

WM8850 & WM8860

Multi-Channel High Definition Audio Hubs

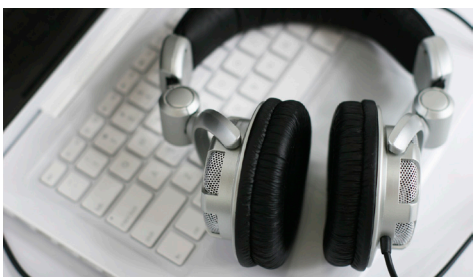
HIGH DEFINITION AUDIO WITH EXCEPTIONAL LEVELS OF PERFORMANCE AND FIDELITY FOR COMPUTERS.

The WM8850 and WM8860 are high performance multi-channel audio CODECs designed for high performance PC audio systems. The devices offer full compatibility with the Intel High Definition Audio (HDA) specification revision 1.0, allowing seamless integration with industry-standard HDA controllers.

The WM8850 has three high performance stereo DACs to enable six channels of high definition audio, ideal for 5.1 channel applications. Line outputs provide a high-quality differential connection to speaker amplifiers. The WM8860 has two high performance stereo DACs.

The devices also have two high performance stereo ADCs to provide hi-fi quality analogue line-in and microphone input digitisation. A low noise microphone bias with programmable output voltage is provided. Additionally, the CODEC contains a digital microphone interface capable of supporting up to four independent digital microphones. One differential stereo input is provided for line level signals, while one pseudo-differential stereo input with integrated microphone pre-amplifier is provided.

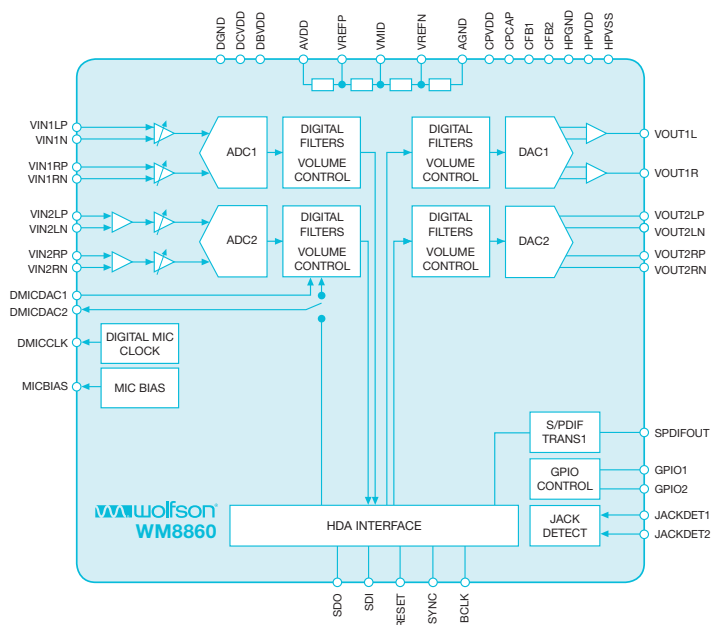
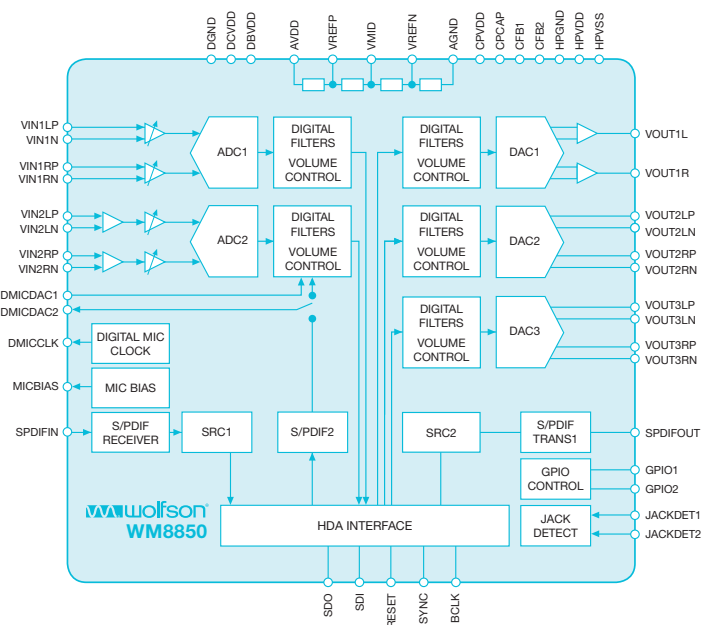
TARGET APPLICATIONS



- High performance PC audio
- All-in-one desktop PC
- Notebook PC

PRODUCT BENEFITS

- Enables hi-fi quality audio performance for computers
- Reduces PCB footprint and BOM costs
- Low power optimisation increasing battery life
- Hi-fi quality SRC for glitch free S/PDIF transceiver operation



PRODUCT FEATURES

Fully compatible with Intel High Definition Audio specification revision 1.0

WM8850 - 6-channel DAC, 4-channel ADC
WM8860 - 4-channel DAC, 4-channel ADC

DAC sampling frequency 8kHz - 192kHz

ADC sampling frequency 8kHz - 96kHz

DAC Performance:
- SNR 108 dB ('A' weighted)
- THD -95dB (at -1dBFS)

ADC Performance:
- SNR 105 dB ('A' weighted)
- THD -92dB (at -1dBFS)

Ground-referenced stereo headphone driver

Stereo microphone interface with integrated pre-amp

Multi-channel digital microphone interface

Differential line inputs/outputs

IEC-60958-3 compatible S/PDIF transceiver (WM8850 only)

Additional IEC-60958-3 compatible S/PDIF transmitter

Jack detect and mic impedance sensing

IEEE-754 Single precision 32-bit floating point support

Power supplies
- Digital core: 1.62V - 1.98V
- Digital buffer: 2.97V - 3.63V
- Analogue: 4.5V - 5.5V
- Charge pump: 4.5V - 5.5V

48-pin 7mm x 7mm QFN package

HIGH PERFORMANCE AUDIO QUALITY

The devices bring hi-fi quality audio to the computer market by using next generation high performance ADCs offering 105dB SNR and DACs offering 108dB SNR. A powerful integrated ground referenced headphone driver delivers performance usually reserved for discrete devices.

REDUCED SYSTEM COST

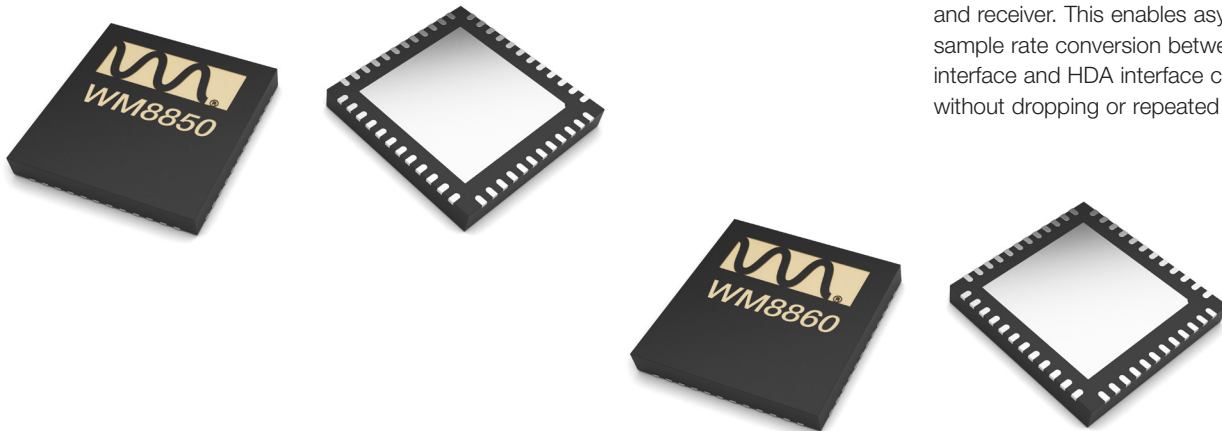
PCB space and BOM costs are kept to a minimum due to a ground referenced headphone amplifier that utilizes advanced charge pump and DC servo technology to effectively eliminate pops and clicks without compromising audio quality.

LOWER POWER CONSUMPTION

The devices offer lower power consumption to help improve the length of time a computer can operate on battery power. This is achieved whilst still maintaining improved SNR and THD performance for high quality audio.

HI-FI QUALITY SRC FOR GLITCH FREE S/PDIF TRANSCIEVER OPERATION

The WM8850 incorporates two hi-fi quality sample rate converters (SRC) which enables glitch-free operation of the S/PDIF transmitter and receiver. This enables asynchronous sample rate conversion between the S/PDIF interface and HDA interface clock domains, without dropping or repeated samples.



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