



VPU CATEGORY CREATOR

Quadra Product Line Specifications

Quadra Product Line

		Quadra Video Servers		Mini Server	Smart VPU T1U	Smart VPU T1A	Smart VPU T2A	OEM VPU T1M
Architecture		x86	ARM	x86				
CPU		AMD® EPYC	Ampere® Altra Max	Intel® 13th Gen i7				
Server Chassis		Supermicro® 1114S-WN10RT	Supermicro Mega DC ARS-110M-NR	Advantech® Vega 6321				
ASIC Hardware		10x T1Us		T1M	G5	G5	2x G5	G5
Size / Form Factor		1RU		1RU Half Rack	U.2	AIC	AIC	M.2
Power Consumption		~500W		~138W	17W	20W	40W	8-10W
Artificial Intelligence		150 TOPS		0	15 TOPS	15 TOPS	36 TOPS	0
Video Interface		0		SDI capture card Blackmagic® Decklink				
Software		Preloaded with NETINT Bitstreams™ <i>Live stream workflow automation and management tool</i>						
Performance	Encode	320x 1080p30 80x 4Kp30 20x 8Kp30		20x 1080p30 5x 4Kp30	32x 1080p30 8x 4Kp30 2x 8Kp30		64x 1080p30 16x 4Kp30 4x 8Kp30	20x 1080p30 5x 4Kp30
	Decode	480x 1080p30 120x 4Kp30 30x 8Kp30		25x 1080p30 6x 4Kp30	48x 1080p30 12x 4Kp30 4x 8Kp30		96x 1080p30 24x 4Kp30 8x 8Kp30	25x 1080p30 6x 4Kp30
Codecs	Encode	H.264, HEVC, AV1, JPEG, HEIF, AVIF						
	Decode	H.264, HEVC, VP9, JPEG						
Features		Capped bitrate CRF / scaling / cropping / padding / graphic overlay / color conversion						

Quadra Video Server



Architecture	x86
CPU Options	AMD EPYC™ 7232P Server Processor (8-core)
	AMD EPYC 7543P Server Processor (32-core)
	AMD EPYC 7713P Server Processor (64-core)
Operating System	Ubuntu 20.04.05 LTS
Memory	16x 16GB DDR4-3200
Storage	400GB M.2 SSD
NVMe Support	10x
PCIe Expansion	Up to 3x PCIe slots
Network Options	Dual 10GBase-T LAN
Power Consumption	~500W
Power Supply	700W: 100 - 140Vac
	750W: 200 - 240Vac
	750W: 200 - 240Vdc (CCC only)
ASIC transcoder	10x Quadra T1U Smart VPUs
Encoding capacity	Up to 20x 8Kp30, 80 4Kp30 or 320x 1080p30
Decoding capacity	Up to 30x 8Kp30, 120 4Kp30 or 480x 1080p30
Codec Support	Encode: H.264, HEVC, AV1, JPEG, HEIF, AVIF
	Decode: H.264, HEVC, JPG, VP9
Software Integration	FFmpeg, GStreamer, NETINT SDK
	Preloaded with NETINT Bitstreams™
Physical Dimensions	W: 17.2" (437mm), H: 1.7" (43mm), D: 23.5" (597mm)
Rack Size	1RU
Weight	39 lbs (17.69 kg) fully loaded with 10x T1Us
Environmental	50 degrees F to 95 degrees F operating temp, 8% to 90% operating relative humidity
Power Inputs	100 - 140Vac / 8 - 6V / 50-60Hz
	200 - 240Vac / 4.5 - 3.8A / 50-60Hz
	200 - 240Vdc / 4.5 - 3.8A (CCC Only)
Certifications	RoHS Compliant, UL Approved

Quadra Video Server

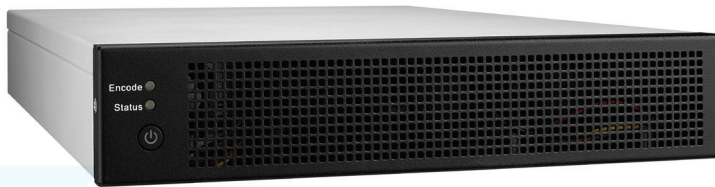
ARM



Architecture	ARM
CPU	Ampere Altra Max M96-28, 96-cores
Operating System	Ubuntu 22.04.3 LTS
Memory	256GB of DDR4-3200 RDIMM
Storage	400GB M.2 SSD
NVMe Support	10x
PCIe Expansion	Three PCIe 4.0 x16 LP slots One PCIe 4.0 x16 AIOM slot
Network Options	1 RJ45 Dedicated IPMI LAN port 2x 25Gb SFP28 Ethernet LAN Ports
Power Consumption	~500W
Power Supply	800W Redundant Platinum Level
ASIC transcoder	10x Quadra T1U Smart VPUs
Encoding capacity	Up to 320x 1080p30, 80x 4Kp30 or 20x 8Kp30
Decoding capacity	Up to 480x 1080p30, 120x 4Kp30 or 30x 8Kp30
Codec Support	Encode: H.264, HEVC, AV1, JPEG, HEIF, AVIF Decode: H.264, HEVC, JPG, VP9
Software Integration	FFmpeg, GStreamer, NETINT SDK Preloaded with NETINT Bitstreams™
Physical Dimensions	W: 17.2" (437mm), H: 1.7" (43mm), D: 23.5" (597mm)
Rack Size	1RU
Weight	39 lbs (17.69 kg) fully loaded with 10x T1Us
Environmental	50 degrees F to 95 degrees F operating temp, 8% to 90% operating relative humidity
Power Inputs	750W: 100-127Vac / 50-60Hz 800W: 200-240Vac / 50-60Hz 800W: 230-240Vdc / 50-60Hz
Certifications	RoHS Compliant, UL Approved

Quadra Mini Server

Half rack



Ideal for mobile broadcast for onsite event recording and distribution of single stream with edge processing.

Push **multiple simultaneous streams** live to social sites.



Architecture	x86
CPU	Intel 13th Gen (i7-13800HE)
Server Chassis	Advantach Vega 6321H
Memory	16G Dual DDR5 SODIMM
Storage	2x M.2 Type E (PCIe Gen 3x1)
NVMe Support	M.2 256GB NVMe
Video Interface	SDI capture card / Blackmagic® Decklink
Display	2x HDMI 2.0
USB	2x USB 3.2 Gen 2
Ethernet Network	3x 2.5G RJ45
Power Consumption	138W
Power Supply	AC/DC 138W power adapter
ASIC transcoder	1x Quadra T1M VPU
Encoding capacity	Up to 20x 1080p30 or 5x 4Kp30
Decoding capacity	Up to 25x 1080p30 or 6x 4Kp30
Codec Support	Encode: H.264, HEVC, AV1, JPEG, HEIF, AVIF
	Decode: H.264, HEVC, JPG, VP9
Software Integration	FFmpeg, GStreamer, NETINT SDK
	Preloaded with NETINT Bitstreams™
Physical Dimensions	330mm x 160mm
Rack Size	1RU & Half Rack
Environmental	50 degrees F to 95 degrees F operating temp, 8% to 90% operating relative humidity
Power Inputs	100 - 240Vac / 50-60Hz
Certifications	RoHS Compliant, UL Approved

SDI capture card options:



Blackmagic® Decklink Duo 2

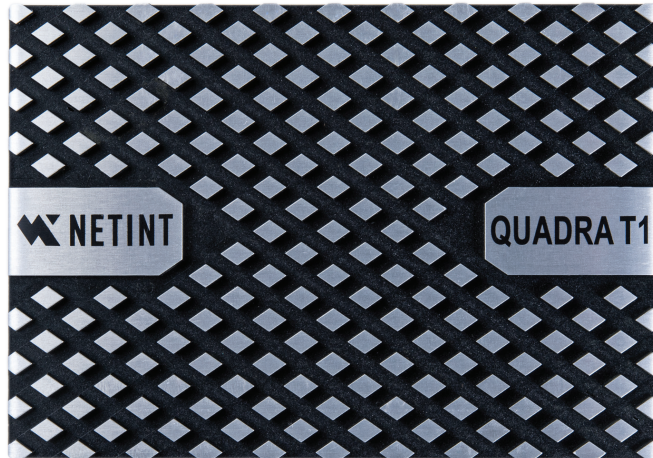
- Supports up to 4x 1080p60 or 1080i60
- Supports multiple outputs resolutions (1080p30, 720p30, 540p30, 360p)

Blackmagic® DeckLink 4K Extreme 12G

- Supports up to 2x 4Kp60
- Supports multiple output resolutions (1080p30, 720p30, 540p30, 360p)

Quadra T1U

Smart VPU



Form Factor	U.2
ASIC transcoder	1x Codensity G5
Interface	PCIe 4.0 x4
Power Consumption (Typ)	17W
Usage	24/7 Operation
Operation Temperature	0 - 50°C
RoHS Compliance	European Union (EU) ROHS Compliance Directives
Product Health Monitoring	Self-Monitoring, Analysis, and Reporting Technology (SMART) commands Temperature Monitoring and Logging
Video Encoding Standards/Formats	AVC/H.264 Baseline, Main, High, High 10 HEVC/H.264 Main, Main 10 JPG YUV 420 8 bit/10 bit encoding AV1 Main
Video Decoding Standards/Formats	AVC/H.264 Baseline, Main, High, High 10 HEVC/H.265 Main, Main 10 VP9 Profile 0, 2 JPEG YUV 420 8 bit/10 bit decoding
Throughput Capacity	Up to 32x 1080p30, 8x 4Kp30, 2x 8Kp30
Level	1 to 6.2 Main Tier
Resolution	32 x 32 to 8192 x 5120
Scan Type	Progressive
Bitrate	64kbit/s to 700Mbit/s
Software Integration	FFmpeg SDKs, GStreamer, LibXcoder API integration
AI Deep Neural Network Engines	15 TOPS AI Assisted Encoding
Region of Interest (ROI)	ROI enables the quality of some regions to be improved at the expense of other regions
Closed Captioning	EIA CEA-708 for H.264 and HEVC encode/decode
High Dynamic Range (HDR)	HDR10, HDR10+, HLG for H.264 & HEVC encode/decode
Low Latency	Sub-frame latency
IDR Insert	Forced IDR frame inserts at any location
Flexible GOP Structure	8 presets plus customizable GOP structure
Video 2D Processing Engine	Crop & Padding/Scaling/Overlay/YUV & RGB Conversion

Quadra T1A

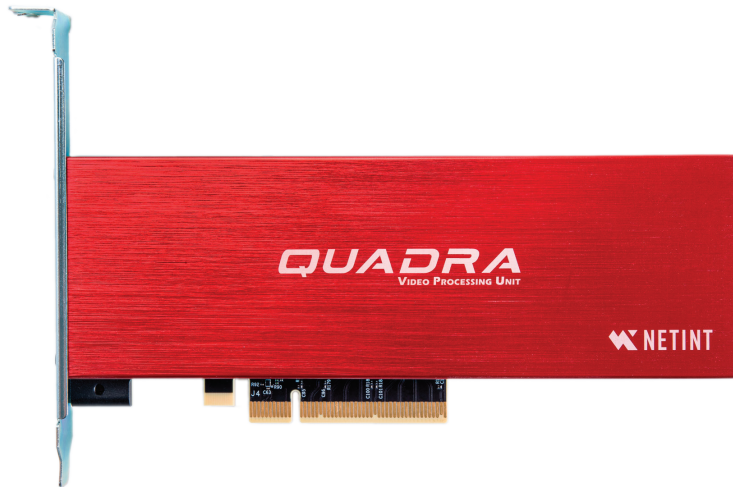
Smart VPU



Form Factor	AIC (HH HL)
ASIC transcoder	1x Codensity G5
Interface	PCIe 4.0 x4
Power Consumption (Typ)	20W
Usage	24/7 Operation
Operation Temperature	0 - 50°C
Product Health Monitoring	Self-Monitoring, Analysis, and Reporting Technology (SMART) commands Temperature Monitoring and Logging
Video Encoding Standards/Formats	AVC/H.264 Baseline, Main, High, High 10 HEVC/H.264 Main, Main 10 JPG YUV 420 8 bit/10 bit encoding AV1 Main
Video Decoding Standards/Formats	AVC/H.264 Baseline, Main, High, High 10 HEVC/H.265 Main, Main 10 VP9 Profile 0, 2 JPEG YUV 420 8 bit/10 bit decoding
Throughput Capacity	Up to 32x 1080p30, 8x 4Kp30, 2x 8Kp30
Level	1 to 6.2 Main Tier
Resolution	32 x 32 to 8192 x 5120
Scan Type	Progressive
Bitrate	64kbit/s to 700Mbit/s
Software Integration	FFmpeg SDKs, GStreamer, LibXcoder API integration
AI Deep Neural Network Engines	18 TOPS AI Assisted Encoding
Region of Interest (ROI)	ROI enables the quality of some regions to be improved at the expense of other regions
Closed Captioning	EIA CEA-708 for H.264 and HEVC encode/decode
High Dynamic Range (HDR)	HDR10, HDR10+, HLG for H.264 & HEVC encode/decode
Low Latency	Sub-frame latency
IDR Insert	Forced IDR frame inserts at any location
Flexible GOP Structure	8 presets plus customizable GOP structure
Video 2D Processing Engine	Crop & Padding/Scaling/Overlay/YUV & RGB Conversion
RoHS Compliance	European Union (EU) ROHS Compliance Directives

Quadra T2A

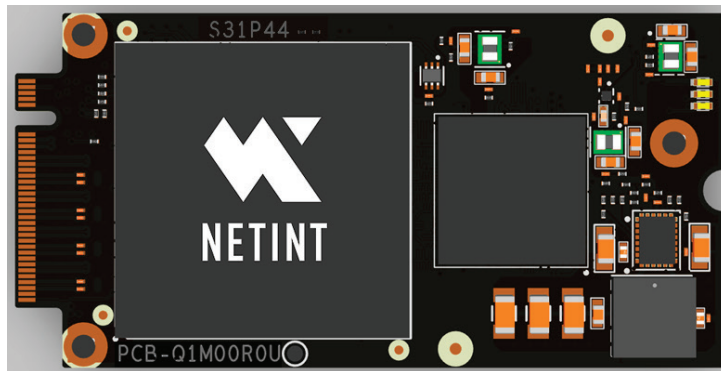
Smart VPU



Form Factor	AIC (HH HL)
ASIC transcoder	2x Codensity G5
Interface	PCIe 4.0 x4x4
Power Consumption (Typ)	40W
Usage	24/7 Operation
Operation Temperature	0 - 50°C
Product Health Monitoring	Self-Monitoring, Analysis, and Reporting Technology (SMART) commands Temperature Monitoring and Logging
Video Encoding Standards/Formats	AVC/H.264 Baseline, Main, High, High 10 HEVC/H.264 Main, Main 10 JPG YUV 420 8 bit/10 bit encoding AV1 Main
Video Decoding Standards/Formats	AVC/H.264 Baseline, Main, High, High 10 HEVC/H.265 Main, Main 10 VP9 Profile 0, 2 JPEG YUV 420 8 bit/10 bit decoding
Throughput Capacity	Up to 64x 1080p30, 16x 4Kp30, 4x 8Kp30
Level	1 to 6.2 Main Tier
Resolution	32 x 32 to 8192 x 5120
Scan Type	Progressive
Bitrate	64kbit/s to 700Mbit/s
Software Integration	FFmpeg SDKs, GStreamer, LibXcoder API integration
AI Deep Neural Network Engine	36 TOPS AI Assisted Encoding
Region of Interest (ROI)	ROI enables the quality of some regions to be improved at the expense of other regions
Closed Captioning	EIA CEA-708 for H.264 and HEVC encode/decode
High Dynamic Range (HDR)	HDR10, HDR10+, HLG for H.264 & HEVC encode/decode
Low Latency	Sub-frame latency
IDR Insert	Forced IDR frame inserts at any location
Flexible GOP Structure	8 presets plus customizable GOP structure
Video 2D Processing Engine	Crop & Padding/Scaling/Overlay/YUV & RGB Conversion
RoHS Compliance	European Union (EU) ROHS Compliance Directives

Quadra T1M

OEM VPU



Form Factor	Custom PCI Express M.2-2260 (M key) compatible design
ASIC transcoder	G5
Dimensions	30 mm x 60 mm x 4.3mm (over PCB 2.1mm) With heatsink = 30mm X 60mm X 17.2mm
Weight	Without heatsink = 24g
Power	Standard M.2 Adapter Spec: < 10W Max Under Full Load Power supply input +3.3V with ±5% variation
Compliance	NVM Express 1.4 and PCI Express 3.0
PCIe Endpoint	4x Lanes, PCI Express Gen 3.0
Memory Configuration	64bit Single Channel, LPDDR4-3200, 4GB Memory
Operating Temperature	+0 to +35° C (300LFM active airflow with heatsink)
Absolute Max Ratings	+3.3V min = -0.5V, +3.3V max= 3.6V Non-Operation Storage (Ambient) Temperature: -55 to 95° C
Storage	Transportation temperature (ambient) -40° C to +85° C Storage humidity 30% to 70% RH
Video Encoding Standards/Formats	AVC/H.264 Baseline, Main, High, High 10 HEVC/H.265 Main, Main 10 AV1 Main JPEG YUV 420 8 bit/10 bit encoding HDR10/10+, HLG, HRD, VBR, FIXP, CBR, CRF, ROI SEI/Meta data insertion, closed captions & look ahead
Video Decoding Standards/Formats	AVC/H.264 Baseline, Main, High, High 10 HEVC/H.265 Main, Main 10 VP9 Profile 0, Profile 2, JPEG YUV 420 8 bit/10 bit Decoding HDR10/10+, HLG SEI/Meta data extraction closed captions & error concealment
2D Processing Engines	Cropping, padding, scaling, overlay, YUV & RGB conversion
Software Integration	Windows, MacOS, Linux and Android OS Support libxcodec API for encoding, decoding, and 2D support Libavcodec, a library of codecs FFmpeg / GStreamer integration
Performance / Throughput <i>(Restricted to M.2 power Limit)</i>	Encode: 20x 1080p30, 5x 4Kp30 Decode: 25x 1080p30, 6x 4Kp30 Transcode: 20x 1080p30, 4K-4K: 2x 30 FPS ABR Ladder: 10 Ladders @ 30 FPS, Input: 1080p, Outputs: 1080p, 720p, 352p (cif30), 352p (cif15)
Certifications	FCC, CE, EU, RoHS, REACH, HF, WEEE and UL
Usage	24/7 Operation

We were first.

We created the VPU category to exponentially reduce costs, shrink server footprint and expand global reach.

100,000
VPUs sold

ONE TRILLION
minutes streamed



sales@netint.com
netint.com