

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/I/O Contact Control & ARC/eARC over Copper

MPN: AVO-IPJP2K-ENC



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.

1 PRODUCT OVERVIEW

DESIGNED FOR

The buyer is the **commercial AV systems integrator** standardizing on network-based signal distribution over existing 1GbE infrastructure rather than a dedicated 10GbE fabric. Environments: corporate boardrooms and divisible/training rooms, higher-education lecture halls, command-and-control / operations centers, courtrooms, medical and simulation facilities, houses of worship, transportation and retail digital signage, and video-wall lobbies. The common thread is an integrator who needs **matrix, video-wall (up to 9x9), and KVM behavior on a standard managed gigabit switch**, with fiber reach for building-scale runs and Dante for a converged audio layer — without paying a 10GbE-per-port premium.

THE CHALLENGE

4K60 4:4:4 signal distribution at scale is where three existing approaches each fall short: - **HDBaseT / matrix switchers** are point-to-point and rack-bound; they don't scale to dozens of endpoints or video walls without large, fixed-size chassis, and they can't ride shared network infrastructure. - **Uncompressed 10GbE AV-over-IP (SDVoE-class)** delivers the image but forces a dedicated 10GbE switching fabric — high per-port cost, more SKUs, more heat, and a network the client's IT team often won't adopt. - **Heavily-compressed H.264/H.265 over 1GbE** fits the pipe but introduces visible artifacts and latency that disqualify it for KVM, control rooms, and 4:4:4 text/graphics. JPEG2000 over 1GbE is the middle path — visually-lossless 4K60 4:4:4 at ~sub-frame latency on the network the building already has. The specific gap this encoder fills: doing that **while also carrying fiber, Dante, KVM, and contact-closure control in a single endpoint**, so the integrator stops stitching those functions from separate boxes.

THE KANEXPRO ADVANTAGE

Versus competitors: the one combination no rival unit fully matches — **true JPEG2000 + 4K60 4:4:4 + copper and fiber (SFP) in one box + license-activated Dante AV-A + relay/I/O contact control + PoE, over 1GbE**. WyreStorm's NHD-500 comes closest (JPEG2000 + fiber, with a separate Dante variant) but is not documented for relay/I/O contact control; Crestron NVX and Atlona OmniStream lack native Dante; ZeeVee ZyPerUHD is 4:2:0 and copper-only; AMX SVSI N2300 caps at 4K30. (Detail and sources in §8.)

2 PRODUCT POSITIONING

AVO-IPJP2K-ENC is the 1GbE JPEG2000 4K60 4:4:4 encoder for AV integrators who need matrix, video-wall, KVM, Dante, and contact control from one endpoint on the network they already have — without a dedicated 10GbE fabric or a box-per-function build.

3 SALES ANALYSIS

CHANNEL FIT

value-add distributor → credentialed integrator is the volume channel; online-reseller direct sale is the long-tail/replacement channel. Dante being license-activated is an attach-rate upside (sell the license with the audio-heavy jobs).

DEAL SIZE & SALES CYCLE

endpoints sell in **multiples** — a room is 1 encoder + N decoders; a video wall is 1 encoder + 9–81 decoders. Typical project order is a small-to-mid **fleet**, not a single unit; system value scales with endpoint count and the switch.

COMMON OBJECTIONS

(1) "Is JPEG2000 good enough vs uncompressed 10G?" (2) "Will our network/IT allow it?" (3) "How does it interoperate with our existing switch and Dante?" (4) brand-trust vs Crestron/AMX in a bid; (5) Dante-license cost surprise.

TOP USE CASES TO CLOSE

- 1 a **divisible corporate/training room or lecture hall** that needs matrix + video-wall behavior on the existing 1GbE switch, and
- 2 a **control room / courtroom KVM wall** needing 4:4:4 text clarity plus relay/I/O and Dante — the exact spot where the feature superset beats a single-function rival.

4 APPLICATIONS



Divisible corporate training room / boardroom

One encoder per source (room PC, laptop input, camera) feeds any decoder in the suite over the existing managed 1GbE switch. When partition walls open, the same endpoints re-route to combine rooms and drive a shared front-of-room wall — no re-cabling, and Dante carries program audio to the DSP layer.



Command-and-control / network operations center

Operators need pixel-accurate 4:4:4 source material on a large video wall (up to 9×9) with **KVM** to reach source machines from any seat. The encoder's USB/KVM plus two-channel relay and I/O contact control let the integrator tie displays, source PCs, and room automation into one endpoint class.



Higher-education lecture capture and overflow

A lectern encoder distributes 4K60 content to in-room displays, overflow rooms, and a recording appliance simultaneously via multicast, with fiber uplinks handling cross-building runs beyond copper limits — using classroom network infrastructure the campus IT team already manages.



Courtroom / legal presentation

Evidence display demands lossless 4:4:4 text and image fidelity to the bench, counsel, jury, and gallery monitors, with strict source control. JPEG2000's visually-lossless quality plus KVM and relay control for privacy/mute and display switching fit the courtroom's control and clarity requirements.



House of worship / auditorium

IMAG and lyric/graphics distribution to house displays and lobby screens over 1GbE, with **license-activated Dante AV-A** converging the video system's audio into the same network the FOH console uses — one infrastructure for video walls, confidence monitors, and audio transport.



Retail / transportation digital signage and lobby video walls

Multicast distribution of 4K60 content to many geographically-spread displays, with fiber reach for terminal- or campus-scale runs and PoE simplifying endpoint power at the display. Video-wall processing composes large-format arrays from a single source stream.

5 WHO THIS IS FOR

Corporate collaboration & divisible rooms

Higher education

Command-and-control / operations & courtrooms

Houses of worship

Digital signage / retail / transportation

Medical & simulation

Ideal User

the design engineer / lead AV programmer at a commercial integration firm who specifies endpoints, and the project's **network/IT stakeholder** who must approve anything touching the LAN. JPEG2000-over-1GbE and PoE are the arguments that win the IT approver.

Project Types

corporate collaboration & divisible rooms; higher education; command-and-control / operations & courtrooms (KVM + relay/I/O); houses of worship (Dante); digital signage / retail / transportation; medical & simulation.

Typical Buyer

integrator principal or design engineer chooses the platform; end-client IT/AV manager holds veto over network fit; procurement/purchasing closes on price and lead time.

6 KANEXPRO PRODUCT COMPARISON

MODEL	BEST FOR	KEY CAPABILITY	HOW IT DIFFERS
AVO-IPJP2K	enc/dec combo, \$1,299.95	4K60 JPEG2000 AV over IP Encoder/Decoder — Dante Ready	This -ENC is a dedicated encoder — an input-side endpoint, not a switchable unit.
AVO-IPJP2KD	Dante Dual-LAN, \$1,199.95	4K60 JPEG2000 AV over IP Encoder/Decoder — Dante Dual LAN	This -ENC is a dedicated encoder — an input-side endpoint, not a switchable unit.
AVO-IPJP2KS-ENC	Slim/stripped encoder (\$499.95)	4K60 4:4:4 JPEG2000 AV over IP Encoder	This -ENC is the full-I/O flagship encoder : it adds fiber, relay/I/O contact control, and the broader control surface the slim unit omits — the up-sell above the S-ENC.
AVO-IPJP2KUC-ENC	USB-C & HDMI BYOD, \$799.95	4K60 JPEG2000 AV over IP BYOD Encoder — USB-C & HDMI	This -ENC is the infrastructure/head-end encoder for fixed sources, video wall and KVM — a different job, not a substitute.
AVO-IPJP2KWPM	BYOD wall-plate, \$929.95	4K60 JPEG2000 AV over IP BYOD Wall Plate Encoder — Magnetic Mount	This -ENC is the infrastructure/head-end encoder for fixed sources, video wall and KVM — a different job, not a substitute.

7 FREQUENTLY ASKED QUESTIONS

Q: Will this run on the network we already have, or do we need a new one?

It is built for standard 1 Gigabit Ethernet - the switching most buildings already run - not a dedicated 10GbE fabric. That is the core cost and adoption advantage over uncompressed AV-over-IP: your IT team keeps the network class it knows, and you avoid a 10GbE-per-port premium. A properly configured managed switch with multicast (IGMP) support is required.

Q: Is JPEG2000 quality good enough for 4K60 4:4:4 content, including text and graphics?

Yes. JPEG2000 is visually lossless at 4K60 4:4:4 with sub-frame latency, which is why it is used in command centers and courtrooms where text clarity and KVM responsiveness matter. It avoids the visible artifacts and lag of H.264/H.265 systems while fitting a 1GbE pipe that uncompressed 10G systems cannot.

Q: How does this compare to Crestron NVX or WyreStorm NetworkHD 500?

It targets the same JPEG2000-over-1GbE space at a lower expected price, and combines features they split across variants or omit: copper and fiber in one box, license-activated Dante, KVM, and relay/I/O contact control together. WyreStorm needs a separate Dante model and isn't documented for relay/I/O; Crestron has no native Dante and is dealer-only at a premium.

Q: Do we get Dante audio out of the box?

The hardware supports Dante AV-A, activated by license. That lets you attach Dante only on the projects that need converged audio, rather than paying for it on every endpoint - and it puts the video system's audio on the same network as the rest of the Dante plant.

Q: Can it drive a video wall, and how large?

Yes - it supports point-to-point, matrix, and video wall up to 9x9, with intelligent video-wall class management, from the same encoder used for standard routing. One encoder feeds the whole wall over multicast.

Q: How far can we run signal, and how is the endpoint powered?

Up to 100m / 328ft over CAT5e/6/6A/7, with an SFP fiber slot in the same unit for longer, building-scale runs. The endpoint can be powered locally by its 12V adapter or by PoE from the switch, which removes a power drop at the display location.

Q: What control and KVM does it carry beyond video?

It transports USB 2.0 / KVM, bidirectional RS-232, two-way IR, and CEC, and adds two relay channels and two I/O contact-control channels for room automation - so a single endpoint class covers source control, KVM, and simple contact triggers instead of separate control hardware.