

# VEGA-3002

## Universal Media-over-IP Adapter



### Features

- Support SMPTE 2022-5/6 Video over IP bridge that converts 3G
- 1-ch 12G/3G-SDI, 3-ch 3G-SDI with tri-sync & 2x 10GbE
- Optional Tico light-weight mezzanine code to compress one 4Kp60 over single 10GbE link
- Smpte 2059 1/2 time-aligned signal generation
- VSF TR-03/04 with AES67 audio supported
- Send and receive raw video through PCIe interface to host computer
- Single configurable module allows operating as a transmitter and receiver

### Introduction

The VEGA-3002 is a single slot, Half-Length PCIe add-on card in terms of performing video capture, encapsulation, light weight compression and streaming to enable UHD media transport over 10GbE IP network. VEGA-3002 supports the approved SMPTE 2022-6 standard for transmitting and receiving video raw data through IP networks via RTP protocol. The SMPTE 2022-5 (Forward Error Correction for High Bit Rate Real-Time Video/Audio Transport over IP) feature is also supported by VEGA-3002 to improve resilience of bit errors and packet loss during video data transmission. As a software-configurable board, the VEGA-3002 can support multiple application scenarios and can be firmware-upgraded to support future standard enhancements, which allows users to move their server-based video applications confidently into an IP future with minimum risk. The standard allowing users deploy IP standard such as SMPTE 2022-5/6/7, AIMS/VSF recommendations with the TICO mezzanine codec, and TR-03/04 carries individual packetization of video, audio and Metadata make network more efficient.(up to 40% bandwidth saving).

The VEGA-3002 Video Interface Card overcomes SDI limitations in the transition to 4K workflows by delivering low latency and support IP routing while switching of HD and UHD media on standard IP networks. Replacing purpose-specific SDI equipment with payload-agnostic IP networks, VEGA-3002 utilizes universal media-over-IP technology to packetize HD and UHD video streams over commercial-off-the-shelf IP cables, switchers and routers. The wide range of target applications that VEGA-3002 can serve includes cloud video acquisition, video over IP bridge, real-time video transfer and networked broadcast studio installations.

### Specification

Video Input (Tx Mode) Video Output (Rx Mode)	Channels	1 (up to 4Kp60 10bit. YUV) / 4 (up to 1080p60 10bit, YUV)
	Video Formats	4K, HD, SD
	Resolution/Frame	BNC (3G-SDI/12G-SDI) interface 4K /3840 x 2160: 60p / 50p / 30p 1920 x 1080: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 1280 x 720: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p
	Interface	PCIe Express Interface 4K /3840 x 2160: 60p / 50p / 30p 1920 x 1080: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p 1280 x 720: 60p / 59.94p / 50p / 30p / 29.97p / 25p / 24p
Video-over-IP option	Connectivity	Redundant 10GbE (SFP+ cages)
	Standards Supported*	ST 2022-5/6, ST 2022-7, ST 2059, TICO, TR-03/04
Audio Format	Number of Channels	4
	Sampling Bit Width	16
	Operation mode	Stereo
	Sampling Frequency	48KHZ
File-based I/O		PCIe Gen2 x8 (Physical link is PCIe Gen2 x8, reserved for future upgrade)
10G Ethernet Interfaces	Forward Error Correction	Level A and Level B FEC (steam basis)
	Connectors	SFP+ Module
Internet protocol		Support IPV4 static IP setting
Power Consumption		< 30W
Form Factor		Standard Half-Length PCIe Card

### Ordering Information

Part Number	Description
VEGA-3002	