

ZMAN

Versatile Audio Network Module for RAVENNA/AES67 Ecosystems

The ZMAN family of modules is first and foremost designed to provide a high performance media transport that is tightly synchronized (ultra-low jitter and wander), deterministic, and low latency for Networked I/O end-points. What sets them apart from other offerings is the additional processing capabilities that are built-in, with 2 x ARM CPUs and serious FPGA real-estate.

Merging is strongly committed to foster the adoption of AES67 networking capability by making available, as a simple to integrate module, all required functionalities for OEMs to take advantage of this rapidly evolving market.

FEATURES

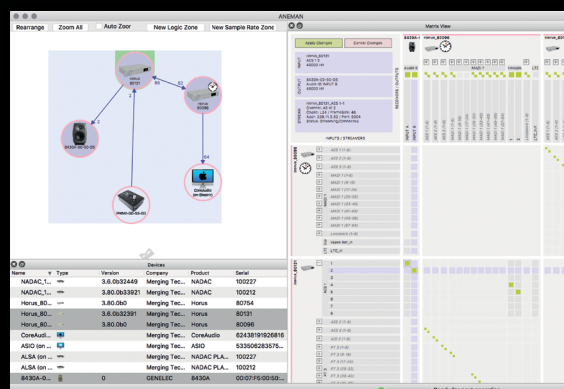
- ▲ High resolution sample rates up to 384kHz PCM, DXD and DSD256
- ▲ Up to 64 RAVENNA/AES67 streams, 256 audio channels
- ▲ AES3 I/O up to 192kHz
- ▲ Channel based audio routing (512 x 512 Matrix)
- ▲ Ultra-low latency on-chip mixing engine (128 inputs x 32 outputs)
- ▲ 28 freely assignable EQ bands
- ▲ On-board ultra-low jitter and ultra-low phase noise clock
- ▲ Fully compatible RAVENNA/AES67 protocols over Gigabit Ethernet
- ▲ Web-based network remote control

BENEFITS

- ▲ Compact Mezzanine board, small form factor 59.6 x 44.5 mm
- ▲ Ultra-low phase noise clock
- ▲ PTPv2 Master or Slave, IEEE-1588-2008 standard
- ▲ Support for industry standard SMPTE 2110
- ▲ Automatic device network discovery (Bonjour)
- ▲ Channel based internal routing
- ▲ Built-in ARM processors + abundant FPGA-based DSP in a single chip
- ▲ Compatible with any RAVENNA/AES67 device on network
- ▲ SDK and API for easy integration
- ▲ Use case examples through configuration scripts
- ▲ Simple firmware update via network
- ▲ Optimized compatibility with Merging Technologies products portfolio

SOFTWARE TOOLS & DRIVERS

- Windows® ASIO driver ▲
- Mac® OSX CoreAudio driver ▲
- Linux ALSA drivers ▲
- ANEMAN (Audio Network Manager) full support ▲



AUDIO SPECIFICATIONS

- ▲ Sample Rate 44.1kHz/48kHz, 88.2kHz/96kHz, 176.4kHz/192kHz
- ▲ Optional high resolution support for DXD, 384kHz, DSD64, DSD128 and DSD256
- ▲ Word lengths 16, 24, or 32 bits per sample
- ▲ I2S/TDM Audio format
- ▲ Network input audio buffer up to 16k samples
- ▲ Up to 64 RAVENNA/AES67 I/O streams, up to 256 network audio channels
- ▲ Word clock IO for synchronization

HARDWARE SPECIFICATIONS

- Single Power supply 3.3V, under 5W ▲
- Xilinx SoC Zynq based design ▲
- Dual core ARM Cortex A9 processors, ARMv7-A architecture ▲
- DDR3 Memory (512 MB) ▲
- NOR Flash (128 MB) ▲
- Standardized RGMII interface for Gigabit Ethernet switches or PHY, IEEE Std 802.3 ▲
- High quality, on board clock management ▲
- Mezzanine connectors (3 x 80 pins) ▲
- Card edge test header (Mini-PCI) ▲

INTERFACE SPECIFICATIONS

- ▲ 1x I2S in 1x I2S out (Master/Slave) with 8 data lines each
- ▲ 1 x I2C Master
- ▲ 1 x SPI Slave and 1 x SPI Master
- ▲ 1 x RGMII
- ▲ 1 x UART (up to 921'600 bauds)
- ▲ GPIO
- ▲ Differential clock input to support OCXO, Atomic clock or GPS disciplined oscillator

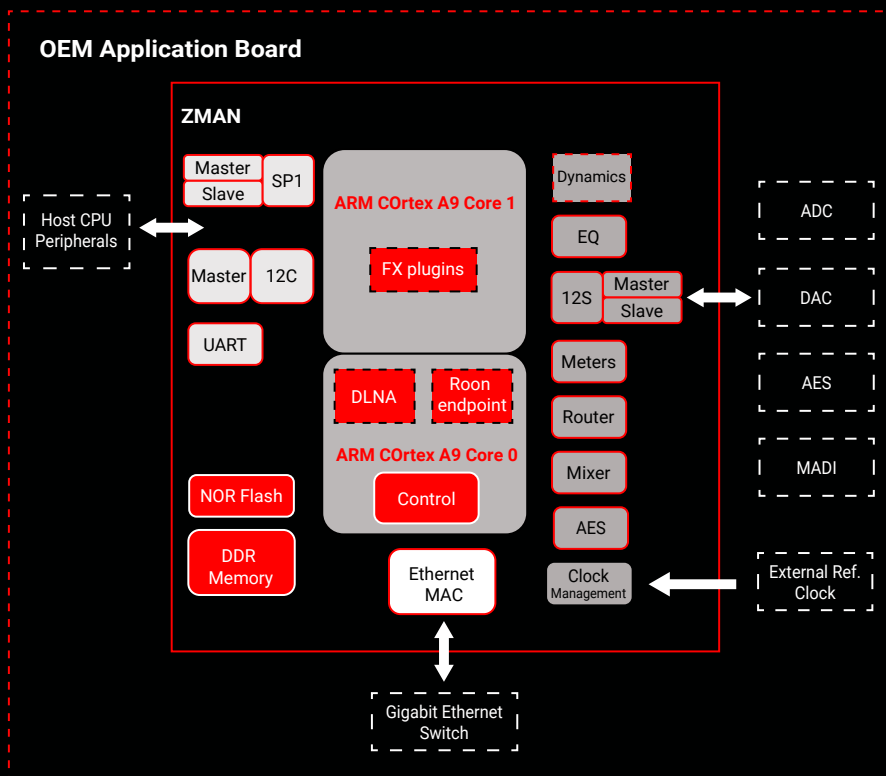
PRICE-PERFORMANCE OPTIONS

ZMAN 010

- ▲ 64 x 64 I/O@1FS
- ▲ 80 DSP slices (FPGA)

ZMAN 020

- ▲ 256 x 256 I/O@1FS
- ▲ 220 DSP slices (FPGA)



ZMAN + ZOEM

Audio Networking and Processing development kit. The quick-start Platform for initial Evaluation

EVALUATION KIT ZOEM FOR ZMAN

- ▲ Single power supply
- ▲ Easy mezzanine prototyping
- ▲ Fully exposed GPIO and audio I/O
- ▲ On board Gigabit Ethernet switch and PHY
- ▲ Dual Ethernet copper ports & SFP Fiber port
- ▲ 1 stereo AES-EBU input and 1 stereo AES-EBU output
- ▲ Debug console available on standard micro USB port
- ▲ Out of the box DAC-like Web remote UI

