

1080P60 H.265 AV over IP KVM Encoder

Distributes one HDMI source — with full keyboard, mouse, and IR control — to an unlimited number of displays over the standard 1G network you already have. A compact 1080P60 H.265/H.264 AV-over-IP KVM encoder, the AVO-IP265HDK-ENC adds USB-KVM and bidirectional IR to IP video distribution and racks up to 10 units in 6U or 4 in 1U — the right choice for control rooms, command centers, education, and corporate AV where operators must reach and control remote sources, not just watch them.

It drives matrix switching, video wall up to 9×9, unicast and multicast distribution, analog audio embedding, and RS-232 / IR pass-through — all configured through the web GUI, with a local HDMI loop-out for on-site monitoring and RTSP sub-streams for VLC 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-IP265HDK-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.

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FEATURES

- ✓ H.265/H.264 codec — 1080P@60Hz 4:4:4, up to 1920×1200@60Hz, HDMI 1.3, HDCP 1.4
- ✓ USB-KVM — 1× USB HOST (Type B) to the source PC + 2× USB DEVICE (Type A) for keyboard/mouse
- ✓ Bidirectional IR — IR IN + IR OUT (3.5mm) for IR pass-through to and from any room
- ✓ HDMI local loop output — monitor the encoded source on-site without splitting
- ✓ Compact form factor: 8.03" × 3.74" × 0.85" (204 × 95 × 21.5mm), 1.04 lbs
- ✓ Rack-dense: 6U rack (up to 10 units) or 1U rack (up to 4 units)
- ✓ 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 and sub stream — RTSP preview via VLC
- ✓ RS-232 pass-through, guest mode, and single-machine control (no controller box); Web GUI for stream, EDID, and firmware
- ✓ PoE 802.3af Class 3 PD or DC 12V/1A — 3.48W; works with AVO-IPCTL-265HD controller

PACKAGE CONTENTS

Each AVO-IP265HDK-ENC includes: 3× 3-pin Phoenix connectors | 1× IR receiver + 1× IR blaster cable | 2× Mounting ears | 4× Screws | 1× DC 12V/1A locking PSU | User manual. Decoder (AVO-IP265HDK-DEC) sold separately.



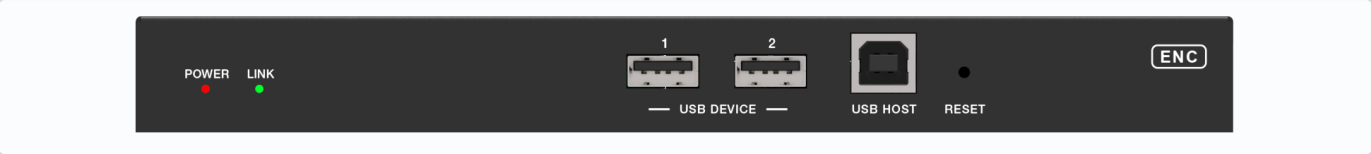
Specifications

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
USB-KVM & IR		
	USB-KVM	1× USB HOST [Type B] to source PC 2× USB DEVICE [Type A] for keyboard/mouse
	IR	Bidirectional — IR IN + IR OUT (3.5mm), 20K–60KHz
CONNECTION		
	Connectors	1× HDMI IN [Type A, 19-pin female] 1× HDMI OUT loop [Type A, 19-pin female] 1× LAN [RJ45, PoE] 1× Audio IN + 1× Audio OUT [3-pin Phoenix] 1× RS-232 [3-pin Phoenix] 1× IR IN + 1× IR OUT [3.5mm]
	Transmission Distance	Up to 328 ft / 100m via CAT5E/6/6A/7
NETWORK & CONTROL		
	Network	100M / 1G Ethernet (RJ45), IGMP multicast
	Control	USB-KVM • Bidirectional IR • RS-232 pass-through • TCP/IP • Web GUI • AVO-IPCTL-265HD controller
	Default IP / Login	169.254.100.254 • admin / admin
	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	3.48W
MECHANICAL		
	Housing	Metal enclosure, Black
	Dimensions (W×D×H)	8.03" × 3.74" × 0.85" (204 × 95 × 21.5mm)
	Rack Mounting	6U rack: up to 10 units • 1U rack: up to 4 units
	Net Weight	1.04 lbs (470g)
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



Port	Function Description
POWER LED (Red)	Flashes at 2Hz during startup; stays on after startup completes.
LINK LED (Green)	Network status. On: connected with compatible signal. Flashing: connected, no/incompatible video. Off: not connected.
USB DEVICE 1 / 2 (Type A)	Connect keyboard and mouse for KVM control of the far-end source.
USB HOST (Type B)	Connect to the source PC's USB port so remote keyboard/mouse control it.
RESET	Press and hold 3 seconds to restart and restore factory settings.

REAR PANEL



Port	Function Description
DC 12V	Local DC 12V/1A input, or power via PoE from the switch (PD mode).
LAN (POE)	100M/1G network port; connect to a switch/router/hub for data and PoE.
HDMI IN	HDMI input from the source device (PC, player, etc.).
HDMI OUT (Loop)	Local HDMI loop output for on-site monitoring of the encoded source.
AUDIO IN (3-pin Phoenix)	Analog stereo audio input embedded into the stream.
AUDIO OUT (3-pin Phoenix)	Analog stereo audio output.
RS-232 (TX/GND/RX)	Serial control — pass-through and local serial control.
IR IN	Wideband IR receiver input (3.5mm) for IR pass-through to the far end.
IR OUT	IR blaster output (3.5mm) to control local devices from the far end.



Setup & Application

ENCODER & DECODER MATCHING

Every AVO-IP265HDK-ENC and AVO-IP265HDK-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.

USB-KVM & BIDIRECTIONAL IR

USB-KVM. Connect the *USB HOST* (Type B) port on the encoder to a USB port on the source PC. Plug the operator's keyboard and mouse into the *USB DEVICE* (Type A) ports on the decoder. The decoder that currently holds control passes keyboard and mouse over IP to the source — KVM control of a given source is granted one operator at a time, switchable through the controller or Web GUI.

Bidirectional IR. Each unit provides an *IR IN* (3.5mm wideband receiver, 20K–60KHz) and an *IR OUT* (3.5mm blaster). Point a remote at the IR receiver at one end to control a device at the other end; IR travels in both directions between the encoder and decoder locations. Use the supplied IR receiver and IR blaster cables.

APPLICATION EXAMPLE

1080P60 H.265 KVM-over-IP — Distribute & Control a Source over 1G



How it works: The encoder converts one HDMI source into an H.265/H.264 stream on a 1G managed network while carrying the source PC's USB over IP. Any number of decoders subscribe by multicast and output HDMI to their displays — the operator's keyboard and mouse plug into the decoder's USB DEVICE ports to control the far-end source.

KVM & IR: USB-KVM (HOST at the encoder, DEVICE at the decoder) gives per-operator keyboard/mouse control; bidirectional IR passes remote-control signals between rooms. Grant control one operator at a time per source.

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**. Each endpoint draws PoE 802.3af — 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?

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

Q: Keyboard and mouse don't control the source?

A: Confirm the USB HOST (Type B) cable runs from the encoder to the source PC, the operator's keyboard/mouse are in the decoder's USB DEVICE ports, and that decoder currently holds KVM control of the source (one operator at a time).

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.

