Meridian's Explorer² is a portable, compact and rugged USB DAC designed to deliver best-in-class audio performance. Developed from the highly successful and acclaimed Explorer, Explorer² features a significantly more powerful DSP capability than its predecessor. This allows the full range of Meridian enhancement technologies to be included, along with decoding and rendering for the MQA 'Master Quality Authenticated' process.

Like its predecessor, Explorer² includes premium audiophile-grade components and an elegant all-metal enclosure. Explorer² delivers an exceptional Meridian audio experience from virtually any computer – and a lot more besides.

### Meridian DNA

Explorer² embodies Meridian DNA. The design features a sophisticated 6-layer circuit board. Audiophile-grade components are utilised throughout, including resistors, sockets and music grade electrolytics; and polypropylene filter capacitors. The use of direct-coupled outputs further maximises audio quality.

Explorer² was designed, and is built, in the UK, in exactly the same way and with the same attention to detail and quality throughout, as any other Meridian product.

### Meridian Resolution Enhancement

Explorer² includes significantly more DSP power than its predecessor, allowing the full suite of Meridian audio enhancement technologies to be included, which was not previously possible. Thus the Explorer² upsamples all input signal to 176.4/192kHz (4x standard sample rates) – 4x streams are played at full resolution with no downsampling. It includes Meridian's proprietary Apodising upsampling filter, which minimises pre-ringing for a clearer, more transparent sound, while at the same time removing digital filter artefacts from earlier digital recordings, audibly improving overall smoothness of sound and stereo imaging.

The Explorer² also features Meridian's approach to noise-shaping. This moves noise out of the audio band, increasing the audible signal to noise ratio.

### Superior clocking

Explorer² features full audio performance at sample rates up to 192kHz, 24-bit resolution. It doesn't downsample 176.4/192 kHz signals to lower levels, delivering instead the full bandwidth of the original. Explorer² is completely asynchronous – it does not rely on the computer's clock for timing. Instead, it uses precision on-board low-jitter crystal oscillators for the base sample rates. These were developed from those used in Meridian's premium home entertainment systems.

These oscillators provide the master clocking for the entire playback system, and eliminate all USB interface jitter. 'Isochronous' transfer ensures maximum bandwidth and low latency. This is particularly significant, for example, when playing videos on the computer, for which audio and video must remain in sync.

## Product highlights

True Meridian quality from a pocket Digital to Analogue Converter

Includes USB DAC and Headphone Amplifier

Meridian MQA Decoding and Rendering with LEDs to indicate authenticated master-quality replay

Full range of Meridian Resolution Enhancement technologies for ultimate performance: Apodising filter, 4x upsampling to 176.4/192kHz, Noise Shaping

Asynchronous USB Audio Class Compliant 2.0 HS 480Mb/s for best-in-class performance

Bus-powered; plugs into any computer with a USB port

Exceptionally high resolution (24-bit/192kHz)

6-layer circuit board with audiophile-grade components throughout

Auto-sensing headphone and 192kHz-derived fixed analogue outputs

Advanced headphone volume control: 0 to −100dB, ideal for sensitive headphones.

Ultimate playback performance limited only by the source material – makes any file sound its best

Compact, elegant and rugged metal enclosure

Cable connection to avoid motherboard stress

Hand made in the UK

**Meridian Audio Limited**

meridian-audio.com

The DAC design also offers extremely low modulation noise and distortion for the ultimate in audio performance. The interface is USB Audio Class Compliant 2.0 HS, supporting data rates up to 480Mb/s.

## Dual auto-sensing outputs

Two outputs are provided: one for headphones and the other a line output for connection to a hi-fi system. Explorer² automatically senses which is in use and deactivates the heaphone amplifier when the line output is connected, reducing noise.

The 3.5mm headphone socket delivers up to 130mW of high-quality audio – capable of driving plenty of level for even low-efficiency headphones.

The volume is controlled from the host computer. The volume control is an advanced design with an extended range of 0 to −100dB. This level of variability suits all kinds of headphones including the most sensitive.

The second 3.5mm socket provides a fixed-level analogue (2v RMS) output for connection to an external audio system. This is connected directly to the DAC for bit-precise performance. It delivers a fixed, full-level signal with no volume control. This is exactly what you need for an audio system: driving full level ensures both maximum signal to noise ratio *and* maximum use of digital resolution right through to the audio system's own volume control, which controls the level for all sources in the system.

## A Higher Class of DAC

Explorer² is a USB Class 2 device that works with the newer (2009) USB2 specification. This supports a transmission speed of 480Mb/s – 40 times faster than Class 1 – allowing Explorer² to play 192kHz audio streams. You can also plug it into any available USB port – including a hub. You're not required to plug it direct into the computer.

Whether replaying an mp3 or a high-resolution lossless file, Explorer² will make any content sound its best. It delivers a level of audio quality essentially limited solely by the source material.

Three indicators show the status of the Explorer². The LED furthest from the headphone socket illuminates white to indicate that the unit is operating (and playing PCM at 1x standard sample rates – 44.1/48kHz). The middle LED (2x standard rate) indicates 88.2/96kHz operation and the third LED 176.4/192kHz operation (4x).

## Master Quality Authenticated (MQA)

Explorer² includes a powerful decoder and audio renderer for Meridian's exclusive 'Master Quality Authenticated' system. This ensures that MQA-encoded lossless audio files and streams sound exactly like the source. The 1x LED glows green to indicate that the unit is decoding and playing an MQA stream or file, and that the sound is identical to that of the source material. It glows blue to indicate that the Explorer² is playing an MQA Studio file – one based on a new, exclusively sourced, artist/producer-approved studio master. In all cases you hear exactly the sound the production team intended.

## Operation

Explorer² connects to the computer via USB mini B connector and a cable. Unlike many other products of its type, Explorer² does not plug directly into the PC: it uses a standard USB cable (included). This minimises the risk of damaging the PC motherboard if the product is accidentally knocked or the headphone cord is pulled.

Explorer² connects to virtually any computer which has a USB port. Drivers are provided for Windows. Macintosh and Linux operating systems do not require drivers, allowing simple plug-in and play operation. On the Macintosh, the Audio MIDI Setup utility is used to set the output sample rate; on Windows, the Sound control panel is used. Explorer² requires Macintosh OS X 10.6.4 (Snow Leopard) or later, Linux kernel 2.6.37 or later, or Windows XP SP3, Windows 7 SP1, or Windows 8 or later.

Despite its powerful output and performance capability, Explorer² is entirely USB bus-powered. It is supplied in elegant presentation packaging and includes a short USB cable and a soft carrying pouch that stores both Explorer² and cable.

## Outline Specifications

### Inputs
- USB mini type B.

### Outputs
- 3.5mm analogue line out, fixed 2v RMS.
- 3.5mm headphone jack with variable-level output, impedance 0.47Ω.

### Construction
- Extruded Aluminium shell with moulded plastic endcaps and rubber foot.

### Power
- USB, nominal 5V at <500mA.

### Processing
- Dual Tile XMOS DSP with 16 cores and 1000 MIPS

### Indicators
- Three white LEDs (1x, 2x, 4x) show connected state and audio stream rate. 1x LED glows white for PCM, green to indicate MQA playback and blue to indicate MQA Studio playback. MQA indications will not show if the bitstream is altered in any way.

### Implementation
- USB audio class compliant 2.0 HS 480Mb/s bandwidth.
- Asynchronous: device is the clock source for high quality.
- Firmware upgrade via USB.
- Windows drivers provided, no drivers required for Macintosh OS X or Linux.
- Analogue volume control for headphone output, controlled from PC, control law modified to match connected OS.

### OS requirements
- Macintosh OS X 10.6.4 (Snow Leopard) or later
- Windows XP SP3, Windows 7 SP1, Windows 8 or later
- Linux kernel 2.6.37 or later and ALSA version 1.0.32 or greater

### Dimensions (approx)
102 x 32 x 18mm (4.0 x 1.25 x 0.7in).

### Weight (approx)
50g (1.76oz).

*E&OE. Specifications subject to change without notice. Original measurements use SI units. Dimensions should be confirmed against the original device or dimensioned engineering drawings.*