

# HDMI Encoder

Multi-Channel HDMI to MPEG-TS Encoding Platform

DATASHEET



**8x**  
HDMI CHANNELS

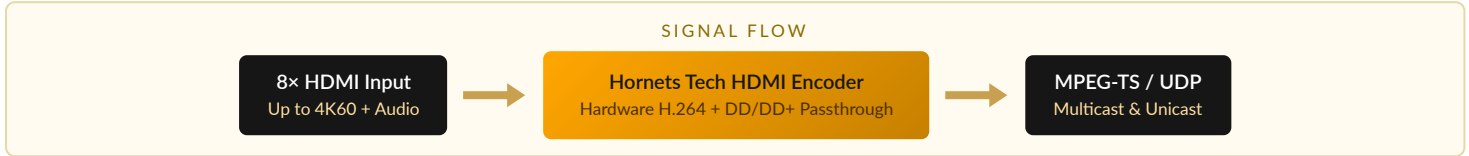
**4K**  
INPUT RESOLUTION

**HW GPU**  
ENCODING

**1 RU**  
FORM FACTOR

**REST API**  
MANAGEMENT

The Hornets Tech HDMI Encoder is a compact, broadcast-grade encoding platform that captures up to **8 HDMI inputs** (up to 4K60) and encodes them in real time to H.264 MPEG-TS for IP distribution. Featuring hardware-accelerated GPU encoding, **Dolby Digital & DD+ passthrough**, PCM transcoding to AAC / Opus / MP2, advanced EDID management with 100+ presets, live thumbnail monitoring, and a full REST API with web UI, it delivers reliable multi-channel encoding in a 1RU form factor.



## KEY FEATURES

- 8x simultaneous HDMI input channels
- Up to 4K 60 fps input resolution
- Hardware-accelerated H.264 GPU encoding
- Dolby Digital & DD+ audio passthrough
- Stereo PCM → AAC / Opus / MP2 transcoding
- Advanced EDID management (100+ presets)
- Per-channel configurable video bitrate
- Live thumbnail preview per encoder channel
- Independent per-channel start / stop / restart
- Auto-recovery watchdog with crash detection
- Real-time bandwidth monitoring per interface
- Active stream detection with bitrate estimation
- Per-stream multi-destination output (tee)
- Full REST API for integration & automation
- Web-based management dashboard

## INPUT SPECIFICATIONS

Interface	HDMI 2.0
Max Channels	8x video + audio
Resolution	Up to 3840 × 2160 (4K UHD)
Frame Rate	24, 25, 30, 50, 60 fps
Color Depth	8 / 10 / 12 bit
Color Space	4:2:0, 4:2:2, 4:4:4
HDR Support	HDR10, HLG
Audio	2-channel stereo per HDMI input
Audio Formats	PCM, Dolby Digital, Dolby Digital Plus

## OUTPUT SPECIFICATIONS

Video Codec	H.264 Main Profile
Audio Codec	DD/DD+ passthrough; PCM → AAC / Opus / MP2
Container	MPEG-TS
Transport	UDP multicast & unicast
Bitrate	Configurable per stream (default 4 Mbps)
GOP / B-frames	30 frames / 0 (low latency)
Multi-Output	Per-stream configurable

## PRODUCT



## TYPICAL APPLICATIONS

- HDMI-to-IP ingest for IPTV headends
- Hotel & hospitality in-room TV encoding
- Conference room & corporate AV distribution
- Digital signage content encoding
- Set-top box & media player capture
- Live event HDMI source encoding & backhaul
- Multi-screen sports bar & venue distribution

## MANAGEMENT & MONITORING

API	RESTful JSON (status, control, config)
Web UI	Browser-based management dashboard
Stream Control	Per-channel start / stop / restart
Thumbnails	Live preview per channel
EDID Management	Per-input EDID selection (100+ presets)
Health Monitoring	CPU, temperature, disk, RAM, uptime
Bandwidth	Real-time per-interface TX/RX monitoring
Watchdog	Auto-restart with per-channel isolation

## PHYSICAL & ENVIRONMENTAL

Form Factor	19" rack-mount, 1 RU
Network	GbE (multicast-capable)
EDID Presets	100+ profiles (4K, HDR, 3D, Atmos)
Operating Temp	0 °C to +40 °C
Humidity	10-90 % RH, non-condensing
Compliance	CE, FCC Class A