

# QUVU IPTM

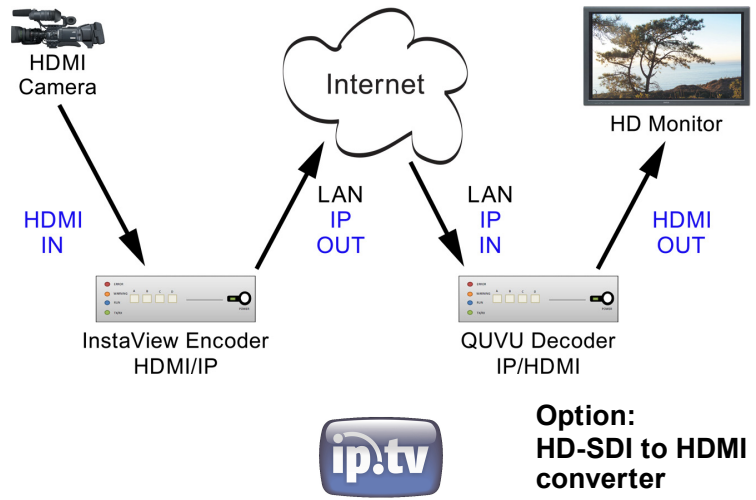
**Compact, Broadcast Quality, Ultra Low Delay, Low Bit Rate, HD H.264 Like Encoder and Decoder Set. Encoder has HDMI Input and IP Out. Decoder has IP Input and HDMI Out. Only 100 Milliseconds End-to-End Delay. Compact and Light Weight for Field Applications. Supports 1080i 60, 1080i 59.84, 1080p 30, 720p 60, and 480i 30. Transmits full HD (4:2:0) at 3 Mbps. Ideal for Sports Broadcasting, Surveillance, ENG, HD Videoconferencing, Military, etc.**

## Features

- Encoder input and output: HDMI in, IP out
- Decoder input and output: IP in, HDMI out
- IP Protocol: UDP
- "Proprietary encoding format" provides higher compression rate comparable to H.265 HEVC, yet maintains high quality of typical H.264
- Low end-to-end latency – 100 milliseconds
- Low bit rate: 128 Kbps for SD and 3 Mbps for HD
- Audio bit rate: 16 Kbps ~ 128 Kbps
- SDI embedded audio support
- Resolutions: 1080i 60, 1080i 59.84, 1080p 30, 720p 60, and 480i 30
- Supports IP Unicast, UDP
- Fan-less and battery operable
- Low power consumption – 20 watts
- Small size: Just over seven inches long
- Light weight: 3.3 pounds (1.5 kilograms)
- FEC (Pro-MPEG) error correction is software option

## Applications

- Broadcasting at Live Sports Venues
- HD videoconferencing
- Military and law enforcement video surveillance
- Electronic News Gathering
- Distance learning



## Overview

H.264 and H.265 are the dominant codecs of the current age. They are very efficient for routine broadcast uses and content distribution. They are both deficient in the area of latency. DVEO has partnered with an academic developer of a codec that offers very low latency and a significantly lower bit rate than H.265. The only drawback is that the codec is not "standard". DVEO's new proprietary encoding format provides a higher compression rate that is comparable to H.265 HEVC. It offers the same video quality as H.264, but uses significantly less bandwidth.

The QUVU IPTM is a mobile hardware based HD live encoder and decoder in small size that converts any HDMI camera or video source signal into an IP based live stream and delivers it via IP to a matching decoder – and also converts any UDP live IP stream and decodes it to HDMI. An optional HD-SDI encoder is available.

The QUVU IP encoder is capable of delivering latency of 100 milliseconds end-to-end and bit rates as low as 128 Kbps.

The proprietary technology optimizes low delay and low bit rate through advanced techniques in rate control, progressive refresh, and mode decision. This is further enhanced with advanced dual pass rate control analysis, future prediction, along with pre-processing complexity analysis, to achieve the best of breed low delay, low bit rate encoding performance.

The QUVU IP is targeted at organizations that need low latency but still require high quality, such as sports broadcasters, video journalists, companies doing HD videoconferencing, and the military. Competing units compromise quality to attain low latency.

This new product is a portable appliance that is easy to manage and configure. In fact it can be managed remotely if desired.

Major customer segments envisioned for this product include robotics, teleconferencing, UAV, autos, and military situation awareness.

## Product View – Front



**DVEO**  
Digital Video ExtraOrdinaire™

**Computer Modules, Inc.**

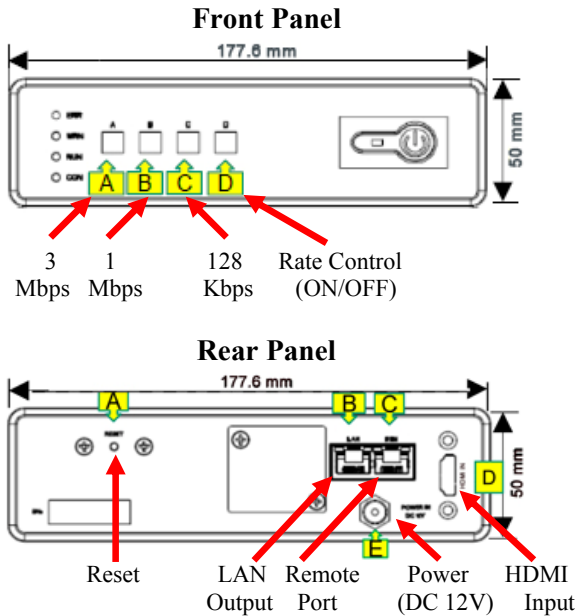
**11409 West Bernardo Court**

**San Diego, CA 92127**

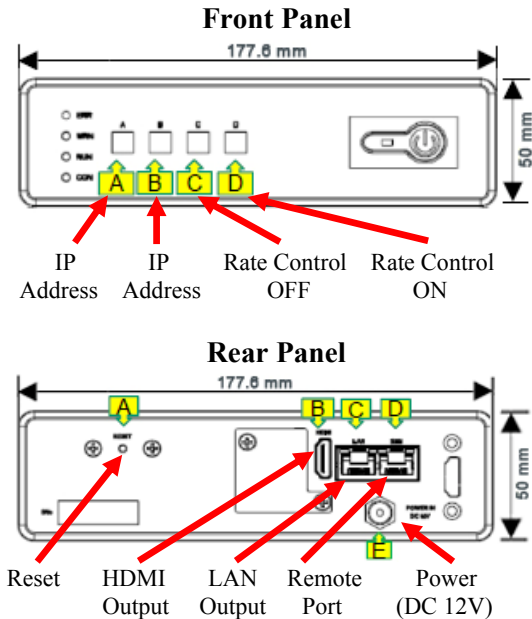
**Tel: 858-613-1818 Fax: 858-613-1815**

[www.dveo.com](http://www.dveo.com)

## Connectors – Encoder



## Connectors – Decoder



## Ordering Information

- QUVU IP Encoder and Decoder (sold only in pairs)
- Option: Pro-MPEG FEC Error Correction
- Option: HD-SDI to HDMI converter
- Option: AES BOX 256 (must be used in pairs)
- Option: Videoconferencing – 4 units

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## Specifications

### Video and Audio Input/Output

Video	HDMI
Audio	HDMI embedded

### Video Encoding/Decoding

Encoding Format	Proprietary
Resolutions	1080i / 60, 1080i / 59.94, 1080p / 30, 720p / 60, 480i / 30
Encoding/Decoding Frame Rates	5 fps / 10 fps / 15 fps / 30 fps
Encoding/Decoding Bit Rates	64 Kbps ~ 3 Mbps

### Audio Encoding/Decoding

Encoding/Decoding Format	Opus
Encoding/Decoding Sampling Rates	48 KHz / 24 KHz
Channel Numbers	Zero / 1 ch / 2 ch
Encoding/Decoding Bit Rates	16 kbps (1 ch.) / 32 kbps / 64 kbps / 128 kbps

### IP Input/Output

IP Input/Output Protocols	UDP, Unicast Communication packet: DVEO original packet for low latency
Transport Stream Bit Rates	128 Kbps ~ 3 Mbps
Connector	RJ45
Security	AEC
Optional Error Correction	FEC (Pro-MPEG), ARQ (Available soon)

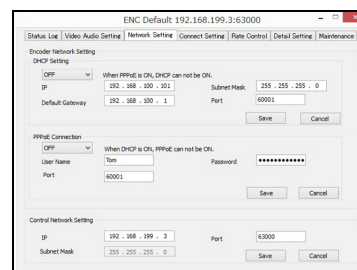
### System & Administration

Latency (End to End)	100 milliseconds
Maximum number of linking decoders	20
Bi-directional Voice Communication	Monaural
Operation buttons – Encoder	Four (IP rate preset)
Operation buttons – Decoder	4 (Access point preset)
LEDs	4 LEDs (Red: Error, Orange: Warning, Green: Working, Blue: XMing)

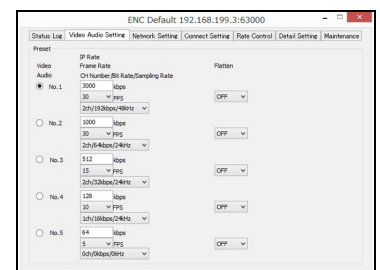
### Physical & Power

Dimensions (LxHxW)	7.09 x 1.97 x 5.91 inches (180 x 50 x 150 mm)
Weight	3.3 lbs. (1.5 kg.)
Power	DC 12V ± 10 %, AC adaptor (100 V ~ 240 V compliant)
Power Consumption	Maximum 20 watts
Operating Temperature	0° to 50° C (32° to 122° F)
Conformities	FCC, CE, RoHS

## Sample of GUIs



Network Setup



Video/Audio Settings



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