



xCORE-200 MULTICHANNEL AUDIO PLATFORM

Audio development platform for USB (PC, OS X, iOS, Android) and networked audio designs

FEATURES

Rich audio connectivity

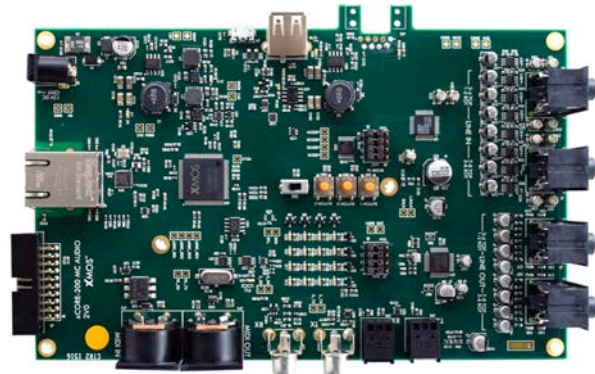
- Up to 32 in / 32 out channels via TDM
- 8-channel analog input and output
- S/PDIF optical/coaxial optical input and output
- ADAT input and output
- MIDI input and output
- 16 x 16 channel mixer

USB Features

- **High Speed USB device**
 - USB Audio Class 2.0 device
 - Optional Audio Class 1.0 fall-back
 - Low loopback latency: 3 ms
 - USB-C connector support
 - Self-powered or bus-powered
- **Bit perfect USB audio transfer**
 - Asynchronous Isochronous from/to host
 - PCM ≤ 384 kHz at 16, 24 or 32bits
 - Native DSD64 and DSD128
 - DoP64 and DoP128
 - Local crystal low-jitter audio clocking
- **Multiple OS support:**
 - Windows
 - Mac OSX
 - Apple iOS
 - Android

Networked audio features

- **10/100/1000Mbit Ethernet connectivity:** Simultaneous talker & listener
- **AVB standards compliant**
 - Time synchronization: 802.1AS
 - Traffic shaping: 802.1Qav
 - Bandwidth reservation: 802.1Qat
 - Media transport: IEEE 1722
 - Discovery and management: 1722.1
- **Supported by Mac OS X**
- **Bit perfect network audio transfer**
 - PLL recovery of AVB clock



The xCORE-200 Multichannel Audio Platform provides a **scalable** and **flexible** hardware and software solution for a **wide range of consumer and professional audio products**.

The Multichannel Audio Platform is based on an xCORE-200 multicore microcontroller; the XE216-512-TQ128 includes an integrated High Speed **USB 2.0 PHY, RGMII Interface, high speed flexible GPIO** and **16 logical cores** that deliver up to **2000 MIPS** of deterministic processing power.

Delivered as source code, the **reference software** provides a fully featured **production ready solution** for USB Audio 2.0 and Ethernet AVB products.

The guaranteed Hardware-Response™ time of xCORE technology always ensures **lowest latency** bit perfect audio streaming to and from the **USB host** or **Ethernet Network**.

The highly configurable xCORE technology delivers very high levels of **product differentiation**, and **fastest time to market**.

The XMOS xTIMEcomposer™ development tools provide a feature-rich **software development environment** with **quick and easy customization** for customer specific, product differentiating features.

TARGET APPLICATIONS

Pro Audio

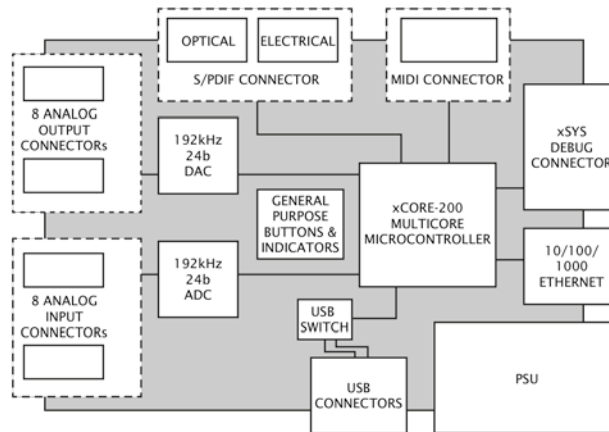
- Speakers
- Amplifiers
- Mixing Consoles
- Audio Interfaces









Consumer/Prosumer

- DJ Controllers
- Headphone Amplifiers
- Audio Interfaces (DACs)
- iOS Accessories
- Musical instruments (Keyboards, Guitars)



xCORE-200 MULTICHANNEL AUDIO PLATFORM BLOCK DIAGRAM



	Feature	Benefit
	High-speed USB 2.0 device 10/100/1000 Mbps Ethernet connection	Plug-and-play operation Bus- or self-powered
	USB Audio Class 2.0 compliant AVB standard compliant endpoint	Driverless operation with Mac OS X ¹ , iOS ² and Android ³ Multiple driver vendors for Windows ⁴ AVnu plugfest proven interoperability with other vendors
	PCM up to 384kHz ⁵ 32bits ⁶ DSD up to x128 DoP (DSD over PCM) up to x128 ⁷	High resolution stereo audio playback
	8-channel streaming to & from host	Simultaneous quad stereo record and playback
	Local clocking Asynchronous USB audio transfer PLL network clock recovery	Low jitter, high quality audio capture and playback
	Powered by xCORE-200 multicore microcontroller	Flexible, deterministic and responsive processing power Lowest audio round trip latency
	Flexible hardware & software platform	Predefined feature set reference software Easily customisable to meet specific product requirements
	Source code reference software Integrated development tools suite	Rapid development and code reuse Royalty-free deployment Fast time to market

1: Mac OS X v10.6.4 and later provides native USB Audio Class 2.0 support.

2: Apple iOS support only available to Apple MFi licensees.

3: Requires that Android device is USB host with USB Audio Class support. Tested against: Samsung Galaxy S3, S4, Note, Sony Xperia Z1, HTC One.

4: USB Audio Class 2.0 support under Windows requires a 3rd party driver.

5, 6: Apple Device Mode with Role Switch to Host Mode, using standard USB-A to Lightning/30pin cable.

7: Mac OS X v10.6.4 and later provides native USB Audio Class 2.0 support.

ORDERING INFORMATION

For a list of XMOS distributors, please visit www.xmos.com/support/distributors.

Part number	Contents
XK-AUDIO-216-MC-AB	XE216 board: XK-AUDIO-216-MC-AB xTAG debugger: XA-XTAG 12V PSU, USB cable, Ethernet cable

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This is a preliminary product brief, contents are subject to change.

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