VEGA-7000

High Density 1RU Video Server: Multi-channel 4K acquisition with HEVC encode and Video over IP solution

Features

- 1U scalable & versatile video server w/ optional support for:
  - Multi-channel UltraHD real-time HEVC, AVC & MPEG-2 encode, decode & transcode
  - Wide range of resolutions from SD to UltraHD (4K/8K) & High Frame Rate
  - Video-over-IP SMPTE-2022, Sony IP Live & TICO technology, w/ SMPTE-2059 synchronization
  - SDI-3G/12G, HDMI 2.0 & DP 1.2 video inputs
  - Multiple 10Gb & 1Gb IP Ethernet ports for streaming
- VEGA Media Flow SDK Package:
  - GUI for video workflow control
  - RESTful API
- Robust and low power host system:
  - Redudant system image, fan, and PSU
  - 4 SATA3 storage bays & 4 USB3 ports
  - DP & console port

Introduction

A highly scalable and flexible video server platform for enabling multi-channel UltraHD, FullHD and mobile video acquisition, processing, recording and streaming, VEGA-7000 delivers unprecedented superiority of broadcasting quality and channel-density within a standard IT 1U rack-mount system with low power budget.

VEGA-7000 supports advanced video codecs including HEVC/H.265, AVC/H.264 and MPEG-2 for various video processing applications such as encoding, decoding and transcoding. The acquisition option in VEGA-7000 also possesses the capability to sink the video source from SDI-3G, HDMI and DisplayPort inputs for real-time video content capture. As the emerging transition from existing SDI cable to IP network infrastructure is well received in broadcasting industry for video transport, VEGA-7000 is equipped with the configurations for supporting video-over-IP functions via SMPTE-2022, Sony IP Live and intoPIX TICO standards for streaming video content in raw or lightweight compression format with low-latency delay. The broadcasting quality of sampling scheme (ex. 4:2:2) and the deep-color (ex. 10-bit) picture can be manipulated by VEGA-7000 with 60 frames per second for resolutions ranging from low 480p to UltraHD 4K.

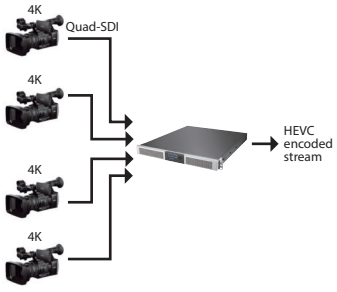
The future 8K, HFR and HDR preprocessing configurations will also be available later for system upgrade. With the graphic and web based user interface, VEGA-7000 offers friendly and efficiently management and control of the video flows to accommodate various usage models for maximum flexibility and productivity. The RESTful software application interface from VEGA-7000 also facilitates the system integration with other functions in user site. The IT based system architecture in VEGA-7000 ensures the leverage of open and most up-to-date technology and expansion being effortless and seamless.

Application

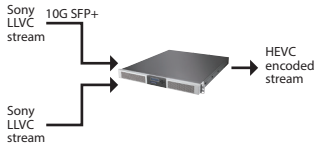
- Live UltraHD Content Creation, Processing, Recording & Streaming
- Over-the-Top (OTT) Video
- LTE/5G Broadcast & Mobile Video
- CDN (Content Delivery Network)
- Video-on-Demand (VOD)
- IPTV
- Web Content Provider
- Web Video Social Media
- Medical Imaging

Suggested Configurations

4-ch 4K Capture and HEVC Encode



2-ch IP-live + 2-ch 4K HEVC Encode



Preliminary Specification

Specification \ Suggested Config. Models		4-ch 4K Acquisition & HEVC Encode	2-ch 4K Video over IP and 2-ch 4K Acquisition & HEVC Encode
Video Inputs and Outputs	Channel Counts (Max.)	4-channel 4Kp60 or 16-channel 1080p60, 8bit/10bit	2-channel LLVC 4Kp60, 10bit and 2-channel 4Kp60 acquisistion, 8bit/10bit
	Inputs (Max.)	16x 3G-SDI 4x HDMI 2.0 4x SDI 1.2 - File-based SATA III SSDs	8x 3G-SDI 2x HDMI 2.0 2x SDI 1.2 2x 10GbE ports
	Outputs (Max.)	SPTS (Single Program Transport Stream) UDP / RTP / RTSP / RTMP / HLS / MPEG-DASH 2x 10GbE ports, 4x 1GbE ports File-based storage	4x 1GbE ports, 4x 10GbE ports
Audio Inputs	Channel Counts (Max.)	up to 16	up to 8
	Format	PCM SDI Embedded	
	Sampling Frequency	48KHz / 96KHz	
	Sampling Bit Depth	16-bit	16-bit / 24-bit / 20-bit
Video Encoding	Compression	HEVC	
	HEVC Profile	Main / Main 10	
	HEVC Tier	Main / High	
	HEVC Level	Up to 5.1	
	4K Bitrate Per-Channel	Up to 200 Mbps	
	Color Depth	8 / 10	
	Bitrate Control	CBR / VBR / ABR	
Audio Encoding	Codec	MPEG1 Layer2 / AAC-LC / HE-AAC v1, v2	
	Format	Stereo	
Features	Redundancy for System Reliability	Redudant system image 1+1 power supply unit N+1 fan module redundancy	
	Operating System	Windows, Linux	
	Development Kits	FFmpeg	
	Storage	4 bays of SATA III SSD, RAID 0 (option)	
Chassis	Form Factor	1U standard 19" wide	
	Power Consumption	< 400W for 4-ch 4K Acquisition & HEVC Encode	
	Redudant Power Supply	Option	
	Dimensions	445 x 500 x 44 mm (W x D x H)	
Environment	Operating	Temperature: 0 to 40 °C Humidity: 20% to 90% RH	
	Storage	Temperature: -20 to 70 °C Humidity: 5% to 95% RH	
Compliance	Safety	EN 60950 2014/35/EC and UL 60950	
	EMC	EN 55011/22 2014/30/EC, FCC PART 15 CLASS (A)	

Ordering Information

Part Number	Description
VEGA-7000-DDDDA0E	4-ch 4K Capture and HEVC Encode
VEGA-7000-BDBDA0E	2-ch IP-live + 2-ch 4K HEVC Encode