Features

- Tunes, decrypts, and converts content from 16 transponders
- Input: DVB-S or DVB-S2 – Simultaneously receives transport streams from up to 16 satellite transponders
- Each tuner can process all the streams within each of the tuned transponders, and unit can push 200+ IP streams at the same time
- Conditional Access transparent for MDU market
- IP Output: IP – UDP, RTP, HTTP
- MPEG-2 inputs and outputs or H.264 inputs and outputs
- Supports SD and HD formats
- Incorporates PID filtering
- 400 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)
- Optional support for encrypted streams (CAM modules)
- Supports NTSC or PAL content
- Based on embedded Linux®
- For system with up to 15 Mbps IP transcoded H.264 or optional H.265 output capability, see Gearbox™ II DVB-S-S2 16 Tuners/IP
- Available with optional DC Power Supply

Applications

- IPTV Unicasting, Multicasting, Streaming
- Telco TV
- Front-end to VOD
- Streaming to designated VideoLAN VLC or similar clients, or to Roku®, Amino™, or other set-top boxes

Overview

The OnRamp DVB-S-S2 16 Tuners/IP™ is a professional DVB-S or DVB-S2 to IP Gateway that inputs a mixture of several satellite transponders and outputs them to an IP network. Resulting streams can be viewed with standard IP capable set-top boxes or streaming video software clients such as VLC or JW Player. It receives DVB compliant streams, demodulates the requested channels, and forwards these channels using UDP or RTP via IP networks as either IP multicast or IP unicast streams.

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 DVB-S-S2 16 Tuners/IP selects all required PIDs and multiplexes the demultiplexed transport stream packets into IP packets.

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 DVB-S-S2 16 Tuners/IP.
**Inputs/Outputs – Standard**

**DVB-S/S2 Inputs**

- IP In or Out
- DVB-S/S2 Inputs
- PS 1
- PS 2

**Specifications**

**Supported Resolutions – Input and Output**

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Input bit rate</th>
<th>Output bit rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920 x 1080</td>
<td>720 x 480</td>
<td>480 x 480</td>
</tr>
<tr>
<td>1280 x 720</td>
<td>704 x 480</td>
<td>480 x 320</td>
</tr>
<tr>
<td>720 x 576</td>
<td>640 x 480</td>
<td>320 x 240</td>
</tr>
</tbody>
</table>

Note: With transcoding option (Gearbox™ II), lower resolution results in higher transcodes. Note: Supports closed captions.

**DVB-S/S2 Input**

- Modulation: QPSK (DVB-S), 8PSK (DVB-S2), 16APSK (DVB-S2)
- Inputs: 8 Inputs – L-Band, K-Band, Ku Band, etc.
- Symbol rate: 1 to 45 MS/s
- Frequency range: 950 to 2150 MHz, 70 to 1002 MHz
- LNB control: 22 kHz, power H/V
- Spectral inversion: ON/OFF
- Maximum raw throughput: 400 mbps

**IP Output**

- Output protocols: UDP, RTP, HTTP
- Bit Rates: .1 to 15 mbps per individual channel
- Ethernet: Two 10 GigE ports
- Type: IP-multicast, IP-unicast
- 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® Dual 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 DVB-S-S2 16 Tuners/IP**

By utilizing an Intel® Dual 16 Core processor we can transcode up to:

- 104 SD Streams, or 40 720p60 HD streams, or 26 1080i/p HD streams
- 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 DVB-S-S2 16 Tuners/IP – 3 RU, 1 to 16 S-S2 Receivers
- OnRamp DVB-S-S2 16 Tuners/IP/DC – 3 RU, 1 to 16 S-S2 Receivers
- With DC Power Supply and SPF with LC connector
- OnRamp DVB-S-S2 16 Tuners/IP/ES – 2 RU with encrypted streams option
- TC Option – Transcoding from MPEG-2 to H.264 – see Gearbox II

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