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# MasterHIFI Audio D/A Converter with Headphone Amplifier



**CS43130**  
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The CS43130 combines a next generation, low power audio DAC with a high-fidelity headphone amplifier to provide a superior system-level audio performance without draining battery life. This IC minimizes board space requirements while enabling performance and features to drive design differentiation. The CS43130 features a high impedance of 600  $\Omega$ , and inter channel isolation of >110 dB. To minimize pre-echos and ringing artifacts, the CS43130 is designed with proprietary digital-interpolation filters that support five selectable digital filter responses. Filtering options include low group delay with pseudo-linear phase and a fast or slow roll-off.

Volume matching of the analog output levels and channel mixing enable a seamless transition between the DSD and PCM playback paths. The onboard low noise, ground-centered headphone amplifier provides proprietary AC impedance detection to support headphone fingerprinting to provide a consistent and transparent audio experience for the end user regardless of transducer impedances or frequency responses. The amplifier also supports adaptive post processing for customer bundled and third party headphones/headsets. An integrated auxillary audio input and "click-less" switch is provided for non-high-fidelity use cases.

## Technology

[Audio D/A Converters](#)

## Features

- Integrated GND-centered, Class H headphone driver

- Output power
  - 30 mW per channel into 32 ohm load
  - 5 mW per channel into 600 ohm load
- Advanced 32-bit oversampled multi-bit modulator with mismatch shaping technology
  - Eliminates distortion due to on-chip component mismatch
- Serial audio input
  - I<sup>2</sup>S, right-justified, left-justified, DoP, DSD and TDM interface
  - Master or slave operation
  - Volume control with 0.5 dB step size and soft ramp
  - 44.1 kHz de-emphasis and inverting feature
- Alternate headphone input
- Seamless switching between high performance and low power playback
- VD/VL Supply Voltage = 1.8 V

## Parametric Specifications

<b>Channel(s) Out</b>	2
<b>Resolution (bits)</b>	32
<b>Dynamic Range (dB)</b>	130
<b>THD+N (dB)</b>	-108
<b>Sample Rate (kHz)</b>	384
<b>Analog Power Supply (V)</b>	1.8
<b>Supply Current (μA)</b>	3-5
<b>Output Level (Vrms)</b>	2
<b>Package</b>	40 QFN; 42 WLCSP

## + MasterHIFI

## + Technical Documents




## + Software and Tools

# Comprehensive Solutions

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Enhance your users' audio experience through Cirrus Logic's hardware and software solutions: **Voice, Record, Control, and Playback**

## Product Technologies

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Audio DSPs  
Interfaces and Sample Rate Converters  
Volume Controls  
MEMS Microphones   
Other 

## Support

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Amplifiers  
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