HLG YUV (L) BT.2020, HDR10 YUV (L) BT.2020
Images (Backgrounds / Labels)	
Still Image formats supported (internal image store)	BMP, PNG, JPG, JPEG, TIF, TIFF, PPM, PGM, PBM, HDR
Interfaces	CALICO studio, File transfer supported (FTP). USB-3 on rear of unit
Control Methods	
Network interface	RJ45 - Gigabit Ethernet
Network standard	IPv4
API protocols	REST using HTTP or HTTPS, CLI using TCP/IP
API specification	Available from https://api.tvone.com/
Control Software	CALICO Studio
Control App	CALICO Studio Mobile (Android / IOS)
Plug-in's	Q-SYS, Crestron
Warranty	
Limited warranty	5 years parts and labor
Regulatory Compliance	
System / modules	FCC, CE, RoHS, UL, UKCA
Mechanical	
Height	TBD (4RU)
Width	TBD (19 inch)
Depth	TBD
Weight	TBD >20kg
Available Accessories (Field Upgradable / Replaceable)	
Quad 4K60 HDMI input module 2160p (4096x2160) 60Hz 4:4:4	C7-PRO-HDMI-4K4IN
Dual 4K30 HDMI input module 2160p (4096x2160) 30Hz dual, or single 60Hz 4:2:0	C7-PRO-HDMI-4K2IN
Quad 2K60 HDMI input module 1080p (1920x1080) 60Hz 4:4:4	C7-PRO-HDMI-2K4IN
Quad 12GSDI input module 2160p (3840x2160) 60Hz 4:2:2	C7-PRO-12GSDI-4IN
Quad 3GSDI input module 1080p (1920x1080) 60Hz 4:2:2	C7-PRO-3GSDI-4IN
Dual 4K30 HDBT input module 2160p (4096x2160) 30Hz dual, or single 60Hz 4:2:0	C7-PRO-HDBT-4K2IN
Dual 4K30 + 1080p/60Hz streaming input and media playback module	C7-PRO-MEDIA
Audio external input and output module	C7-PRO-AUD-2IN-4OUT
Quad 4K60 HDMI output module 2160p (3840x2160) 60Hz 4:4:4	C7-PRO-HDMI-4K4OUT
Eight 2K60 HDMI output module 1080p (1920x1080) 60Hz 4:4:4	C7-PRO-HDMI-2K8OUT
Quad 12GSDI output module 2160p (3840x2160) 60Hz 4:2:2	C7-PRO-12GSDI-4OUT
Hot swappable, dual-redundant power supply	C7-PRO-700RPS
Environmental	
Operating temperature	32° to 104°F (0° to +40°C)
Operating humidity	10% to 85%, Non-condensing
Storage temperature	14° to +158°F (-10° to +70°C)
Storage humidity	10% to 85%, Non-condensing
Fan noise	TBD
Power	
Dual-redundant hot-swappable PSU	700w load balancing (One supplied - additional PSU optional)
Power consumption	TBD
Input voltage	100 to 240v (+/- 10%) AC auto detecting 50/60Hz 6-3A