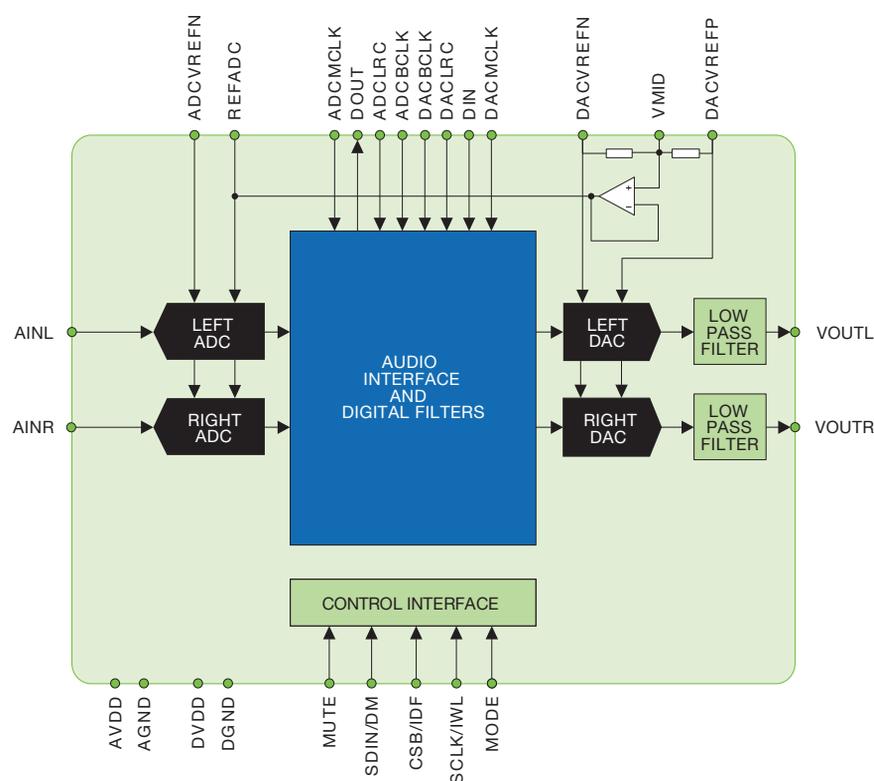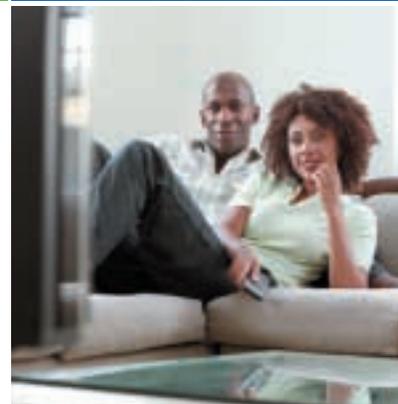# wolfson
microelectronics

24-bit, 192kHz Stereo CODEC with Volume Control

WM8569

A versatile stereo CODEC combining an independently clocked ADC and DAC in a single cost effective device.

The WM8569 is a stereo audio CODEC ideal for DVD, PVR, LCD-TV and automotive applications.

Block Diagram

Pins: ADCVREFN, REFADC, ADCMCLK, DOUT, ADCLRC, ADCBCLK, DACBCLK, DACLRC, DIN, DACMCLK, DACVREFN, VMID, DACVREFP

- AINL → LEFT ADC
- AINR → RIGHT ADC
- AUDIO INTERFACE AND DIGITAL FILTERS
- LEFT DAC → LOW PASS FILTER → VOUTL
- RIGHT DAC → LOW PASS FILTER → VOUTR
- CONTROL INTERFACE

Pins: AVDD, AGND, DVDD, DGND, MUTE, SDIN/DM, CSB/IDF, SCLK/IWL, MODE

PRODUCT DETAILS

FULLY INDEPENDENT ADC AND DAC RATES

Independent ADC and DAC clocking permits separate record and playback sampling rates, vital for most modern applications. A stereo 24-bit multi-bit sigma delta DAC with oversampling digital interpolation filters provides the output signal. Digital audio input word lengths from 16-24 bits and sampling rates from 8kHz to 192kHz are supported.

Stereo analog-to-digital conversion is provided by a 24-bit multi-bit sigma delta ADC, again supporting output word lengths from 16-24 bits and sampling rates from 32kHz to 96kHz.

The audio data interface supports I²S, left justified, right justified and DSP digital audio formats.

PRODUCT BENEFITS

- All the benefits of an independent audio DAC and ADC in one device. Simplifies designs and lowers costs for home entertainment systems
- Independent ADC and DAC rates and formats on the same chip
- Hardware control for easy design implementation
- High performance audio at a competitive price
- Low pin count and PCB space reduces manufacturing costs

TARGET APPLICATIONS

- DVD Recorder
- Personal Video Recorder
- PC Sound Card
- Automotive Audio
- LCD-TV

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PRODUCT FEATURES

- 103dB SNR ('A' weighted @ 48kHz) DAC

- DAC Sampling Frequency: 8kHz – 192kHz

- 100dB SNR ('A' weighted @ 48kHz) ADC

- ADC Sampling Frequency: 32kHz – 96kHz

- Independent Sampling Rates for ADC and DAC

- 3-wire SPI Serial or Hardware Control Interface

- Volume Control Audio Mute and De-Emphasis Functions

- Programmable Audio Data Interface Modes

- 16/20/24/32 bit Word Lengths

- I²S, Left, Right Justified or DSP

- 2.7V to 5.5V Analogue Supply

- 2.7V to 3.6V Digital Supply

- 28-pin SSOP Package

PRODUCT DETAILS

HARDWARE OR SOFTWARE CONTROL

The device can be controlled via a 3-wire serial or hardware interface. The software interface provides access to all features including volume controls, mute, de-emphasis and power management facilities. A hardware control interface allows access to a core feature set.

FEWER PARTS, FEWER PINS AND LESS PCB SPACE

The WM8569 is available in a compact 28-pin SSOP.

CONTACT DETAILS

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