CS5302P

# Pro Audio ADC Delivers True Transparent Audio

## World-class performance that's easy to use and integrate

**Class-leading performance** with 126 dB DNR and better than - 110 dB THD+N

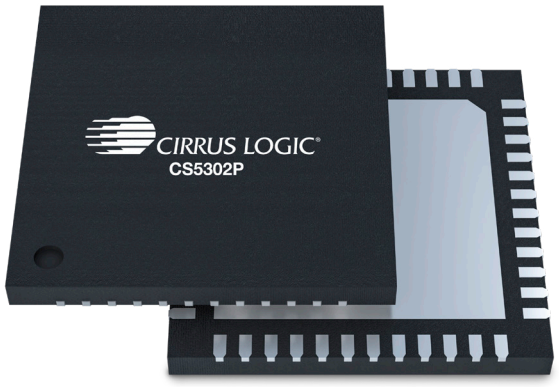
**Uncompromising digital** providing 32-bit audio at a sample rate up to 768 kHz and all FIR digital filters

**Simple to integrate** using only one power rail and hardware mode control

**Hybrid gain control** simplifies complex microphone front-end gain design

**Cirrus Logic CS5302P**

32-bit Transparent Analog-to-Digital Converter




The Cirrus Logic **CS5302P** is part of a new series of pro audio converters aimed at providing the most transparent audio conversion. This transparency allows manufacturers to cusomize their end products. The **CS5302P** is a high-performance, 32-bit resolution 2-channel ADC. The device supports differential analog input and 32-bit digital output via the audio serial port (ASP) at sample rates up to 768 kHz.

The **CS5302P** uses a 5th-order, multibit sigma-delta modulator followed by digital filtering and decimation. This provides a dynamic range of over 126 dB and THD+N below -110 dB.

The device can be powered from a single rail and controlled by either hardware pins, I2C or SPI, making the device both flexible and easy to integrate. This, together with Cirrus Logic's new hybrid gain control feature, makes the **CS5302P** ideal for digital mixers, USB audio interfaces, home audio and audio video receivers, plus musical instruments such as synthesizers, DJ mixers and amplifiers, video recording and automotive applications.

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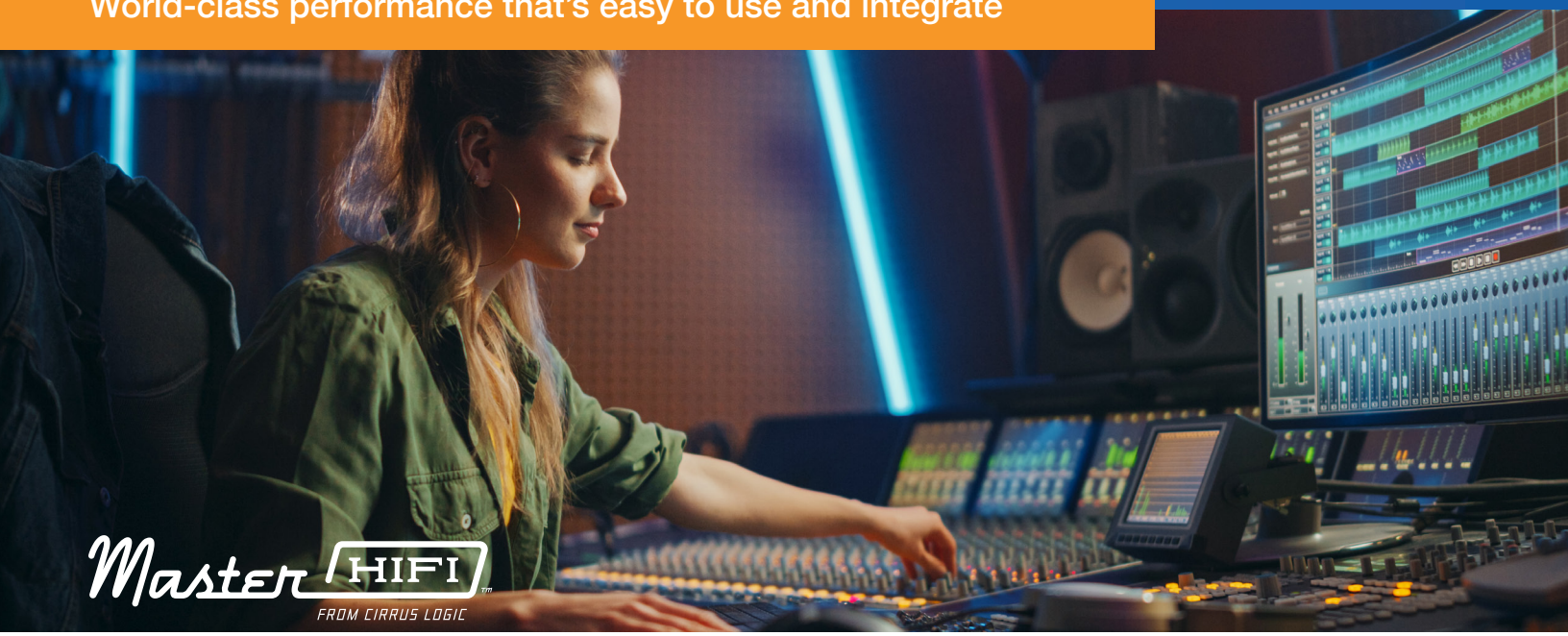
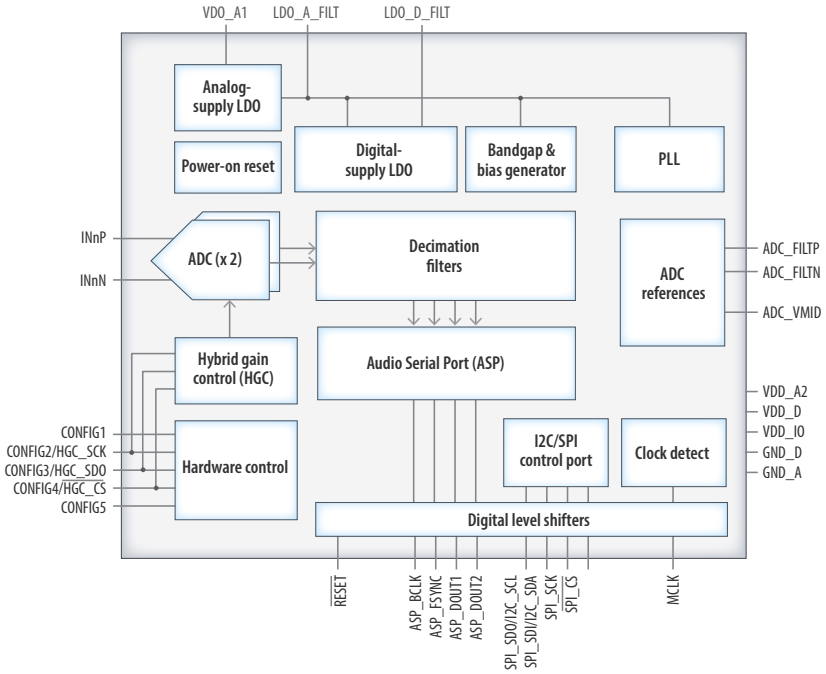



## Features:

- **High-performance 2-channel ADC**
  - Differential analog inputs
  - High-resolution 32-bit digital architecture
  - Low-latency digital filters and digital volume control
- **PLL supports range of external system-clock references**
- **Synchronous operation across multiple devices**
- **Hybrid gain control**
- **Audio serial port (ASP) sample rates up to 768 kHz**
  - I2S, left-justified and TDM data formats
- **Hardware and software control modes**
  - Hardware control with no host processor required
  - I2C control port up to 1 MHz
  - SPI control port up to 24 MHz
- **Single-supply operation at 3.3 V**
  - Support for 1.8 V–3.3 V digital input/output

## CS5302P Block Diagram:

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