Analog Reinvented

ES9016K2M
SABRE32 Ultra 32-bit Stereo Mobile Audio DAC
Product Brief

The ***ES9016K2M SABRE32 Ultra DAC*** is a high-performance 32-bit, 2-channel audio D/A converter targeted for portable high-fidelity audio applications such as mobile phones and digital music players, consumer applications such as Blu-ray players, audio pre-amplifiers and A/V receivers, as well as professional applications such as recording systems, mixer consoles and digital audio workstations.

Using the critically acclaimed ESS patented 32-bit Hyperstream™ DAC architecture and Time Domain Jitter Eliminator, the ***ES9016K2M SABRE32 Ultra DAC*** delivers a DNR of up to 122dB and THD+N of –110dB, a performance level that will satisfy the most demanding audio enthusiasts.

The ***ES9016K2M SABRE32 Ultra DAC***'s 32-bit Hyperstream™ architecture can handle up to 32-bit, 384kHz PCM data via I^2S, DSD-11.2MHz data as well as mono mode for highest performance applications. Both synchronous and ASRC (asynchronous sample rate conversion) modes are supported.

The ***ES9016K2M SABRE Ultra DAC*** is powered by a +1.8V to +3.3V supply for both the digital and analog sections, with internal regulators generating the core supply. The DAC comes in a 28-QFN package, supports 1.8V logic levels and consumes less than 40mW in normal operating mode (< 1mW in standby mode)

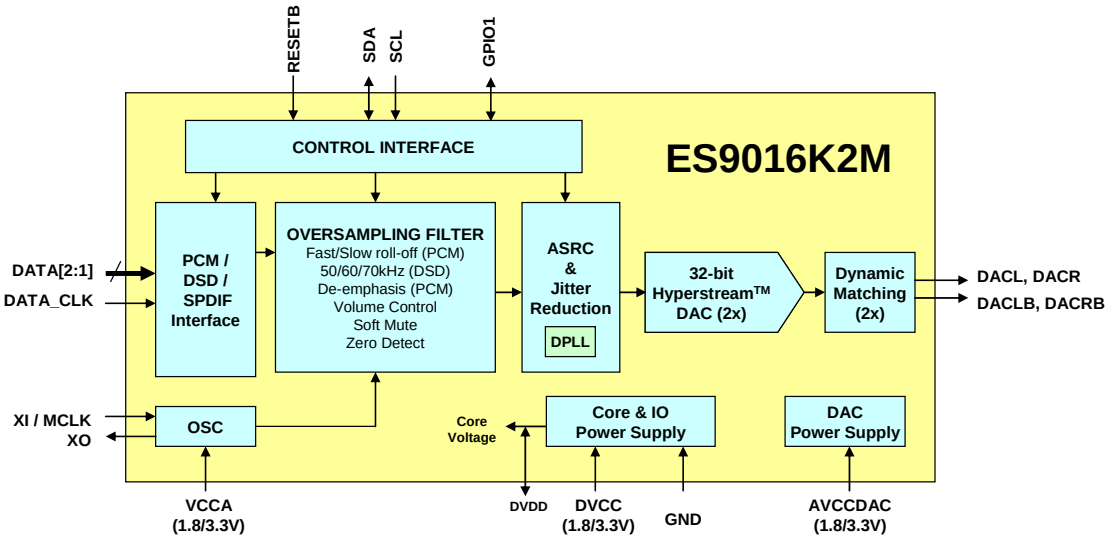
The ***SABRE Ultra DAC*** sets a new standard for high quality audio performance, **SABRE SOUND™**, in a cost effective, easy-to-use form factor for today's most demanding digital audio applications.

FEATURE	DESCRIPTION
Patented 32-bit Hyperstream™ DAC o +122dB DNR o –110dB THD+N	o 32-bit audio DAC powered by Sabre32 DAC architecture with unmatched dynamic range and ultra low distortion o Supports both synchronous and ASRC (asynchronous sample rate converter) modes
Patented Time Domain Jitter Eliminator	o Unmatched audio clarity free from input clock jitter
64-bit accumulator and 32-bit processing	o Distortion free signal processing
Integrated DSP Functions	o Click-free soft mute and volume control o Programmable Zero detect o De-emphasis for 32kHz, 44.1kHz, and 48kHz sampling
Customizable output configuration	o Mono or stereo output in current or voltage mode based on performance criterion
I^2C control	o Allows software control of DAC features
28-QFN (5mm x 5mm) package	o Minimizes PCB footprint
< 40mW operating, < 1mW standby power	o Maximizes battery life
1.8 to 3.3V analog & digital power supplies	o Reduces power and simplifies power supply design
1.8V digital logic supported	o Connects to Application Processor without level shifter
Versatile digital input	o Supports SPDIF, PCM (I^2S, LJ 16-32-bit) or DSD input
Customizable filter characteristics (revision V only)	o User programmable filter allowing custom roll-off response o Bypassable oversampling filter

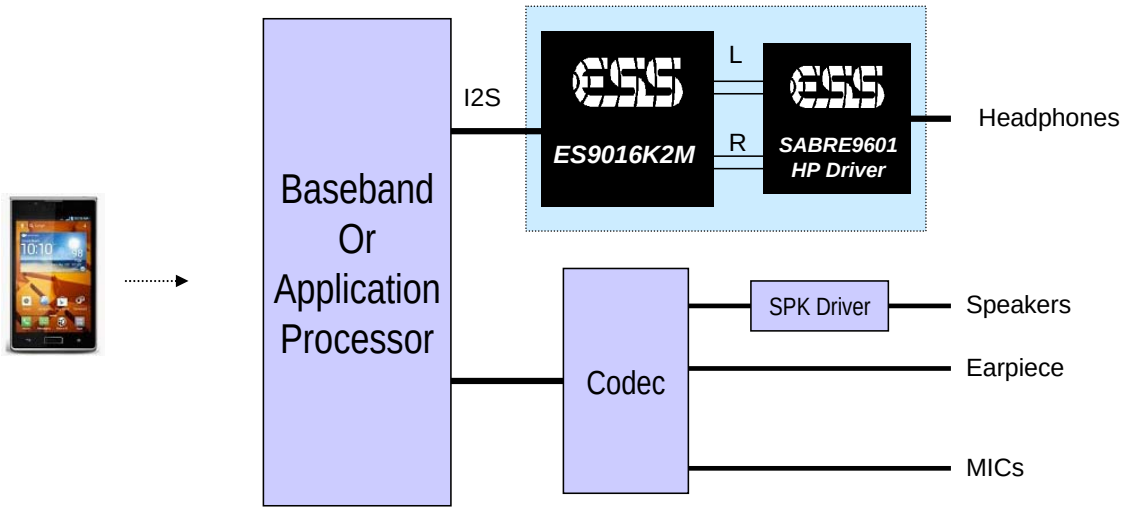
APPLICATIONS

- Mobile phones / Tablets / Digital music players / Portable multimedia players
- Blu-ray / SACD / DVD-Audio player
- Audio preamplifier and A/V receiver
- Professional audio recording systems / Mixing consoles / Digital audio workstation

FUNCTIONAL BLOCK DIAGRAM



TYPICAL MOBILE APPLICATION DIAGRAM



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