

## VuStream Encoders & Multi-View Decoders

### Delivering high quality video streams across your network

VuStream™ series of encoders and decoders include a range of appliances available in various form factors, resolutions, and performance features. All VuStream appliances are compatible with VuScape controllers and can be centrally configured and managed by the TRx centralized management platform.

### VuStream Benefits



#### Performance Encoding

Deliver low latency high performance 4K video streams up to 4:4:4.



#### Single Vendor

A complete range of encoders and decoders for all needs.



#### Centralized Management

Single common configuration and operation platform.



#### Interoperable

Built on an open architecture. Adheres to SDVoE, NDI, SRT and H.264/H.265 standards.

### VuStream Applications

#### Control Rooms



VIDEO WALL CONTROL & KVM

#### Corporate Workspaces



MULTI-SOURCE VISUALIZATION

#### Experience Centers



VERSATILE DISPLAY MANAGEMENT

#### Crisis Rooms



UNIFIED VISUALIZATION

#### Lobby Signage



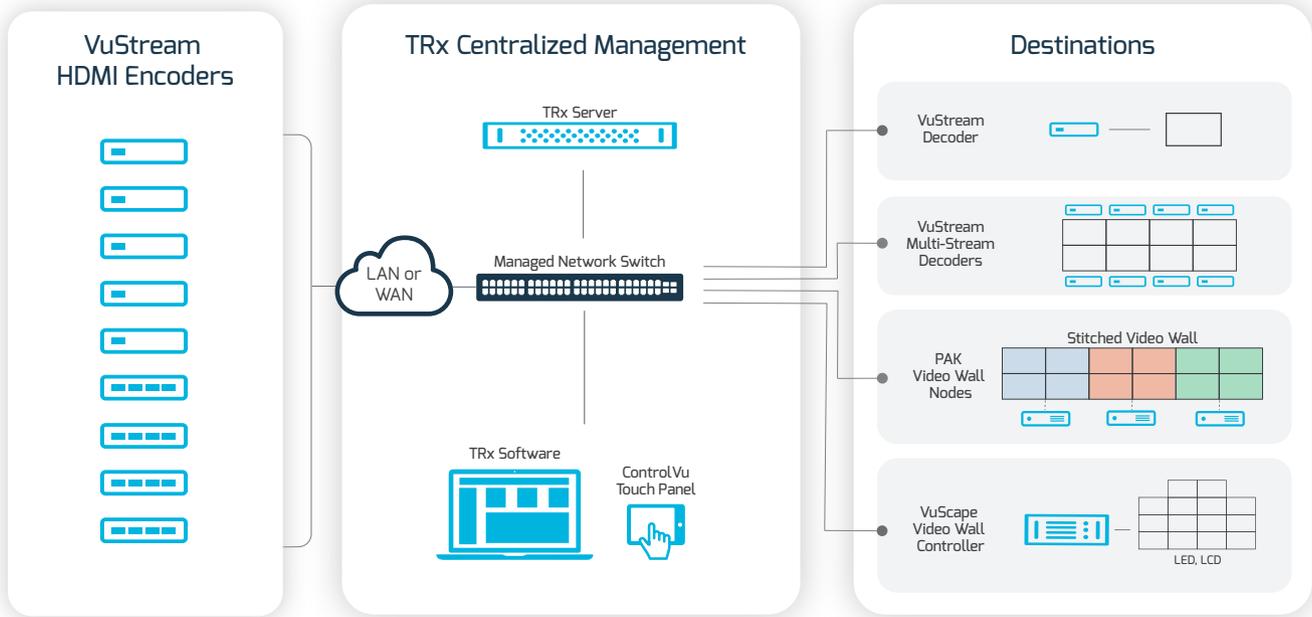
CONTENT MANAGEMENT & DISTRIBUTION

#### Classrooms & Auditoriums



PRESENTATION & COLLABORATION

# VuStream Workflow Example



## Selecting the Right VuStream Solution



VuStream	150	200	300	510
IDEAL FOR	Single stream encoding in FHD & UHD	Single or multi-stream encoding & decoding	Multi-stream encoding & decoding with UHD signals up to 4:4:4 and low latency	High performance streaming with highest quality 4K up to 4:4:4 and virtually no latency
MAX RESOLUTION	3840x2160@60Hz	4096x2160@60Hz	3840x2160@60Hz	4096x2160@60Hz
QUALITY	4:2:0	Up to 4:4:4	4:4:4	Up to 4:4:4
FORMAT	H.264 & H.265	H.264	H.264	SDVoE
NETWORK	1 Gb	1 Gb	1 Gb	10 Gb
IP-KVM	-	-	USB	-

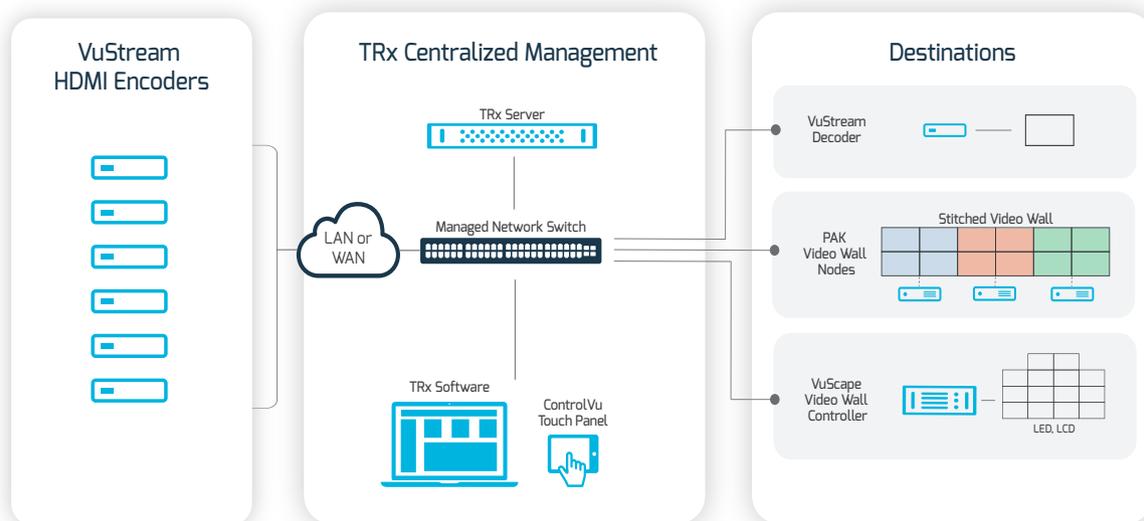
## VuStream 150 Encoder/Decoder

### H.264/H.265 HDMI 2.0 Video with PoE and NDI®|HX

The VuStream 150 appliance can be used as an encoder or a decoder. It can transmit HDMI signals up to 3840x2160 @ 60Hz resolution over standard networks using H.264, H.265 and the NDI|HX protocol. Streams can be sent over unicast or multicast to VuStream 150 decoder, VuScape controller decoding cards, PAK Video Wall Nodes or standard players like VLC. The VuStream 150 can be set with user-defined low bitrates for excellent quality and low network bandwidth consumption.



The VuStream 150 offers a high quality, cost effective video-over-IP solution featuring an open hardware architecture for interoperability, excellent I/O functionality and powerful software features.



## Features

- ✓ High quality UHD encoding and decoding
- ✓ Latest compression with H.264 and H.265 and low-bandwidth for AV-over-IP
- ✓ Support of many streaming protocols like RTSP, SRT, HLS, NDI|HX
- ✓ Compact and fanless design with encoding and decoding in one device with Power over Ethernet
- ✓ HDMI with up to 3840x2160 @ 60fps and audio
- ✓ Ultra-low 60ms latency between encoder and decoder
- ✓ Secure end-to-end video distribution with AES 128-bit encryption
- ✓ Open interoperability with third-party software decoding (e.g. VLC)
- ✓ Compatible with all VuWall solutions



## VuStream 150 Technical Specifications

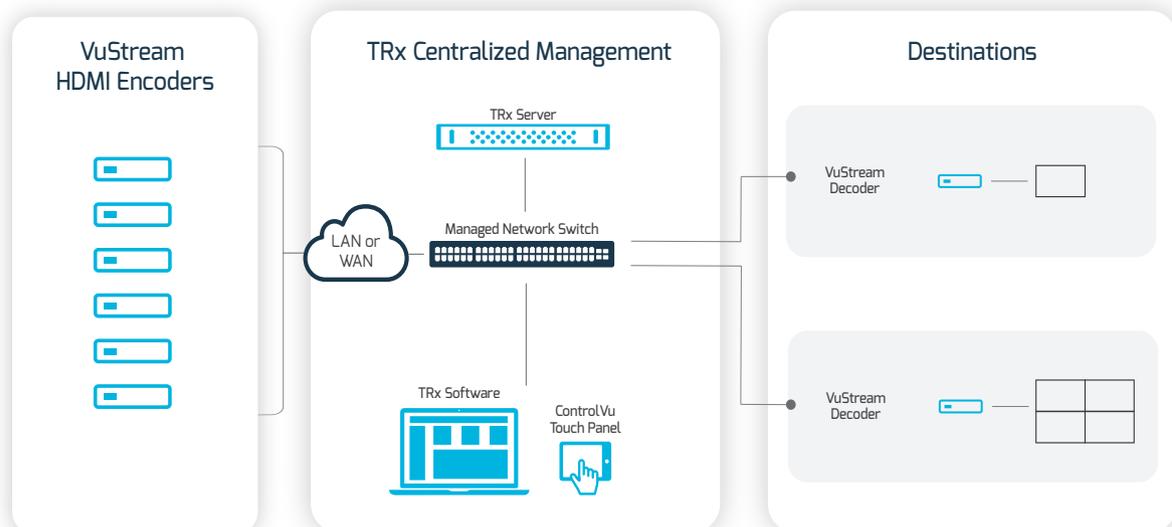
Product Name	VuStream 150
Part Number	VuStream-150-NDI-2
<b>Hardware</b>	
Network	1 x 1Gb/s LAN - POE - 802.3af Standard
Dimensions	150 mm x 82 mm x 41 mm (WxDxH) (5.9" x 3.26" x1.61")
Power Supply	100-240V AC In, 12VDC Out, 20W or over PoE
Chassis	Compact & Fanless Chassis
<b>Inputs / Outputs</b>	
Video Input	1x HDMI with audio support
Video Output/Pass-Through	1x HDMI with audio support and 4:2:0 chroma-subsampling
Maximum Capture Resolution	<ul style="list-style-type: none"> <li>• 3840x2160 @ 60Hz</li> <li>• 3840x1600 @ 60Hz</li> <li>• 3440x1440 @ 60Hz</li> <li>• 2560x1440 @ 60Hz</li> <li>• 2560x1080 @ 60Hz</li> <li>• 1920x1200 @ 60Hz</li> <li>• 1920x1080 @ 60Hz</li> <li>• 1280x720 @ 60Hz</li> </ul>
Audio Input/Output	Analog (3.5mm)
<b>Encoding/Decoding</b>	
Encoding/Decoding	<p>The device can be used as a Encoder or Decoder (Configurable over Web Interface)</p> <p>Up to 3840x2160 with 50/60fps (Adjustable from 5fps to 60fps)</p> <p>Encoder to Decoder Latency 60ms</p>
Profiles	Baseline, Main, High with 4:2:0
Streaming Protocols	RTSP (HTTP/TCP/UDP) , SRT, HLS, NDI® HX
Formats (Codecs)	<p>Video: H.264 (AVC) H.265 (HEVC)</p> <p>Audio: MPEG-4 AAC-LC</p>
Network Standard	Unicast & multicast
Bandwidth Range	Simultaneous streams Up to max. 64Mbps total (adjustable)
Encryption	End-to-end AES 128bit encryption (Over SRT protocol)
Scaling and Cropping	Up and downscaling and cropping, adjustable frame rate, auto scaling for seamless switching and fixed resolution
Configuration / API	Web interface, REST-API



## VuStream D211 Multiformat Decoder

### H.264/H.265 HDMI 2.0 Video Decoder

The VuStream D211 is a single-stream, multi-format decoding appliance that displays H.264/H.265 encoded streams, network captured sources such as VNC and TRx Capture Server, HTML5 web pages and local media files. The VuStream D211 decoder has a standard ethernet gigabit network connection and a 4K60 HDMI output. With its compact size, it can easily be installed behind a display or video wall and managed with VuWall's TRx centralized management software.



## Features

- ✓ Supports multiple source formats
- ✓ Decode H.264/H.265 streams with audio 4:2:0
- ✓ Display network captured sources (VNC & TRx Capture Server)
- ✓ Display HTML5 web pages and local media files (videos and images)
- ✓ HDMI output supporting resolutions up to 4K60
- ✓ Decode streams from the VuStream 150, E220, E240 and external RTSP H.264 streams

## VuStream D211 Technical Specifications

Product Name	VuStream D211
Part Number	VuStream-D211
Network	2x 1GbE LAN ports
Video Output Type & Resolution	1x HDMI supporting 3840x2160 @ 60Hz <i>or</i> 1x DisplayPort 1.4 supporting 3840x2160 @ 60Hz <i>or</i> 1x HD15 VGA output supporting 1920x1080p60
Decoding Capabilities	1x H.264/H.265 stream 3840x2160 @ 30Hz with 4:2:0 and audio <i>or</i> 4x H.264/H.265 stream 1920x1080 @ 30Hz with 4:2:0 and audio <i>or</i> 1 x HTML website or 1 x VNC/Capture
Streaming Protocols	HTTP, RTSP, RTP, UDP and Unicast/Multicast mode
Formats (Codecs)	H.264 (MPEG-4 Part 10 AVC), MPEG-2 Part 2, MJPEG
Embedded OS	Windows 10 Enterprise LTSC x64
Management	Content management from TRx Management Server
Power Button	1x front panel power button
Power Supply	Included 65W PSU - Input: 100-240VAC Output: 19VDC 3.2A
Chassis	Slim chassis fits 2 on conventional 1U rackmount shelf
Mounting Hardware	VESA 75/100 mounting hardware included
Dimension	165 mm x 20 mm x 3.95 mm (WxDxH) (6.5" x 7.87" x 1.55")
Weight	1.5kg , 3.3lbs



VuStream D211 Decoder



VuStream D211Decoder Rear

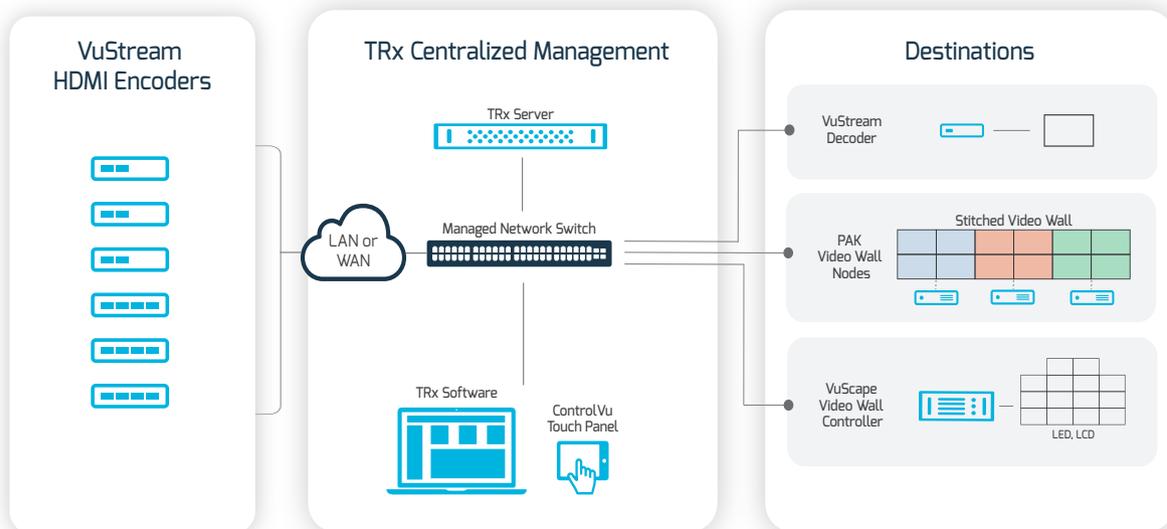
## VuStream E220-2 & E240-2 Encoders

### H.264 HDMI Video Encoders

The VuStream E200 Series of encoders transmit HDMI signals up to 4096p2160 @ 60Hz resolution over standard networks using H.264. Stream either unicast or multicast to the VuScape controller decoding cards, to PAK Video Wall Nodes or to standard players like VLC. The VuStream E200 Series can be set with user-defined low bitrates for excellent quality and low network bandwidth consumption. It can also record to a shared network or NAS drive.



The VuStream E200 Series of encoders is a high quality, cost effective video over IP solution featuring an open hardware architecture for interoperability, excellent I/O functionality and powerful software features.



## Features

- ✓ HDMI and digital audio inputs or analogue audio inputs
- ✓ H.264 compression for high-quality, low-bandwidth AV-over-IP
- ✓ 4K/UHD with configurable multi Chroma sub-sampling in 4:4:4, 4:2:2, 4:2:0
- ✓ Open encoding allows for third-party software decode (e.g. VLC)
- ✓ Standard Ethernet Network operation with 10/100/1000 Mbps
- ✓ Unicast and multicast through UDP, RTP & RTSP
- ✓ Compatible with all VuWall solutions

## VuStream E220-2, E240-2 Technical Specifications

Product Name	VuStream E220	VuStream E240
Part Number	VuStream-E220-2	VuStream-E240-2
<b>Hardware</b>		
Network	2x 1Gb/s LAN	2x 1Gb/s LAN
Dimensions	217 mm x 189 mm x 43 mm (WxDxH) (8.54" x 7.44" x 1.69")	217 mm x 189 mm x 43 mm (WxDxH) (8.54" x 7.44" x 1.69")
Power Supply	100-240 VAC in, 12 VDC out, 60W	100-240 VAC in, 12 VDC out, 60W
<b>Inputs / Outputs</b>		
Video Input	2x HDMI2.0 (Type A) with audio support Up to 2x 4096x2160 @ 60Hz with 4:4:4	4x HDMI2.0 (Type A) with audio support With 4096x2160 @ 60Hz with 4:4:4
Video Output/Pass-Through	2x HDMI2.0 (Type A) with audio support With 4096x2160@60Hz with 4:4:4	4x HDMI (Type A) with audio support
Maximum Encoding Resolution	<ul style="list-style-type: none"> <li>• 2x 3840x2160 @ 60Hz 4:2:0</li> <li>• 1x 4096x2160 @ 60Hz 4:2:0</li> <li>• 2x 3840x2160 @ 30Hz 4:2:0</li> <li>• 2x 4096x2160 @ 30Hz 4:2:0</li> <li>• 1x 3840x2160 @ 30Hz 4:4:4</li> <li>• 2x 1920x1080 @ 60Hz 4:4:4</li> <li>• 2x 1920x1200 @ 60Hz 4:2:0</li> </ul>	<ul style="list-style-type: none"> <li>• 2x 3840x2160 @ 60Hz 4:2:0</li> <li>• 1x 4096x2160 @ 60Hz 4:2:0</li> <li>• 4x 3840x2160 @ 30Hz 4:2:0</li> <li>• 3x 4096x2160 @ 30Hz 4:2:0</li> <li>• 1x 3840x2160 @ 30Hz 4:4:4</li> <li>• 3x 1920x1080 @ 60Hz 4:4:4</li> <li>• 4x 1920x1200 @ 60Hz 4:2:0</li> </ul>
<b>Encoding</b>		
Profiles	Baseline (BP), Main (MP), High (HiP), High 10 (Hi10P), High 4:2:2 (Hi422P), High 4:4:4 predictive profile separate plane (Hi444PP), CAVLC 4:4:4 intra (44)	Baseline (BP), Main (MP), High (HiP), High 10 (Hi10P), High 4:2:2 (Hi422P), High 4:4:4 predictive profile separate plane (Hi444PP), CAVLC 4:4:4 intra (44)
Streaming Protocols	RTSP/RTCP/RTP (all required), RTP, RTMP, MPEG-2 TS over UDP Formats (Codecs)	RTSP/RTCP/RTP (all required), RTP, RTMP, MPEG-2 TS over UDP Formats (Codecs)
Formats (Codecs)	Video: H.264/MPEG-4 Part 10 (AVC) Audio: MPEG-4 AAC-LC/HEV1/HEV2 IP Stream	Video: H.264/MPEG-4 Part 10 (AVC) Audio: MPEG-4 AAC-LC/HEV1/HEV2 IP Stream
Network Standard	Unicast, multi-unicast, multicast	Unicast, multi-unicast, multicast
Levels	Up to 5.1	Up to 5.1
Bandwidth Range	100kbps to 125Mbps (adjustable)	100kbps to 125Mbps (adjustable)



VuStream E220-2/240-2

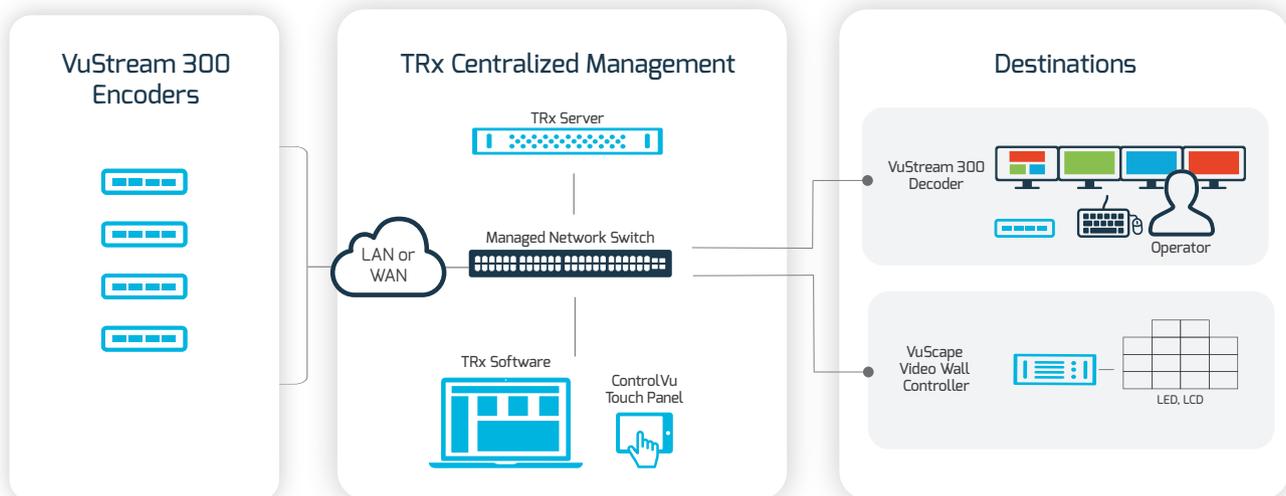
## VuStream 300 Series Encoders/Decoders

### Fully Integrated IP-KVM Solution

VuStream 300 is an IP-KVM encoder and decoder solution that delivers 3840x2160 @ 60Hz 4:4:4 UHD performance and quad-monitor capabilities over standard Gigabit Ethernet at unprecedented low bitrates.



VuStream 300 can be configured as a point-to-point or as a networked KVM matrix delivering multiple video, keyboard, mouse, USB and audio signals using a single fiber or copper cable. It works with standard network switches to deliver a scalable IP-KVM matrix solution. VuStream 300 is also compatible with VuWall's VuScope Series 2 Video Wall Controllers to display content directly on video walls without requiring additional equipment.



## Features

- ✓ Full IP-based KVM encoder and decoder solution
- ✓ Dual or Quad encoders and decoders
- ✓ Extend signals up to 3840x2160 @ 60Hz at a very low bitrate with very high quality in 4:4:4
- ✓ Standard 1G Ethernet network operation
- ✓ Easy configuration of a scalable KVM matrix over IP with unicast and multicast support
- ✓ View and control multiple sources simultaneously and work more efficiently on one station; take control of a remote source easily by moving the mouse to the target source
- ✓ Streams can be directly decoded on any VuScope Series 2 controller
- ✓ Full control via TRx management platform

## VuStream 300 Series Technical Specifications

Product Name	VuStream E320	VuStream E340	VuStream D320	VuStream D340
<b>Hardware</b>				
Network	1x 1Gb/s LAN or 1x SFP cage - (single-mode transceiver, sold separately) Unicast - Multicast Network			
Dimensions	216.6 mm x 89 mm x 42.6 mm (WxDxH) (8.5" x 3.5" x 1.67")			
External Power Supply	100-240V AC In, 12VDC Out, 15W			
<b>Inputs / Outputs</b>				
Video	2x DP with audio support	4x DP with audio support	2x DP with audio support	4x DP with audio support
Audio	Line-In/Out, Audio 3.5mm or over DP	Line-In/Out, Audio 3.5mm or over DP	Line-In/Out, Audio 3.5mm or over DP	Line-In/Out, Audio 3.5mm or over DP
Maximum Resolution	2x 1920x1200 @ 60Hz 1x 2560x1600 @ 60Hz	1x 3840x2160 @ 60Hz 2x 3840x2160 @ 30Hz 3x 1920x1200 @ 60Hz 4x 1920x1080 @ 60Hz 4x 1920x1200 @ 50Hz 2x 2560x1600 @ 60Hz	2x 1920x1200 @ 60Hz 1x 2560x1600 @ 60Hz	1x 3840x2160 @ 60Hz 2x 3840x2160 @ 30Hz 3x 1920x1200 @ 60Hz 4x 1920x1080 @ 60Hz 4x 1920x1200 @ 50Hz 2x 2560x1600 @ 60Hz
<b>Encoding / Decoding / Control</b>				
Color Format	4:4:4			
USB	1x USB 2.0 Type B	1x USB 2.0 Type B	4x USB 2.0 Type A	6x USB 2.0 Type A
KVM Modes	Point-to-Point Point-to-Multipoint Multi-Source Control Multiview			
Control	OSD-Menu or Shortkeys			
Management	Control via TRx software			



VuStream E320 Encoder



VuStream D320 Decoder



VuStream E340 Encoder

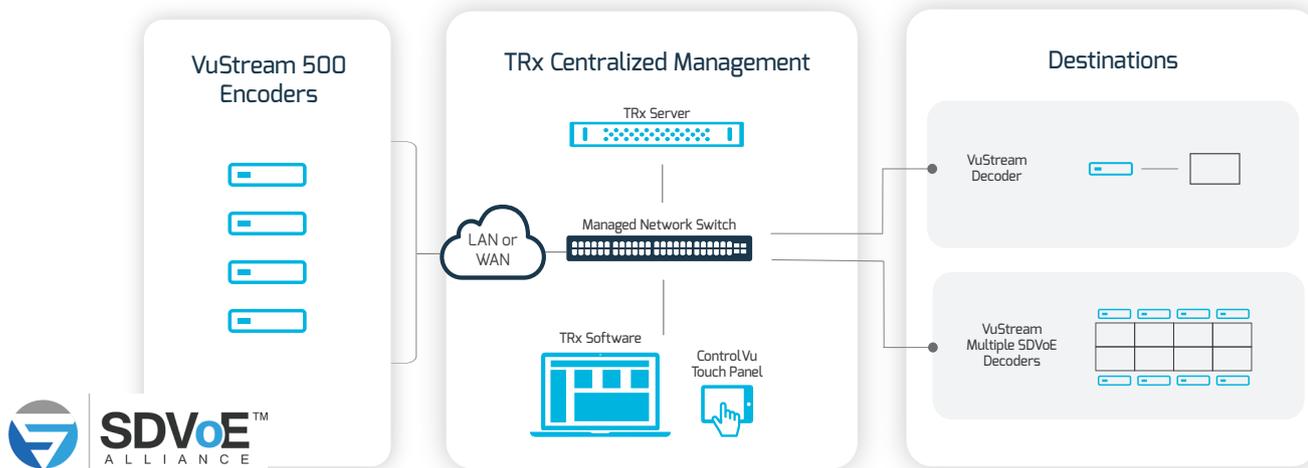


VuStream D340 Decoder

## VuStream 510 Encoders & Decoders

The VuStream 510 appliances, based on the SDVoE standard, can be used as encoders or decoders. They are designed for distributing 4K60 video and audio over standard IP network switches with no latency. Using standard 10Gb hardware, the VuStream 510 provides an ultra-scalable, easy to deploy, highly reliable solution.

The VuStream 510 series enables the extension, switching and compositing of real-time signals. Compared to proprietary matrix switches, this technology provides a new and improved way of distributing signals, ideal for projects where quality and latency are paramount. In combination with the VuWall TRx centralized management platform, this solution simplifies the management and deployment of devices, saving system integrators a significant amount of time and money.



## Features

- ✓ Distribute 4K60 4:4:4 digital video over standard 10G networks
- ✓ HDMI with HDCP 2.2 support
- ✓ Support digital audio formats: LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS HD Master Audio
- ✓ Full SDVoE™ compatibility with no latency and 128-bit AES encryption
- ✓ Seamless switching between sources
- ✓ Compact and fanless design with encoding and decoding in one device with Power over Ethernet (PoE)
- ✓ Use as a matrix switcher or create video walls and switch any source on it
- ✓ Fully compatible with the TRx centralized management software to configure and manage appliances



VuStream 510-C and VuStream 510-F Front



VuStream 510-C Back



VuStream 510-F Back

## VuStream 510 Technical Specifications

Product Name	VuStream 510-C (Copper)	VuStream 510-F (Fiber)
Part Number	VuStream-510C-1	VuStream-510F-1
<b>Hardware</b>		
Ethernet Network	1x 10Gb/s LAN with RJ45 and PoE (IEEE 802.3ae) bi-directional port	N/A
Fiber Network	N/A	1x SFP+ 10GB/s (SFP+ plug not included) bi-directional port
Transmission Distance	Over CAT6a up to 100m	Up to 300m over Multimode Fiber or 30Km over Single Mode Fiber
Chassis	Compact and fanless chassis	
Dimensions	231 mm x 158 mm x 24 mm (WxDxH) (9.1" x 6.6" x 1")	
Weight	920g/2lbs	
Power Supply	100-240V AC In, 12VDC Out, 18W	
<b>Inputs / Outputs</b>		
Video Input	1 x HDMI 2.0 (type A) or 1x DP1.2 (female) Configurable as Follow Mode or Fixed Mode	
Video Output	1 x HDMI 2.0 (type A) Used also as Loophthrough in Encoder Mode	
Video Format	YUV 4:4:4 including HDR	
Max. Capture Resolution	4096x2160@60HZ	
HDCP Compliance	HDCP 2.2	
Audio Inputs (Digital)	HDMI, DP or RJ45 LPCM 2.0/5.1/7.1	HDMI, DP or SFP+ LPCM 2.0/5.1/7.1
Audio Inputs (Analog)	Analog (3.5mm)	
I/O Ports	1 Ethernet (RJ-45) 1 IR Extender (3.5mm) 1 IR Blaster (3.5mm) 1 RS-232 (3-pin terminal block) 1 USB (Mini-B) 2 USB(Type A)	
USB / KVM	USB 2.0 and KVM Mode*	
<b>Encoding/Decoding</b>		
Streaming Protocol	SDVoE (IP streaming over 10G network with no latency)	
Compression	Uncompressed up to 10Gb/s on higher data rates minimal lossless compression ratio	
Encryption	End-to-end AES 128bit encryption	
Modes	The device can be used as an encoder or decoder (configurable) Transceiver Mode* - Simultaneous transmission and receive	
Scaling and Cropping	Up and downscaling and cropping, auto scaling for seamless switching and fixed resolutions	
<b>Features</b>		
Basic Configuration	Configuration via buttons with an On-Screen Display (OSD)	
IP Matrix Mode	Switch any source from an encoder to a decoder	
IP Video Wall Mode	Create video walls and simultaneously display multiple sources or stretched sources over video walls	
Configuration / API	OSD, TRx Software, REST-API	

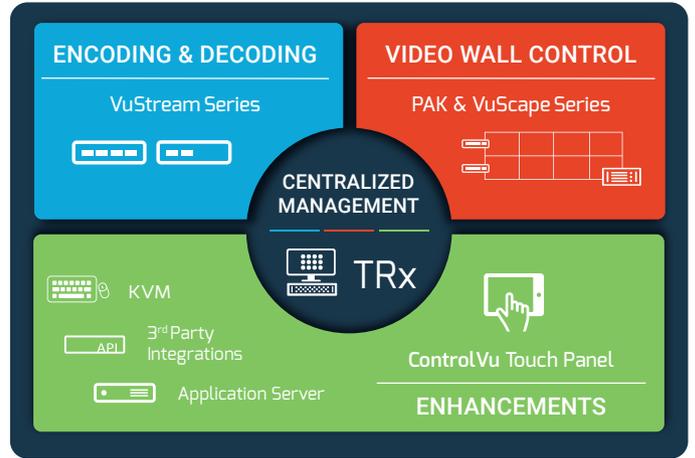
\*Software support Q4-2022

# The VuWall Ecosystem

## Unified Visualization & Video Wall Control

The VuWall ecosystem of interoperable products is built on a unique standards-based architecture that provides the most effective distribution of visual information, from any source to any display or video wall throughout organizations.

At the center of the ecosystem is the TRx Centralized Management Platform. TRx bridges AV, IT and IP systems ensuring interoperability and ease of use, simplifying AV-over-IP deployments, thus reducing deployment time and integration risk.



## Video Wall Management & AV Distribution Made Simple From Any Source to Any Display



**TRx**  
Centralized Management



**PAK**  
Video Wall Nodes



**VuStream**  
Encoders & Decoders



**ControVu**  
Touch Panel



**VuScape**  
Custom Video Wall Controllers



**Enhancements**  
More Interoperable Products

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