

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

Separate Dante Audio from JPEG2000 Video on Two Copper LANs — Relay/Digital I/O, RS-232 & ARC/eARC over Standard 1G
MPN: AVO-IPJP2KD-ENC



Distributes one HDMI source as visually lossless 4K60 4:4:4 across a matrix, video wall, or KVM system over the standard 1G copper network you already run. The encoder is a black metal endpoint powered by standard PoE or local DC 12V/2.5A, drawing 9.12W maximum, and folds dual RJ45 LAN ports, an HDMI loop-out, RS-232, IR, CEC, USB 2.0, and relay/digital-I/O contact control into a single rack-mountable device. It is the right choice for corporate, higher-education, control-room, and house-of-worship installations where full-chroma 4K60, Dante audio separation, and endpoint control matter more than the cost and switch replacement of a 10GbE/SDVoE fabric.

The AVO-IPJP2KD-ENC covers point-to-point, full matrix switching, and video wall up to 9x9 with intelligent video-wall class management, unicast and multicast, alongside USB 2.0 KVM, RS-232, bidirectional IR, CEC, and two relay plus two digital-I/O contact ports for room automation. Control runs through the front-panel buttons, IR, RS-232, TCP/IP, and a built-in web GUI with Telnet and SSH, and Dante AV-A is enabled by license activation rather than as a separate hardware SKU. Its defining feature is a dual copper LAN design: LAN Mode 2 carries JPEG2000 video on the PoE LAN 1 while Dante audio runs on LAN 2, physically separating the audio network from the video transport, or LAN Mode 1 consolidates both streams on LAN 1. Matching JPEG2000 decoder sold separately.

1 PRODUCT OVERVIEW

DESIGNED FOR

The buyer is a commercial or high-end residential AV integrator building a **switched-Ethernet AV distribution system on standard 1GbE infrastructure** — not a dedicated 10GbE/SDVoE fabric. The environment is any facility that already runs, or can run, managed Gigabit copper to each endpoint and wants matrix switching, video wall, and KVM without the cost and switch-replacement burden of uncompressed AV over IP.

Primary environments: corporate boardrooms and divisible training rooms, higher-education lecture capture and classrooms, control rooms and operations centers (utility, transport, security), house-of-worship and auditorium video walls, courtrooms and council chambers, and hospitality/retail signage. The common thread is a job that needs **visually lossless 4K60 4:4:4, low latency, and Dante audio integration** on a network the integrator can build with off-the-shelf managed switches — and that needs relay/GPIO and RS-232/IR/CEC control folded into the same endpoint.

THE CHALLENGE

Integrators standardizing AV distribution on IP face a three-way squeeze:

- **Uncompressed 10GbE (SDVoE) is over-spec and over-budget** for most rooms. It forces 10G switches, SFP+ optics, and higher per-endpoint cost, which prices out the mid-market boardroom and classroom jobs that make up the bulk of the pipeline.
- **H.264/H.265 streaming platforms are cheap but visually compromised and high-latency** — unusable for KVM, fast-motion content, or 4:4:4 text/CAD where chroma detail matters.
- **JPEG2000 on 1GbE is the correct middle tier** — visually lossless, ~1-frame latency, standard Gigabit copper — but the mainstream JPEG2000 lines each drop something the integrator then has to work around: single network port (audio and video share one link), Dante only as a separate SKU rather than a field-enabled option, no relay/GPIO contact control at the endpoint, or a chroma compromise at 4K60.

Two concrete shortfalls in the current field: **Blustream's IP250UHD-TX drops to 4:2:0 at 4K60** (full 4:4:4 only at 4K30), and **Atlona OmniStream downsamples 4:4:4/4:2:2 input to 4:2:0** — so "4K60 AV over IP" from those lines is not full-chroma. The AVO-IPJP2KD-ENC holds **4K60 4:4:4** while adding dual copper LAN (video and Dante audio on separate links), Dante AV-A by license, and endpoint relay/GPIO — collapsing the control interface and the audio-network separation into the encoder instead of into extra boxes.

Versus competitors:

- **Full 4K60 4:4:4 over 1GbE** — no chroma compromise, unlike Blustream IP250 (4:2:0 at 60Hz) and Atlona OmniStream (4:2:0 downsample).
- **Dual copper LAN with two working modes** — LAN Mode 2 puts JPEG2000 video on LAN 1 (PoE) and Dante audio on LAN 2, physically separating the AV and audio transport. Among the JPEG2000 pack, only Blustream's IP250 matches dual-LAN, and it does so without full 4K60 4:4:4.
- **Dante AV-A by license activation** rather than a distinct hardware SKU — the same encoder ships into AES67 houses and Dante houses; AMX SVSI N2400 and Crestron DM-NVX are AES67, Just Add Power has no native Dante.
- **Endpoint control built in** — 2× relay + 2× digital I/O contact ports, plus RS-232, bidirectional IR, CEC, and USB 2.0 KVM, at the encoder. Most rivals do not headline relay/GPIO contact control at the endpoint.
- **Standard PoE powered** and 100m over CAT6/6A/7.

2 PRODUCT POSITIONING

The AVO-IPJP2KD-ENC is the 4K60 4:4:4 JPEG2000 AV-over-IP encoder for integrators standardizing on 1GbE who need visually lossless distribution with dual-LAN Dante audio and endpoint contact control — without the cost of a 10GbE/SDVoE fabric or the chroma compromise of H.264 and 4:2:0 downsampling.

3 SALES ANALYSIS**CHANNEL FIT**

two-tier distribution → integrator. Strong fit for the specialist pro-AV e-tailers and distributors already carrying KanexPro (B&H, Markertek, Amazon, Adorama) as upsell accounts, and for AVoIP-certified houses that don't yet stock KanexPro (SoundPro, Full Compass) as acquisition accounts.

DEAL SIZE & SALES CYCLE

rarely a single unit — AVoIP is bought as a system. A typical room is 1 encoder per source and 1 decoder per display; a matrix or video-wall job scales to dozens of endpoints. The commercial value of a "win" is a **platform standardization decision**, not a box.

COMMON OBJECTIONS

(1) "Why not the brand we already spec [WyreStorm/AMX/Crestron]?" — answer on dual-LAN Dante + full 4:4:4 + endpoint control + price. (2) OEM/support confidence for a value brand — answer on US presence and warranty. (3) Switch and network compatibility — answer with managed-switch/IGMP guidance. (4) Dante licensing model — answer that Dante AV-A is a field license unlock, not a separate SKU. (5) Codec interop — endpoints must be same-platform; set expectations that this is a KanexPro-to-KanexPro system.

TOP USE CASES TO CLOSE

- 1 a **1GbE matrix/video-wall build where the customer needs Dante audio separated from the video network** — the dual-LAN architecture is the differentiator that wins; and
- 2 a **4K60 4:4:4 KVM/control-room or CAD/text-critical job** where H.264 and the 4:2:0 downsamplers are disqualified on chroma and latency.

4 APPLICATIONS**Corporate divisible training room**

A large room splits into two or three spaces with movable walls. Encoders on each source (room PC, laptop input, camera) feed decoders at every display; the matrix reconfigures with the partition. Dante AV-A carries program audio to the room's DSP over LAN 2 while JPEG2000 video runs on LAN 1, so the audio network stays independent of the

**Higher-education lecture capture and overflow**

A lecture theatre distributes the presenter's 4K60 4:4:4 source — often dense slides, code, or CAD where chroma detail is not negotiable — to overflow rooms and a capture appliance over standard campus Gigabit. JPEG2000's ~1-frame latency keeps the presenter and remote rooms in sync; H.264 platforms would be disqualified on both chroma and delay.

video load. Relay ports drive screen and shade control from the same endpoint.



Utility / transport control room video wall

A 24/7 operations center runs a 9×9-capable JPEG2000 video wall of SCADA, camera, and dashboard sources. Intelligent video-wall management assigns and windows sources across the array. Dual-LAN keeps the operator-intercom Dante audio on a separate physical link from the wall's video traffic, and the endpoint GPIO ties into alarm/relay logic.



Courtroom / council chamber

Evidence displays, the judge's confidence monitor, gallery screens, and the record are fed from a small matrix of encoders and decoders. Full 4:4:4 preserves document and exhibit legibility; RS-232 and CEC handle display power and input control; relay/digital-I/O integrate with the room's presiding controls, all from the encoder without a separate control interface.



House of worship auditorium

IMAG cameras and lyric/presentation graphics distribute to stage-side confidence monitors, lobby displays, and a main video wall. Dante AV-A ties the program audio to the FOH console over its own LAN, while the JPEG2000 stream feeds the visual system. Standard PoE powers endpoints from the existing managed switch, reducing local-power runs on truss and wall mounts.



Retail / hospitality signage and menu boards

A property distributes 4K60 signage across zones on its existing Gigabit copper, using multicast to fan a single source to many displays and unicast for zoned content. The MJPEG substream gives a low-bandwidth preview of every endpoint to a portable device for verification and troubleshooting during commissioning and daily operation.

5 WHO THIS IS FOR

Corporate/enterprise

Higher education

Government/control-room

House of worship and performing-arts

Hospitality and retail signage

High-end residential

Ideal User

A design/build AV integrator or system engineer who has committed to AV-over-IP as the default distribution layer and is selecting a 1GbE JPEG2000 platform to standardize on across many rooms. They spec by feature parity and total system cost, cross-shop WyreStorm 500 / AMX SVSI / Blustream, and care about switch compatibility, Dante integration, latency, and control-system fit (Crestron/AMX/Q-SYS/third-party).

Project Types

corporate/enterprise, higher education, government/control-room, house of worship and performing-arts, hospitality and retail signage, high-end residential (multi-room video distribution).

Typical Buyer

on commercial jobs, the AV design engineer or lead integrator specifies, procurement/PM approves, and an AV consultant may write the bid spec. On residential/CEDIA jobs, the owner/lead technician decides. The economic buyer is the integrator's purchasing lead; the technical gatekeeper is the design engineer.

6 KANEXPRO PRODUCT COMPARISON

MODEL	BEST FOR	KEY CAPABILITY	HOW IT DIFFERS
AVO-IPJP2KS-ENC	: entry JPEG2000 encoder — no Dante, no contact control, single-purpose (\$499.95)	4K60 4:4:4 JPEG2000 AV over IP Encoder	This unit sits well above it on audio networking and control.
AVO-IPJP2K-ENC	\$699.95, "Dante Ready with Contact Control"	4K60 4:4:4 JPEG2000 AV over IP Encoder — Dante Ready with Contact Control	The AVO-IPJP2KD-ENC's differentiator is the dual-LAN Dante architecture (LAN Mode 1/2 separating audio and video transport), which the single-LAN \$699.95 unit does not provide. Position the -D as the choice when the job requires Dante audio on a separate physical network from the JPEG2000 video.
AVO-IPJP2KUC-ENC	\$799.95, USB-C & HDMI BYOD	4K60 JPEG2000 AV over IP BYOD Encoder — USB-C & HDMI	The AVO-IPJP2KD-ENC is the infrastructure/rack encoder — do not cross-position; they serve different roles in the same system.

MODEL	BEST FOR	KEY CAPABILITY	HOW IT DIFFERS
AVO-IPJP2KD	/ AVO-IPJP2KD-DEC (Development, \$1,199.95): the transceiver and decoder members of this same Dante Dual-LAN platform	4K60 JPEG2000 AV over IP Encoder/Decoder — Dante Dual LAN	This encoder is the fixed-direction TX of that family and should be priced and positioned as a set with them (see §5). Do not position this unit against any KanexPro product not on the catalogue above.

7 FREQUENTLY ASKED QUESTIONS

Q: How is this different from the WyreStorm 500 or AMX SVSI unit we already spec?

It runs the same 1GbE JPEG2000 class at full 4K60 4:4:4, but adds two things those base encoders don't headline: dual copper LAN ports that physically separate Dante audio from the JPEG2000 video, and 2x relay plus 2x digital-I/O contact control at the encoder. It carries native Dante AV-A by license, where AMX and Crestron are AES67. And it lands below WyreStorm's Dante-equipped SKU on price.

Q: Does it really hold 4K60 at full 4:4:4?

Yes — 4K60 4:4:4, HDMI 2.0b, HDCP 2.2, 18Gbps input bandwidth. That matters because two common competitors do not: Blustream's dual-LAN unit drops to 4:2:0 at 4K60, and Atlona's OmniStream downsamples 4:4:4 input to 4:2:0. For text, CAD, and KVM content the difference is visible.

Q: What network does it need — do we have to replace our switches?

No. It runs on standard managed Gigabit copper with IGMP for multicast, not a 10GbE/SDVoE fabric. That is the core reason to choose this tier over uncompressed AV over IP: system cost and switch compatibility. Endpoints are standard PoE, so a PoE switch can power them without local adapters.

Q: How does the Dante audio work, and is it an extra box?

Dante AV-A is enabled by license activation on the same encoder — not a separate hardware SKU. The dual-LAN design lets you run Dante audio on LAN 2 and JPEG2000 video on LAN 1 (the default mode), or carry both on the PoE LAN 1 if you prefer a single link. That keeps audio routing on your Dante network independent of video traffic.

Q: What's the latency, and is it good enough for live and KVM use?

JPEG2000 here is visually lossless at roughly one frame of latency — suitable for IMAG, live reinforcement sync, and USB KVM. That is the practical gap versus H.264/H.265 streaming platforms, which add delay and chroma loss that rule them out for these uses.

Q: Can it drive video walls and matrix switching, or only point-to-point?

All three: point-to-point, full matrix, and video wall up to 9x9, with intelligent video-wall management, unicast and multicast. One platform covers the boardroom, the divisible room, and the operations-center wall.

Q: It's a value brand — what about control integration and support?

It exposes RS-232, IR, CEC, TCP/IP, Telnet/SSH, a built-in web GUI, and front-panel control, plus relay and digital-I/O for room automation, so it drops into Crestron/AMX/Q-SYS and third-party control the same way the premium lines do. It is a US-supported KanexPro product; endpoints interoperate as a KanexPro-to-KanexPro system, which is how every platform in this class is deployed.