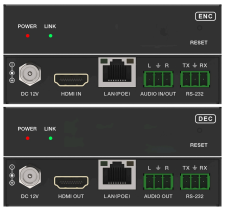
1080P over IP 100M/1GbE with Video Wall Processing



Distributes multiple HD sources to multiple HD displays over a 100M/1G managed network switch. Configurable high-quality, low-bandwidth H.265/H.264 compression video up to 1920×1200@60Hz 4:4:4. Transmission up to 328ft/100m via CAT5E/6/6A/7. Supports analog audio embedding and extracting, RS-232 control, matrix switching, and video wall up to 9×9. Encoder and decoder sold separately.

Surge Protection Recommended — Use surge protection to protect sensitive electrical components.

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2. FEATURES

- ✓ H.265/H.264 codec — 1080P@60Hz 4:4:4, up to 1920×1200@60Hz, HDMI 1.3, HDCP 1.4
- ✓ Matrix switching, video wall up to 9×9, unicast and multicast over 1G managed switch
- ✓ Seamless switching — no black screen, jitter, or tearing
- ✓ Analog audio embedding and extracting — LPCM 2.0CH (32/44.1/48kHz)
- ✓ Configurable main stream (H.265/264) and sub stream via web GUI or controller
- ✓ RS-232 pass-through and guest mode control
- ✓ RTSP main stream and sub stream for VLC and third-party preview
- ✓ Compact: 120×95×21.5mm — 12 units per 4U rack, 8 units per 1U rack
- ✓ Ultra-low power: Encoder 2.64W / Decoder 3.1W — PoE 802.3af or DC 12V/1A
- ✓ Works with AVO-IPCTL-265HD (CTL100H) controller

3. Package Contents 4. Specifications

Encoder and decoder are sold separately. Each unit includes: 1× Unit | 2× 3-pin Phoenix connectors | 2× Mounting ears | 4× Machine screws | 1× DC 12V/1A locking PSU | User manual

SPECIFICATION	
	Technical
Video Codec	H.265 / H.264 (H.265 default)
HDMI / HDCP	HDMI 1.3 | HDCP 1.4 | 4.95Gbps
Max Resolution	Up to 1920×1200@60Hz 4:4:4 | 1080P@60Hz
Color Depth / Space	Input: 8/10/12-bit | Output: 8-bit | RGB 4:4:4, YCbCr 4:4:4/4:2:2
Audio Formats	LPCM 2.0CH (32/44.1/48kHz) | Audio embedding and extracting
Main Stream	H.265/264, 8Mb/s default (configurable) | Sub Stream: 640×360, 1Mb/s default
Video Wall	Up to 9×9 (81 displays)
Transmission	Up to 328ft / 100m via CAT5E/6/6A/7
ESD Protection	IEC 61000-4-2: ±8kV (air-gap) / ±4kV (contact)
	Connection — Encoder
Video Input	1× HDMI IN (Type A)
Audio	1× Audio IN/OUT (3-pin 3.81mm Phoenix)
Network	1× LAN/PoE (RJ45, 100M/1G)
Control	1× RS-232 (3-pin 3.81mm Phoenix)
	Connection — Decoder
Video Output	1× HDMI OUT (Type A)
Audio Output	1× Audio OUT (3-pin 3.81mm Phoenix)
Network	1× LAN/PoE (RJ45, 100M/1G)
Control	1× RS-232 (3-pin 3.81mm Phoenix)
	Control & Power
Control Methods	RS-232, TCP/IP, Web GUI | Controller: AVO-IPCTL-265HD (sold separately)
Power	PoE 802.3af Class 3 PD or DC 12V/1A
Power Consumption	Encoder: 2.64W | Decoder: 3.1W
	Physical
Housing / Color	Metal enclosure, Black
Dimensions (W×D×H)	4.72″ × 3.74″ × 0.85″ (120 × 95 × 21.5mm) per unit
Net Weight	0.65 lbs (294g) per unit
Power Supply	AC100–240V 50/60Hz, DC 12V/1A output
Operating Temperature	14–113°F (-10–45°C)
Storage Temperature	-4–140°F (-20–60°C)
Humidity	20–90% RH (non-condensing)

5. Operation Controls and Functions

5.1 ENCODER PANEL

Front: POWER LED (Red) — flashes 2Hz startup, solid on after. LINK LED (Green) — solid: connected with signal; flashes 2Hz: connected no video; flashes 5Hz: incompatible signal; off: not connected. RESET — hold 3 seconds to restore factory settings.

Rear: DC 12V (locking, not needed with PoE) | HDMI IN | LAN(PoE) 100M/1G | AUDIO IN/OUT (3-pin Phoenix) | RS-232 (3-pin Phoenix)

5.2 DECODER PANEL

Front: POWER LED (Red) — same as encoder. LINK LED (Green) — solid: connected with video data; flashes: connected no video; off: not connected. RESET — hold 3 seconds to restore factory settings.

Rear: DC 12V (locking, not needed with PoE) | HDMI OUT | LAN(PoE) 100M/1G | AUDIO OUT (3-pin Phoenix) | RS-232 (3-pin Phoenix)

> **LINK LED Note —** Encoder LINK flashes at 5Hz when incompatible signal is detected (resolution >1920×1200 or frame rate >60Hz). Verify source resolution is within spec.

DEFAULT IP ADDRESSES

Unit	Default IP	Notes
Encoder	169.254.100.254	Web GUI: admin/admin. Set PC subnet 255.255.0.0
Decoder	169.254.100.253	Web GUI: admin/admin. Set PC subnet 255.255.0.0

6. Rack Mounting Instruction

6.1 4U RACK MOUNTING

Step 1: Use included screws to attach two mounting ears to the unit. **Step 2:** Insert vertically into 4U rack — up to 12 units per rack. **Step 3:** Secure mounting ears to rack rails with screws.

6.2 1U RACK MOUNTING

Step 1: Stack two units and attach two 1U rack panels using included screws. **Step 2:** Repeat for another two units and join the two rack panel assemblies together. **Step 3:** Fasten screws between panels. Eight units mount per 1U.

> **Note —** 4U and 1U rack accessories are included with each unit (mounting ears + screws). Contact your KanexPro dealer for the 4U rack enclosure.

7. Web GUI User Guide

Step 1: Connect PC, encoders, and decoders to the same 1G managed switch.

Step 2: Set PC IP to same subnet as encoder (e.g., 169.254.3.150, Subnet 255.255.0.0).

Step 3: Enter encoder/decoder IP in browser → login with **admin / admin**.

Web GUI Pages

Page	Function
Information	Firmware version, IP address, subnet mask, gateway, MAC address
Video (Encoder)	Main stream: video/audio encoding format, bitrate. Sub stream: resolution, bitrate. ID setting (1–762), audio input selection (HDMI/Analog), EDID management.
Video (Decoder)	Transmission protocol (unicast/multicast), scaler setting, EDID download, video timeout, ID setting (Local ID, Max Channel ID, Source Selection ID), picture settings (brightness, contrast, hue, saturation).
Settings	Network settings, HTTPS security, username and password modification.
Update	Firmware update, factory reset, reboot.

Note — Network settings take effect only when Mode is set to Static. Changes to network settings or credentials require re-login with new settings.

8. VLC Pull Streaming Operation Guide

After Web GUI login, open VLC → **Media** → **Open Network Stream**. Enter a stream URL and click **Play**.

Stream	Network URL
MainStream	`rtsp://169.254.100.254/live/main/av_stream`
SubStream	`rtsp://169.254.100.254/live/sub/av_stream`

Check codec details: **Tools** → **Codec Information**. Monitor bitrate: **Tools** → **Statistics**. Replace 169.254.100.254 with the unit's current IP address.

Note — Bitrate fluctuates during monitoring — this is normal for variable bitrate streams.

9. Switch Model

The network switch must support: Layer 3 / managed | Gigabit bandwidth | Multicast enabled | IGMP Snooping enabled | Filter/drop unregistered multicast traffic enabled.

Manufacturer	Recommended Model
Huawei	S5720S-28X-PWR-LI-AC
Netgear	S3300

10. Encoder and Decoder Matching Settings

When multiple encoders and decoders are in the system, set IDs on the Web GUI Video page for each unit (ID range 1–762), then match using one of two methods:

Method 1 — RS-232 Command: Connect encoder/decoder RS-232 port to PC. Send command: `!OUT xxx FR yyy` — connects Decoder ID xxx to Encoder ID yyy.

Method 2 — Controller Box: Connect all units and PC to the same switch. Login to the AVO-IPCTL-265HD web GUI and match encoders and decoders through the interface.

> **Note —** After setting an encoder/decoder ID, the unit's IP address changes to 169.254.xxx.xxx corresponding to the ID. The browser will redirect to the new IP — re-login with the new address.

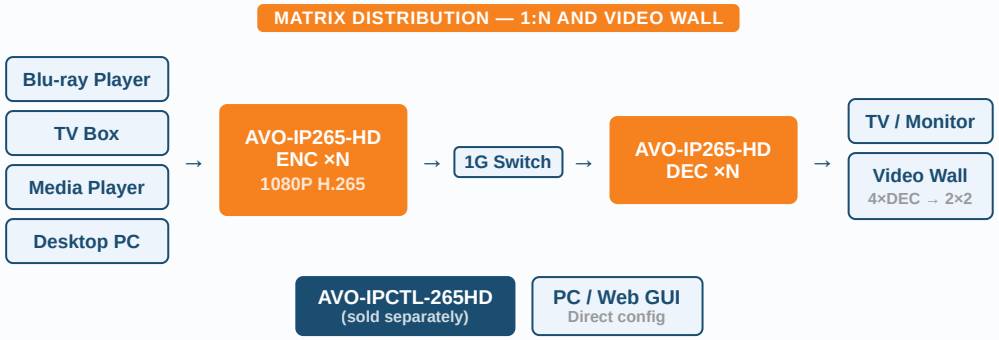
11. 1080P over IP System Control

The AVO-IP265-HD can be controlled by the **AVO-IPCTL-265HD** (CTL100H) Controller Box (sold separately) or a third-party controller via RS-232 or TCP/IP. For complete system control setup, refer to the AVO-IPCTL-265HD User Manual.

Connect encoders, decoders, controller, and PC to the same 1G managed switch. Access the controller web GUI at its DHCP-assigned IP or **192.168.0.225** (no DHCP). Set PC to same subnet (e.g., 192.168.0.88).

> **PoE Note —** When the switch does not support PoE, power each encoder, decoder, and controller with the included DC power adapters.

12. Application Example



System setup: Connect all encoders, decoders, controller (if used), and PC to the same 1G managed switch. Set encoder IDs (1–762) via web GUI. Match decoders to encoders via controller web GUI or RS-232 command `!OUT xxx FR yyy .` For video wall, configure layout via AVO-IPCTL-265HD web GUI.

Point-to-point: Set encoder ID to 1 and decoder Source Selection ID to 1. Both default to 169.254.100.254/253 — connect to same switch. No controller needed. RS-232 matrix command: `!OUT 1 FR 1 .`