

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

MPN: AVO-IPJP2K-DEC



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.

1 PRODUCT OVERVIEW

DESIGNED FOR

The buyer is a **commercial AV integrator or systems engineer** deploying networked AV distribution over an existing or purpose-built **1-Gigabit** IP network — not a 10G SDVoE fabric. Environments: corporate boardrooms and divisible conference spaces, command-and-control / operations centers, courtrooms and government briefing rooms, house-of-worship and higher-education lecture capture, hospitality and retail digital signage, and video-wall installations. A secondary buyer is the **high-end residential integrator** running whole-home 4K distribution who wants matrix-plus-video-wall flexibility on standard managed switches rather than a proprietary matrix chassis. The common thread: the integrator already owns the network layer, needs visually-lossless 4K60 4:4:4, and does not want to fund a 10G switch refresh to get it.

THE CHALLENGE

Integrators distributing 4K60 4:4:4 over IP face a fork: **uncompressed/SDVoE** solutions deliver quality but demand 10GbE switching (cost, heat, port count, IT pushback), while **H.264/H.265** solutions ride cheap 1G networks but add latency and visible compression artifacts that fail in courtroom, medical-adjacent, and fine-detail signage work. JPEG2000 on 1GbE is the middle path — visually-lossless, intra-frame (low, deterministic latency), on switches IT will actually approve. Existing solutions fall short in three ways this decoder addresses: (a) most 1G JPEG2000 endpoints ship **copper OR fiber**, forcing a media-converter or a different SKU per run — this unit **integrates copper and fiber in one box**; (b) audio-networking is often a closed island, whereas this unit offers **Dante AV-A mode** (license-activated) alongside ARC/eARC/SPDIF/analog return; (c) KVM, control (RS-232/IR/CEC), **contact-closure relays and digital I/O**, and MJPEG substream preview are frequently split across accessories rather than converged on the endpoint. The tradeoff to disclose honestly: color depth **output is 8-bit** (input accepts 8/10/12-bit), so this is not the unit for 12-bit HDR-critical mastering chains.

THE KANEXPRO ADVANTAGE

Versus competitors: True JPEG2000 (open, well-understood codec) at **4K60 4:4:4** over **1GbE**, with **copper + fiber in a single enclosure** — a combination none of the confirmed direct rivals fully match (ZeeVee's fiber is unconfirmed; Visionary's is unconfirmed; WyreStorm's fiber is via SFP). **Open control** (web/Telnet/SSH) with no mandatory control-processor ecosystem, unlike Crestron. PoE-powered, with relays/digital-I/O and MJPEG substream preview on the endpoint itself.

2 PRODUCT POSITIONING

AVO-IPJP2K-DEC is the visually-lossless JPEG2000 AV-over-IP decoder for commercial and high-end residential integrators who need 4K60 4:4:4 distribution, video wall and KVM over standard 1-Gigabit networks — without a 10G switch upgrade or a proprietary matrix ecosystem.

3 SALES ANALYSIS

CHANNEL FIT

two-tier — (a) **project/distribution** into commercial integrators (the volume, video-wall and matrix jobs), and (b) **e-tail/reseller** (B&H, Markertek, Adorama, ADI Global, Amazon) for smaller integrators and spares. **Deal size:** rarely a single decoder — expect **endpoint counts of 4–40+** per job (one encoder per source, one decoder per display), so the real deal is \$5k–\$60k+ in endpoints plus switch. **Sales cycle:** project-driven, weeks-to-months, gated by network/IT sign-off and bid timing; e-tail reorders are transactional. **Objection patterns:** (1) "why not just H.264 on my 1G network for less?" → artifact/latency answer; (2) "why not SDVoE 4:4:4?" → 10G cost/IT answer; (3) "does it work on *my* switch?" → managed-switch/IGMP/PoE budget answer; (4) codec/color-depth scrutiny (8-bit output); (5) "is this the same OEM as brand X" (grey-market fear). **Use cases most likely to close:** (a) a **multi-display video wall (up to 9×9) on 1G** where SDVoE would force a 10G upgrade, and (b) a **matrix/KVM control-room or divisible-conference deployment** needing Dante audio and RS-232/IR/relay control converged on the endpoint.



Divisible conference / boardroom matrix

A corporate floor with combinable rooms uses one encoder per source (laptops via room inputs, room PC, codec) and one AVO-IPJP2K-DEC per display. On a single managed 1G switch, any source routes to any display; room-combine logic re-maps decoders on the fly. Dante AV-A carries program audio to the DSP without a separate audio transport, and RS-232/CEC from the decoder drives display power and input selection.



Operations / command-and-control video wall

A 3×3 or larger wall (up to the 9×9 the platform supports) is built from AVO-IPJP2K-DEC units, one per panel, with JPEG2000 keeping motion crisp and latency deterministic across the array. Intelligent video-wall class management lets operators recall layouts; MJPEG substream preview feeds a control GUI without pulling full streams.



Courtroom evidence and overflow distribution

Visually-lossless 4:4:4 matters where fine document and image detail is scrutinized. Encoders on evidence sources feed AVO-IPJP2K-DEC units at the bench, counsel tables, jury monitors and overflow rooms over the courthouse's existing 1G infrastructure, with relay/contact control handling privacy mute/blank on sensitive exhibits.



Higher-education lecture halls and learning spaces

Multiple classrooms share a source pool (document cameras, lecture-capture, presenter inputs). Decoders drive projectors and displays; fiber runs handle inter-building distance while copper serves in-room drops — both terminating on the same decoder model, simplifying the BOM across a campus standard.



House-of-worship main and satellite venues

IMAG and pre-service content distribute from the booth to lobby, cry-room, classroom and overflow displays. PoE powers decoders from the network closet, cutting local power drops at each display, and Dante AV-A keeps audio aligned with the video feed.



Hospitality and retail digital signage / sports bar

A bar or QSR distributes many sources to many screens with independent routing per zone. AVO-IPJP2K-DEC endpoints scale by adding switch ports rather than matrix cards; IR/CEC control from the decoder manages display wake/sleep schedules, and the fiber option covers long runs to patios or separate structures.

5 WHO THIS IS FOR

Ideal User

the **commercial AV systems engineer / lead integrator** at a national or regional integration firm, specifying AV distribution for a multi-room or multi-site fit-out. Cares about: switch compatibility (IGMP/managed 1G), latency determinism, control integration into their existing head-end, and single-vendor endpoint convergence to cut truck-rolls. **Secondary persona:** the **CEDIA-channel high-end residential integrator** building whole-home 4K matrices. **Decision-maker profile:** technical design authority (recommends the line) plus a purchasing/PM function that clears BOM cost; on larger jobs an **IT stakeholder** must bless the network load and switch choice — JPEG2000-on-1G is the argument that wins that person. **Procurement path:** manufacturer/distributor → integrator → end client, typically spec'd into a project bid. Reseller/e-tail (B&H, Markertek, Adorama, ADI Global) serves smaller integrators and repeat/spare orders; the large integrators buy through distribution against a project.

Project Types

Typical Buyer

7 FREQUENTLY ASKED QUESTIONS

Q: Why JPEG2000 over IP instead of a traditional HDMI matrix switch?

A matrix switch is fixed at its port count; an IP approach scales by adding network switch ports and endpoints, so a 16x16 job and a 64x64 job use the same decoder. You also get video wall, KVM and control over the same cable, and long-distance reach over fiber or CAT - things a boxed matrix can't do without extenders.

Q: Do I need a special 10-Gigabit network for this?

No. This runs on standard 1-Gigabit managed switching with IGMP/multicast - the argument that lets JPEG2000 pass IT review. Uncompressed and SDVoE systems require a 10G fabric; this delivers visually-lossless 4K60 4:4:4 without that upgrade.

Q: Will the picture look compressed?

JPEG2000 is visually-lossless and intra-frame, so there's no inter-frame smearing on motion and no visible blocking of the kind H.264/H.265 signage systems show on fine detail. For courtroom, signage and control-room detail work, that's the reason to choose it over cheaper H.26x endpoints.

Q: How is this different from the lower-cost KanexPro slim decoder?

This decoder adds fiber and copper in one box, Dante AV-A audio networking, contact-closure relays and digital I/O, and the full control set. If a job needs long fiber runs, networked audio or contact control, this is the unit; the slim decoder covers straightforward point-to-point and matrix drops at a lower price.

Q: Does it handle audio for a networked-audio room?

Yes - Dante AV-A mode is supported (license-activated), alongside ARC/eARC, SPDIF and analog audio return, so program audio can join a Dante DSP ecosystem without a parallel audio transport.

Q: How do we control displays and room logic through it?

The decoder carries RS-232, IR, CEC, two relay ports and two digital I/O channels, plus web, Telnet and SSH control - so display power, input switching and contact events integrate into your head-end without a mandatory proprietary control processor.

Q: Is this locked to one brand's ecosystem like some competitors?

No. Control is open (web/Telnet/SSH) and it runs on standard managed switches, so it doesn't require a single vendor's control platform or switch line to operate - unlike closed proprietary AV-over-IP systems.