



# DAC BOX DS2 ULTRA

**DSD**  
Direct Stream Digital



**High end digital/analogue converter with DSD & USB 2.0**

MSRP 649 € (incl. VAT)

Incl. wood side panels MSRP 699 € (incl. VAT)

colour options:



real wood side panels:



- Top grade AK4490 D/A chip (32-bit PCM 768kHz / DSD256)
- 6 Inputs: 1x USB, 3x optical (TOSlink®), 2x coax (S/PDIF)
- Up to 24bit/192kHz for optical & coax inputs
- 5 selectable digital filter characteristics
- 3 selectable sound modes
- High end ultra low phase oscillator with superior noise rejection
- RCA line level solid-state analogue output stage
- Ultra linear & ultra low noise circuitry
- Separate power supplies for every stage with advanced filter technology
- Upgradeable with optional linear power supply Power Box DS2 Sources
- Full metal casing in silver or black
- Optional with wooden side panels (rosewood, walnut, eucalyptus)

**D/A-converter:** AK4490 32-bit PCM 768kHz / DSD256  
**Sampling rate converter:** AK4137EQ upsampling to 768kHz  
**Sampling rates:** 32/44,1/48/88,2/96/176,2/192/352,8/384 /768 kHz  
**DSD support:** DSD64, DSD128 and DSD256  
**Filter settings:** 5 different selectable on front  
**6 digital inputs:** 2x coax (S/PDIF), 3x optical (TOSlink®), USB B  
**Frequency response:** 20Hz - 50kHz (+0/-1dB)  
**Analogue out:** RCA/Cinch  
**Output voltage:** 2,2 Veff (switchable +6dB gain gives 4,4 Veff)  
**THD:** 0,00085% solid state out  
**Crosstalk:** -117dB (10kHz@0dB)  
**Signal to noise ratio:** 113dB (20 - 20.000 kHz)  
**Digital out:** optical (TOSlink®)  
**Power consumption:** <1 watt standby, 600mA max  
**Outboard Power supply:** 18V/1000mA DC (included)  
**Dimensions W x H x D:** 206 x 72 x 200 (220mm with sockets)  
**Weight:** 1010g without power supply

## DAC Box DS2 ultra - state-of-the-art audio converter!

The advanced DAC Box DS2 ultra is a universal and very flexible D/A converter of the highest class. It offers full DSD256 support and upsampling of all input signals to 768kHz from USB, coaxial and optical inputs. This realizes high resolution sound playback with a rich sound field and bass representation with less distortion. Due to its class-leading audio performance DAC Box DS2 ultra is an ultimate high end bargain!

## DAC Chip

The Asahi Kasei AK4490 is a new generation 32bit / 768kHz stereo Premium DAC which adopts the newly developed VELVET SOUND™ technology achieving high resolution sound playback that realizes a rich sound field and bass representation with less distortion. 5 digital filters and 3 sound modes can be selected. The AK4490 DAC integrates a capacitor filter that greatly reduces sound degradation from noise shaping, achieving a flat noise floor up to 200kHz.



silver with rosewood side panels



silver with walnut wood side panels



silver with eucalyptus wood side panels



black with rosewood side panels



black with walnut wood side panels



black with eucalyptus wood side panels

## DSD capability

Engaged audiophiles will love full DSD capability (up to DSD256) over PCM. USB input allows conversion of hi-res audio data up to 32-bit and 768kHz, all other inputs fully support 24/192kHz HD music data in fully asynchronous mode. Up to 768kHz PCM and 11.2MHz in DSD are fully supported for premium digital playback. In particular, our DAC uses a „DSD Direct Path“ allowing the audio signal to bypass the  $\Delta\Sigma$  modulator, to reproduce the original sound from DSD audio source.

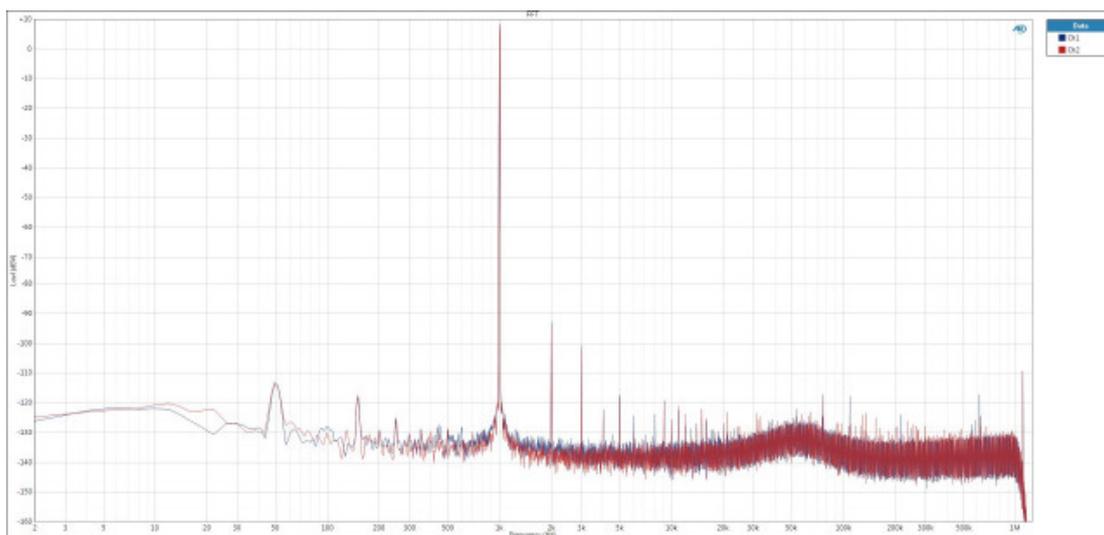
## Asynchronous USB input is based on XMOS technology

It allows transfer of data in asynchronous mode up to 32bits and 768kHz. Windows based computers require for higher resolution than 24/96 a driver, which is attached to DAC Box DS2 ultra. Mac or Linux computers doesn't require it. USB Audio 2.0 solution provides high quality digital audio connectivity for pro-audio and consumer applications. The design provides this certified USB 2.0 High Speed device and Audio Class 2.0 device class implementations.

## Upsampling to 768kHz

The AK4137EQ is a new flagship premium 32-bit SRC (Sampling Rate Converter), based on AKM's VELVET SOUND architecture but never used in such low price range. Main reason: DAC requires low pass filter which is used to filter the carrier frequency generated from the oscillator. If the sampling (carrier) frequency is 44,1kHz, low pass filter is e.g. 22kHz and such filter affects

audible frequencies in range about 10kHz. Amplitude decrease and phase shift affect space and timbre of the sound. 768kHz sampling frequency allows to use low pass filter on much higher frequencies and then affected frequencies are above 200kHz which is far above any audible frequencies.



## Technical headlines

**4-layer PCB:** For the first time in Pro-Ject Audio Systems history, here is used a four layers PCB which allows to use the shortest and symmetrical paths between the crucial components.

**Output stage:** A solid state Class A circuitry offers limitless details and dynamics. The who-

le audio circuitry design is ultra low noise and ultra linear with very low output impedance to avoid any negative interference with cables or pre-amps.

**The casing:** In order to avoid penetration of electrical and mechanical interferences in DAC Box DS2 ultra is mounted in a massive aluminium / steel case. Internal chassis is made from a steel sheet.

