

1080P60 H.265 AV over IP Encoder

Distributes one HDMI source to an unlimited number of displays over the standard 1G network you already have. A compact, low-power 1080P60 H.265/H.264 AV over IP encoder, the AVO-IP265HD-ENC measures just 120×95×21.5mm and draws 2.64 watts — rack-mounting up to 12 units in 4U or 8 in 1U, the right choice for digital signage, education, retail, and corporate AV distribution where reach, simplicity, and density matter more than 4K or KVM.

It supports matrix switching, video wall up to 9×9, unicast and multicast distribution, analog audio embedding, and RS-232 pass-through — all configured through the web GUI, with RTSP sub-streams for VLC and third-party preview. Sold as a standalone encoder and managed by the AVO-IPCTL-265HD controller, it lets integrators order the exact encoder-to-decoder ratio each job needs. Decoders (AVO-IP265HD-DEC) sold separately.

Surge Protection Recommended — This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, or lightning strikes. Use of surge protection is highly recommended.

TABLE OF CONTENTS

1. Features	1
2. Package Contents	1
3. Specifications	2
4. Operation Controls	3
4.1 Front Panel	3
4.2 Rear Panel	3
5. Encoder & Decoder Matching	4
6. Application Example	4
7. Troubleshooting	5

FEATURES

- ✓ H.265/H.264 codec — 1080P@60Hz 4:4:4, up to 1920×1200@60Hz, HDMI 1.3, HDCP 1.4
- ✓ Compact form factor: 4.72" × 3.74" × 0.85" (120 × 95 × 21.5mm), 0.65 lbs per unit
- ✓ Rack-dense: 4U rack (up to 12 units) or 1U rack (up to 8 units)
- ✓ Encodes one HDMI input into a low-latency H.265/H.264 IP stream for unlimited decoders
- ✓ Matrix switching, video wall up to 9×9, unicast and multicast distribution over 1G
- ✓ Analog audio embedding — LPCM 2.0CH inserted into the stream
- ✓ Configurable main stream (8Mb/s default) and sub stream (640×360, 1Mb/s default)
- ✓ RTSP sub-stream for VLC and third-party application preview
- ✓ Web GUI for video configuration, EDID management, picture settings, firmware updates
- ✓ PoE 802.3af Class 3 PD or DC 12V/1A — ultra-low power: 2.64W
- ✓ Works with AVO-IPCTL-265HD (CTL100H) controller

PACKAGE CONTENTS

Each AVO-IP265HD-ENC includes: 2× 3-pin Phoenix connectors | 2× Mounting ears | 4× Screws (KM3) | 1× DC 12V/1A locking PSU | User manual. Decoder (AVO-IP265HD-DEC) sold separately.

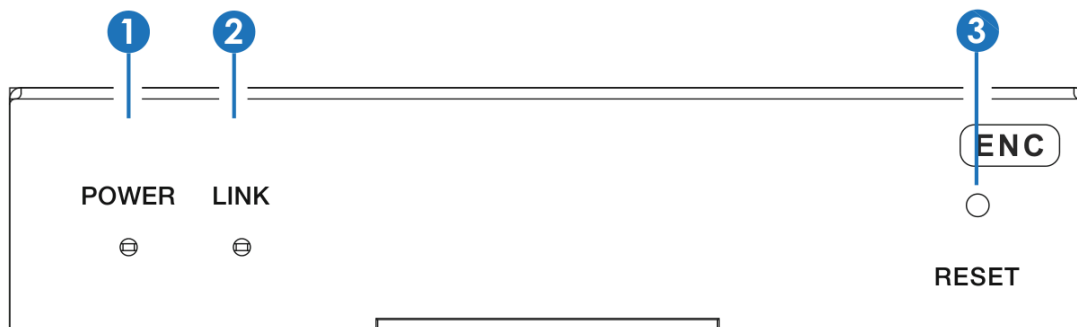
Specifications

TECHNICAL		
	Video Compression	H.265 / H.264
	HDMI Compliance	HDMI 1.3
	HDCP Compliance	HDCP 1.4
	Video Resolution	Up to 1920×1200@60Hz 4:4:4 (1080P60)
	Color Space	RGB 4:4:4, YCbCr 4:4:4, YCbCr 4:2:2
	Color Depth	Input: 8/10/12-bit (1080p@60Hz) • Output: 8-bit
	Audio Formats	LPCM 2.0CH (32 / 44.1 / 48kHz)
	Video Bandwidth	4.95Gbps
CONNECTION		
	Connectors	1× HDMI IN [Type A, 19-pin female] 1× LAN [RJ45, PoE] 1× Audio IN/OUT [3-pin Phoenix] 1× RS-232 [3-pin Phoenix]
	Transmission Distance	Up to 328 ft / 100m via CAT5E/6/6A/7
NETWORK & CONTROL		
	Network	100M / 1G Ethernet (RJ45), IGMP multicast
	Control	RS-232 pass-through • TCP/IP • Web GUI • AVO-IPCTL-265HD controller
	Video Wall	Up to 9×9 (81 displays)
POWER		
	Power Supply	PoE 802.3af Class 3, or DC 12V/1A (AC100–240V 50/60Hz adapter)
	Power Consumption	2.64W
MECHANICAL		
	Housing	Metal enclosure, Black
	Dimensions (W×D×H)	4.72" × 3.74" × 0.85" (120 × 95 × 21.5mm)
	Net Weight	0.65 lbs (294g)
ENVIRONMENTAL		
	Operating Temperature	14°F – 113°F (–10°C – 45°C)
	Storage Temperature	–4°F – 140°F (–20°C – 60°C)
	Relative Humidity	20% – 90% RH (no condensing)
	ESD Protection	IEC 61000-4-2: ±8kV air-gap, ±4kV contact



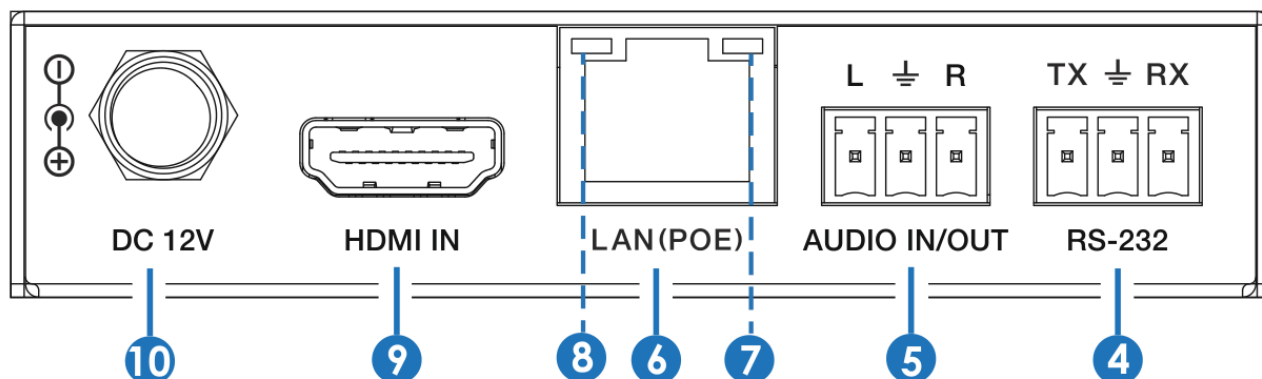
Operation Controls

FRONT PANEL



No.	Name	Function Description
1	POWER LED (Red)	Flashes at 2Hz during system startup; stays on after startup completes.
2	LINK LED (Green)	Network connection status. On: connected with a compatible signal ($\leq 1920 \times 1200$, $\leq 60\text{Hz}$). Flash 2Hz: connected but no video input. Flash 5Hz: connected but signal incompatible ($> 1920 \times 1200$ or $> 60\text{Hz}$). Off: not connected.
3	RESET	System reset button. Press and hold 3 seconds to restart and restore factory settings.

REAR PANEL



No.	Name	Function Description
4	RS-232	RS-232 serial port — supports signal pass-through and local serial-port control.
5	AUDIO IN/OUT	Analogue stereo audio. AUDIO IN embeds an external source into the stream via 3-pin Phoenix connector.
6	LAN (POE)	100M/1G network port. Connect to a switch/router/hub for data transmission or PoE.
7	Link Signal Indicator (Green)	Illuminated: network cable connected normally. Dark: not connected well.
8	Data Signal Indicator (Yellow)	Flashing: data is transmitting. Dark: no data transmission.
9	HDMI IN	HDMI input port. Connect to an HDMI source such as a DVD or set-top box.
10	DC 12V	Two power methods: local DC 12V/1A, or PoE from the network switch (PD mode). When the switch supports PoE, the DC adapter is not needed.



Setup & Application

ENCODER & DECODER MATCHING

Every AVO-IP265HD-ENC and AVO-IP265HD-DEC ships with a unique ID. To pair a decoder to an encoder, use the AVO-IPCTL-265HD controller or send the RS-232 command **!OUT xxx FR yyy**, where xxx is the decoder (output) ID and yyy is the encoder (source) ID. Multiple decoders may subscribe to the same encoder for one-to-many distribution, and any decoder can be re-pointed to a different encoder to build a matrix or video wall up to 9×9.

A Layer-3 managed Gigabit switch with IGMP Snooping / multicast enabled is required. Default device IPs are **169.254.100.254** (encoder) and **169.254.100.253** (decoder); log in to the Web GUI as **admin / admin** to configure streams, EDID, and network settings.

APPLICATION EXAMPLE

1080P60 H.265 AV-over-IP Distribution — Matrix & Video Wall over 1G



How it works: The encoder converts one HDMI source into an H.265/H.264 stream on a 1G managed network. Any number of decoders subscribe to that stream by multicast and output HDMI to their displays — add displays by adding decoders, not encoders.

Matrix & video wall: Route any encoder to any decoder and compose walls up to 9×9 via the AVO-IPCTL-265HD controller or the RS-232 command **!OUT xxx FR yyy**.

Power: Each endpoint draws PoE 802.3af from the switch — no local PSU required.



Troubleshooting

Q: No video reaches the displays?

A: Confirm the encoder and its decoders are on the same network segment and paired, and that the managed switch has IGMP Snooping enabled. Check the encoder LINK LED is on.

Q: The LINK LED flashes at 5Hz?

A: The input signal is incompatible (greater than 1920×1200 or 60Hz). Set the source to a supported resolution up to 1080P60.

Q: How do I open the Web GUI?

A: Set your PC to the 169.254.x.x subnet, then browse to the encoder's default IP **169.254.100.254** and log in as **admin / admin**.

Need help? — For additional support, contact KanexPro technical support at support@kanexpro.com or 888.975.1368, or scan the QR code below for the product page.

