



82C930 Integrated Sound Controller

OPTi's 82C930 is an integrated 16-bit sound controller enabling full duplex, high quality stereo sound for PC motherboard applications. Compatible with all major PC sound standards, including Sound Blaster™ Pro, Ad Lib™, MPU-401, and Windows Sound System™, this OPTi sound controller offers all the functions and interfaces required to provide an integrated sound solution for business audio, educational and entertainment sound, and other multimedia applications.

The 82C930 includes the following functions: AT Bus interface, Sound Blaster Pro-compatible Digital Audio Processor, MIDI interface, Windows Sound System interface, FM synthesizer interface, 16-bit Codec/Mixer, Game Port timer, and IDE CD-ROM interface. The device also includes dual DMA channels that support full duplex operation for simultaneous record and playback, a silence mode, power down modes, and software programmable interrupts.

Features

- Integrated sound controller compatible with:
 - Sound Blaster Pro
 - Ad Lib
 - Windows Sound System
- Built-in 16-bit Sigma Delta Stereo Codec with 85dB SNR
- Built-in 5-channel MPC compatible stereo mixer
- 8- or 16-bit sound data up to 48KHz stereo
- Dual DMA channel for full duplex operation
- Supports IMA ADPCM, μ -Law, A-Law decompression
- Integrated MIDI UART with FIFO for both in and out with MPU-401 interface
- Direct OPL2/OPL3/OPL4 interfaces
- Built-in game port timer
- All interfaces are software programmable, including:
 - I/O address
 - IRQ
 - DRQ
- 24mA drivers for direct AT bus interface
- Power down modes
- Silence mode to turn off all audio functions



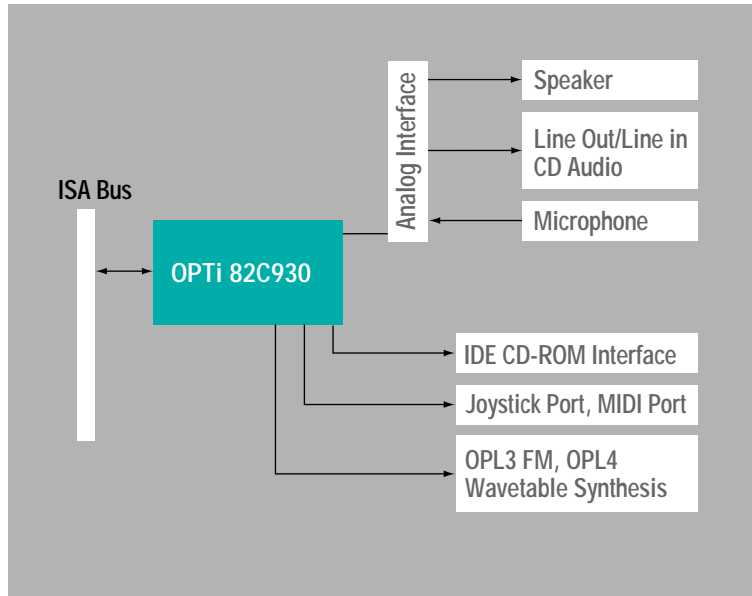
- Play and capture with on-chip FIFOs
- MIDI extension support, enables MIDI sound generation by OPL4-type device with an exclusive driver
- 100 pin PQFP package

Applications

The 82C930 is optimized for use with the industry standard OPL3 FM synthesis chip, and together with that device, provides all of the features needed to create the following sound characteristics:

- 16-bit sound quality Sound Blaster Pro and Windows Sound System compatible card
- 20 voice FM synthesis
- 16-bit CD-quality WAVE audio up to 44.1KHz stereo
- Game port
- MPU-401 MIDI interface
- OPL4 or other wave table synthesis upgrade support

System Block Diagram



- Software drivers provided:
 - Windows 95
 - Windows 3.1
 - OS/2 Warp
 - Windows NT

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