

# VEGA-6301

For 4K HEVC encoding and streaming applications

NEW



## Features

- Compact Video Appliance with real-time HEVC 4Kp60 encoding capabilities
- 1U high & half rack mountable / standalone design allow easy user mounting different combinations of appliance in a small space
- Range of UHD-ready video input formats such as quad 3G-SDI, high speed 12G-SDI, and HDMI 2.0
- UHD-ready Video over IP connections in addition to standard video connectivity
- HEVC Encoder supports high quality 10bit 4:2:2 modes @ 4Kp60 or 4 x 1080p60
- Low power consumption
- Easy to use SDKs and remote web based configuration interface

## Introduction

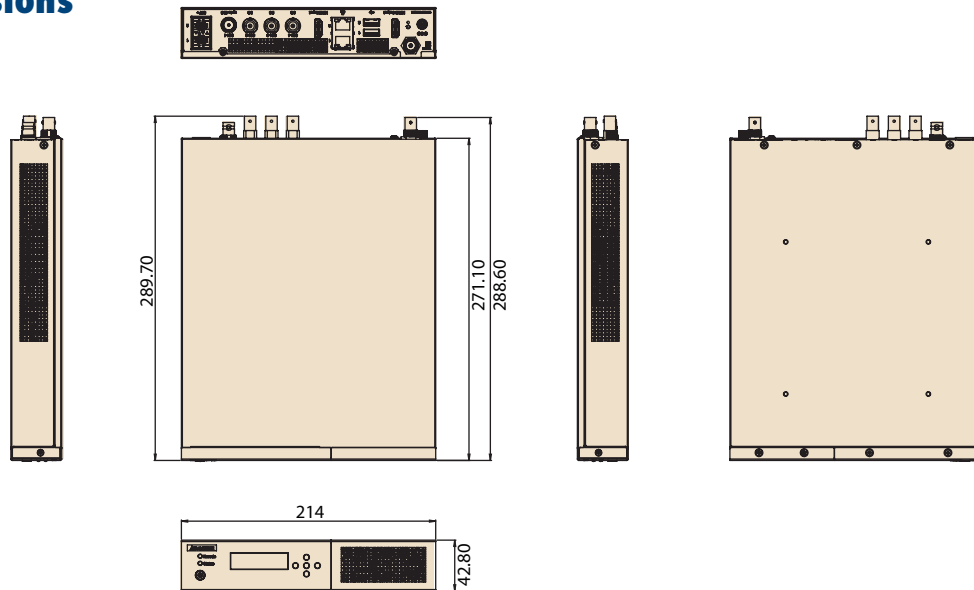
The VEGA-6301 application ready appliance is a small, low power video processing platform, cramming professional video acquisition and capture interfaces, optional Video over IP terminations, a real-time 4Kp60 10bit HEVC encoder, and a full capability Intel Core series processing host into a half rack-width, short depth enclosure. It allows users to capture and adapt live video at up to 4K/UHD resolution from SDI or HDMI feeds and then encode for streaming to content delivery or distribution networks by using the latest hardware HEVC compression technology. A software upgrade option can enable live Video over IP capture and playout, allowing users to support standards like SMPTE 2022-6, Sony IP Live Production System, and AIMS/VSF recommendations with the TICO mezzanine codec. Compressed video can be streamed over a redundant Gigabit Ethernet connection, or a USB connected wireless access dongle. The application development environment is the same Linux or Windows based SDK supported by the VEGA 3000 series PCI Express adapter range, allowing extra deployment scalability options.

## Specification

		VEGA-6301
Video Inputs/Output	Channels/interface	1x 12G-SDI or 1x HDMI2.0, up to 4Kp60 10bit YUV or 4x 3G-SDI, each up to 1080p60 10bit YUV
	SDI Video formats	4K / 3840x2160: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 1920x1080: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 1280x720: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p
	Compression	HEVC (H.265)
Hardware Video Compression	HEVC profile	Main / Main 10
	HEVC Tier	Main / High
	HEVC Level	HEVC Level 5.1
	Bitrate in 4K format	3Mbps ~ 300Mbps
	Bit Depth	8 / 10 bits
	Chroma Sampling Format	4:2:2 & 4:2:0
	Bit Rate Control	CBR / VBR
	Elementary Stream	Yes
Video-Over-IP option	Connectivity	Redundant 10GbE (SFP+ cages)
	Standards Supported*	ST 2022-5/6/7, ST 2059, TICO, SONY IP-Live
Audio	Channels	4
	Format	PCM
	Operation mode	Stereo
	Sampling Frequency	48KHz
	Sampling Bit Depth	16 bits
	Connectors	Embedded from HDMI or SDI
Other Features	Frame Rate & Resolution Control	Yes
	Encoding Control & Manipulation	Yes
	Full-feature API available	Yes – local using FFmpeg or low level SDK
	Dual Encoding	Yes
	GOP Definition	I, IP, IPB, IBBP, IBBBP
	Ancillary Data & VBI	Yes
	Operating System	Linux Kernel 4.4.0 (64-bit) – Ubuntu 16.04LTS
	Development Assistance	FFmpeg plugins Microsoft DirectShow support
Management & Control Interface	Local or remote Control GUI interface	

## Dimensions

Unit: mm



## Specifications (Cont.)

System Characteristics	System Processor	(6 <sup>th</sup> Gen. Intel) i7-6820EQ, i5-6440EQ, i3-6100E
	Memory	8GB Standard, up to 16GB on request
	Storage	32GB mSATA for OS, program, local data and cache
	Local Video Output	1x HDMI 2.0 (from CPU)
	Network Interface	2x GigE port with separate NICs
	USB port	2x USB3.0 port
	Power & Reset Buttons	Yes (with power on Indicator)
	LCM & LED Indicators	Configurable 2x LED indicators Configurable LCD display with 5-way control button
	Power Consumption	75W based on Intel Core i3 SOM
	Power Input	DC12V
	System Dimension	(W) x (H) x (D): 214 x 42.8 x 289.7 mm

\* Video over IP support can be added as a firmware upgrade to the standard platform. Not all standards will be supported at first release. Contact your Advantech representative to confirm.

## Ordering Information

Model	Description
VEGA-6301F3-3EAE	VEGA-6301 Full Function with SOM-5897C3-U7A1E, i3-6100E, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor
VEGA-6301F5-3EAE	VEGA-6301 Full Function with SOM-5897C5-U7A1E, i5-6440EQ, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor
VEGA-6301F7-3EAE	VEGA-6301 Full Function with SOM-5897C7-U8A1E, i7-6820EQ, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor
VEGA-6301E3-3EAE	VEGA-6301 Encoder with SOM-5897C3-U7A1E, i3-6100E, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor without Video-over-IP features
VEGA-6301E5-3EAE	VEGA-6301 Encoder with SOM-5897C5-U7A1E, i5-6440EQ, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor without Video-over-IP features

Model	Description
VEGA-6301E7-3EAE	VEGA-6301 Encoder with SOM-5897C7-U8A1E, i7-6820EQ, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor without Video-over-IP features
VEGA-6301V3-3EAE	VEGA-6301 Video-over-IP Tx/Rx with SOM-5897C3-U7A1E, i3-6100E, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor without HEVC encode functions
VEGA-6301V5-3EAE	VEGA-6301 Video-over-IP Tx/Rx with SOM-5897C5-U7A1E, i5-6440EQ, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor without HEVC encode functions
VEGA-6301V7-3EAE	VEGA-6301 Video-over-IP Tx/Rx with SOM-5897C7-U8A1E, i7-6820EQ, 32GB mSATA, 8GB DDR3 RAM, AC/DC power adaptor without HEVC encode functions