



HI-RES AUDIO PRODUCTS SOUND BETTER WITH XMOS

XMOS xCORE microcontrollers help make great audio products sound better, and here we take a quick tour of some of the stars! We shine the spotlight on some of the best products available in the portable headphone amplifier and USB DAC categories and hope you agree. If we've missed an excellent product that uses XMOS technology, then let us know!

BREAKTHROUGH PRODUCTS

In this section we take a brief look at innovative products that create or re-define a category.

1. CEntrance HiFi-Skyn



“XMOS offers world-class technology with high CPU performance and low power consumption, perfect for building portable devices. Their great customer support accelerated our time to market and ensured a high-quality, reliable solution.” says Michael Goodman, CEO, CEntrance, Inc.

An iPhone case made for music! The HiFi-Skyn is every audiophile's dream, offering an integrated DAC, headphone amplifier and battery all in a convenient form factor. Using the same award winning technology as the HiFi-M8 and Mini-M8, the CEntrance HiFi-Skyn supports audio formats up to 192kHz/24-bit PCM and DSD 128. With a powerful output drive of 300mW amp and a selector switch, the HiFi-Skyn can drive everything from sensitive IEMs to high-end headphones.

Key features:

- High resolution audio support up to PCM 192 kHz/24-bit and DSD128
- Asynchronous digital streaming
- Internal battery for charging your iPhone
- Up to 10 hours playback on a single charge
- USB charging for maximum flexibility and portability
- Maximum output level of 300mW into 32ohm load

Reviews for the HiFi-Skyn:

- ComputerAudiophile [“Turn your phone into an awesome music player”](#)
- hypi.st! [“This case will become a standard in the coming years!”](#)
- Slash Gear [“Adds better sound and more power”](#)
- Trusted Reviews [“Your phone never sounded so good”](#)

For more details on the HiFi-Skyn see the [CEntrance website](#).

PORTABLE HEADPHONE AMPLIFIERS

As high-end headphones continue to increase in popularity, so we see increased demand for portable headphone amplifiers that provide the output levels necessary to get the best from your headphones. Take a tour of some of the best portable headphone amps available.

2. Oppo HA-2



“The unmatched combination of bit-perfect USB audio, advanced output formats, sample rates up to 384kHz and advanced output formats mean xCORE is an outstanding contribution to the high-resolution audio market” said Jason Liao, CTO and VP Product Development of Oppo Digital, Inc.

With the HA-2, Oppo Digital has introduced what is possibly the most elegant portable headphone amplifier available today, but this product offers more than good looks! Remaining true to their award winning audiophile pedigree, the HA-2 features an integrated USB DAC which supports the latest high resolution audio formats including 384kHz/32-bit PCM and 11.2MHz DSD audio.

With broad device support, the HA-2 can turn your iPhone/iPod, a wide range of Android devices, and PC or Mac into a high performance digital audio player. And the integrated battery means the HA-2 can be used to charge mobile devices on-the-go.

In addition the HA-2 offers two gain level settings for optimal headphone matching and is capable of delivering up to 300mW into 16-Ohm headphones in High Gain mode.

Key features:

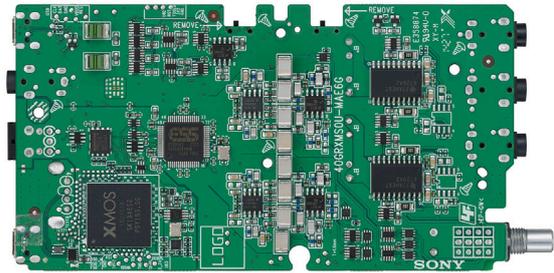
- Ultra-slim design at just 12mm (0.5inch)
- Asynchronous USB Audio Class 2.0
- High resolution audio support up to PCM 384 kHz/32-bit and 11.2MHz DSD256
- Two gain settings for optimal headphone matching
- Mobile power bank for your devices
- Rapid charging (to 75% capacity) in just 30minutes

Reviews for the HA-2:

- DigitalAudioReview.net ["extract considerably better sound quality"](#)
- Gavinsgadgets.com ["simply stands out as a solid, well built ... device"](#)
- Reference Home Theatre ["will probably be one of the most exciting products to come out in 2015"](#)

For more details on the HA-2 visit [Oppo Digital website](#).

3. Sony PHA-3



Sony's PHA-3 is a headphone amplifier with an integrated USB digital-to-analogue converter (DAC) that offers maximum flexibility by being able to decode virtually any audio source from a variety of devices including PC, iPhone/iPad and Xperia™ smartphones and tablets. The PHA-3 supports the latest high resolution audio formats including 384kHz/32-bit PCM and 5.6MHz DSD audio, as well as being capable of upscaling compressed audio files.

The PHA-3 also offers stereo and balanced audio outputs and an optical input to connect to HDD and SACD players.

Key features:

- High-Resolution Audio compatible up to PCM 384 kHz/32-bit and 5.6MHz DSD128
- DSEE HX upscales music to near High Resolution sound quality
- Drive headphones with more power than portable devices
- Compatible with USB Audio class 2.0
- Supplied with balanced cable for clear, precise sound

Reviews for the PHA-3:

- All 'bout headphones [video review](#)
- CNET "[The sound was easily the best I've heard from Sony in years!](#)"
- Hifiguy https://www.youtube.com/watch?v=w_ymlFSSNu0
- JoshKerr.com "[Oh my! This is unbelievable. Sound like I've never heard before](#)"

For more details on the PHA-3 visit the [Sony website](#).



USB DAC & HEADPHONE AMPLIFIERS

This category takes a look at some of the best-in-class USB DACs available today. Unlike the portable headphone amplifiers mentioned above, the products in this category are all USB bus powered.

4. Cambridge Audio DacMagic XS



“The XMOS devices allow us to deliver bit perfect high quality audio in a compact and cost effective solution that has been integrated into some of our award winning products.” says Chris Woolrych, Engineering Manager at Cambridge Audio.

The DacMagic XS is a small and perfectly formed USB DAC plus headphone amplifier, which delivers a powerful punch. Delivering up to 150mW of output power and easy connection via the USB port, the DacMagic XS enables you to enjoy perfect sound from your MAC or PC. And with support for high resolution audio formats up to 192kHz /24-bit PCM you can hear your favourite music and movies with every drop of detail, exactly as the artist intended.

At just 100g and measuring only 53.5mm x 30mm x 10mm, the DacMagic XS is one of the smallest USB DAC's available.

Key features:

- Small but mighty at just 100g and 53.5mm x 30mm x 10mm (H x W x D)
- USB bus powered compact DAC
- Compatible with USB Audio Class 2
- High resolution audio support up to 192 kHz/24-bit PCM
- Maximum output level of 150mW
- Analog volume control

Reviews for DacMagic XS:

- Gadget Review [“The level of clarity is really something for such a small device”](#)
- HomeTheaterReview.com [Best of 2014 Award](#)
- Sound + Image Awards 2015 [Portable DAC of the Year](#)
- Trusted Reviews [Best USB Headphone Amps 2015](#)
- What HiFi [Best DAC <£100](#)

For more details on DacMagic XS visit the [Cambridge Audio website](#).



5. Meridian Explorer²



“XMOS xCORE processors power our award-winning family of DACs and headphone amplifiers and enable us to deliver bit-perfect, asynchronous USB audio resulting in an outstanding listening experience” says Rayner Sheridan, Director of Marketing for Meridian Audio.

Explorer² is the 2nd generation of Meridian’s multi-award winning USB-powered DAC and headphone amplifier. Leveraging Meridian’s 30 years of experience designing and manufacturing high-end audio equipment, the Explorer² takes the best of the original Explorer and integrates bespoke features from Meridian’s premium Reference 800 series components.

A fully asynchronous USB Audio Class 2 DAC, the Explorer 2 plays high resolution 24-bit/192 kHz files at their native resolution without downsampling. With more DSP capability, the Explorer² is the first DAC that can decode ‘Master Quality Authenticated’ (MQA) lossless audio files. Meanwhile the addition of Meridian’s Apodising filter from the 800 series can actually fix errors in recordings. The result is that old and new recordings sound clearer and more alive.

Features:

- Compact USB- powered DAC weighing in at just 50g
- Bit-perfect, asynchronous, USB Audio Class 2
- Native high resolution audio support up to 192 kHz/24-bit PCM
- MQA (Master Quality Authenticated) ready
- Ultra-low impedance volume control: 0 to –100dB, ideal for sensitive headphones
- Maximum output level of 130mW

Reviews/Awards for Explorer²:

- Electronic House [2015 Product of the Year](#)
- Telegraph [“The ideal companion for anyone who appreciates high end sound - and superior quality to go with”](#)

Awards for Explorer:

- AudioStream [Greatest Bits](#)
- EISA Awards 2013-14 [Best USB DAC](#)
- HomeTheaterReview.com [10 Hot DACs](#)

For more details on Explorer² visit the [Meridian website](#).