## **CONEXANT AD1882 Audio Codec Manual**

http://www.manuallib.com/conexant/ad1882-audio-codec-manual.html

The AD1882 audio codec and software provide superior HD audio quality and performance. The AD1882 has six DACs and four ADCs, two stereo headphone ports, C/LFE swapping, digital and analog PCBeep, and S/PDIF output, making the AD1882 the right choice for desktop PCs where performance is the primary consideration.

The jack re-tasking feature on this product supports various configurations, including platforms for 5.1 on five or three jacks, and front panel jack re-tasking.

The AD1882 is available in a 48-lead RoHS compliant lead frame chip scale package in both reels and trays.

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# AD1882 HD Audio Codec With 6 DACs, 4 ADCs, and SPDIF

#### **Features**

- 2 stereo headphone amplifiers
- 95 dB audio outputs, 90 dB audio
- Internal 32-bit arithmetic for greater accuracy
- Impedance and presence detection on
- all jack pins Digital synthesis PCBeep
- C/LFE channel swapping
- 2 General-Purpose I/O (GPIO) Digital
- Advanced power management modes
- EAPD control for internal speakers
- 48-lead, Pb-free QFN package
- Six 96 kHz DACs
  - 3 independent stereo DAC pairs
  - Independent 8 kHz, 11.025 kHz, 16 kHz, 22.05 kHz, 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, and 96 kHz sample rates
  - 16-, 20-, and 24-bit PCM resolution
  - Selectable stereo mixer on outputs
- Four 96 kHz ADCs
  - 2 independent stereo ADC pairs
  - Simultaneous record of up to 4 channels
  - Independent 8 kHz, 11.025 kHz, 16 kHz, 22.05 kHz, 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, and 96 kHz sample rates
- 16-, 20-, and 24-bit resolution S/PDIF Output
- - Supports 44.1 kHz, 48, kHz 88.2 kHz, and 96 kHz sample rates
  - 16-, 20-, and 24-bit data widths; PCM and AC3 formats
  - Digital PCM gain control
- Dedicated Auxiliary Pins
  - Stereo CD input w/GND sense
  - Mono out pin for internal speakers or telephony
  - Analog PCBeep input pin

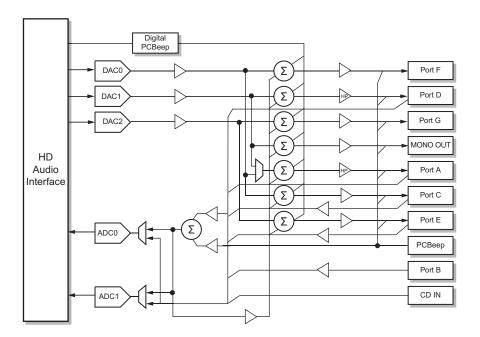
#### **Overview**

The AD1882 audio codec and software provide superior HD audio quality and performance. The AD1882 has six DACs and four ADCs, two stereo headphone ports, C/ LFE swapping, digital and analog PCBeep, and S/PDIF output, making the AD1882 the right choice for desktop PCs where performance is the primary consideration.

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#### **Block Diagram**



## **Applications**

◆ Embedded Audio

Part Number AD1882

**Description** HIgh-Definition Audio Codec

Table 1. Performance Characteristics

Parameter	Min	Тур	Max	Unit
Line-Out Drive (10 kΩ Loads—DAC to Pin) Total Harmonic Distortion (THD + N) Dynamic Range (–60 dB in Ref to f <sub>S</sub> A-Weighted) Signal-to-Noise Ratio		-85 95 95		dB dB dB
Headphone Drive (32 $\Omega$ Loads—DAC to Pin) Total Harmonic Distortion (THD + N) Dynamic Range (–60 dB in Ref to $f_S$ A-Weighted) Signal-to-Noise Ratio		-83 95 95		dB dB dB
Input Ports (Pin to ADC, Mic Boost = 0 dB) Total Harmonic Distortion (THD + N) Dynamic Range (–60 dB in Ref to f <sub>S</sub> A-Weighted) Signal-to-Noise Ratio		-81 90 90		dB dB dB

### Table 2. Specifications

Parameter	Min	Тур	Max	Unit			
Analog-to-Digital Converters							
Resolution		24		Bits			
Gain Error (Full-Scale Span Relative to Nominal Input Voltage)			±10	%			
Interchannel Gain Mismatch (Difference of Gain Errors)			±0.5	dB			
ADC Offset Error			±5	mV			
ADC Crosstalk		-85		dB			
Digital to Analog Converters	- ·		II.				
Resolution		24		Bits			
Gain Error (Full-Scale Span Relative to Nominal Input Voltage)			±10	%			
Interchannel Gain Mismatch (Difference of Gain Errors)			±0.5	dB			
Total Audible Out-of-Band Energy (Measured from 0.6 × f <sub>s</sub> to 100 kHz)		-85		dB			
DAC Crosstalk (Input L, Zero R, Read R_OUT; Input R, Zero L, Read L_OUT)		-95		dB			
Analog Mixer							
Signal-to-Noise Ratio (SNR) Input to Output CD to Port D Output Port B, C, or E to Port D Output Port A to Port D Output Port D to Port A Output		95 95 95 95 95		dB dB dB dB			

## **Ordering Information**

	Device Set Order ID	Package Type	Package	Operating Temperature  0°C to 70°C	
ĺ	AD1882JCPZ*	QFN	48-Lead QFN, 7x7 mm		
ĺ	*Lead-free (Pb Free) and RoHS co				

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