



Continuous Sigma Multichannel DAC

Product Number: IND1114/6/8



Description

The IND111X series high performance, 24bit, up to 192kHz DAC is intended for high performance audio applications. It offers superior performance to the AD1852 series DAC's. The IND111X series offers 70% lower power consumption than the AD1852 with superior performance in SNR and THD. Exceptionally low group delay enables real time audio processing. Indice's proprietary Continuous Sigma decoding method enables high fidelity performance in a 4, 6 or 8 channel IC.

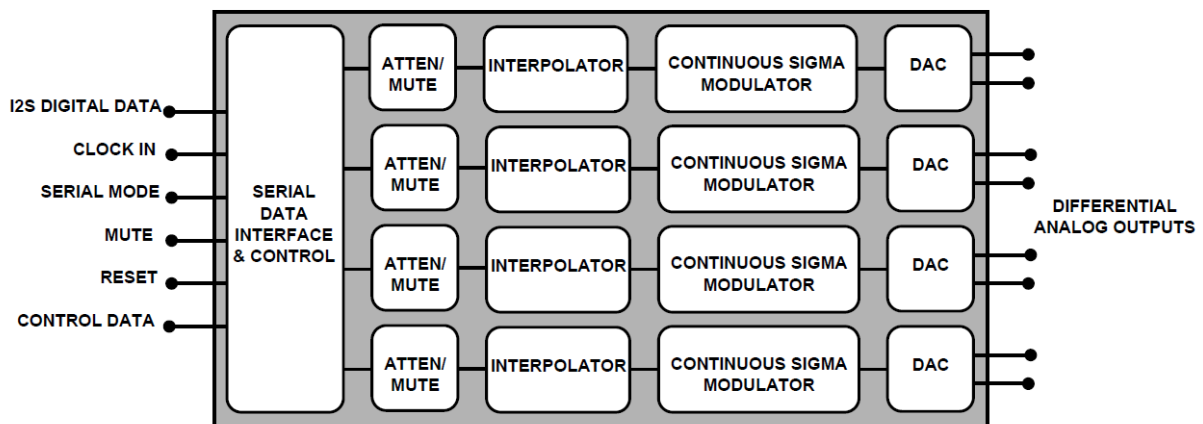
Features

- Continuous Sigma decoding method
- Over 70% power saving compared with AD1852 (~50mW power consumption)
- 120dB SNR, 6dB superior to AD1852
- Wide range of sampling rates including 32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz and 192kHz
- Ultra low group delay: <math><50\mu\text{S}</math> @ 96kHz sample rate

Applications

- Professional audio
- Mixing consoles
- Home theatre systems
- Multimedia
- High fidelity audio
- Digital signal processing

Functional Block Diagram



Note: Functional block diagram depicts 4 channel version



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Performance Data

Test conditions unless otherwise noted

- Supply Voltages 3.3V
- Ambient temperature 25 °C
- Frequency sample (fS) 96 kHz
- Input Clock (fCLKIN) [256 x fS] 24.576 MHz
- Input Signal 996.11 Hz
-0.5 dB Full Scale (dBFS)
- Measurement Bandwidth 10 Hz to 20 kHz
- Word Width 24 Bits
- Master Mode, Data I2S Justified
- Differential output

| Item | Typ | Unit | Notes |
|-----------------------|----------|------|---------------------------|
| Resolution | 24 | Bits | |
| Dynamic range | 118 | dB | A-Weighted |
| Signal to noise ratio | 120 | | A-Weighted |
| THD+N | -80 | dB | V _o = -0.5dBFS |
| | -100 | dB | V _o = -60dB |
| Source impedance | <300 | Ω | |
| Supply voltage | 3.3 | V | |
| Mute Attenuation | -100 | dB | |
| Stop-Band Frequency | 40 | kHz | |
| Pass-Band Ripple | +/- 0.01 | dB | |
| Stop-Band Attenuation | 120 | dB | |
| Group Delay | <50 | μS | |
| MCLK Frequency | 12/25 | MHz | |

Ordering Information

| IC Order Number | Package | Description |
|-----------------|----------|--------------------------------|
| IND1114 | WLCSP-25 | 4 channel Continuous Sigma DAC |
| IND1116 | WLCSP-49 | 6 channel Continuous Sigma DAC |
| IND1118 | WLCSP-64 | 8 channel Continuous Sigma DAC |

Note: Specifications are subject to change. For up-to-date product information, please visit www.indicesemi.com.