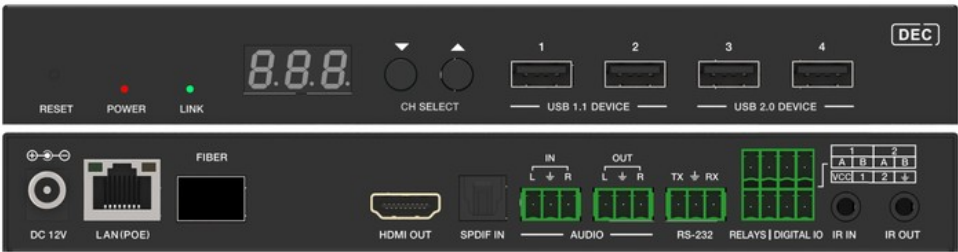


4K60 4:4:4 JPEG2000 AV over IP Decoder — Copper + Fiber In One Box

Distribute Matrix, Video Wall & KVM to Any Display Without a 10G Switch Upgrade — Dante AV-A, 9x9 Video Wall, PoE-Powered



Distributes visually-lossless 4K60 4:4:4 video to any display over the standard 1-Gigabit network you already own — without a 10G switch upgrade. The AVO-IPJP2K-DEC is a black metal-enclosure JPEG2000 AV-over-IP decoder that draws power over the network in PoE PD mode (7.08W maximum, DC 12V/2.5A adapter optional) and integrates both a copper LAN port and an optical fiber port in a single box, so short in-room drops and long inter-building runs terminate on the same unit. It scales point-to-point, video-matrix and video-wall deployments to a 9x9 array by adding switch ports rather than matrix cards — the right choice for boardrooms, divisible conference spaces, control rooms, courtrooms and video-wall installations where visually-lossless 4:4:4 reach, latency determinism and single-vendor endpoint convergence matter more than a 10G fabric or a proprietary matrix chassis.

Built on intra-frame JPEG2000, the decoder holds fine detail crisp across motion and rides standard Layer-3 managed Gigabit switches with IGMP snooping and jumbo frames, in unicast or multicast, with intelligent video-wall class management and MJPEG substream real-time preview for control GUIs. Audio spans ARC/eARC, S/PDIF and analog return, with Dante AV-A mode available when license-activated, while USB 2.0 supports KVM and camera pass-through and RS-232, IR, CEC, two relay ports and two digital I/O channels carry display and contact control. Configuration and control run over front-panel buttons and LED screen, a built-in web page, Telnet and SSH — open control with no mandatory proprietary processor. The single strongest differentiator is copper and fiber converged in one enclosure, removing the media-converter or second SKU that most 1G JPEG2000 endpoints require. The matching AVO-IPJP2K-ENC encoder is 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 systems is highly recommended.

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1. Features

- ✓ HDCP 2.2 compliant
- ✓ Supports 18Gbps video bandwidth
- ✓ Input and output video resolution up to 4K60 4:4:4, as specified in HDMI 2.0b
- ✓ Signal transmission extended up to 328ft / 100m over CAT5E/6/6A/7 cable
- ✓ Transmits video, analog and digital audio, IR, RS-232, CEC and USB over Ethernet
- ✓ Integrates copper port and fiber port within a single box
- ✓ ARC / eARC / S-PDIF / analog audio return function
- ✓ Dante AV-A mode supported when license-activated
- ✓ Channel configuration via front-panel buttons and LED screen
- ✓ Built-in two-channel relay ports and two-channel digital I/O ports for contact control
- ✓ Supports unicast and multicast
- ✓ Supports point-to-point, video-matrix and video-wall functions (video wall up to 9x9)
- ✓ Intelligent video-wall class management
- ✓ Supports MJPEG substream real-time preview
- ✓ Operates on standard 1G Ethernet switching
- ✓ PoE-powered (PD mode) from the network switch
- ✓ Built-in web-page configuration and control, plus Telnet and SSH
- ✓ HDMI audio formats: LPCM 2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby TrueHD, DTS, DTS-96/24, DTS-EX DSD, DTS High Res, DTS-HD Master
- ✓ USB 2.0 KVM and camera support with bidirectional RS-232 and two-way IR
- ✓ Smart networking design for easy and flexible installation

2. Package Contents

- ✓ 1x JPEG2000 Decoder
- ✓ 1x DC 12V/2.5A power adapter
- ✓ 2x Mounting ears
- ✓ 1x Quick start guide

3. Specifications

VIDEO		
	HDMI Compliance	HDMI 2.0b
	HDCP Compliance	HDCP 2.2
	Video Bandwidth	18Gbps
	Video Compression Standard	JPEG2000
	Video Network Bandwidth	1G
	Video Resolution	Up to 4K@60Hz 4:4:4
	Color Depth	Input: 8/10/12-bit; Output: 8-bit
	Color Space	RGB 4:4:4, YCbCr 4:4:4 / 4:2:2 / 4:2:0
AUDIO		
	HDMI Audio Formats	LPCM 2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby TrueHD, DTS, DTS-96/24, DTS-EX DSD, DTS High Res, DTS-HD Master
	Audio Return	ARC / eARC / S-PDIF / analog



continued

TRANSMISSION & DISTANCE	
Cable Transmission Distance	100m (328ft) over CAT5E/6/6A/7
HDMI Cable Length — 4K60	16ft / 5m
HDMI Cable Length — 4K30	32ft / 10m
HDMI Cable Length — 1080P60	50ft / 15m
NETWORKING & TOPOLOGY	
Topologies	Point-to-point, video matrix, video wall (up to 9x9)
Cast Modes	Unicast and multicast
Transport	Copper or fiber, selectable per unit
Switch Requirements	Layer-3 managed Gigabit, 8KB jumbo frame, IGMP snooping
CONTROL & CONNECTIONS (DECODER)	
Audio Input	1 x S/PDIF IN (optical); 1 x L/R AUDIO IN (3-pin 3.81mm Phoenix)
Video Output	1 x HDMI OUT (Type A, 19-pin female)
Audio Output	1 x L/R AUDIO OUT (3-pin 3.81mm Phoenix)
Network	1 x LAN/PoE (RJ45); 1 x FIBER (optical fiber slot)
USB	1 x USB 1.1 DEVICE (Type-A); 2 x USB 2.0 DEVICE (Type-A)
Serial	1 x RS-232 (3.81mm Phoenix)
Contact Control	2 x relay ports (3.81mm Phoenix); 2 x digital I/O (3.81mm Phoenix)
IR	1 x IR IN (3.5mm); 1 x IR OUT (3.5mm)
IR Level	Default 12V, optional 5V
IR Frequency	Wideband 20KHz–60KHz
Control Interfaces	Front-panel buttons and LED screen, web page, Telnet, SSH, MJPEG substream API
PROTECTION	
ESD Protection	IEC 61000-4-2: ±8kV air-gap discharge, ±4kV contact discharge
PHYSICAL	
Housing	Metal enclosure
Color	Black
Dimensions (W x D x H)	8.03" x 5.35" x 1.00" (204 x 136 x 25.5mm)
Net Weight	1.38 lbs (0.63kg)
POWER	
Power Supply	Input AC 100–240V 50/60Hz; Output DC 12V/2.5A
PoE	PoE-powered (PD mode) from network switch; DC adapter not needed when switch supplies PoE
Power Consumption	7.08W (max.)
ENVIRONMENTAL	
Operating Temperature	32–104°F / 0–40°C
Storage Temperature	–4–140°F / –20–60°C
Relative Humidity	20–90% RH, non-condensing
CERTIFICATIONS	



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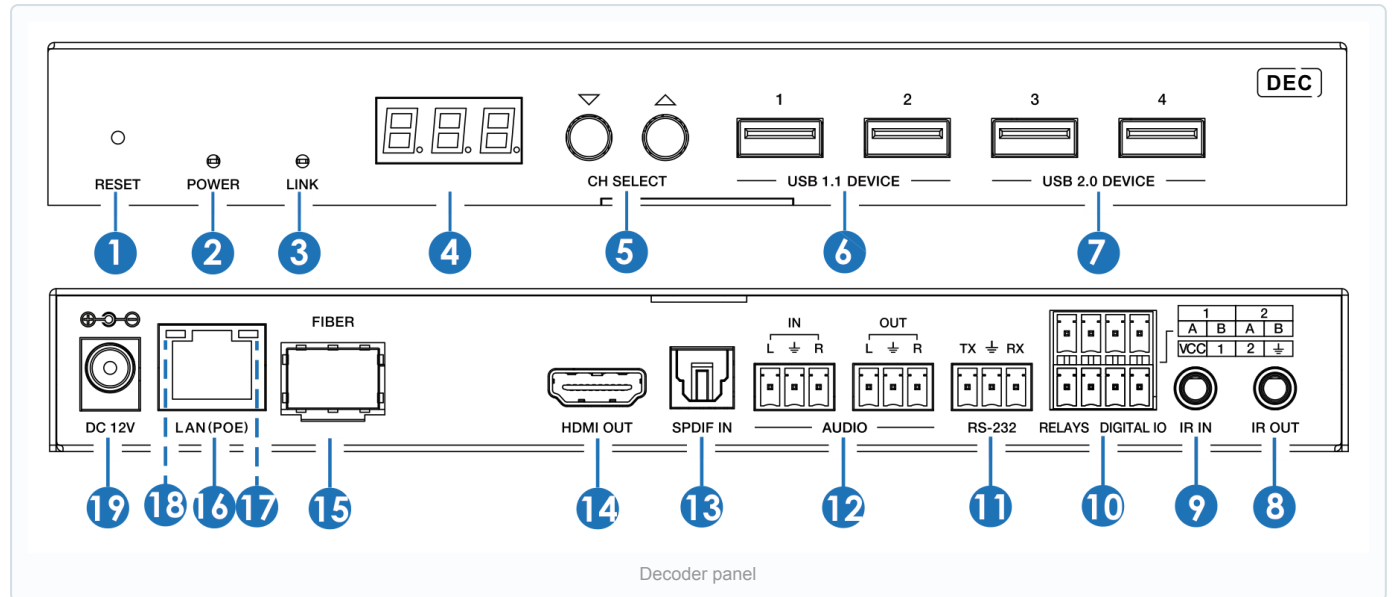
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continued

Certifications

CE, FCC, UL

4. Panel descriptions



Callout numbering is the manual's. Two panels are documented: **Encoder** and **Decoder**. This MPN is the **Decoder**.

DECODER PANEL (THIS MPN)

#	Name	Function
1	RESET	Hold after power-on until POWER + LINK LEDs flash together, release to factory-reset
2	POWER LED (Red)	On = powered (PoE or DC); Off = no power
3	LINK LED (Green)	On = linked to Encoder via LAN(POE)/FIBER with video present; Flashing = linked, no video; Off = not connected
4	LED screen	Shows selected Encoder ID by default; shows config options during setup
5	CH SELECT	Set Decoder ID and other settings
6	USB 1.1 DEVICE	Connect USB 1.1 devices (keyboard/mouse)
7	USB 2.0 DEVICE	Connect USB 2.0 devices (flash disk, USB camera)
8	IR OUT	IR output; level 5V or 12V (default) via panel
9	IR IN	IR input; level 5V or 12V (default) via panel
10	RELAYS / DIGITAL IO	VCC power out (12V/5V config, default 12V; max 12V@50mA, 5V@100mA). RELAYS: 2-ch isolated low-voltage relays, max 1A 30VDC, open by default. DIGITAL IO: 2-ch GPIO, output-control (default low) or input-detect (up to 12V), pull-up follows VCC via 2.2K resistor
11	RS-232	Serial port; RS-232 command pass-through and local serial control
12	AUDIO IN/OUT	AUDIO IN: analog in, sent to Encoder AUDIO OUT in unicast (point-to-point). AUDIO OUT: outputs same audio as HDMI OUT when LPCM



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continued

#	Name	Function
13	SPDIF IN	S/PDIF input
14	HDMI OUT	HDMI output to display (TV/monitor)
15	FIBER	Optical fiber module; receives from Encoder directly or via switch
16	LAN (POE)	1G LAN; forms distributed system. PoE-capable (no DC needed when switch supplies PoE)
17	Data Signal Indicator (Yellow)	Flashing = data traffic; Off = none
18	Link Signal Indicator (Green)	On = cable connected OK; Off = not connected
19	DC 12V	Power via local DC 12V/2.5A or PoE (PD mode)

5. Application / EDID / control detail

OPERATING & SYSTEM MODES

- **Topologies:** point-to-point, video matrix, video wall (up to 9×9); unicast and multicast; intelligent video-wall class management.
- **Transport:** Copper (CPP, default) or Fiber (FIB), selectable per unit.
- **Cast mode:** CA1 unicast (default) / CA2 multicast.
- **Control:** Controller Box or third-party controller (see "Video over IP Controller" manual); front-panel buttons + LED screen; built-in web page; Telnet; SSH; MJPEG substream with API command set. Guest-mode control of RS-232/IR/CEC. Dante AV-A available if license-activated.
- **Switch requirements:** Layer-3/managed, Gigabit, 8KB jumbo frame, IGMP snooping. Recommended: Cisco SG500, Cisco Catalyst series, Huawei S5720S-28X-PWR-LI-AC, ZyXEL GS2210, Luxul AMS-4424P.

DECODER CONFIGURATION PAGES (FRONT PANEL) — DEFAULTS IN BOLD

1. **ENC connection** — select connected Encoder channel ID (range 000–762); default **000** 2. **Output scaling** — S00–S13; default **S00 (bypass)** 3. **IR mode** — IR1 (5V) / **IR2 (12V)** 4. **Audio return (eARC/ARC or S/PDIF)** — **ARC** / SPD 5. **IP mode** — IP1 static / IP2 DHCP / **IP3 auto** 6. **Fiber/Copper** — **CPP** / FIB 7. **Multicast** — **CA1 unicast** / CA2 multicast 8. **Audio return C2C/A2A** — **C2C** / A2A

EDID MODES (ENCODER)

Default **E15 (4K2K60_444_Stereo_Audio_2.0_SDR)**. Full table:

ID	DESCRIPTION	ID	DESCRIPTION
E00	1080P_Stereo_Audio_2.0_SDR	E12	4K2K60_420_Stereo_Audio_2.0_SDR
E01	1080P_DolbyDTS_5.1_SDR	E13	4K2K60_420_DolbyDTS_5.1_SDR
E02	1080P_HD_Audio_7.1_SDR	E14	4K2K60_420_HD_Audio_7.1_SDR
E03	1080I_Stereo_Audio_2.0_SDR	E15	4K2K60_444_Stereo_Audio_2.0_SDR
E04	1080I_DolbyDTS_5.1_SDR	E16	4K2K60_444_DolbyDTS_5.1_SDR
E05	1080I_HD_Audio_7.1_SDR	E17	4K2K60_444_HD_Audio_7.1_SDR
E06	3D_Stereo_Audio_2.0_SDR	E18	4K2K60_444_Stereo_Audio_2.0_HDR_10-bit
E07	3D_DolbyDTS_5.1_SDR	E19	4K2K60_444_DolbyDTS_5.1_HDR_10-bit
E08	3D_HD_Audio_7.1_SDR	E20	4K2K60_444_HD_Audio_7.1_HDR_10-bit
E09	4K2K30_444_Stereo_Audio_2.0_SDR	E21	DVI_1280x1024
E10	4K2K30_444_DolbyDTS_5.1_SDR	E22	DVI_1920x1080
E11	4K2K30_444_HD_Audio_7.1_SDR	E23	DVI_1920x1200

(EDID copy note: in point-to-point, set all codecs to CA1 unicast first; after setting, re-plug the Decoder HDMI cable to report the TV's EDID to the Encoder.)

OUTPUT SCALING MODES (DECODER)



S00 (bypass).
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ID	RESOLUTION	ID	RESOLUTION
S00	bypass	S07	2160P50
S01	1080P50	S08	2160P60
S02	1080P60	S09	1280x1024
S03	720P50	S10	1360x768
S04	720P60	S11	1440x900
S05	2160P24	S12	1680x1050
S06	2160P30	S13	1920x1200

DEFAULT NETWORK SETTINGS

- **Encoder static IP (IP1):** 169.254.100.254
- **Decoder static IP (IP1):** 169.254.100.253
- **Default IP mode:** IP3 Auto (segment 169.254.xxx.xxx)
- **Controller Box Control LAN:** DHCP by default; if no DHCP server, falls back to **192.168.0.225**; Web GUI at that IP or <http://controller.local>
- **MJPEG substream URL:** <http://IP:PORT/?action=stream> (params &w=&h=&fps=&bw=&as=&mq=; defaults W=640, H=360, fps=30, bw=8000Kbps, as=0, mq=10). Discover device IP via Bonjour/mDNS (e.g. zeroconfServiceBrowser).
- **RS-232 baud rate / serial parameters:** not stated in the manual.
- **Login credentials (web/Telnet/SSH):** not stated in the manual.
- **RS-232 / TCP-IP command set:** not printed in this manual — it refers to the separate "Video over IP Controller" manual and to an unspecified API command set. **Not stated here.**

6. Application Example

4K60 4:4:4 JPEG2000 AV over IP Decoder — Copper + Fiber In One Box



How it works: Built on intra-frame JPEG2000, the decoder holds fine detail crisp across motion and rides standard Layer-3 managed Gigabit switches with IGMP snooping and jumbo frames, in unicast or multicast, with intelligent video-wall class management and MJPEG substream real-time preview for control GUIs. Audio spans ARC/eARC, S/PDIF and analog return, with Dante AV-A mode available when license-activated, while USB 2.0 supports KVM and camera pass-through and RS-232, IR, CEC, two relay ports and two digital I/O channels carry display and contact control. Configuration and control run over front-panel buttons and LED screen, a built-in web page, Telnet and SSH — open control with no mandatory proprietary processor. The single strongest differentiator is copper and fiber converged in one enclosure, removing the media-converter or second SKU that most 1G JPEG2000 endpoints require. The matching AVO-IPJP2K-ENC encoder is sold separately.

7. Troubleshooting

Q: The display connected to the AVO-IPJP2K-DEC shows no picture. What do I check first?

A: Look at the green LINK LED: if it is flashing, the decoder is linked to the encoder but no video is present, so confirm the source and the encoder. Then verify the AVO-IPJP2K-DEC is set to the correct encoder channel ID on its front-panel ENC connection page.

Q: The AVO-IPJP2K-DEC has no lights at all. What should I confirm?

A: The red POWER LED off means no power. Confirm the switch is actually supplying PoE to the LAN (POE) port, or connect a local DC 12V/2.5A adapter; the POWER LED lights from either PoE or DC.

Q: The AVO-IPJP2K-DEC will not link to the encoder. How do I trace the network side?

A: If the green LINK LED is off, the decoder is not connected, so check the cabling into the LAN (POE) or FIBER port. The green Link Signal Indicator confirms the cable is connected OK, and the yellow Data Signal Indicator flashes when traffic is passing.

Q: The AVO-IPJP2K-DEC is cabled on fiber but still will not connect. What is the likely setting?

A: Check the front-panel Fiber/Copper page: it defaults to CPP (copper), so a fiber install must be switched to FIB. The transport setting has to match the cable you actually connected.

Q: In a point-to-point setup the display's EDID is not reaching the source through the AVO-IPJP2K-DEC. What is the fix?

A: Set all codecs to CA1 unicast first, then re-plug the HDMI cable at the AVO-IPJP2K-DEC so it reports the TV's EDID back to the encoder.



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

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