

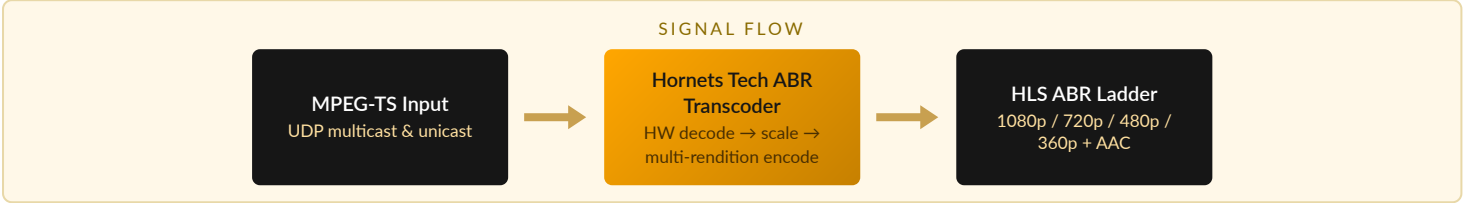
ABR HLS Transcoder

Hardware Adaptive-Bitrate Transcoding Platform
DATASHEET



72× CHANNELS PER UNIT	MPEG-TS INPUT	HLS ABR OUTPUT LADDERS	H.264 • HEVC • AV1 HARDWARE CODECS	1 RU FORM FACTOR
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The Hornets Tech ABR HLS Transcoder ingests live **MPEG-TS** streams and produces **adaptive-bitrate HLS ladders** entirely in hardware. Decode, scaling and multi-rendition encode all run on **dedicated transcode accelerator cards**, leaving the host CPU free — a fully populated 1 RU server carries up to **72 channels**. Interlaced SDI-originated sources are deinterlaced to progressive renditions on the way through. Every channel is driven by the same REST API and web UI as the rest of the Hornets Tech platform.



KEY FEATURES

- Full hardware ABR pipeline — decode, scale and encode on-card
- Up to 72 channels per 1 RU unit (3× transcode accelerator cards)
- H.264, H.265 (HEVC) and AV1 hardware encode & decode
- Configurable rendition ladder per channel (2–4 renditions typical)
- Interlaced input support with high-quality bwdif deinterlace
- Shared HLS audio rendition group (one AAC encode per channel)
- Per-channel start / stop / restart, isolated from neighbours
- HLS segment-growth health probing per channel
- Real-time per-card and per-engine load reporting
- Full REST API for integration & automation
- Web-based management dashboard

INPUT SPECIFICATIONS

Container	MPEG-TS
Transport	UDP multicast & unicast
Video Codec	H.264 / AVC, H.265 / HEVC, AV1
Scanning	Progressive and interlaced (1080i25 → progressive)
Resolution	Up to 3840 × 2160 (4K)
Frame Rate	23.976, 24, 25, 29.97, 30, 50, 59.94, 60 fps
Audio	Passed through to the HLS audio rendition group

OUTPUT SPECIFICATIONS

Format	HLS (adaptive-bitrate ladder)
Video Codec	H.264 / H.265 (HEVC) / AV1
Audio Codec	AAC-LC
Renditions	Configurable per channel, e.g. 1080p / 720p / 480p / 360p
Bitrate	Per-rendition configurable (e.g. 5 Mbps / 2 Mbps / 600 kbps)
Segments	Configurable duration & playlist window

MEASURED CAPACITY

Client profile (4 renditions)	26 ch/card · up to 72 ch/unit
3-rendition 1080p50 ladder	14 ch/card
2-rendition 1080p50 ladder	16 ch/card

Measured on the reference platform with the shipped pipeline tuning. Density depends on source raster, frame rate and ladder — sizing confirmed per project.

MANAGEMENT & MONITORING

API	RESTful JSON (status, control, config)
Web UI	Browser-based management dashboard
Channel Control	Per-channel start / stop / restart
Accelerator Health	Per-card, per-chip and per-engine load
Output Health	HLS segment-growth probing per channel
Host Monitoring	CPU, temperature, disk, RAM, uptime, per-interface bandwidth

PRODUCT



PHYSICAL & ENVIRONMENTAL

Form Factor	19" rack-mount, 1 RU
Accelerator	Up to 3× hardware transcode accelerator cards
Network	GbE / 10 GbE (multicast-capable)
Operating Temp	0 °C to +40 °C
Humidity	10–90 % RH, non-condensing
Compliance	CE, FCC Class A