



**SABRE<sup>32</sup>** Reference DAC  
**32-bit Hyperstream™ Audio DAC**  
**Product Brief**

The **SABRE<sup>32</sup> Reference** audio DAC series is the world's highest performance 32-bit audio DAC solution targeted for consumer applications such as Blu-ray players, audio pre-amplifiers, A/V receivers and professional applications such as recording systems, mixer consoles and digital audio workstations.

Part Number	Description	Package	DNR (dB)	THD (dB)	32-bit DAC	I2S/DSD Input	SPDIF Input	Jitter Reduction
ES9018	<b>SABRE<sup>32</sup> Reference 8-Channel Audio DAC</b>	64-LQFP	135 (mono) 133 (stereo) 129 (8ch)	-120	Yes	Yes	Yes	Yes
ES9012	<b>SABRE<sup>32</sup> Reference Stereo Audio DAC</b>	64-LQFP	133	-120	Yes	Yes	Yes	Yes

With ESS patented 32-bit Hyperstream™ DAC architecture and Time Domain Jitter Eliminator, the **SABRE<sup>32</sup> Reference Stereo DAC** delivers an unprecedented DNR of up to 135dB and THD+N of -120dB, the industry's highest performance level that will satisfy the most demanding audio enthusiasts.

The **SABRE<sup>32</sup> Reference** audio DAC's 32-bit Hyperstream™ architecture can handle full 32-bit PCM data via I2S input, as well as DSD or SPDIF data. The **SABRE<sup>32</sup> Reference** supports up to 1.536MHz<sup>1</sup> input sampling rates and consumes less than 100mW.

## FEATURE

## BENEFIT

Patented 32-bit Hyperstream™ DAC <ul style="list-style-type: none"> <li>Up to 135dB DNR</li> <li>-120dB THD+N</li> </ul>	Industry's highest performance 32-bit audio DAC with unprecedented dynamic range and ultra low distortion
Patented Time Domain Jitter Eliminator	Unmatched audio clarity free from input clock jitter
64-bit accumulator and 32-bit processing	Distortion free signal processing
Universal digital input for up to 1.536MHz <sup>1</sup> sampling rate	Supports SPDIF, PCM (I2S, MSB/LSB justified 16-32-bit) or DSD input with DVD Audio and SACD compatibility.
Integrated DSP functions	Click-free soft mute and volume control Programmable filter characteristics for PCM/DSD Programmable Zero detect De-emphasis for 32, 44.1 and 48kHz sampling
Customizable output configuration	Mono, stereo, 8-channel (ES9018 only) output in current or voltage mode based on performance criterion
Customizable filter characteristics	User programmable filter allowing custom roll-off response
100mW power consumption	Simplifies power supply design

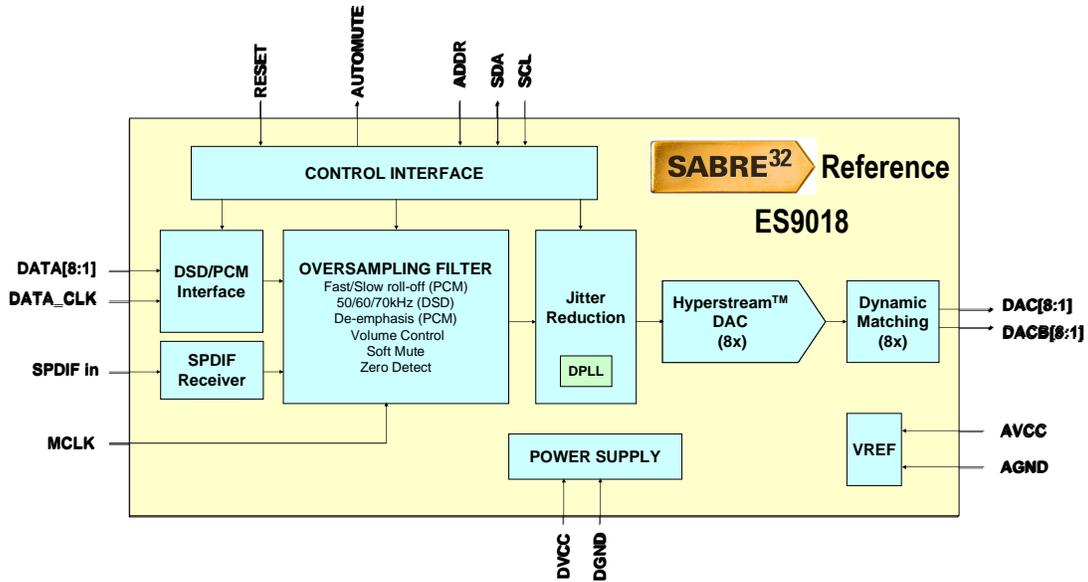
## APPLICATIONS

- Blu-ray / SACD / DVD-Audio player
- Audio preamplifier and receiver
- A/V processor
- Professional audio recording systems and mixing consoles
- Digital audio workstation

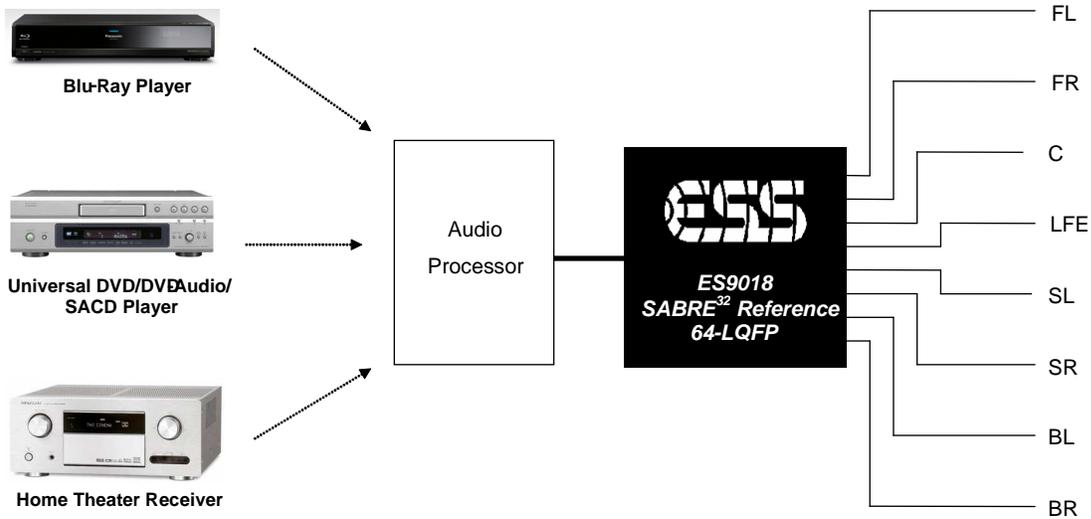
1. This is for oversample bypass mode only. The maximum sample rate using the internal oversampling filters is 200kHz.



## FUNCTIONAL BLOCK DIAGRAM



## APPLICATION DIAGRAM



No part of this publication may be reproduced, stored in a retrieval system, transmitted, or translated in any form or by any means, electronic, mechanical, manual, optical, or otherwise, without the prior written permission of ESS Technology, Inc. ESS Technology, Inc. makes no representations or warranties regarding the content of this document. All specifications are subject to change without prior notice. ESS Technology, Inc. assumes no responsibility for any errors contained herein. U.S. patents pending.