

TCD3040 SINGLE CHIP AUDIO NETWORKING SOLUTION

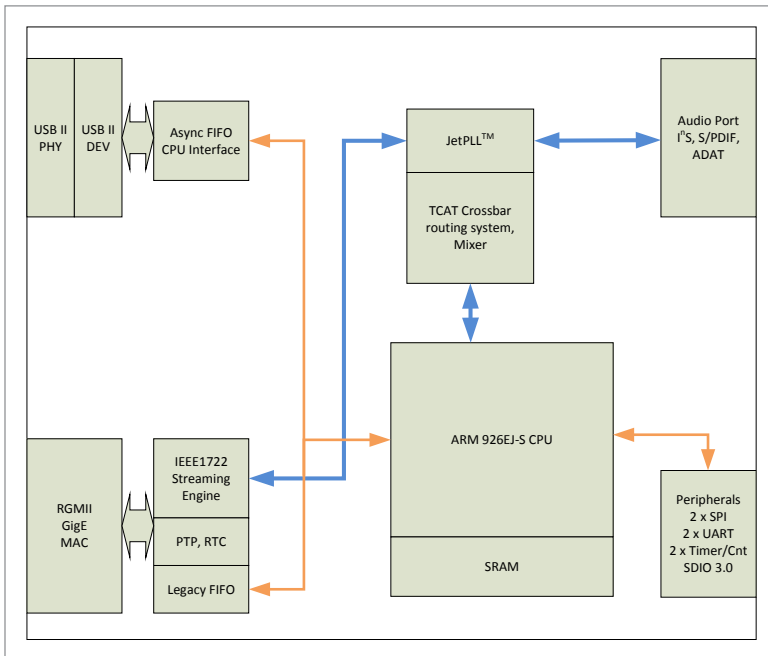
TCD3040 is a powerful CMOS based **Ethernet AVB** Audio Controller with an on-board **ARM™** processor, and is the dedicated **Ethernet AVB** part in TC Applied Technologies' **DICE III™** series of integrated circuits. **TCD3040** is designed for typical **AVB** end-nodes such as active speakers, amplifiers and stage boxes.

TCD3040 is capable of transmitting and receiving a large number of audio channels over **Ethernet AVB**. These channels can be routed to and from standard digital audio interface formats using **TCD3040**'s on-board ADAT and AES/SPDIF transceivers, and to and from various DACs, ADCs and DSPs using its fully configurable **I²S/TDM** interface.

With its high level of integration, patented **JetPLL™** technology for virtually jitter-free performance, and Ethernet support, **TCD3040** provides the versatility necessary for the professional install and touring markets.

The **DICE™** Broadband Streaming Engine handles all aspects of moving data in hardware, minimizing realtime load on the host processor.

A complete **SDK** supports Hardware Abstraction Layer (**HAL**) libraries and protocol stacks for USB and Ethernet (TCP/IP and AVB protocol suite).



Target Applications:

- Networked Active Speakers
- Networked Amplifiers
- Networked Stage-boxes

- ▶ **I²S/TDM** Audio Interface - 16x16 Channels
2 clock ports, configurable to all common modes.
- ▶ Dual **ADAT** Transceivers - 16x16 Channels
- ▶ **AES/SPDIF** Transceiver - 2 Channels
- ▶ **AVB** System - 8x8 Channels
 - PTP, RTC hardware
 - GigE MAC (RGMII)
 - 1722 2 stream listener (max. 8 Channels)
 - 1722 2 stream talker (max. 8 Channels)
- ▶ **USB 2.0** Command/Control
- ▶ **JetPLL™** Clock Technology
 - Virtually removes incoming jitter
 - Achieves dual-VCXO performance without external components
 - Integrated clock extraction/synchronization
- ▶ **Onboard Mixer**
 - In hardware - zero processor overhead
 - Up to 32x32 Channels
- ▶ **ARM926™** 32-bit RISC processor with cache
 - Up to 200MHz clock speed
 - 2 x SPI interface
 - 2 x UART interface
 - 4 x timer/counter
 - Up to 19 GPIOs
 - SDIO 3.0
 - 320kB internal SRAM
 - Simple boot from SPI flash
- ▶ **Other Features**
 - Integrated 10-bit ADC for easy reading of pots, etc.

▶ Package Type:

- TCD3040-CG: 148-Pin Dual Row QFN