

## TCD3000 SINGLE CHIP AUDIO RECORDING SOLUTION

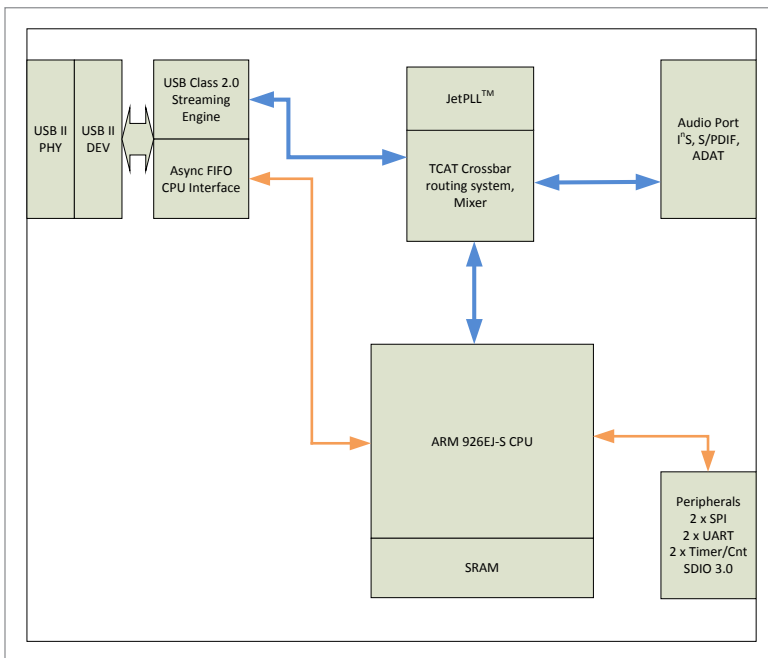
**TCD3000** is a CMOS based, Class 2.0 Compliant Audio Streaming USB Controller with an on-board **ARM™** processor, and is the smaller of the two dedicated USB parts in TC Applied Technologies' **DICE III™ series** of integrated circuits. **TCD3000** is designed for everything from simple two channel I/O boxes to complex interfaces.

**TCD3000** is designed to support four channels of USB audio in both directions (4x4) in a typical configuration. USB audio can be routed to and from standard digital interface formats using **TCD3000's** on-board ADAT and AES/SPDIF transceivers, and to and from A/D, D/A and DSP using its fully configurable **I<sup>2</sup>S/TDM** interface. Both asynchronous and synchronous USB audio streaming is supported.

With its high level of integration, patented **JetPLL™** technology for virtually jitter-free performance, and internal memory, **TCD3000** is a true single chip solution for USB audio of the highest performance and quality.

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 we provide **vendor specific Windows drivers at no additional cost (no drivers required for OS X)**.



### Target Applications:

- Computer Recording
- Active computer speakers and headsets
- AV Receivers / Consumer audio (USB audio and HDMI clock recovery)

- ▶ **I<sup>2</sup>S/TDM** Audio Interface - 16x16 Channels \*
  - Up to 2 clock ports, configurable to all common modes.

- ▶ Dual **ADAT** Transceivers - 16x16 Channels

- ▶ **AES/SPDIF** Transceiver - 2 Channels

- ▶ **USB 2.0 Audio Streaming**
  - 4x4 Channels \*
  - Class 2.0 compliant
  - Asynchronous and synchronous modes

- ▶ **Onboard Mixer**
  - In hardware - zero processor overhead
  - Up to 32x32 Channels

- ▶ **JetPLL™ Clock Technology**
  - Virtually removes incoming jitter
  - Achieves dual-VCXO performance without external components
  - Integrated synchronization in both synchronous and asynchronous USB audio modes

- ▶ **ARM926™ 32-bit RISC processor with cache**
  - Up to 200MHz clock speed
  - SPI interface (1 Master, No Slave)
  - 2 x UART interface
  - 4 x timer/counter
  - Up to 8 GPIOs \*
  - SDIO 3.0
  - 320kB internal SRAM
  - Simple boot from SPI flash

- ▶ **Other Features**
  - Integrated 2-Channel, 10-bit ADC for easy reading of pots, etc.

- ▶ **Package Type:**  
TCD3000-CF: 88-Pin QFN

\* Certain signals share pins, so actual maximum no. will vary depending on product specifications.