



## High Quality, Low Latency, Real-Time H.264 Video Transcoder

**High Performance, Low Latency Transcoding** The Haivision Kraken™ transcoder is designed for high performance live video transcoding from MPEG-2/H.264 to H.264, shaping mission-critical video streams for backhaul via constrained datalinks, enterprise distribution, and mobile delivery to smart-phones and tablets. Kraken supports end-to-end real-time delivery of video from diverse video sources and distribution networks, offering superior quality at low bitrates. Within the enterprise, the Kraken redistributes high bandwidth digital video broadcasts over local area networks for viewing on desktops and set-top boxes. The Kraken ISR (ISR firmware is optional) provides low latency transcoding for metadata-rich applications, such as military intelligence, surveillance, and reconnaissance (ISR) full motion video (FMV) applications.

**High Quality, Low Bandwidth DVB Stream Distribution** The Kraken prepares digital video broadcast DVB streams (MPEG-2/H.264) for distribution across enterprise networks and to viewing devices that are not designed to accommodate high bandwidth and highly volatile streams. As DVB signals are bandwidth intensive, enterprise network resources can become congested, as well as computer processing resources at the edge. The Kraken enables a seamless, secure and manageable multicast framework by standardizing diverse streams sourced from various encoders in preparation for distribution on networks connecting devices of disparate capabilities.

**Kraken ISR - Performance Transcoding with Metadata** In the world of ISR, systems are designed to collect, process, and disseminate information. Many FMV applications bundle additional information with video streams in the form of metadata, typically in MISP-compliant KLV (Key-Length-Value) format. The Kraken ISR is specifically optimized for the task of disseminating information in a format required by downstream networks, exploitation systems, and viewers, with the lowest possible delay, while preserving metadata with frame accurate synchronization.

### Product Features

### Product Benefits

<b>High Performance IP Transcoding</b>	Delivers mission-critical information with lowest transcoding latency
<b>MPEG-2 &amp; H.264 Input</b>	Adapted to the challenges of ISR and DVB redistribution
<b>Software or Appliance Based</b>	Solution choices available to best meet customer needs
<b>Transport Stream Shaping</b>	Set maximum bitrate - prevent streams from overpowering network
<b>Metadata Pass-Through</b>	Preserves Synchronous/Asynchronous MISP - compliant KLV metadata and EIA-608/708 CC data
<b>REST API / WEB-based UI</b>	Enables adoption into customer specific workflows or use the provided Web-based user interface
<b>Session Announcement Protocol</b>	Automatically announce the streams to the players, providing automatic notification of available streams
<b>Encoder Control/Multiple Output</b>	Scale resolutions, adjust bitrates and frame rate output streams
<b>Available as software-only</b>	Deploy on existing virtualized infrastructure or pack in smaller packages for mobile deployments

**TRANSCODING SPECIFICATIONS**

*Sources:*

- Makito, Piranha Encoders
- 3rd Party Encoders
- MJPEG from L-3 Vortex
- Digital Video Broadcast

*Input MPEG-2:*

- MainProfile@MainLevel (SD)
- MainProfile@HighLevel (HD)
- Transport Stream
- Up to 20 Mps
- CBR, VBR

*Input H.264:*

- Baseline, Main, High Profile
- Up to Level 4.2 (1080p60)
- Transport Stream
- Up to 20 Mps
- CBR, VBR

*Input Audio:*

- MPEG1 layer 2
- AAC 2 channel and 5.1

*Output H.264:*

- Baseline, Main, High Profile
- Up to Level 4.2 (1080p60)
- Transport Stream
- Up to 20 Mps
- Transport Stream Shaping, VBR

*Output Audio:*

- AAC 2 channel
- Audio Sync Preserved

*Metadata:*

- Closed Captioning Pass-Through (EIA-608 & EIA-708)
- KLV Pass-through
- Support of MISB Standard 0601
- Support of MISB Standard 0604 with support of both Asynchronous and Synchronous KLV
- SMPTE 336M-2007 Data Encoding Protocol using Key-Lenght-Value

**VIDEO PROCESSING**

- De-interlacing
- Down Scaling
- Aspect Ratio Preserved
- Configurable Frame Rate

**NETWORKING**

- Single Program Transport Stream
- Unicast/Multicast
- TS over UDP
- Session Announcement (SAP)

**MANAGEMENT**

- Web User Interface (HTTPS only)
- REST API
- Console UI

**KRAKEN 4-CHANNEL HD**

*Video Inputs:*

- Up to 4 x MPEG Transport Stream

*Stream Outputs*

- Up to 4 x MPEG Transport Stream

*Operating System:*

- Software-only for Linux or appliance form factor

*Standard IP Interfaces:*

- 2 x RJ-45 Ethernet

*Weight:*

- 26 lbs.

*Dimensions:*

- 1RU: 42.6H x 431W x 393.7D (mm)

*Power:*

- 100-240 VAC 250 W

**KRAKEN 8 CHANNEL HD**

*Video Inputs:*

- Up to 8 x MPEG Transport Stream

*Stream Outputs:*

- Up to 8 x MPEG Transport Stream

*Operating System:*

- Software-only for Linux or appliance form factor

*Standard IP Interfaces:*

- 4 x RJ-45 Ethernet

*Weight:*

- 57 lbs.

*Dimensions:*

- 1RU: 42.5H x 431W x 772D (mm)

*Power:*

- 100-240 VAC 717 W

**Kraken Product Portfolio & Ordering Information \*\***

<a href="#">Kraken ISR Quad-Channel HD</a>	<b>S-KRISR-HD4-K4-1U</b>	<b>ISR Transcoding system</b> - Low latency, transport stream, up to 4 HD IP stream input. Half depth, 1U, Quad Core Xeon Server.
<a href="#">Kraken Quad-Channel HD</a>	<b>S-KR-HD4-K4-1U</b>	<b>Transcoding system</b> - Low latency, transport stream, up to 4 HD IP stream input. Half depth, 1U, Quad Core Xeon Server.
<a href="#">Kraken ISR 8 Channel HD</a>	<b>S-KRISR-HD8-K12-1U</b>	<b>ISR Transcoding system</b> - Low latency, transport stream, up to 8 HD IP stream input, multiple output. Full depth, 1U, Dual Six Core Xeon Server, with redundant power supply and redundant hard drives.
<a href="#">Kraken 8 Channel HD</a>	<b>S-KR-HD8-K12-1U</b>	<b>Transcoding system</b> - Low latency, transport stream, up to 8 HD IP stream input, multiple output. Full depth, 1U, Dual Six Core Xeon Server, with redundant power supply and redundant hard drives.
<a href="#">Kraken 4 Channel Base HD Server Transcoding Software</a>	<b>SW-KR-HD4</b>	Encode up to 1080p output, multiple output streams per (4) channels.
<a href="#">Kraken ISR Software Option</a>	<b>SWO-KR-ISR</b>	KLV Metadata handling, per channel.

\*\* For complete pricing and ordering, contact us at [sales@haivision.com](mailto:sales@haivision.com) or your certified Haivision reseller.