

# 760 D/A-Converter



## Product announcement

Dulliken, 6 May 2015



We are pleased to announce our new 760 D/A converter. Top class D/A converter stages, an ultra-precise clock generator combined preamplifier grade analogue output stages translate every music detail in the analogue world.

Five digital inputs (AES/EBU, SPDIF, Optical, USB and LAN) provide versatile connectivity. The DSP based USB and LAN inputs get synchronised on the ultra-precise, internal master clock and ensure optimal reception of all high resolution music formats.

- PCM (16bit/ 32kHz bis 24Bit/192kHz),
- DSD (1bit/2.82 MHz) and double DSD (1bit/5.62 MHz).

The polynomial based upsampling algorithm, digital filters with apodizing characteristics combined with our innovative Zero-Phase-Technology ensure perfect treatment of the digital data for best audiophile results.

## zeroφtech

soulution's innovative Zero-Phase-Technology resolves one of the fundamental problems of the digital-to-analogue conversion. The introduction of the (over)upsampling technology allowed using aliasing filters with a wider transition band than required for a sampling frequency of 44.1kHz. However, the cut-off frequency of these filters is still way too low for not having any influence on the phase response in the audio band. Zero-Phase-Technology overcomes this shortcoming! Smallest timing errors provoked by the analog low pass filter of the D/A converter get eliminated. The 760's anti-aliasing filter (passive 3rd order Bessel filter), with a cut-off frequency of 120kHz, does show a phase shift of up to 15° in the audio band. Due to the Zero-Phase-Technology the phase error of the analog music signal remains below 1°, 20Hz - 100kHz! The Zero-Phase-Technology brings you even closer to the beauty of the source material! The music gets even more realistic and 3-dimensional with a lot of "air" around instruments and voices. As close to the source as possible! No detail gets lost. Utmost precision of the clock signal is a must have for a top class D/A-Conversion. Low-phase-noise behaviour is by far more important than long term frequency stability. Together with experts for highend oscillators we did develop an oscillator which is optimized for this application. It does not run on its first harmonic but on its 3rd overtone. The clock modules work at frequencies around 100MHz, this requires extremely fast amplifier stages within the oscillator loop but allows achieving best results regarding phase-noise. The 760 DAC does have two separate oscillator modules for signals based on 44.1kHz and signals based on 48kHz.

A D/A-converter is as much digital component as it is an analogue component. Amplification of the sensible analogue output signals of the D/A converter chips is of the same importance than the perfect treatment of the digital data. In our opinion this fact gets often neglected. The 760 is equipped with four extremely fast current-to-voltage (I/V) converter stages with a bandwidth of 80MHz. The output stages are based on the same circuits as used for the 725 preamplifier.

Key to any good sounding audio source component is a stable, noise-free power supply - especially for the audio stages. For powering the audio stages an innovative, amplifier-like circuit design is used, providing a stable supply voltage. With more than 500'000 µFarad of storage capacitance it provides almost unlimited impulse current for the ana-log circuits. Bus bars supply this power throughout the 760 D/A converter without any losses. A unique concept in the audio world!

[...more >>>](#)

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Production start:	October 2015
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