CS4398

Stereo DAC Improves Audio Performance

Advanced Architecture Delivers
120 dB Dynamic Range and -105 dB THD+N

CIRRUS LOGIC®

System Features

- Advanced multi-bit $\Delta\Sigma$ architecture
- 120 dB dynamic range
- -105 dB THD+N
- Up to 192 kHz sample rates
- Direct Stream Digital mode (SACD)
  - Non-decimating volume control
  - On-chip 50 kHz filter
- Low clock jitter sensitivity
- Differential analog outputs
- Supports direct interface to logic levels from 1.8 V to 5.0 V
- Control output for external muting
- Available in 28-pin TSSOP

Applications

- Professional and consumer audio
  - AV receivers
  - SACD players
  - DVD players
  - Digital mixing consoles
  - Effects processors
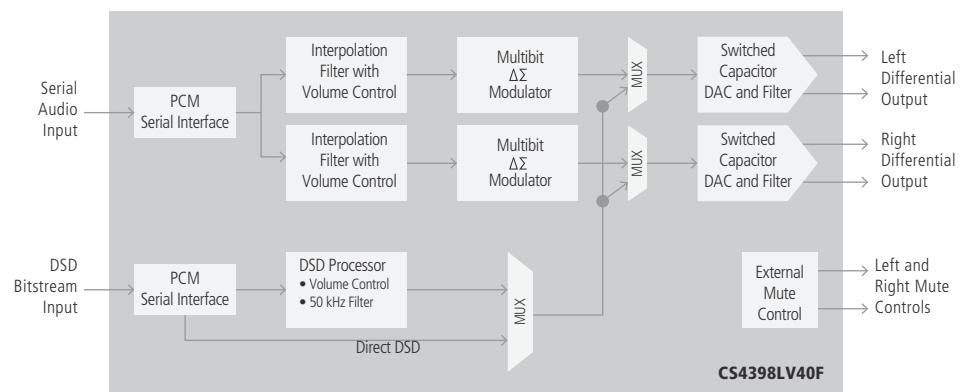 - Outboard converters

Product Overview

Targeting high-end consumer and professional audio applications, this D/A converter from Cirrus Logic pushes analog performance to greater levels while defining a new standard for sound quality. The CS4398 stereo DAC utilizes an advanced, proprietary multi-bit, $\Delta\Sigma$ modulator with integrated mismatch noise shaping technology to provide a closed-loop architecture, eliminating the need for dynamic element matching (DEM) while ensuring premium sound quality by removing any potential audible artifacts.

For SACD applications, the CS4398 includes a patented Direct Stream Digital processor that includes a volume control engine that does not decimate the data stream, thereby maintaining the native sampling rate of 2.8224 MHz and preserving the integrity of the SACD data format. Also included is an on-chip 50 kHz filter that complies with recommendations in the SACD standards. Cirrus' proprietary techniques for providing SACD volume control and filtering offer manufacturers the ability to add SACD at no additional cost in the analog section of their products.

The CS4398 offers 24-bit conversion and supports sample rates up to 192 kHz. Selectable digital filter response, integrated level shifters for direct interface to logic levels from 1.8 V to 5 V, and a differential analog output architecture are packaged in a low-profile 28-pin TSSOP.

With an extensive feature set, the CS4398 provides an ideal solution for a variety of professional and consumer audio applications, such as universal DVD players (SACD and DVD-Audio support), digital mixing consoles, AV receivers, outboard converter systems, and effects processors.

Product Block Diagram

CS4398LV40F

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