



ESS Technology, Inc.



Reference ADC

32-bit Hyperstream™ Stereo Audio ADC

Product Brief

OVERVIEW

Part Number	Description	THD (dB)	32-bit Digital Filter	High-pass Filter	I2S Output	SPDIF Output	Sample Rate
ES9102	SABRE³² Reference Stereo Audio ADC	-120	Yes	Yes	32-bit	Yes	Up to 200kHz

The **SABRE³² Reference** Stereo ADC is the world's first two-channel 32-bit analog-to-digital (A/D) converter targeted for consumer applications such as audio pre-amplifier, audio processor, A/V receiver and professional audio applications such as recording systems, mixer consoles and digital audio workstations.

Using the ESS proprietary 32-bit Hyperstream™ ADC architecture, the **SABRE³² Reference ADC** delivers an unprecedented THD of -120dB, the industry's highest performance level that will satisfy the most demanding audio enthusiasts.

For highest performance, the **SABRE³² Reference ADC** implements a 32-bit linear phase decimation filter and outputs the full 32-bit resolution via the I2S output port. Alternatively, an SPDIF output port can also be used. A digital high-pass filter is available for DC removal. The **SABRE³² Reference ADC** supports output sampling rates up to 200kHz and consumes less than 50mW.

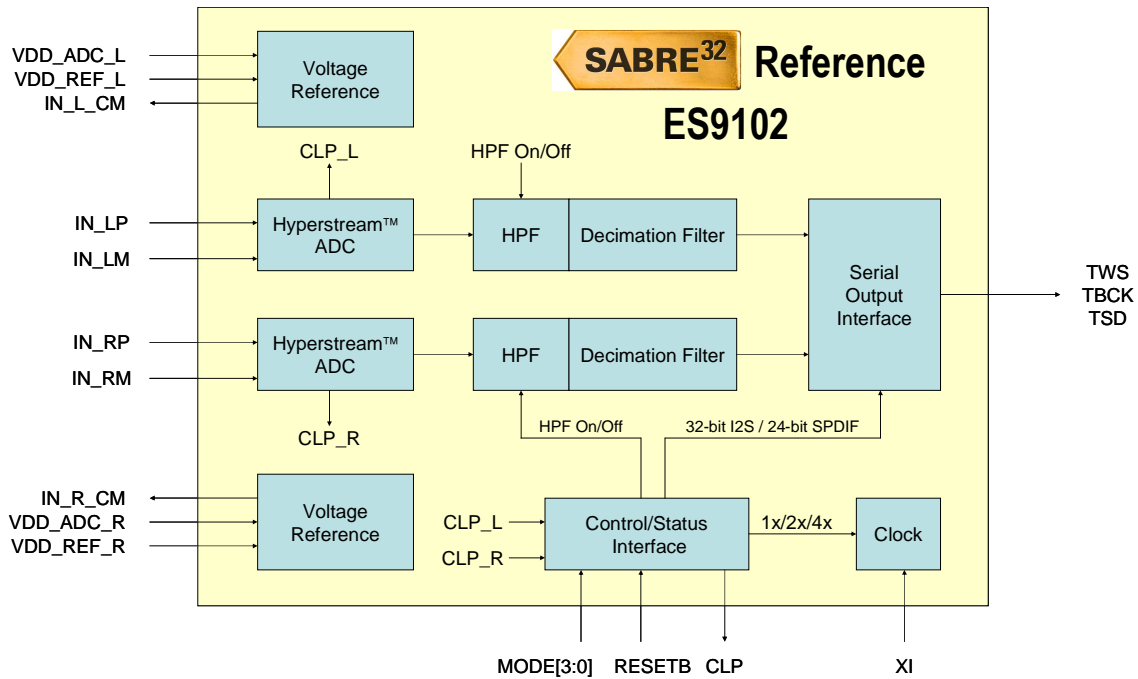
KEY FEATURES

Feature	Benefit
32-bit Hyperstream™ ADC architecture ○ -120dB THD	Industry's first 32-bit audio ADC delivering unprecedented dynamic range and ultra low distortion
32-bit linear-phase decimation filter	Superior phase response
Digital High-pass filter	Eliminates input DC offset
Up to 200kHz sampling rate	Compatible with DVD-audio and professional applications
Flexible digital output modes	32-bit I2S or 24-bit SPDIF
Low power in a small package ○ 50mW power consumption ○ 28-TSSOP package	Simplifies PCB layout and power supply design

APPLICATIONS

- Professional recording systems
- Studio mixing console
- Digital audio workstations
- Audio/Video receivers
- Audio preamplifiers
- Audio processor

FUNCTIONAL BLOCK DIAGRAM



PIN LAYOUT

