

# PRISM Transcoder

Transcode digital media content for compatibility with any device, anywhere



**VITEC PRISM is a high-performance, real-time IP video transcoding system that enables content to be adapted to an optimal format for efficient delivery to any device within your ecosystem.**

## High Performance Transcoding System

The PRISM high-efficiency transcoding engine harnesses a wide range of advanced video codecs and streaming protocols for exceptional broadcast-quality output, all integrated into a 1-RU physical server that can be deployed in IT rooms, data centres or portable server racks.

A wide range of pre-processing tools — including adaptive de-interlacing, video resizing, frame rate conversion and bit rate reduction — enables efficient delivery over LAN, WAN, Wi-Fi, CDN or the Internet to any fixed end-point or mobile device.

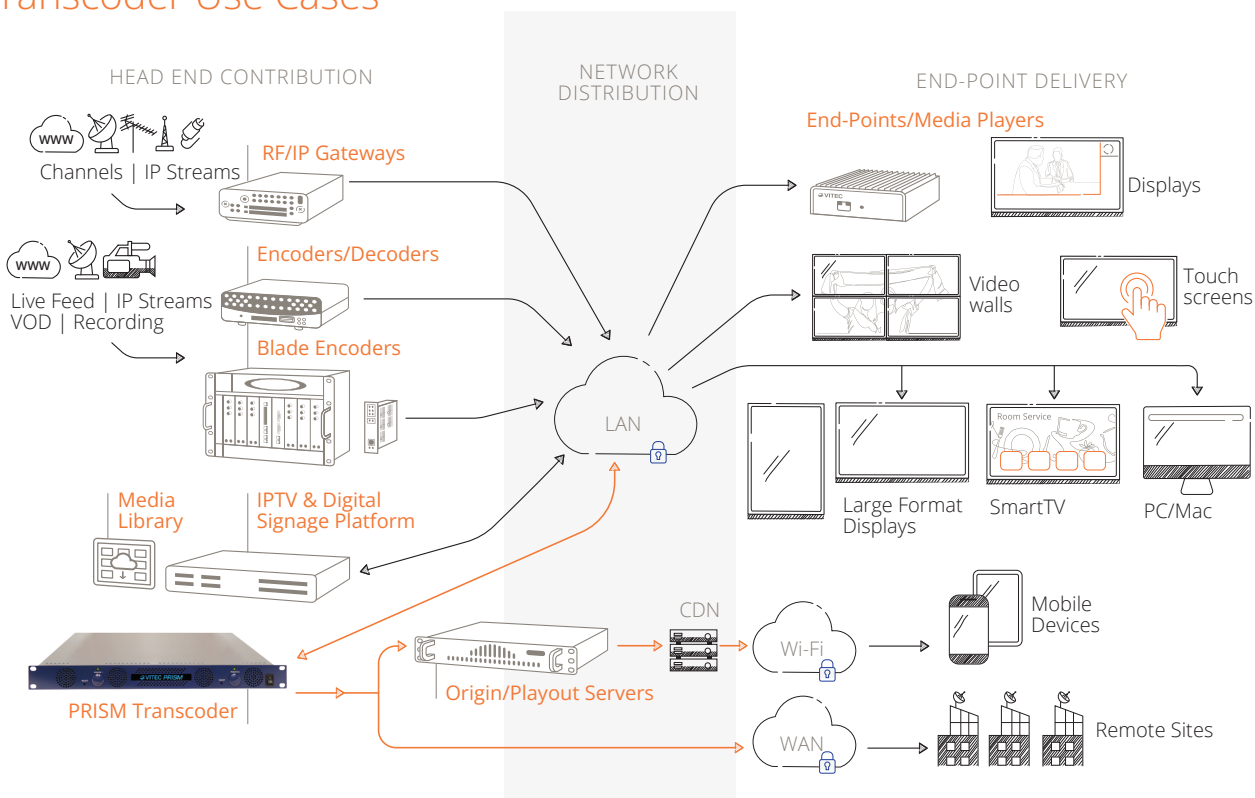
PRISM uses file-to-file transcoding to convert video files, and live transcoding to convert IP video streams. Save time and simplify video conversion by placing content in a watch folder for automatic transcoding.

PRISM also passes through KLV (Key-Length-Value) STANAG metadata, enabling government and military facilities to re-purpose incoming ISR (Intelligence, Surveillance, Reconnaissance) and FMV (Full Motion Video) content with additional compression, while maintaining CoT (Cursor-on-Target) data on the output stream.

### Features & Benefits

- Enable real-time delivery of high-quality video and audio content to any device, keeping end users up-to-date and entertained, wherever they are.
- Transcode high bit rate MPEG-2 content to efficient H.264/HEVC streams, and convert newly HEVC-formatted streams to existing H.264 streams.
- Save 50% bandwidth whilst maintaining quality using the HEVC (H.265) codec, which is especially important for 4K content.
- Increase reliability with PRISM high availability and channel redundancy, providing continued availability of streams using a failover mechanism.
- Easily distribute production-quality video from NDI®-enabled live production environments to your IPTV system and vice versa.
- Stream video to multiple screens via Over-the-Top (OTT) Web Streaming IPTV services.
- Securely stream live events to Facebook Live and reach a broader audience with RTMPS support.
- Ensure video traceability and brand your video content with customisable text, image and time watermarking.

## Transcoder Use Cases



## Technical Specification

### Input Video Codec

- MPEG-2 SD and HD
- H.264 (MPEG-4 AVC) Up to 4K UHD (4096 x 2304)
- HEVC (H.265) Up to 4K UHD (4096 x 2304)
- Additional supported codecs: Google (VP9), H.263, MPEG-4 Part 2, WMV7/9, raw video (YUV4MPEG2), NDI®
- Chroma: Hardware decoding for 4:2:0, Software decoding for non-4:2:0 content

### Input Audio Codec

- MPEG-1 Layer II, AAC-LC, HE-AAC, AC-3, E-AC-3

### Input Encapsulation & Streaming Protocols

- MPEG-2 Transport Stream (single program), MPEG Program Stream (.m2p, .ps), MP4, FLASH Video (F4V, FLV), Quicktime (.mov, .qt), WMA, WMV, NDI®
- UDP, RTP, SRT, RTSP, RTMP, RTMPS, HLS, HTTP, NDI®, NDI-HX

### Video Pre-Processing

- De-interlacing
- Video resizing
- Aspect-ratio conversion or pass-through
- Frame rate down-conversion / doubling

### High Availability

- Two PRISM Transcoders in a cluster provide high availability of live stream transcodes using a failover mechanism

### Overlays

- Up to 15 overlay elements per stream
- Images: JPG, GIF (static) and PNG images burned into output stream (transparency supported on PNG alpha channel)
- Text: Single line text strings using any uploaded TrueType font (TTF) burned into output stream with configurable size, colour and transparency
- Clock: Single line day/date/time text string defined by <strftime> variables, display configuration same as text

### Ancillary Data Pass-through

- Teletext & DVB Subtitles PIDs (configurable in UI)
- KLV/STANAG PIDs
- Closed captioning (CEA-608/708)

### Video Encoding

- MPEG-2 MP@ML/HL, up to HD
- H.264 (MPEG-4 AVC), MP/HP, up to level 5.1, up to 4K/ UHD (4096 x 2304)
- HEVC (H.265), MP, up to 4K/UHD (4096 x 2304)
- NDI®

## Audio Encoding

- AAC-LC

## Output Streaming Formats

- UDP, RTP, RTMP, RTMPS
- MPEG-2 Transport Stream (TS) or Flash Video (FLV)
- NDI®
- SRT (Caller & Listener modes)

## Transcoding Functions

- Live streams and files: scale, transcode, transrate, transpose, transcast
- Configure: output resolution, bit rate, interlacing, aspect ratio, frame rate, GOP length and structure
- Change audio sample rate
- Pass through video or audio
- Output only video or audio from a stream containing both
- Preserve or drop subtitles, closed captions or data streams
- Watch folder support with configurable email alert and dedicated log on failed transcode

## Video Processing Capacity (1RU Server)

- 4K/UHD transcoding to 4K/UHD, up to 2 channels
- HD transcoding to HD, up to 16 channels
- HD/SD transcoding to SD, up to 40 channels

## Management (per node)

- HTTP/HTTPS device interface: recommended browser: Chrome®
- 4 x 100/1000BaseT network interfaces with teaming and redundancy options
- Flexible network port configuration enables streaming and administration interfaces to be on separate networks
- DisplayPort, 2 x USB
- SSDP device discovery
- RESTful API
- Event logging via Syslog (local and remote)
- Firmware upgrade & configuration backup/restore
- Activity Monitor enables more efficient transcode setup and monitoring and prevents overloading

## Physical

- Enclosure includes two nodes
- Enclosure: Rack Mountable server, 1U high (includes mounting kit)
- Dimensions (WxHxD) 455 x 45 x 485 mm (18 x 1.8 x 19 in)
- Gross Weight 7.85 kg (17 lb)

## Power

- High-efficiency (94+%) power supply
- Dual AC inlets
- AC Input: 100-240VAC, 50/60 Hz, 4.2A-2.1A
- Power consumption: 71.5W Typical, 108W Maximum

## Environment

- Operating Temperature 5°C ~ 35°C (41°F ~ 95°F)
- Non-Operating Temperature -40°C ~ 60°C (-40°F ~ 140°F)
- Operating Relative Humidity 8% ~ 90% (non-condensing)
- Non-Operating Relative Humidity 5% - 95% (non-condensing)

## Regulatory

- TAA/NDAA compliant
- CE:
  - IEC 62368-1: 2014
  - EN 62368-1:2014+A11:2017
  - EN55032:2012 + corrigenda Aug 2012 & Dec 2012
  - EN55024:2010 + A1:2015
  - EN 61000-3-2:2014
  - EN 61000-3-3:2013
- UL/CSA:
  - UL62368-1:2014
  - CSA C22.2 No. 62368-1, Rev. February 17, 2012
- FCC:
  - FCC Part 15 Subpart B Class A

## Ordering Information

- 18506 – PRISM
- 18507 – PRISM Lite