Streaming professionals need quality ease of use and support.

Real time, highly reliable, 1 RU, quick starting, standards compliant, embedded Linux® based, remotely manageable, single channel SD or HD (SDI), H.264/AVC or optional H.265 TS Encoder. Incorporates a "minimal" Linux® kernel (residing on an SSD) yielding a professional encoder manageable from anywhere via web GUI.

Supports most industry standard "protocols" like UDP or RTP with unicast or multicast, and “Wrappers” such as HLS, RTMP, etc. Audio output is AAC, MPEG-1 Layer II, optional MP3, and/or optional “SurCode for Dolby Digital” AC-3. Supports closed captioning and teletext with overlay.

Encodes streams with multiple resolutions at .1 to 15 Mbps at popular GOP sizes, frame rates, refresh rates, or aspect ratios. Simultaneously creates high, medium, and low bitrate ABR streams to hand off to your content delivery networks (CDNs) with required authentication, for "One to Many" distribution. Software is scanned for vulnerabilities and open ports. Supports 50 simultaneous HLS users. With optional Atlas™ add-on, supports 1,000 RTMP, DASH, and/or HLS users natively.

Applications

- 24x7 Unattended Streaming to CDN’s and Media Servers
- Streaming video to CDNs and web sites like Ustream®, Akamai®, Octoshape™, Verizon®, etc.
- Backhaul/Monitoring for Broadcasters
- Military, Corporate Video, Religious Services, Special Events
- Origin Encoder for Grooming Servers
- Event streaming via ISPs or CDNs

Features
- Thousands in use worldwide
- Inputs: One SDI or HD-SDI input, and GigE IP port
- Supports NewTek™ NDI® input
- Optional single HDMI input instead of SDI/HD-SDI input
- Optional stream archiving
- Outputs: Multiple simultaneous IP streams through GigE port (RJ45), SDI or HD-SDI video loop through
- IP output protocols: UDP, RTP, HTTP, HTTP Live (HLS), RTMP (Open Flash)
- Certified by Akamai®
- Supports HLS (adaptive) for output to mobile devices and MPEG-DASH
- Supports logo insertion, text overlay, and SCTE 35 compliant cue tone insertion ("ad markers") on outputs
- Web GUI is manageable from anywhere – includes some scheduling
- Able to upconvert incoming SD streams to HD, and scale down
- Tested with leading CDNs (Verizon®, Akamai®, Tulix™, Ustream®, etc.)
- Supports Octoshape™ and Verizon® upLynk natively
- Supports H.264 High Profile @ Level 4.0 (HP@L4)
- Supports 1080i, 1080p, 720p, 576i, 480i, 480p, CIF, QCIF, qHD, H.264up and many others, and custom resolutions
- Supports 50 HLS users natively. Optional built-in server supports 1,000+ simultaneous HLS, DASH, and/or RTMP users.
- Audio Output: AAC, MPEG-1 Layer II, optional MP3, and/or optional “SurCode for Dolby Digital” AC-3
- Support for Variable Bit Rate (VBR) encoding maximizes adaptive streaming video quality and bandwidth efficiency
- Tested to work with Atlas™, Wowza®, and Adobe® Flash® media servers
- Tested compatible with major brands of IP devices including Amino™, Roku®, Telygo, Android™, and Apple iPad® and iPhone®
- Tested compatible with major brands of professional H.265, H.264, and MPEG-2 decoders and video servers
- SNMP, REST, SOAP support for remote management and monitoring
- Relies on Intel® Xeon® processor
Application Example

Overview

The MultiStreamer™ is a family member of our flagship cost effective origin encoders. This family has been in production for seven years and we have shipped over 3,000 units. It is designed as a general purpose workhorse, able to stream several simultaneous streams at different resolutions with any streaming protocols.

Inexpensive high volume hardware platforms combined with highly enhanced open source Linux® based software offer great value to all willing to embrace the future. We offer high performance streaming solutions that are based on open source libraries. We enhance the libraries by rewriting critical sections to obtain outstanding reliability and throughput.

This unit is designed to be affordable, scalable, and extendable. Modifications to video formats are easily created. Remote management and multi level security is built in.

Inputs and Outputs

Standard Version

LAN  WAN  SDI/HD-SDI Input
(Either can be Used for IP)

Telco Version

2 each 1 Gig Ports

Dual Power Supplies  2 each 10 GigE Ports  SDI/HD-SDI Inputs
### Ports Utilized

<table>
<thead>
<tr>
<th>Protocol</th>
<th>TCP Ports</th>
<th>UDP Ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTTP</td>
<td>80, 8000, 8001, 8080, 1-65535 (out)</td>
<td></td>
</tr>
<tr>
<td>HTTPS</td>
<td>443</td>
<td></td>
</tr>
<tr>
<td>RTSP</td>
<td>554, 7070</td>
<td>6970-7170, 5005</td>
</tr>
<tr>
<td>RTP</td>
<td>1935</td>
<td>6970-6999, 16384-32767</td>
</tr>
</tbody>
</table>

### Supported Resolutions

#### Supported Resolutions – Input and Output

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Video Output</th>
<th>Audio Output</th>
<th>Type</th>
<th>Bit Rates</th>
<th>Quality</th>
<th>Latency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920 x 1080</td>
<td>One 1080ipt stream at 6 Mbps; or one 720p60 HD stream at 4 Mbps; or 3 480 streams at 2 Mbps, or one HD and one SD stream at 6 Mbps</td>
<td>AAC, MPEG-1 Layer II, optional MP3, and/or optional “SurCode for Dolby Digital” AC-3</td>
<td>IP-multicast, IP-unicast with &quot;wrappers&quot;</td>
<td>Optional H.265: H.265 average bit rate supported. No constant or variable.</td>
<td>8 bit encoding with 4:2:0 color sampling</td>
<td>1.2 seconds (fixed)</td>
</tr>
<tr>
<td>1280 x 720</td>
<td>One SDI or HD/SDI input</td>
<td>Multiple H.264 video streams at different bit rates (.1 to 15 mbps), resolutions, and protocols, wrappers, and containers</td>
<td>IP-multicast, IP-unicast with &quot;wrappers&quot;</td>
<td>Optional H.265: H.265 average bit rate supported. No constant or variable.</td>
<td>8 bit encoding with 4:2:0 color sampling</td>
<td>1.2 seconds (fixed)</td>
</tr>
<tr>
<td>720 x 576</td>
<td>One SdI or HD/SDI input</td>
<td>Multiple H.264 video streams at different bit rates (.1 to 15 mbps), resolutions, and protocols, wrappers, and containers</td>
<td>IP-multicast, IP-unicast with &quot;wrappers&quot;</td>
<td>Optional H.265: H.265 average bit rate supported. No constant or variable.</td>
<td>8 bit encoding with 4:2:0 color sampling</td>
<td>1.2 seconds (fixed)</td>
</tr>
</tbody>
</table>

### CDNs Tested With:

1. Akamai*
2. Limelight
3. Tata
4. Octoshape
5. CDNetworks
6. Internap
7. Highwinds
8. Verizon*
9. Ustream*
10. Mirror Image
11. Tulix*
12. More to come!

*Certified

### Options

- Optional transcoding to H.265
- HDMI input: Available as an option instead of SDI/HD-SDI input (HDMI)
- Archiving option: One terabyte of local storage (1 TB)
- Optional built-in “Mini Atlas” server supports 1,000+ simultaneous HLS, DASH, and/or RTMP users
- Optional DOZER™ Automated UDP Packet Recovery protocol, enabling error-free video delivery over UDP. DOZER ensures smooth MPEG-2, H.264, and optional H.265 delivery through DVEO patented algorithms for automated packet recovery and re-ordering of out-of-sequence packets.
- TELCO: Redundant power supply and ports

### Ordering Information

- MultiStreamer DIG/IP: Professional
- MultiStreamer HDMI/IP: Professional – HDMI In
- MultiStreamer DIG/IP: TELCO – Dual power supply, 4 Gig/E ports, dual inputs for redundancy

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