

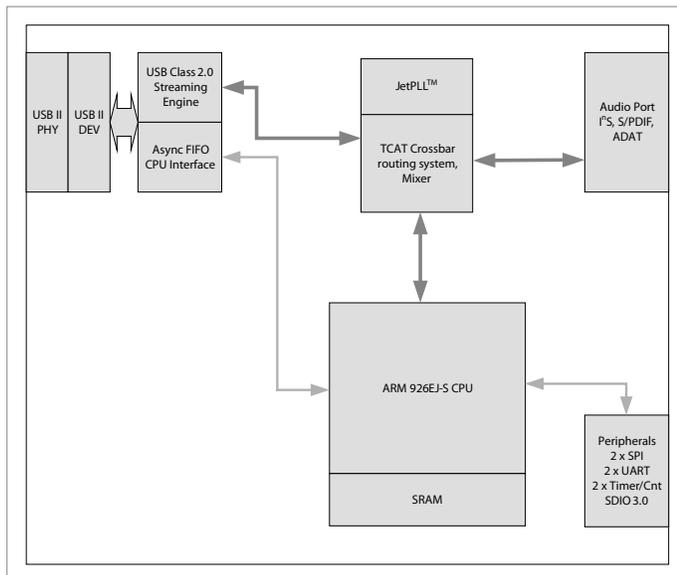
TCD3020 is a CMOS based, Class 2.0 Compliant Audio Streaming USB Controller with an on-board **ARM™** processor, and is the larger of the two dedicated USB parts in TC Applied Technologies' **DICE III™ series** of integrated circuits. **TCD3020** is designed for everything from simple two channel I/O boxes to complex interfaces.

TCD3020 is designed to support up to 18 channels of USB audio in both directions (18x18) in a typical configuration. USB audio can be routed to and from standard digital interface formats using **TCD3020's** on-board ADAT and AES/SPDIF transceivers, and to and from A/D, D/A and DSP using its fully configurable **IⁿS/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, **TCD3020** 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)

► IⁿS/TDM Audio Interface - 32x32 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

- 18x18 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 (2 Master, 1 Slave)
- 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 3-Channel, 10-bit ADC for easy reading of pots, etc.

► Package Type:

TCD3020-CG: 148-Pin Dual Row QFN

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