

# OnRamp QAM 8Ch/IP™

Professional Eight Channel Linux® Based Analog or Digital Clear QAM to IP Gateway that Integrates Our PC Bus Based QAM RF Receivers and De-encapsulates and Routes Selected or All Transport Streams to Any MAC Address via IP. Can Work as a Low Cost “Front End” in Small VOD Implementations. Typically the Desired Streams are Streamed in Real Time using UDP, RTP, HTTP, or FTP via IP Multicast or Unicast Streams to IP Set Top Boxes (STB's) Such as Amino, or Designated VLC or MPlayer Equipped PC Clients for Viewing.

## Features

- Encapsulates transport streams into IP packets
- Simultaneously receives one to eight QAM inputs – analog or digital clear QAM
- MPEG-2 inputs and outputs or H.264 inputs and outputs
- Input: Analog or digital clear QAM
- IP Output: IP – UDP, RTP, FTP
- Supports SD and HD formats
- PID filtering
- 400 Mbps IP raw output capability
- Transmits PAT, PMT, and PCR information
- Receives and transmits at the same time
- Remote configuration management via Web Browser and Secure Shell (SSH)
- Supports NTSC or PAL
- Based on embedded Linux®
- For system with up to 15 Mbps IP transcoded H.264 output capability, see MPEG Gearbox™ QAM 8Ch/IP

## Applications

- IPTV Unicasting, Multicasting, Streaming
- Telco TV
- Streaming to designated VideoLAN VLC, Mplayer, or Windows Media Player clients, or to Amino™ or other set-top boxes



## Overview

QAM stands for Quadrature Amplitude Modulation. In the USA, QAM 64 and QAM 256 are the standard modulation schemes for digital cable as defined by SCTE. The OnRamp QAM 8Ch/IP™ is a professional QAM to IP Gateway that inputs a mixture of streams from several cable channels and outputs them to an IP network. Resulting streams can be viewed with standard IP capable set-top boxes like Amino or streaming video software clients such as VLC or MPlayer. OnRamp QAM 8Ch/IP receives transport streams, demultiplexes the requested channels and forwards these channels using UDP or RTP via IP networks as either IP multicast or IP unicast streams.

The OnRamp QAM 8Ch/IP can simultaneously receive transport streams from one to eight digital or analog clear QAM inputs. The system supports MPEG-2 input and output or H.264 input and output. Forwarding of PIDs via IP is transparent and does not depend on the content of each individual elementary stream.

Depending on the configuration, it forwards selected programs via IP datacasting; PAT, PMT, video PID, audio PID(s) and PCR information are transmitted. The OnRamp QAM 8Ch/IP selects all required PIDs for a broadcast channel and sends them to an individual IP address.

The unit provides PID filtering of all unwanted traffic, increasing system performance and the number of channels, which can be transmitted per unit.

Programs can be forwarded (pushed) as transport stream packets via UDP or as RTP (real time protocol) payload (RFC 2250). Pushing can be either unicast or multicast. Each individual converted program channel consists of all necessary elementary streams and clocking information to present a synchronized A/V signal.

We also offer a similar system with the capability of transcoding the streams into H.264 format – see our MPEG Gearbox QAM 8Ch/IP.



Computer Modules, Inc.

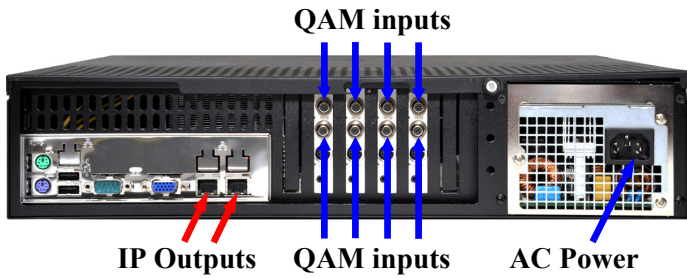
11409 West Bernardo Court

San Diego, CA 92127

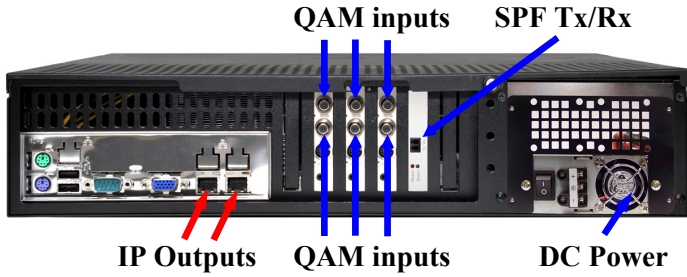
Tel: 858-613-1818 Fax: 858-613-1815

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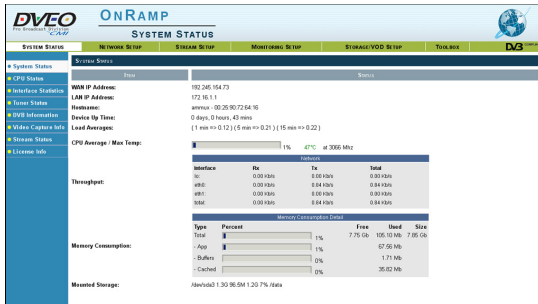
# Inputs/Outputs – Standard



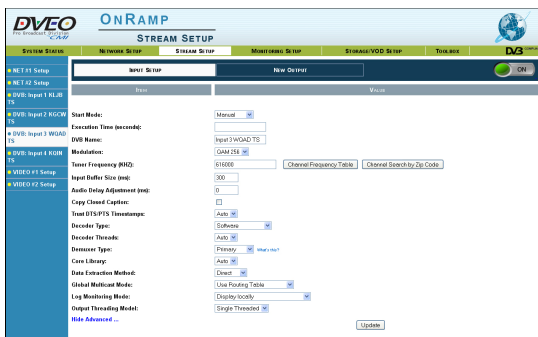
# Inputs/Outputs – Optional



# GUI's



Status Screen



QAM Input

# Ordering Information

- OnRamp QAM 8Ch/IP – 2 RU, 1 to 8 QAM Receivers
- OnRamp QAM 6Ch/IP/DC – 2 RU, 4 or 6 DVB-T Receivers with DC Power Supply and SPF with LC connector
- OnRamp QAM 6Ch/IP/ES – 2 RU with encrypted streams option
- TC Option – Transcoding from MPEG-2 to H.264 – see MPEG Gearbox
- EdgeQAM IP/8-24ch™ – 12 channel IP to QAM modulator

# Specifications

## Supported Resolutions – Input and Output

1920 x 1080	720 x 480	480 x 480
1280 x 720	704 x 480	480 x 320
720 x 576	640 x 480	320 x 240

Note: With transcoding option (MPEG Gearbox), lower resolution results in higher transcodes.

Note: Supports closed captions.

## QAM Input

Modulation:	Analog or Digital Clear QAM
Inputs:	RF from coax
Frequency range:	55 to 867 MHz

## IP Output

Output protocols:	UDP, RTP, FTP, HTTP
Bit Rates:	.1 to 15 mbps per individual channel
Ethernet:	Up to 2 x 1Gb
Type:	IP-multicast, IP-unicast
Maximum raw output:	400 mbps

## Administration

Access:	Web interface, ssh interface
SNMP:	Monitoring and alerts

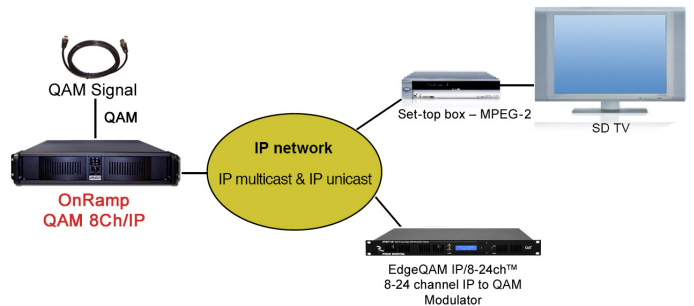
## Physical & Power

Size:	19" rack mounted, 2 RU high
Voltage:	85-265 VAC/50-60Hz, 50 watts – Optional DC in
Temperature:	0°C to 50°C
Humidity:	5% to 95% non-condensing
Conformities:	UL, CSA, CE, RoHS
Weight:	25.6 lbs. (11.6 kg)

## Transcode Option – MPEG Gearbox QAM/IP

By utilizing an Intel Core i7 6 Core processor we can transcode up to:	16 SD Streams 4 to 6 720p HD streams 3 1080i HD streams 30 ½ D1 streams
Bit Rates:	Multiple H.264 and/or MPEG-2 video streams at different bit rates (.1 to 15 mbps)

# Block Diagram



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