DANTE AV-A ENABLED
Ultra-HD 1GbE Matrix



PixelGrid Ultimate 4K

Scalable AV-over-IP distribution system

PixelGrid Ultimate 4K is a fully scalable AV-over-IP distribution platform engineered to replace conventional matrix switchers in quality-critical environments, including corporate boardrooms, houses of worship, and retail applications. Rather than designing around the fixed input and output capacity of a traditional switcher, integrators can expand the system simply by adding transmitters and receivers. Any source can be routed to any display through a single, intuitive management interface, delivering a streamlined user experience without compromising system capability.

Combining visually lossless JPEG2000 technology with native, out-of-the-box Dante AV-A integration, it delivers pristine 4K60 4:4:4 HDR video alongside ultra-low latency professional audio synchronization across standard 1GbE networks. With the Embedded Audinate Dante Controller and the comprehensive Unified Web-Based Routing Interface, PixelGrid Ultimate 4K delivers premium hardware performance and scales like software.

KEY COMPETITIVE ADVANTAGES

- **Native Dante AV-A Enabled by Default**: Operates directly within the Audinate Dante ecosystem out of the box. No external license activations, software upgrades, or third-party bridges are needed to discover, route, and sync multi-channel AV streams.
- **Embedded Audinate Dante Controller**: Features the unique capability of running the official Audinate Dante Controller environment directly on the Controller box itself. This eliminates the requirement for an external standalone management PC to patch, monitor, and route your network audio channels.
- **Unified Web-Based Routing Interface**: Beyond traditional AV controls, full Dante software routing matrix parameters, device configurations, clock structures, and event status logs are exposed natively inside a single consolidated web browser GUI.
- **Integrated Transceiver Design (Copper/Fibre)**: Integrates both a 1G Copper port (RJ45 with PoE) and an open optical SFP transceiver slot on every local box, allowing effortless field selection of transmission media without separate product SKUs.
- **Unrivaled Audio Return Flexibility**: Unlocks massive deployment versatility with native support for HDMI audio extraction/embedding, bidirectional eARC/ARC routing, S/PDIF digital links, and standalone analog audio tracks.
- **Onboard Contact Control Array**: Incorporates an automation control block on every endpoint featuring two independent low-voltage relays and two configurable digital GPIO pins for direct screen, blind, and local peripheral management.



ENTERPRISE HARDWARE MANAGEMENT

Centralized network scheduling and cross-point matrix routing are achieved using the dedicated **Controller** hardware engine.

- **Network Traffic Isolation**: Physical dual-network architecture (separate Control LAN and Video LAN links) completely shields management signals from heavy multicast video streams.
- **Hot-Swap Node Replacement**: Built-in web utility allows technical operators to execute a complete device configuration clone and replace physical hardware in less than 60 seconds.

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PixelGrid
Ultimate 4K Encoder



PixelGrid
Ultimate 4K Decoder



PixelGrid
Ultimate 4K Control

TECHNICAL SPECIFICATIONS

System Architecture Specifications

Video Standards	HDMI 2.0b, HDCP 2.2 Compliance
Compression Core	JPEG2000 - High-Fidelity DSP Engine
Maximum Resolution	3840×2160 @ 60Hz 4:4:4 (18Gbps)
Audio Integration	Native Dante AV-A Ecosystem, Embedded Dante Controller, LPCM 2.0/5.1/7.1, Dolby, DTS
Network Transport	Multicast Layer 3 IGMP V2/V3 protocols
TX IO Connections	1x HDMI In, 1x HDMI Loop Out, 1x RJ45 PoE, 1x SFP, 1x Audio IO, 1x RS-232, 2x Relay, 2x GPIO
RX IO Connections	1x HDMI Out, 1x RJ45 PoE, 1x SFP, 1x Audio Out, 1x RS-232, 2x Relay, 2x GPIO, 4x USB
USB Subsystem	USB KVM Extension (USB-B Host on TX; 2x USB 2.0 + 2x USB 1.1 on RX)
Video Wall Array	Multi-Layout Matrix Arrays up to 9×9 Grids
Power Options	PoE (802.3af Class 3) or 12V/1A DC Locking
Chassis / Weight	Metal Enclosure (Black) / 320g per unit

Controller Specifications

Dante Software	Audinate Dante Controller Embedded Natively
Network Link Ports	1× 100/1000M Control LAN, 1× 100/1000M Video LAN (PoE)
Control Protocols	Web GUI, RS-232, TCP/IP API, Infrared Link
Relay / Contact	3× 3-pin Phoenix block terminal links
Dimensions	204mm [W] x 135mm [D] x 26mm [H]

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