Professional Sixteen Channel Linux® Based Encrypted 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, or HTTP, via IP Multicast or Unicast Streams to IP Set Top Boxes (STB’s), Video Servers, or Designated VLC or JW Player Equipped PC Clients for Viewing.

Features

- Encapsulates transport streams into IP packets
- Simultaneously receives one to sixteen QAM inputs – encrypted or digital clear QAM
- IP Output: IP – UDP, RTP, HTTP
- MPEG-2 inputs and outputs or H.264 inputs and outputs
- Forwards encrypted content in “Stream All” mode – ideal for hotels with IP TV’s
- Supports SD and HD formats
- Incorporates PID filtering
- 600 Mbps IP raw output capability
- Transmits PAT, PMT, and PCR information in “stream all” mode
- Remote configuration management via Web Browser and Secure Shell (SSH)
- Supports NTSC or PAL content
- Based on embedded Linux®
- Available with optional DC power supply

Applications

- IPTV Unicasting, Multicasting, Streaming
- Telco TV
- Streaming to designated VideoLAN VLC or similar clients, or to Roku®, 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 16 Tuners/IP™ is a professional QAM to IP Gateway that inputs a mixture of streams from up to 16 cable channels and outputs them to an IP network. Resulting streams can be viewed with standard transport stream compatible servers or devices. The OnRamp QAM 16 Tuners/IP receives transport streams, demultiplexes the requested channels and forwards these channels using UDP or RTP via IP networks as either IP multicast or unicast streams.

The OnRamp QAM 16 Tuners/IP can simultaneously receive transport streams from one to sixteen digital 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 alter the content of each individual 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 16 Tuners/IP selects all required PIDs for a broadcast channel and sends them to an individual IP address.

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.

The unit can perform PID filtering of all unwanted traffic, increasing system performance and the number of channels, which can be transmitted per unit. Often however, users just prefer to forward the incoming streams unaltered.

We also offer a similar system with the capability of transcoding the streams into H.264 format – see our Gearbox™ II QAM 16 Tuners/IP.

The OnRamp QAM 16 Tuners/IP can also forward encrypted content via our “Forward All” mode. In this mode the entire payload in the QAM channel is forwarded via IP to the Edge QAM or to the IP inputs of the TV’s.
Inputs/Outputs – Standard

16 QAM inputs – 4 per port

IP In or Out    PS 1    PS 2

Specifications

QAM Input
- Modulation: Digital Clear QAM
- Inputs: RF from coax
- Frequency range: 55 to 867 MHz

IP Output
- Output protocols: UDP, RTP, HTTP
- Bit Rates: .1 to 15 mbps per individual channel, with or without AES
- Ethernet: Two 10 GigE ports
- Type: IP-multicast, IP-unicast
- Maximum raw output: 600 mbps
- IP Modes: Parsed or unparsed streams

Administration
- Access: Web interface, SSH (Secure command line interface)
- SNMP: Monitoring and alerts

CPU and Operating System
- CPU: Intel® 16 Core processor
- OS: DVEO embedded Linux® on SSD

Physical & Power
- Size – 3 RU high: 19 x 5.25 x 25.2 inches (W x H x D)
  48.26 x 13.34 x 64 cm (W x H x D)
- Power Supply: 3U 760W – Redundant
- Temperature Range: Operating: 0°C ~ +50°C on Full Load
  Storage & Shipping: -20°C ~ +70°C
- Non-operating Humidity: 5% to 95% non-condensing
- Weight: 39 lbs. (17.69 kg)
- Conformities: UL, BSMI, CSA, FCC, CE, RoHS

Security
- Ports security scanned to MIL requirements prior to shipment

Transcode Option – Gearbox™ II QAM 16 Tuners/IP
- By utilizing an Intel® Xeon® Dual 16 Core processor we can transcode up to:
  104 SD Streams, or 40 720p60 HD streams, or 26 1080i/p HD streams
- Bit Rates: Multiple H.264 video streams at different bit rates (.1 to 15 mbps), resolutions, and protocols, wrappers, and containers
  Optional H.265: H.265 average bit rate supported. No constant or variable.

Ordering Information

OnRamp QAM 16 Tuners/IP – 3 RU, 1 to 16 QAM Receivers
OnRamp QAM 16 Tuners/IP/DC – 3 RU, 1 to 16 QAM Receivers
With DC Power Supply and SPF with LC connector
OnRamp QAM 16 Tuners/IP/CC – 3 RU with "cable card" option
TC Option – Transcoding from MPEG-2 to H.264 – see Gearbox™ II
EdgeQAM IP/16-48ch™ – 16 to 48 channel IP to QAM modulator

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