

**Features**

- Multichannel USB Asynchronous
- Native support 32bits/384kHz
- Pre-Built firmware for Plug&Play

**Technical**

- USB Audio Class 2.0 interface
- Supports TOSLINK/SPDIF/ADAT/TDM8/PDM/I2S/DSD
- Wide range of sample rates
- PDM to I2S conversion

**OS compatibility**

- Free Windows ASIO driver
- Mac OS X Driverless
- Linux Alsa 2.0 compliant
- Android/iOS compliant

**Power**

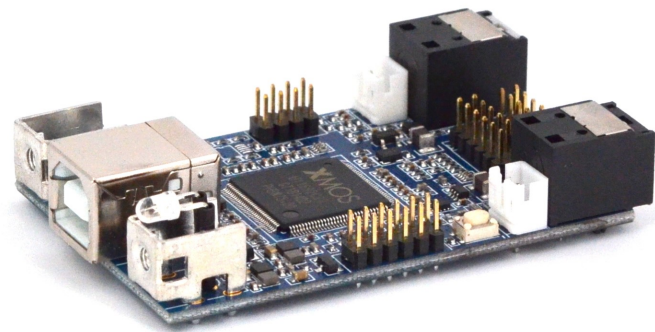
- USB Bus powered
- External DC supply header

**Applications**

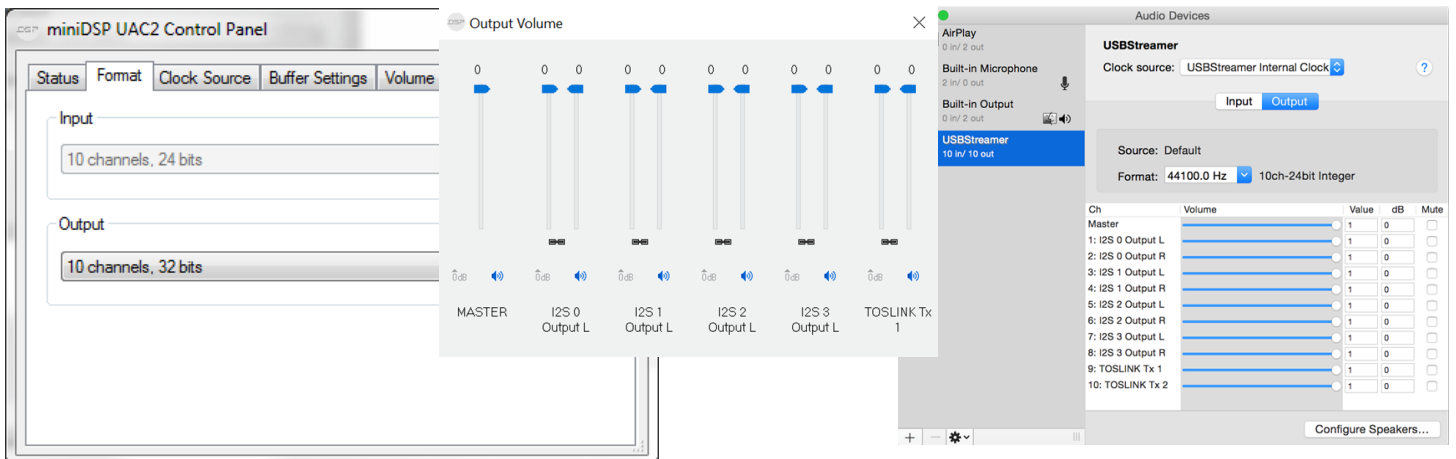
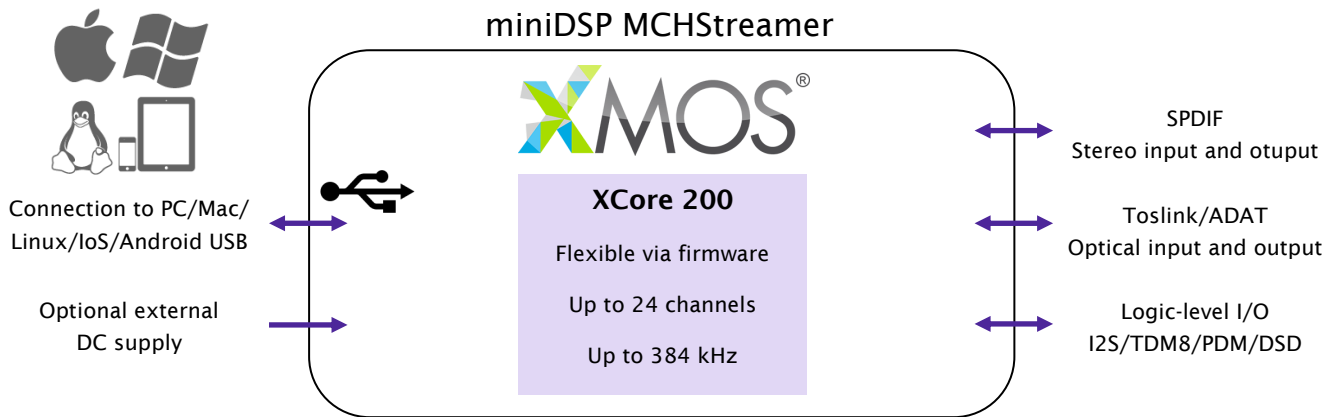
- Custom USB Audio interface
- Multichannel DSD DAC
- R&D development tool
- MEMS audio interface

The **MCH-Streamer** is a multi-channel asynchronous USB interface that supports a myriad of digital I/O formats and leverages years of XMOS product development to achieve a rock solid performance in all configurations. Packaged on a tiny 40x62mm PCB, the MCHStreamer is a perfect fit for OEM/DIY integration or as a testing tool for your R&D team.

By loading one of the miniDSP-provided firmware packages, **MCHStreamer** supports optical TOSLINK, ADAT, S/PDIF (coax), I2S, TDM, DSD and PDM data formats. This USB Audio Class 2 (UAC2) compliant interface truly is the swiss-army knife for audio developers looking to provide an audio interface to PC/MAC/Linux, iOS and Android. It even supports format conversion from PDM signal to I2S for up to 16 MEMS microphones: a neat tool for beamforming algorithm development.



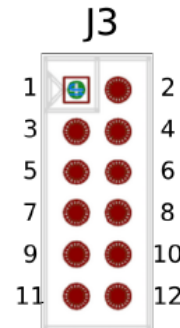
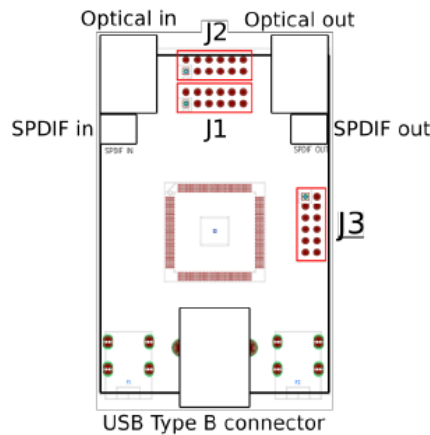
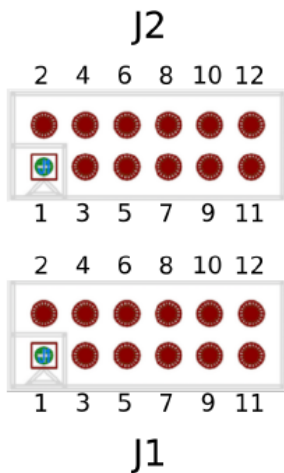
**SYSTEM DIAGRAM**



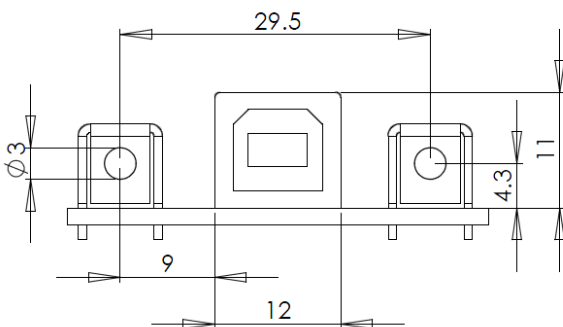
TECHNICAL SPECIFICATIONS

Item	Description
USB Streaming engine	XMOS XCore 200 / USB 2.0 full speed - USB Audio class 2.0 compliant
Drivers	Driverless interface for Mac OS X v10.6.4 and up Free Windows ASIO driver (XP/Vista/7/8/Win10) Linux ALSA compliant driver Apple iOS (ipad/iphone) using Camera kit - multichannel audio streaming
Logic Level formats	SPDIF: Stereo in/out - 24bit up to 192kHz I2S: Up to 8ch bidirectional audio - 24/32bit up to 384kHz TDM8: Up to 24ch bidirection audio - 44.1/48/88.2/96k PDM: Up to 16ch audio recording - 24bit up to 48kHz DSD: Up to 8ch DSD64/128/256 Consult user manual for more details
Optical input & Output	Toslink: Stereo support up to 44.1/48/88.2/96/176.4 kHz ADAT : 8ch ADAT mode @ 48/44.1k and 4ch ADAT mode @ 96kHz
Expansion connector	2 x 12pin, 2mm pitch expansion connector for connectivity to hardware.
Mounting	2 x Right Angle brackets allow easy chassis mounting with M3 threaded hole.
Power supply	USB powered OR 5Vdc external supply via header - 300mA requirement
Dimensions (H x W x D) mm	13 x 40 x 62 mm

MECHANICAL DRAWINGS



Front view - Mechanical drawing



J1 (I2S mode only)	
Pin	Description
1	I2S data OUT Ch 1&2
2	I2S data IN Ch 1&2
3	I2S data OUT Ch 3&4
4	I2S data IN Ch 3&4
5	I2S data OUT Ch 5&6
6	I2S data IN Ch 5&6
7	I2S data OUT Ch 7&8
8	I2S data IN Ch 7&8
9	Master clock (MCLK OUT)
10	Bit clock out (BCLK)
11	Ground (GND)
12	I2S frame sync (LRCLK)

J2	
Pin	Description
1	Ground (GND)
2	NC
3	Ground (GND)
4	NC
5	NC
6	GPIO (future)
7	GPIO (future)
8	RST (negative low)
9	GPIO (future)
10	GPIO (future)
11	Ground (GND)
12	5V external power

J3	
Pin	Description
1	GND
2	3.3V
3	PDM 1-2
4	PDM 3-4
5	PDM 5-6
6	PDM 7-8
7	PDM 9-10
8	PDM 11-12
9	PDM 13-14
10	PDM 15-16
11	PDM CLK
12	PDM CLK2