Dante IP Core™

Performance and flexibility for FPGA-based AV products

- Supports latest AMD FPGAs: AMD Zynq™ 7000 and AMD Zynq UltraScale+™ product families

- Up to 512x512 channels in/out, up to 128x128 simultaneous multichannel audio flows

- Configurable sample rates (with pull-up/down) up to 192 kHz and 32-bit

- Supports AES67 and ST2110 audio transport protocols

- Glitch-free redundancy via secondary network support

- Dante Domain Manager ready

Dante IP Core is the most flexible product in Audinate's Dante Ultra solutions for Professional AV manufacturers. Dante Ultra products provide the highest performance endpoints for the most demanding networks. The Dante Ultra product suite offers the lowest latencies and highest sample rates that enable OEMs to deliver premium capabilities in their professional AV solutions.

Exceptional Performance for Premium Solutions

Dante IP Core is a soft IP solution that enables the integration of high performance Dante on AMD FGPAs. It provides the flexibility to add Dante networking alongside third-party IP for optimized system designs with the highest level of performance.

Dante IP Core runs efficiently alongside product applications from Pro AV manufacturers, providing channel counts up to 512x512 with ultra-low latency and sub-microsecond synchronization.
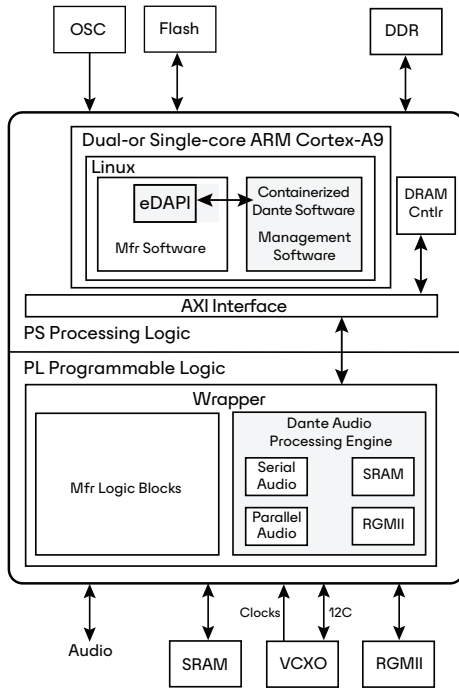
Dante IP Core is the clear choice for manufacturers looking to build best-of-breed Dante solutions with total control over cost, platform, features and performance.

Cost-effective

Get more out of your FPGA expenditures and resources by integrating Dante IP Core alongside your product applications on the same chip. The lower total solution cost of the single-FPGA model returns significant BOM savings that can be used to drive sales, boost margins, or deliver extra features.

Compact

By reducing designs to a single FPGA, products can be built with a smaller footprint and lower total power consumption. ASRC, audio encryption, signal processing modules—your choice of additional functionality—can be built directly into the FPGA alongside the Dante core, simplifying your design process and enabling a huge range of unique and disruptive products.

Dante IP Core™

Flexible

Dante IP Core runs on the AMD Zynq-7000 and Zynq UltraScale+ single-chip integrated processor and programmable logic solutions. These SoCs combine a high-performance ARM-based multicore, multiprocessing system (PS) with ASIC-class programmable logic (PL), allowing equipment designers to choose the optimal part that aligns with the space constraints and power requirements of their product.

Dante IP Core is designed for the most demanding professional audio solutions, with ultra-low latencies and sample rates up to 192 kHz in 16, 24 or 32 bits, fixed or floating point, virtually eliminating the need to convert source audio formats.

Dante IP Core is available in multiple I/O channel configurations ranging from 8x8 to 512x512 to meet exact system requirements.
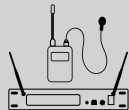
Future-proof

Dante IP Core gives you the flexibility to upgrade your design with newer FPGA parts as they become available, allowing you to keep pace with the industry and stay on point with class-leading products that pass even the most demanding performance benchmarks.
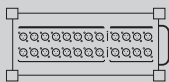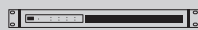
Applications

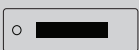**High Performance Audio Mixers & Processing Engines**

Multichannel Wireless Mic & IEM Systems

High Capacity I/O Racks & Stageboxes

Immersive Audio Processors & Amplifiers

Digital Audio Recorders & Playback Systems

Specifications

Audio

Sample rates up to 192 kHz in multiples of 44.1/48kHz with pull-up/down

Bit depths: 24, 16 and 32 bits per sample

Up to 512x512 channels at 44.1/48kHz, 256x256 channels at 88.2/96kHz and 128x128 channels at 176.4 /192kHz

Up to 128x128 simultaneous audio packet streams for transmit and receive

Up to 1024 samples audio buffering per channel

Flexible synchronous serial audio interface, up to 32 x SDIN and 32 x SDOUT audio lines

Hardware audio metering

Network

Standard RGMII/MII interface for Ethernet PHY or switch chip

Software and firmware are upgradeable over network

Clock

High-quality, low jitter clock with companion Skyworks clock generator

External word clock sync input

Supported Platforms

AMD Zynq-7000
AMD Zynq UltraScale+