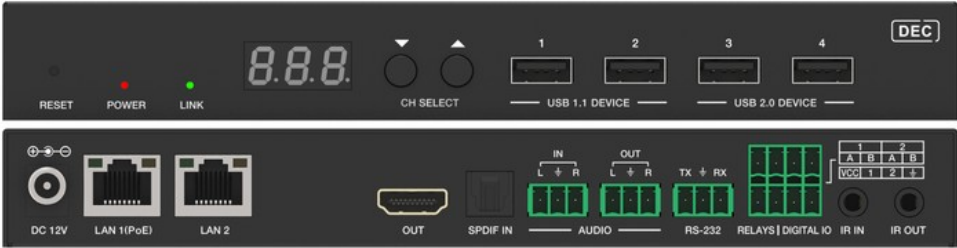


4K60 JPEG2000 AV over IP Decoder — Dante Dual LAN with Endpoint Control

Isolate Dante AV-A Audio on LAN 2 Away from JPEG2000 Video on LAN 1 (PoE) — USB KVM, IR & RS-232, 9x9 Video Wall over Standard 1G



Terminates a visually lossless 4K60 4:4:4 JPEG2000 stream at any display over the standard 1G copper network you already run. The decoder is a compact metal endpoint (8.03" × 5.35" × 1.00" / 204 × 136 × 25.5 mm) that draws 7.8 W maximum and powers directly over PoE from the switch, so no local supply is needed at the panel. It is the right choice for boardrooms, video walls, courtrooms, and signage arrays where 4:4:4 image fidelity, isolated audio, and switch-agnostic 1G deployment matter more than the cost and complexity of a 10G SDVoE fabric.

Built-in dual copper LAN carries the JPEG2000 video on LAN 1 (PoE) and, in the default LAN Mode 2, isolates the Dante AV-A audio stream on LAN 2 so multicast video never contends with the audio flow. It scales from point-to-point to video matrix and video walls up to 9×9 with intelligent class management, embeds or de-embeds analog and Dante audio, and carries USB 2.0 KVM, IR, RS-232, two relays, and two digital I/O to drive local displays, projectors, and shutters without a separate control processor. An MJPEG substream previews any endpoint on a laptop or tablet in real time. Dante AV-A is license-activated, and the matching Dante Dual-LAN 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.

TABLE OF CONTENTS

1. Features	2
2. Specifications	2
3. Introduction	4
4. Features	5
5. Package Contents	5
6. Specifications	5
Technical	5
Connection	6
Physical	6
Power	7
Environmental	7
Certifications	7
7. Panel Descriptions	7
Decoder — front (inferred: controls & indicators)	7
Decoder — rear (inferred: connectors)	8
5.3 IR Pin Definition	9
8. Decoder Configuration via the LED Screen and CH SELECT Buttons	9
9. Rack Mounting	10
10. Web GUI Operation Guide	10
11. MJPEG Substream Operation	11
12. Recommended Network Switch	11
13. 4K over IP System Control	11

continued

14. Application Example	12
15. Certifications	12
16. Application Example	12
17. Troubleshooting	12

1. Features

- ✓ HDCP 2.2 compliant
- ✓ 18 Gbps video bandwidth
- ✓ Input and output video resolution up to 4K60 4:4:4, per HDMI 2.0b
- ✓ Signal transmission extendable up to 328 ft / 100 m over CAT6/6A/7 cable
- ✓ Transmits video, analog/digital audio, IR, RS-232, CEC, and USB 2.0 over Ethernet
- ✓ ARC/eARC/S-PDIF/analog audio return transmission
- ✓ Dante AV-A mode supported when license-activated
- ✓ Analog and Dante audio embedding and de-embedding
- ✓ Channel configuration via front-panel buttons and LED screen
- ✓ Built-in two-channel relay ports and two-channel I/O ports for contact control
- ✓ Unicast and multicast support
- ✓ Point-to-point, video matrix, and video wall functions (video wall up to 9×9)
- ✓ Intelligent video wall class management
- ✓ Built-in dual copper LAN ports with two working modes — LAN Mode 1: JPEG2000 video and Dante audio both on LAN 1 (PoE); LAN Mode 2 (default): JPEG2000 video on LAN 1 (PoE), Dante audio on LAN 2
- ✓ MJPEG substream for real-time video preview on portable devices
- ✓ Operates on a standard 1G managed network switch
- ✓ Standard PoE powered device (PD)
- ✓ Built-in web page configuration and control, plus Telnet and SSH
- ✓ HDMI audio formats: LPCM 2.0/5.1/7.1, Dolby Digital/Plus/EX, Dolby TrueHD, Dolby Atmos, DTS, DTS-96/24, DTS-EX, DTS High Res, DTS-HD Master
- ✓ Flexible control via front-panel buttons, IR, RS-232, TCP/IP, and Web GUI
- ✓ Smart networking design for easy, flexible installation

2. Specifications

VIDEO		
	HDCP Compliance	HDCP 2.2
	HDMI Compliance	HDMI 2.0b
	Video Bandwidth	18 Gbps
	Video Resolution	Up to 4K@60Hz 4:4:4
	Color Space	RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0
	Color Depth	Input: 8/10/12-bit (1080p@60Hz); Output: 8-bit
	HDR	Supported on both input and output
	Video Compression	JPEG2000



continued

AUDIO	
HDMI Audio Formats	LPCM 2.0/5.1/7.1, Dolby Digital/Plus/EX, Dolby TrueHD, Dolby Atmos, DTS, DTS-96/24, DTS-EX, DTS High Res, DTS-HD Master, DTS:X
Audio Sample Rate	44.1–192 kHz
Audio Return	ARC/eARC and S-PDIF return; analog audio return (unicast)
NETWORK & CONTROL	
Video Network Bandwidth	1G
Transmission Distance	100 m over CAT6/6A/7
Casting Modes	Unicast, Multicast
Topologies	Point-to-point, video matrix, video wall (up to 9×9)
Dual LAN Modes	Mode 1: video + Dante on LAN 1 (PoE); Mode 2 (default): video on LAN 1 (PoE), Dante audio on LAN 2
IP Modes	Static, DHCP, Auto IP (default, 169.254.x.x)
Control Interfaces	Front panel, IR, RS-232, TCP/IP, Web GUI, Telnet, SSH
MJPEG Substream	Real-time preview on portable devices
USB	
USB Bandwidth	USB 2.0 device to host: 480 Mbps
USB Ports	2× USB 1.1 device, 2× USB 2.0 device
CONNECTIONS	
Inputs	1× S-PDIF IN (optical); 1× L/R analog audio IN (3-pin 3.81 mm Phoenix, unbalanced 2CH, max 2 Vrms)
Outputs	1× HDMI OUT (Type A, 19-pin female); 1× L/R analog audio OUT (3-pin 3.81 mm Phoenix, unbalanced 2CH, max 2 Vrms)
Control Ports	1× RS-232 (3-pin 3.81 mm Phoenix); 2× LAN (RJ45, LAN 1 PoE); 2× relays (3.81 mm Phoenix, isolated, max 1 A @ 30 VDC); 2× digital I/O (3.81 mm Phoenix); 1× IR IN and 1× IR OUT (3.5 mm, 5V/12V)
IR	Level 12V default, 5V optional; wideband 20–60 kHz
POWER	
Power Supply	Input: AC 100–240V 50/60Hz; Output: DC 12V/2.5A
Powering Methods	Local DC 12V/2.5A supply, or PoE from network switch (device as PD; DC not required when switch supplies PoE)
Power Consumption	7.8 W (max.)
PHYSICAL	
Dimensions (W × D × H)	8.03" × 5.35" × 1.00" (204 × 136 × 25.5 mm)
Net Weight	1.38 lbs (0.626 kg)
Housing	Metal enclosure
Color	Black
ENVIRONMENTAL	



continued

Operating Temperature	32–104°F (0–40°C)
Storage Temperature	-4–140°F (-20–60°C)
Relative Humidity	20–90% RH (non-condensing)
ESD Protection	IEC 61000-4-2: ±15 kV (air-gap), ±8 kV (contact)
CERTIFICATIONS	
Power Supply	CE, FCC, UL
PACKAGE CONTENTS	
Decoder unit	1× 4K60 over IP 1GbE Decoder
Cables	1× IR Receiver cable (1.5 m); 1× IR Blaster cable (1.5 m)
Connectors	3× 3-pin 3.81 mm Phoenix connector (male); 2× 4-pin 3.81 mm Phoenix connector (male)
Power	1× 12V/2.5A locking power adapter
Mounting	2× mounting ear; 4× machine screw (KM3×4)
Documentation	1× User Manual

3. Introduction

This product is a JPEG2000-based 4K60 AV-over-IP codec. It uses the ASPEED AST1530 for image codec and low-delay KVM applications. The Encoder input supports up to 4K60 4:4:4 with audio embedding or extracting; the Decoder output supports up to 4K60 4:4:4 with audio extracting. The system supports ARC/eARC/S/PDIF/analog audio return, USB 2.0/KVM/Camera, 1G Ethernet, bi-directional RS-232, two-way IR and PoE. Guest-mode control of RS-232, IR and CEC is supported, along with two channels of relay ports and two channels of I/O ports for contact control. Dante AV-A mode is available when the product is license-activated.

The product provides dual LAN copper ports for dual-mode operation and can be controlled from the front-panel buttons, IR, RS-232, TCP/IP and the Web GUI. A built-in MJPEG substream, driven by an extensive API command set, lets third-party control apps preview video content. The software is Linux-based and is designed around the intelligent networking of a 1G Ethernet switch.

A surge-protection device is recommended: the unit contains sensitive electrical components that can be damaged by spikes, surges, electric shock and lightning strikes.



4. Features

The manual lists the following features (full list):

- 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 can be extended up to 328ft / 100m over CAT6/6A/7 cable.
- Transmits video, analog/digital audio, IR, RS-232, CEC and USB 2.0 signal over Ethernet.
- ARC/eARC/S/PDIF/analog audio return transmission.
- Dante AV-A mode is supported if the license is activated.
- Supports analog/Dante audio embedding, and analog/Dante audio de-embedding.
- 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 supports up to 9×9).
- Intelligent video wall class management.
- Built-in dual LAN copper ports support two working modes:
- **LAN Mode 1:** both the JPEG2000 video stream and the Dante audio stream are transmitted through the LAN 1 (PoE) port.
- **LAN Mode 2 (default):** the JPEG2000 video stream is transmitted through the LAN 1 (PoE) port, and the Dante audio stream is transmitted through the LAN 2 port.
- Supports MJPEG substream for real-time video preview on portable devices.
- 1G managed network switch.
- Standard PoE function.
- 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 True HD, Dolby Atmos, DTS, DTS-96/24, DTS-EX DSD, DTS High Res, DTS-HD Master.
- Flexible control via front-panel buttons, IR, RS-232, TCP/IP and Web GUI.
- Smart networking design for easy and flexible installation.

5. Package Contents

Decoder package (this MPN, AVO-IPJP2KD-DEC):

QTY	ITEM
1	4K60 over IP 1GbE Decoder
1	IR Receiver cable (1.5 meters)
1	IR Blaster cable (1.5 meters)
3	3-pin 3.81mm Phoenix connector (male)
1	12V/2.5A locking power adapter
1	User Manual
2	Mounting ear
4	Machine screw (KM3×4)
2	4-pin 3.81mm Phoenix connector (male)

Companion reference (Encoder, separate MPN): identical contents except the unit is the "4K60 over IP 1GbE Encoder"; the Encoder's User Manual line is printed with an "or" note in the source.

6. Specifications

TECHNICAL

SPECIFICATION	VALUE
HDCP compliance	HDCP 2.2
HDMI compliance	HDMI 2.0b
Video bandwidth	18Gbps
Video resolution	Up to 4K@60Hz 4:4:4



continued

SPECIFICATION	VALUE
Color space	RGB, YCbCr 4:4:4 / 4:2:2, YUV 4:2:0
Color depth	Input: 8/10/12-bit (1080p@60Hz); Output: 8-bit
HDR	Both input and output support HDR
Video compression standard	JPEG2000
Video network bandwidth	1G
Transmission distance	100m over CAT6/6A/7
HDMI audio formats	LPCM 2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-96/24, DTS-EX DSD, DTS High Res, DTS-HD Master, DTS:X
Audio sample rate	44.1–192KHz
USB bandwidth	TX USB 2.0 devices to TX host: 480Mbps
ESD protection	IEC 61000-4-2: ±15kV (air-gap discharge) & ±8kV (contact discharge)
IR level	Default 12V, optional 5V
IR frequency	Wideband 20K–60KHz

Signal / cable-length table (as given):

RESOLUTION / CABLE LENGTH	4K60 (FT / M)	4K30 (FT / M)	1080P60 (FT / M)
HDMI IN / OUT	16ft / 5M	32ft / 10M	50ft / 15M

"Premium High Speed HDMI" cable is highly recommended.

CONNECTION

The source lists the Decoder connectors as follows (Encoder connectors retained as companion reference):

Decoder (this MPN):

- Input:** 1× SPDIF IN [optical audio connector]; 1× L/R AUDIO IN [3-pin 3.81mm Phoenix, unbalanced 2CH, max input level 2Vrms].
- Output:** 1× HDMI OUT [Type A, 19-pin female]; 1× L/R AUDIO OUT [3-pin 3.81mm Phoenix, unbalanced 2CH, max input level 2Vrms].
- Control:** 1× RS-232 [3-pin 3.81mm Phoenix]; 2× LAN [RJ45, LAN 1 supports PoE]; 2× USB 1.1 DEVICE [USB Type-A, 4-pin female]; 2× USB 2.0 DEVICE [USB Type-A, 4-pin female]; 2× RELAYS [3.81mm Phoenix]; 2× DIGITAL IO [3.81mm Phoenix]; 1× IR IN [3.5mm jack, 5V/12V IR]; 1× IR OUT [3.5mm jack, 5V/12V IR].

Encoder (companion reference): adds an HDMI IN and HDMI OUT (loop) plus SPDIF OUT, 1× USB 2.0 HOST [Type B] and 2× USB 2.0 DEVICE; input/output as detailed in the source.

PHYSICAL

SPECIFICATION	VALUE
Dimensions (unit)	8.03" x 5.35" x 1.00" (204 x 136 x 25.5mm) — W x D x H
Weight (Decoder, net)	1.38 lbs (0.63kg) — 626g as stated
Weight (Encoder, net — companion)	1.39 lbs (0.63kg) — 631g as stated
Color	Black
Housing	Metal enclosure

(The manual gives dimensions and weight in metric only; USA units converted and shown first per KanexPro standard.)



POWER

SPECIFICATION	VALUE
Power supply	Input: AC 100–240V 50/60Hz; Output: DC 12V/2.5A (US/EU standards, CE/FCC/UL certified)
Power consumption	Encoder: 9.12W; Decoder: 7.8W (Max.)
PoE	Standard PoE (device acts as PD); powered by PoE from the network switch or by local DC 12V/2.5A

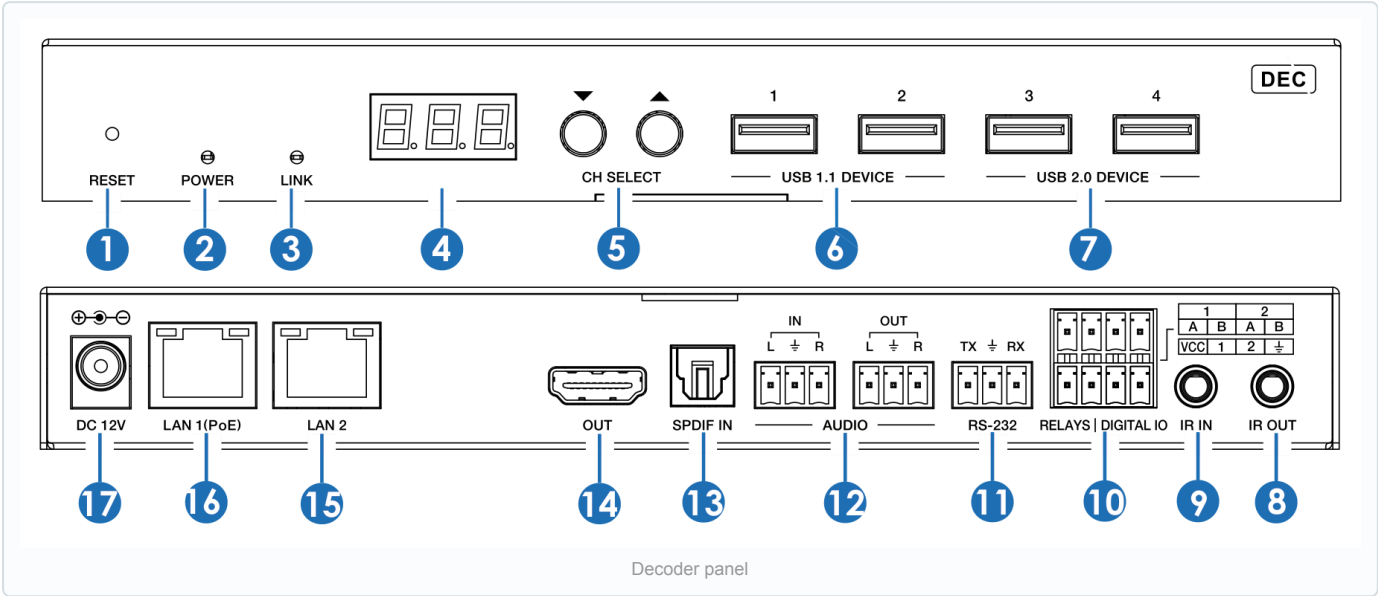
ENVIRONMENTAL

SPECIFICATION	VALUE
Operating temperature	32–104°F / 0–40°C
Storage temperature	-4–140°F / -20–60°C
Relative humidity	20–90% RH (no condensing)

CERTIFICATIONS

CE, FCC and UL are stated in the source (see the **Certifications** section below).

7. Panel Descriptions



The MPN is the **Decoder**; its panel is described below. (The Encoder panel is documented in the source for the companion unit and is available if needed — say the word.)

The source presents one numbered panel diagram with callouts 1–17. The manual text does not explicitly print the words "front" and "rear," so the front/rear grouping below is inferred from the diagram (controls/indicators/USB/IR on the front; connectors on the rear) and **must be confirmed against the panel artwork crops** (see Still needed).

DECODER — FRONT (INFERRED: CONTROLS & INDICATORS)

No.	Name	Function
1	RESET	After power-on, press and hold RESET until the POWER LED and LINK LED flash together, then release to reset the device to factory settings.
2	POWER LED (Red)	On when the system is powered (PoE or DC); off when unpowered.

continued

No.	Name	Function
3	LINK LED (Green)	Connection-status LED. On: Encoder and Decoder are connected through the LAN 1 (PoE)/LAN 2 port with video being received from the Encoder. Flashing: connected but no video signal from the Encoder. Off: not connected through the LAN port.
4	LED screen	Shows the selected Encoder ID by default; displays the configuration options during setup.
5	CH SELECT	UP and DOWN buttons, used to set the Decoder ID and other settings.
6	USB 1.1 DEVICE	Connect USB 1.1 devices such as a keyboard or mouse.
7	USB 2.0 DEVICE	Connect USB 2.0 devices such as a USB flash drive or USB camera.
8	IR OUT	IR signal output. The IR level can be set to 5V or 12V (default) from the panel buttons.
9	IR IN	IR signal input. The IR level can be set to 5V or 12V (default) from the panel buttons.

DECODER — REAR (INFERRED: CONNECTORS)

No.	Name	Function
10	RELAYS / DIGITAL IO	VCC power output (12V or 5V configurable; 12V default; max 12V@50mA, 5V@100mA). RELAYS: 2-channel low-voltage relay ports, each independent and isolated, max 1A 30VDC, contacts open by default. DIGITAL IO: 2-channel GPIO for level-signal output control or input detection (up to 12V), mode configurable; internal pull-up follows VCC (see Flags for full electrical detail).
11	RS-232	RS-232 serial port, supporting RS-232 command pass-through and local serial control.
12	AUDIO IN/OUT	AUDIO IN: analog input; the audio can be transmitted to the Encoder's AUDIO OUT in unicast (point-to-point) mode. AUDIO OUT: analog output; it outputs the same audio as the HDMI OUT when the format is LPCM.
13	SPDIF IN	S/PDIF signal input.
14	HDMI OUT	HDMI signal output, connected to a display such as a TV or monitor.
15	LAN 2	1G LAN port to a network switch; transmits the Dante audio stream by default. Nonfunctional when the product is in LAN Mode 1. Yellow LED flashes on data traffic; green LED on when the link is normal.



continued

No.	Name	Function
16	LAN 1 (PoE)	1G LAN port with PoE, to a network switch; transmits the JPEG2000 video stream by default, and both video and Dante audio in LAN Mode 1. Yellow LED flashes on data traffic; green LED on when the link is normal. When the switch supplies PoE, the DC 12V adapter is not needed.
17	DC 12V	Power the device via local DC 12V/2.5A supply, or via PoE from the network switch (device acts as PD). When the switch supports PoE, the DC supply is not required.

5.3 IR PIN DEFINITION

The source shows the pin diagrams for the IR Receiver and IR Blaster cables (IR Receiver, IR Blaster, and Power 12V + / -). These are artwork;

8. Decoder Configuration via the LED Screen and CH SELECT Buttons

The Decoder is configured from the front-panel LED screen and the UP/DOWN (CH SELECT) buttons. On power-up the LED screen shows 000 by default until set.

- **Encoder connection:** press UP/DOWN to select the channel ID of the connected Encoder (ID range 000–762) to complete the connection.
- **Check IP address:** press and hold UP for 5 seconds; the screen shows the IP mode and IP address in sequence.
- **Enter configuration mode:** press and hold UP + DOWN together for 5 seconds until CFN appears.
Within configuration mode, press UP/DOWN to page through the settings; on each page, hold UP + DOWN for 5 seconds to enter edit (the value flashes at 1Hz), select with UP/DOWN, then hold UP + DOWN for 5 seconds to confirm. Holding DOWN exits quickly, and the screen returns to the previous interface after 5 seconds of inactivity. Several settings reboot the unit automatically after confirmation.
- **Device ID:** set the Decoder ID (range 000–762). The unit reboots after setting. The device ID cannot be changed in Controller Box mode.
- **Output scaling:** select the output resolution from the scaling table below (default S00, bypass).
- **IR mode:** IR1 = 5V IR wire; IR2 = 12V IR wire (default).
- **eARC/ARC or S/PDIF audio return:** ARC returns eARC/ARC audio from the Decoder HDMI OUT back to the Encoder HDMI IN; SPD returns S/PDIF audio from the Decoder S/PDIF IN back to the Encoder S/PDIF OUT (default ARC).
- **IP mode:** IP1 = static IP (Decoder default address 169.254.100.253); IP2 = DHCP; IP3 = Auto IP (default segment 169.254.xxx.xxx). Default IP3. Cannot be changed in Controller Box mode.
- **Casting (multicast) mode:** the unit starts in **unicast (CA1)**, which sends one stream to one display. Select **multicast (CA2)** when several displays are to show the same source. The unit reboots after setting.
- **Audio return mode:** C2C returns the eARC/ARC or S/PDIF audio from the Decoder to the Encoder's HDMI IN or S/PDIF OUT; A2A returns the analog audio embedded at the Decoder to the Encoder's AUDIO OUT (default C2C). A2A is available only in unicast mode, and both units must be set to matching C2C/A2A modes for return to work. This mode cannot be changed from the panel in Controller Box or multicast mode.
- **LAN mode:** L01 = LAN Mode 1 (both JPEG2000 video and Dante audio on LAN 1 (PoE); LAN 2 nonfunctional); L02 = LAN Mode 2 (video on LAN 1 (PoE), Dante audio on LAN 2). Default L02.

Decoder output scaling table (Sxx):

SXX	RESOLUTION	SXX	RESOLUTION
S00	bypass	S07	2160P50
S01	1080P50	S08	2160P60
S02	1080P60	S09	1280×1024
S03	720P50	S10	1360×768
S04	2160P24	S11	1680×1050



continued

SXX	RESOLUTION	SXX	RESOLUTION
S05	720P60	S12	1440×900
S06	2160P30	S13	1920×1200

EDID note (system reference): EDID selection is performed on the **Encoder** (front panel or Web GUI Utilities). The system EDID list (E00–E23), which the Decoder pairs with, is:

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_HD_Audio_7.1_SDR
E05	1080I_HD_Audio_7.1_SDR	E17	4K2K60_444_DolbyDTS_5.1_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

(For EDID copy in point-to-point mode, all codecs must be set to CA1 unicast first; after setting, re-plug the Decoder's HDMI cable so the TV's EDID is reported to the Encoder.)

9. Rack Mounting

The product can be rack-mounted two ways.

6U V2 rack: fix the two included mounting ears to the product with the included screws, insert the unit (with ears) into a 6U V2 rack — 6, 8 or 10 units can be installed vertically — and then fasten the ears to the rack with screws. Contact your supplier to purchase the 6U V2 rack.

1U V2 rack: fix a 1U V2 rack bracket to each of two products with the included screws, join the two brackets with screws, and fasten them together so both products are mounted side-by-side in a 1U V2 rack (2 units horizontally).

10. Web GUI Operation Guide

The unit can be operated from its built-in Web GUI.

Preparation: connect the Encoder, Decoder and PC to the same switch, then connect an HDMI source, an HDMI display and the power supply. Press and hold the front-panel UP button for 5 seconds to read the current IP address, set the PC to the same network segment as the Encoder/Decoder, then enter the unit's IP address in a web browser to open its Web GUI.

Functions and operation:

- **System** — Version Information (device software version); Update Firmware; Update Image (standby and logo image upload); Utilities (restore factory defaults, reboot, set EDID mode, console API command); Statistics (device status, with separate Encoder and Decoder status views).
- **Video Wall** — Basic Setup (bezel, gap, size and position; stretch type, rotate, flip) and Advanced Setup.
- **Network** — set the IP and select the casting mode (multicast/unicast). Three IP modes are supported: Auto IP (address assigned automatically, and re-randomized after a power cycle), DHCP (address assigned by the router), and Static.
- **Functions** — select the video, USB, serial-port and audio modes.
- **802.1X** — enable 802.1X authentication and validate the server certificate.
- **Sub-Streaming** — preview the source video in real time.



11. MJPEG Substream Operation

The product supports playing the MJPEG substream on a computer through software such as VLC media player, while the Web page is used to configure the substream.

Preview/configuration via the web page: connect the Encoder, Decoder and PC to the same switch and connect source, display and power. Install a Bonjour/mDNS discovery tool (for example zeroconfServiceBrowser) on the PC to find the unit's IP address — select "Workgroup Manager," then the host name under Service-Instances, and read the address under Instance-Info. Set the PC to the same segment. Then enter `http://IP:PORT/?action=stream` in the browser to see the substream at the default resolution.

Change the resolution with the query string: `http://IP:PORT/?action=stream&w=x&h=x&fps=x&bw=x&as=x&mq=x`

- **WIDTH** (*w*): image width in pixels; x = no change; default 640.
- **HEIGHT** (*h*): image height in pixels; x = no change; default 360.
- **FRAMERATE** (*fps*): substream frame rate in fps; x = no change; default 30.
- **BW** (*bw*): maximum substream bandwidth in Kbps; x = no change; default 8000 (8Mbps).
- **AS** (*as*): aspect-ratio configuration; x = no change; default 0. 0 = extend to the configured WIDTH/HEIGHT; 1 (A1 only) = keep the original aspect ratio and center it (letterbox/pillarbox).
- **MINQ** (*mq*): minimum image-quality number, range 10, 20, ... 90, 100 (higher = better quality); x = no change; default 10. It limits the auto-bandwidth control's minimum quality; below MINQ the driver drops frames by returning a zero-size file.

VLC Media Player: perform steps 1–3 above, open VLC, choose **Media > Open Network Stream**, enter the MJPEG substream URL and click **Play**. Under **Tools > Codec information** you can view stream information, and under **Tools > Codec information > Statistics** you can check the current bitrate (the bitrate fluctuates during monitoring — this is normal).

12. Recommended Network Switch

A switch used to build the system should be a **Layer 3 / managed** switch with **gigabit** bandwidth, **8KB jumbo-frame** capability and **IGMP snooping**. The manual highly recommends the following models:

MANUFACTURER	MODEL NUMBER
CISCO	CISCO SG500
CISCO	CATALYST series
HUAWEI	S5720S-28X-PWR-LI-AC
ZyXEL	GS2210
LUXUL	AMS-4424P

13. 4K over IP System Control

The product can be controlled by a Controller Box or a third-party controller. For details of 4K-over-IP system control, refer to the user manual of the "Video over IP Controller."



14. Application Example

The manual shows two system diagrams:

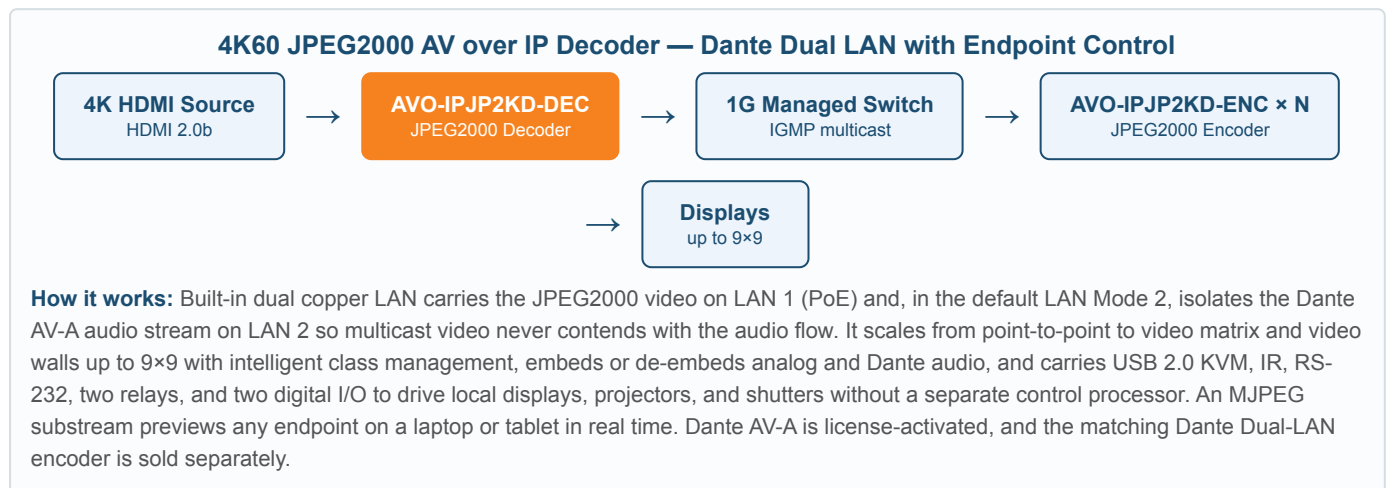
- **LAN Mode 1** — both the JPEG2000 video stream and the Dante audio stream are carried on the LAN 1 (PoE) port. A 1G Ethernet switch connects several Encoders (fed by a TV box, media player and Blu-ray player) to Decoders driving TVs and a 4-Decoder video wall, with a Controller Box, PC, TP-LINK router and Ultimo Dante audio encoder/DEP Dante audio processor on the network.
- **LAN Mode 2 (default)** — the JPEG2000 video stream is carried on LAN 1 (PoE) and the Dante audio stream on LAN 2, using two 1G Ethernet switches for the same encoder/decoder/video-wall topology.
Controller Box notes from the source: LAN Mode 2 is the default; mode switching is done from the Controller Box via Web GUI, or from the front-panel buttons. The Controller Box has two LAN ports — a Video LAN and a Control LAN — to isolate the AV network from the control network for security and to keep AV traffic off the control network. The recommended setup puts Encoders/Decoders and the Video LAN on one switch and the Control LAN and PC on another; the two remain isolated, and controls (Web GUI/Telnet/SSH/API) reach the Video LAN through the Controller. For simple use, all Encoders/Decoders, the Video LAN and the PC can share one network with the Control LAN left floating — suggested only where network isolation is not required. Connecting only the Control LAN while leaving the Video LAN floating is **not allowed**. The Control LAN's default IP mode is DHCP (the PC must also obtain its address automatically, and a DHCP server such as a router is required); with no DHCP server, the Control LAN defaults to **192.168.0.225** (set the PC to the same segment, e.g. 192.168.0.88). The Web GUI is reached at the Control LAN IP (192.168.0.225) or at <http://controller.local>. When the switch does not support PoE, the Encoder, Decoder and Controller Box must be powered by DC adapters.

15. Certifications

The following appear in the manual:

- **CE** — stated for the power adapter ("US/EU standards, CE/FCC/UL certified").
- **FCC** — stated for the power adapter (same line).
- **UL** — stated for the power adapter (same line).
- **HDCP 2.2** — compliance (a content-protection compliance, not a safety/EMC certification).
a separate product-level certification statement is not printed (flagged).

16. Application Example



17. Troubleshooting

Q: The display connected to the AVO-IPJP2KD-DEC shows no image. What do I check?

A: Check the green LINK LED: flashing means the decoder is connected but receiving no video, and off means it is not connected to the encoder over the LAN. Confirm the decoder is set to the correct encoder ID and that the managed switch has IGMP snooping enabled for the video stream.

Q: The AVO-IPJP2KD-DEC will not power on. What should I confirm?

A: The red POWER LED is on when the unit has power from either PoE or DC, and off when there is none. Confirm LAN 1 is delivering PoE from the switch, or connect the local DC 12V/2.5A locking adapter.



Q: The AVO-IPJP2KD-DEC is not showing up on the network. What should I check?

A: Confirm the LAN 1 (PoE) cable is in the switch; its green LED indicates link and the yellow LED indicates data activity. The default IP mode is Auto IP on the 169.254.xxx.xxx segment, so make sure the controller or discovery PC can reach that segment, or set a static/DHCP address to match your network.

Q: How do I factory reset the AVO-IPJP2KD-DEC if it is misconfigured?

A: Hold the front-panel RESET button after power-on until the POWER and LINK LEDs flash together, then release to reset to factory settings.

Q: The display shows the wrong resolution or missing HDMI audio from the AVO-IPJP2KD-DEC. What can I try?

A: Set the decoder output scaling from S00 bypass to a fixed mode that the display supports, or use the COP option to copy the downstream display's EDID. Copying EDID requires all codecs in CA1 unicast, after which you re-plug the decoder HDMI cable.

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.

