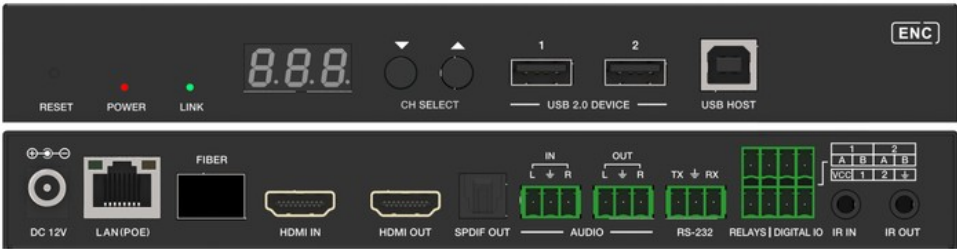


4K60 4:4:4 JPEG2000 AV over IP Encoder — Dante Ready with Contact Control

Run Matrix, Video Wall & KVM on the 1G Network You Already Have — SFP Fiber, Relay/IO Contact Control & ARC/eARC over Copper



Distributes one 4K60 4:4:4 HDMI source to an unlimited number of displays over the standard 1G network the building already runs. Housed in a compact black metal enclosure measuring 8.03" x 5.35" x 1.00" and drawing 8.52W from PoE or a local 12V supply, it delivers visually lossless JPEG2000 video with embedded audio, USB/KVM and control from a single endpoint. That makes it the right choice for corporate, higher-education, command-and-control and courtroom systems where 4:4:4 fidelity, network reach and endpoint density matter more than a dedicated 10G fabric or a box-per-function build.

Beyond point-to-point routing, the encoder drives full video matrix and video wall layouts up to 9x9 with intelligent video-wall class management, and carries bidirectional RS-232, two-way IR, CEC and USB 2.0/KVM across the same link. It is configured through a built-in web GUI with Telnet and SSH, or from an external controller. Its defining advantage is consolidation: copper and SFP fiber in one box, two relay and two I/O contact-control channels for room automation, ARC/eARC/S/PDIF/analog audio return, and license-activated Dante AV-A — capabilities rival platforms split across separate models. A companion decoder 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.

TABLE OF CONTENTS

1. Features	2
2. Package Contents	2
3. Specifications	2
4. Panel descriptions	4
Encoder — numbered callouts (1–20)	4
5. Application / EDID / Control detail	5
Operating modes	5
Encoder front-panel configuration pages (defaults in bold)	5
Decoder front-panel configuration pages (defaults in bold)	5
Decoder output-scaling table	5
EDID table (default E15)	6
Control / command set	6
6. Application Example	6
7. Troubleshooting	7

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 distance extended up to 328ft / 100m via CAT5e/6/6A/7 cable
- ✓ Transmits video, analog/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 I/O ports for contact control
- ✓ Supports unicast and multicast functions
- ✓ 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
- ✓ 1G Ethernet switching
- ✓ Supports PoE
- ✓ Built-in web-page configuration and control, with 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
- ✓ Guest-mode control of RS-232, IR and CEC
- ✓ Built-in MJPEG substream with API commands for third-party preview
- ✓ Linux-based software
- ✓ Smart networking design for easy, flexible installation

2. Package Contents

- ✓ 1x JPEG2000 Encoder
- ✓ 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 4K60 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		



continued

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 (C2C digital or A2A analog; A2A unicast only)
Dante	Dante AV-A, license-activated
TRANSMISSION	
Transmission distance	328ft / 100m via CAT5e/6/6A/7
HDMI cable length (4K60)	16ft / 5m
HDMI cable length (4K30)	32ft / 10m
HDMI cable length (1080p60)	50ft / 15m
Topologies	Point-to-point, video matrix, video wall up to 9x9; unicast and multicast
Transport	Copper or fiber, selectable
CONTROL & CONNECTIVITY	
Serial	RS-232, bidirectional (command pass-through and local control)
IR	Two-way IR; level 12V default, 5V optional; wideband 20K–60KHz
USB	USB 2.0, KVM and camera support
Contact control	Two-channel relay (isolated, max 1A 30VDC, open by default); two-channel I/O GPIO (VCC 12V/5V configurable, default 12V, max 12V@50mA / 5V@100mA)
Network / web	Built-in web-page configuration; Telnet and SSH; Bonjour discovery
Preview	MJPEG substream with API commands
Recommended switch	Layer-3 managed gigabit, 8KB jumbo frame, IGMP snooping
CONNECTIONS (ENCODER)	
Input	1 x HDMI IN [Type A, 19-pin female]; 1 x L/R audio in [3-pin 3.81mm Phoenix]
Output	1 x HDMI OUT [Type A, 19-pin female]; 1 x L/R audio out [3-pin 3.81mm Phoenix]; 1 x S/PDIF out [optical]
Control ports	1 x RS-232 [3-pin 3.81mm Phoenix]; 1 x LAN (PoE) [RJ45]; 1 x fiber [SFP optical slot]; USB 2.0 host [Type B]; 2 x USB 2.0 device [Type A]; 2 x relay [3.81mm Phoenix]; 2-channel digital I/O [3.81mm Phoenix]; 1 x IR in [3.5mm]; 1 x IR out [3.5mm]
ESD protection	IEC 61000-4-2: ±8kV air-gap discharge, ±4kV contact discharge
POWER	
Power supply	Input AC 100–240V 50/60Hz; output DC 12V/2.5A
Powering methods	Local DC 12V/2.5A adapter or PoE from network switch (device acts as PD)
Power consumption (max.)	8.52W
PHYSICAL	
Housing	Metal enclosure, black
Dimensions (W x D x H)	8.03" x 5.35" x 1.00" (204 x 136 x 25.5 mm)
Weight	1.39 lbs (631 g)
Rack mounting	6U V2 rack (6/8/10 units vertical) and 1U V2 rack (2 units horizontal); brackets included
ENVIRONMENTAL	
Operating temperature	32–104°F / 0–40°C
Storage temperature	–4–140°F / –20–60°C



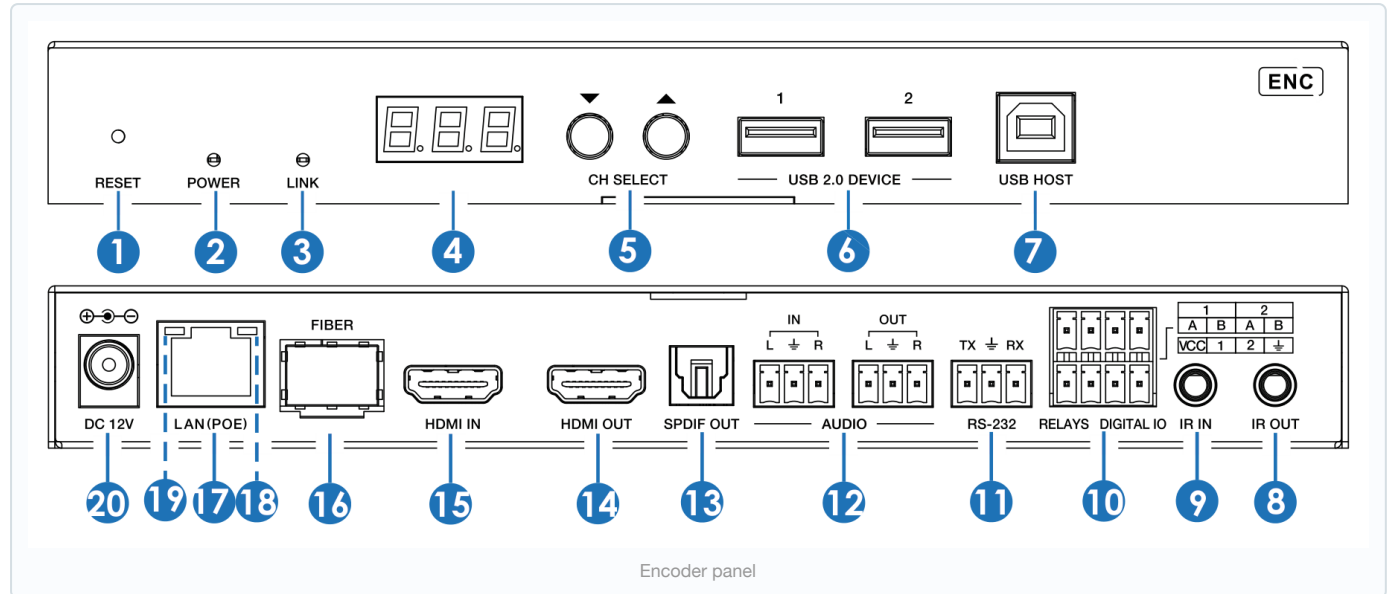
continued

Relative humidity 20–90% RH, non-condensing

CERTIFICATIONS

Certifications CE, FCC, UL

4. Panel descriptions



ENCODER — NUMBERED CALLOUTS (1–20)

No.	Name	Function (summary)
1	RESET	Hold after power-on until POWER + LINK LEDs flash; release to reset to factory settings
2	POWER LED (Red)	On = powered (POE or DC); Off = no power
3	LINK LED (Green)	On = Encoder/Decoder linked via LAN(POE)/FIBER with video to Decoder; Flashing = linked but no video; Off = not linked
4	LED screen	Shows Encoder ID by default; shows config options during setup
5	CH SELECT	Sets Encoder ID and other settings (UP/DOWN)
6	USB 2.0 DEVICE	Connect USB 2.0 devices
7	USB HOST	USB-B connector to a PC
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 output (12V/5V configurable; default 12V; max 12V@50mA, 5V@100mA). RELAYS: 2-ch isolated low-voltage, max 1A 30VDC, open by default. DIGITAL IO: 2-ch GPIO, output control or input detection (up to 12V), pull-up follows VCC (see detail notes)
11	RS-232	Serial port; RS-232 command pass-through and local serial control



Scan for product page
kanexpro.com/item/AVO-IPJP2K-ENC

continued

No.	Name	Function (summary)
12	AUDIO IN/OUT	AUDIO IN: analog in, embed into HDMI or loop out. AUDIO OUT: outputs audio extracted from HDMI IN (LPCM), or audio from Decoder AUDIO IN in unicast
13	SPDIF OUT	S/PDIF output; outputs ARC or S/PDIF audio returned from Decoder when both set to matching return mode
14	HDMI OUT	HDMI local loop output to display
15	HDMI IN	HDMI source input (Blu-ray, set-top box, etc.)
16	FIBER	Optical fiber module; transmit to Decoder directly or via switch
17	LAN (POE)	1G LAN; forms distributed system. POE-capable (DC adapter not needed when switch supplies POE)
18	Data Signal Indicator (Yellow)	Flashing = data transmission; Off = none
19	Link Signal Indicator (Green)	On = network cable connected; Off = not connected
20	DC 12V	Power via local DC 12V/2.5A or POE (PD mode)

5. Application / EDID / Control detail

OPERATING MODES

- **Topologies:** point-to-point, video matrix, video wall (up to **9x9**); unicast (CA1) and multicast (CA2).
- **Transport:** Copper (CPP) or Fiber (FIB) selectable.
- **Audio return:** ARC / eARC / S/PDIF / Analog. Encoder/Decoder must both be set to matching **C2C** (digital) or **A2A** (analog) return; A2A only in unicast.
- **Dante AV-A:** available only if license-activated.
- **Guest mode** control of RS-232, IR, CEC.
- **System control:** by Controller Box or third-party controller (refer to the "Video over IP Controller" manual — **command set not included in this manual**).

ENCODER FRONT-PANEL CONFIGURATION PAGES (DEFAULTS IN BOLD)

1. ENC ID — default **000**; range 000–762 2. IP mode / IP address display (hold UP 5s) 3. Config mode entry ("CFN") 4. Device ID — default **000**; range 000–762 (cannot change in Controller Box mode) 5. EDID — default **E15** 6. IR mode — default **IR2 (12V)**; IR1 = 5V 7. Audio embedding — default **HDI (HDMI)**; ANA = analog 8. IP mode — default **IP3 (Auto IP)**; IP1 = Static (default **169.254.100.254**), IP2 = DHCP, IP3 = Auto (169.254.x.x) 9. Fiber/Copper — default **CPP (Copper)**; FIB = Fiber 10. Multicast — default **CA1 (Unicast)**; CA2 = Multicast 11. Audio return — default **C2C**; A2A = analog return

DECODER FRONT-PANEL CONFIGURATION PAGES (DEFAULTS IN BOLD)

1. ENC connection ID — default **000**; range 000–762 2. Output scaling — default **S00 (bypass)** (table below) 3. IR mode — default **IR2 (12V)** 4. eARC/ARC or S/PDIF audio return — default **ARC**; SPD = S/PDIF 5. IP mode — default **IP3 (Auto IP)**; IP1 = Static (default **169.254.100.253**), IP2 = DHCP, IP3 = Auto 6. Fiber/Copper — default **CPP** 7. Multicast — default **CA1 (Unicast)** 8. Audio return — default **C2C**

DECODER OUTPUT-SCALING TABLE

SXX	RESOLUTION	SXX	RESOLUTION
S00	bypass	S07	2160P50
S01	1080P50	S08	2160P60
S02	1080P60	S09	1280x1024
S03	720P50	S10	1360x768
S04	720P60	S11	1440x900



continued

SXX	RESOLUTION	SXX	RESOLUTION
S05	2160P24	S12	1680x1050
S06	2160P30	S13	1920x1200

EDID TABLE (DEFAULT E15)

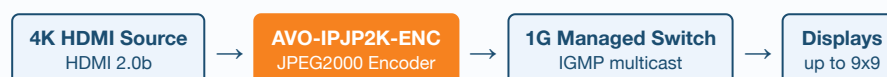
ID	DESCRIPTION	ID	DESCRIPTION
E00	1080P_Stereo_Audio_2.0_SDR	E12	4K2K60_420_Stereo_Audio_2.0_SDR
E01	1080P_DolbyDTS_5.1_SDR	E13	4K2K60_420_DolbyDTS_5.1_SDR
E02	1080P_HD_Audio_7.1_SDR	E14	4K2K60_420_HD_Audio_7.1_SDR
E03	1080I_Stereo_Audio_2.0_SDR	E15	4K2K60_444_Stereo_Audio_2.0_SDR (default)
E04	1080I_DolbyDTS_5.1_SDR	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

CONTROL / COMMAND SET

- **RS-232:** port present (Encoder & Decoder), supports command pass-through and local serial control. **No RS-232 command list and no baud-rate/parity/stop-bit values are given in this manual — not stated in the manual.**
- **RS-232 default baud rate:** *not stated in the manual.*
- **Network / Web:** Built-in web page config; Telnet and SSH supported. Bonjour discovery — Encoder host name starts **AST-ENC**, Decoder starts **AST-DEC**.
- **MJPEG Substream URLs (verbatim):**
 - `http://IP:PORT/?action=stream`
 - `http://IP:PORT/?action=stream&w=x&h=x&fps=x&bw=x&as=x&mq=x`
- Parameters: WIDTH default 640; HEIGHT default 360; FRAMERATE default 30 fps; BW default 8000 Kbps (8Mbps); AS (aspect) default 0; MINQ default 10 (range 10–100).
- **Default IP addresses:** Encoder static **169.254.100.254**; Decoder static **169.254.100.253**; Auto-IP segment 169.254.x.x.
- **Controller Box Control LAN:** default **DHCP**; if no DHCP server, falls back to **192.168.0.225**. Web GUI via `http://controller.local` or `192.168.0.225`.
- **Login credentials (username/password):** *not stated in the manual.*
- **Recommended switch requirements:** Layer-3/managed, gigabit, 8KB jumbo frame, IGMP snooping. Recommended models: CISCO SG500, CISCO Catalyst series, HUAWEI S5720S-28X-PWR-LI-AC, ZyXEL GS2210, LUXUL AMS-4424P.
- **Rack mounting:** supports 6U V2 rack (6/8/10 units vertical) and 1U V2 rack (2 units horizontal); mounting ears/brackets included.

6. Application Example

4K60 4:4:4 JPEG2000 AV over IP Encoder — Dante Ready with Contact Control



How it works: Beyond point-to-point routing, the encoder drives full video matrix and video wall layouts up to 9x9 with intelligent video-wall class management, and carries bidirectional RS-232, two-way IR, CEC and USB 2.0/KVM across the same link. It is configured through a built-in web GUI with Telnet and SSH, or from an external controller. Its defining advantage is consolidation: copper and SFP fiber in one box, two relay and two I/O contact-control channels for room automation, ARC/eARC/S/PDIF/analog audio return, and license-activated Dante AV-A — capabilities rival platforms split across separate models. A companion decoder is sold separately.



Scan for product page
kanexpro.com/item/AVO-IPJP2K-ENC

888.975.1368 | support@kanexpro.com | kanexpro.com

7. 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 and jumbo frames enabled. Check the LINK LED is on.

Q: The LINK LED flashes?

A: The input signal is missing or incompatible. Set the source within 4K60 4:4:4 (HDMI 2.0b / HDCP 2.2) and confirm the HDMI IN cable is seated.

Q: IR or RS-232 control is not passing?

A: Confirm the IR receiver is in IR IN and the blaster in IR OUT (level 12V default, 5V optional, 20K-60KHz), and that RS-232 TX/GND/RX wiring matches the controlled device.

Q: How do I preview the stream?

A: Use the built-in MJPEG sub-stream in VLC or a third-party app via the device IP (default range 169.254.x.x).

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.

