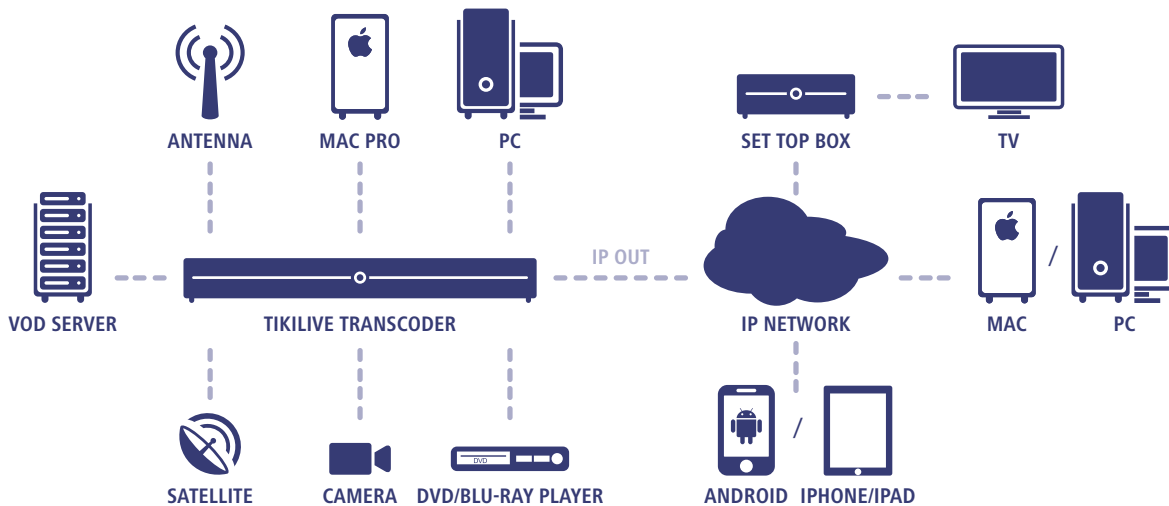


# TIKILIVE TRANSCODER

## IP / SATELLITE / ANTENNA TRANSCODER

The TikiLIVE Transcoder is a real time multichannel streamer and transcoder designed to deliver HD broadcast streams. It has been designed to receive satellite feeds and with an integrated RF receiver you can also source terrestrial RF signals and transform them into streams that are best suited for multiple customer types. This is presented with an easy to use GUI for full configuration of each stream and it can report its status to remote network operations.

The transcoder is an MPEG-2 to/from H.264 transcoder or MPEG-2/4 to MPEG-2/4 scaler. The resulting output can be sent to an IP network or to another receiver for point to point broadcasting. These streams can be viewed online, on TVs connected to IP set top boxes, and mobile devices such as iPhone/iPad, Android, or Blackberry.



The TikiLIVE Transcoder receives the feeds, de-multiplexes them and then streams these feeds using UDP, RTP or HTTP as either multicast or unicast streams.

The system transcodes streams into H.264 format up to a maximum bitrate of 12 Mbps per stream, and MPEG-2 streams up to a maximum of 15 Mbps.

Each stream can be received, transcoded, time delayed, and forwarded at the requested time. Programs are typically forwarded (pushed) via UDP or RTP but can also be forwarded on request (pulled) using HTTP or HTTP Live streaming. The TikiLIVE Transcoder supports adaptive and HTTP streaming and works with Adobe Flash and Wowza servers.

## Features

- Input/Output in MPEG-2 or H.264
- Supports HTTP live adaptive streaming protocol for output to mobile devices
- Capable of near real time FTP output of segmented TS streams with I-Frame boundaries
- Will work as a PAL to NTSC converter
- Transcoding bitrates: 64Kbps-12Mbps
- Resolutions: SQVGA, QCIF, QVGA, SIF, VGA, or any custom size up to 1080i
- Simultaneous demodulation, transcoding, encapsulation, and optional time delay
- Transcodes up to 15 SD streams, six 720p HD streams, or three 1080i streams from MPEG-2 to H.264 or vice-versa
- SNMP support
- Works with Wowza® and Adobe® Flash® servers
- Compatible with major brands of H.264 decoders
- Audio support: AAC, MPEG-2 audio, or Dolby Digital® AC-3 passthrough
- Settings remembered through power cycles
- Based on embedded Linux® (via flashdisk)

## Benchmarks

### MPEG-2 In

#### SD Input @ 6Mbps

480i @ 6Mbps

#### HD Inputs @ 12Mbps

720p

720p 60fps

1080i

### H.264 Out

#### SD out at 1.5 Mbps

Up to 15 streams

#### HD outputs at 6Mbps

480i -Up to 15 streams

Up to 4 streams

Up to 3 streams

### H.264 In

#### SD Input

480i @ 3Mbps

#### HD Inputs

720p @ 6Mbps

1080i @ 7Mbps

1080p @ TBD

### MPEG-2 Out

#### SD MPEG-2 out at 6Mbps

Up to 15 streams

#### HD Outputs

720p @ 12Mbps - up to 6 streams

1080i @ 14Mbps - up to 3 streams

1080p @ TBD

\*All tests performed on Intel i7-980x Processor @ 3.3 GHz with 3GB of RAM. HD H.264 to MPEG-2: 3 to 6 streams depending on amount of motion in content.

## Specifications

### IP Output

|                   |                                |
|-------------------|--------------------------------|
| <b>Ethernet:</b>  | Up to 2 x 1 GigE               |
| <b>Protocols:</b> | UDP, RTP, HTTP, HTTP Live, FTP |
| <b>Type:</b>      | IP-multicast, IP-unicast       |

### Common 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 |

\*Also supports custom resolutions not listed above.

### 8VSD (SMPTE 310M) Input

|                            |                   |
|----------------------------|-------------------|
| <b>Modulation:</b>         | 8VSB (SMPTE 310M) |
| <b>Inputs:</b>             | RF from antenna   |
| <b>Frequency range:</b>    | 54-860 MHz        |
| <b>Max raw throughput:</b> | 200Mbps           |

### DVB-S/S2 Input

|                            |                                   |
|----------------------------|-----------------------------------|
| <b>Modulation:</b>         | DVB-S, S-2                        |
| <b>Inputs:</b>             | L-Band                            |
| <b>Symbol rate:</b>        | 1 to 45 MS/s                      |
| <b>Frequency range:</b>    | 950 to 2150 MHz<br>70 to 1002 MHz |
| <b>LNB control:</b>        | 22 kHz, power H/V                 |
| <b>Spectral inversion:</b> | ON/OFF                            |
| <b>Max raw:</b>            | 200 mbps                          |

### DVB-T Input

|                         |                 |
|-------------------------|-----------------|
| <b>Modulation:</b>      | DVB-T           |
| <b>Inputs:</b>          | RF from antenna |
| <b>Frequency range:</b> | 54 to 860 MHz   |
| <b>Max raw:</b>         | 200 mbps        |

### DVB-ASI

|                      |                   |
|----------------------|-------------------|
| <b>Input/Output:</b> | 200 Mbps per port |
|----------------------|-------------------|

### Output Bit Rates

|                |                    |
|----------------|--------------------|
| <b>H.264:</b>  | 64 Kbps to 12 Mbps |
| <b>MPEG-2:</b> | 64 Kbps to 15 Mbps |

### Administration

|                |                              |
|----------------|------------------------------|
| <b>Access:</b> | Web interface, ssh interface |
| <b>SNMP:</b>   | Monitoring and alerts        |

### Physical & Power

|                      |                          |
|----------------------|--------------------------|
| <b>Size:</b>         | 19" rack mounted, 3 RU   |
| <b>Voltage:</b>      | 85-265 VAC/50-60Hz, 50   |
| <b>Temperature:</b>  | 0°C to 50°C              |
| <b>Humidity:</b>     | 5% to 95% non-condensing |
| <b>Conformities:</b> | UL, CSA, CE, RoHS        |
| <b>Weight:</b>       | 30 lbs. (13.6 kg)        |