dream
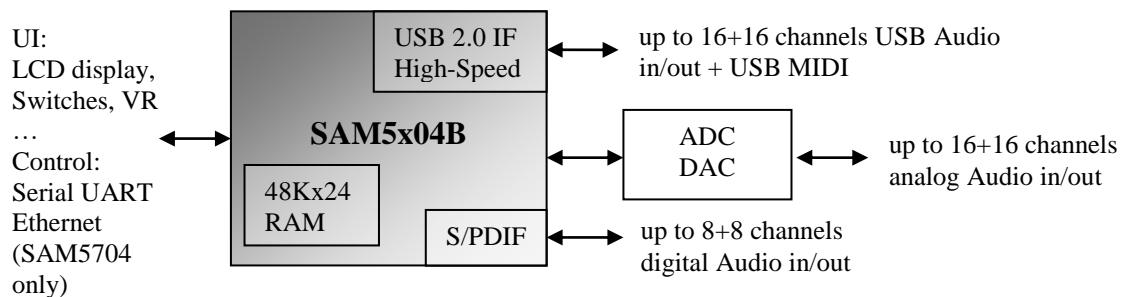
USB 2.0 Audio Interface with SAM5504B / SAM5704B

SAM5504B / SAM5704B Hardware Features

- Built-in High-Speed USB2.0 I/F controller

- Up to 16 audio in, 16 audio out ports (I²S format), up to 192kHz/24-bit

- Up to 192kHz S/PDIF interface (IEC60958) with clock recovery (concurrent IN/OUT)

- On-die synchronization PWM mechanism controlling external VCXO for audio streaming from external sources

- 10/100 Mbps Ethernet MAC with RMII interface to external PHY (SAM5704B only)

- 2x On-chip UART for external MIDI IN/OUT

- User-Interface (Switches, LED's…) possible w/o additional CPU through GPIO ports

Software Features

- USB 2.0 High-Speed and Full-Speed support

- Class Compliance to USB Audio Device Class Specification 1.0 and 2.0

- Up to 16+16 channels USB audio streaming, sampling rate at 96/88.2/48/44.1kHz, 16-bit or 24-bit resolution

- Up to 8+8 channels USB audio streaming at sampling rate at 192kHz

- 3rd party multi-channel WDM/ASIO2.0 drivers for Windows available

- USB MIDI Ports (e.g. 1xIN/OUT external, 1xIN/OUT embedded, e.g. for mixing controls)

- Support for firmware update via USB DFU Class (into external low cost serial Flash)

- Support of up to 8 IN / 8 OUT digital audio of S/PDIF (TDM)

Possible Software Extensions

- On-chip Digital Mixer (up to 16 audio + USB channels into 8 busses / audio out channels) with volume and pan

- Dynamic processing (Compressor, Limiter, Noise Gate) and Parametric Equalizer in audio input channels

- Effects

- Direct Monitoring

Evaluation Board

5504-DK development / evaluation board & 5504USB-DK reference design available