



82C924 Plug-and-Play 16-Bit Sound Controller

The OPTi 82C924 is a highly integrated digital audio controller for PC sound applications. The 82C924 is a second generation, drop-in replacement for the OPTi MAD16 Pro 82C929 audio controller that combines all of the features of the 82C929 along with support for the Microsoft/ Intel Plug-and-Play-specification.

The Plug-and-Play (PnP) standard minimizes device conflicts by allowing the I/O address, IRQ and DMA settings to be automatically allocated from available system resources, rather than being selected by the user. Either the system BIOS, if it supports PnP, or operating system maps the various logical devices within the 82C924 into the host system address space, as well as configuring the DMA and IRQ settings.

The 82C924 supports six logical devices: audio devices; including Sound Blaster™ Pro, Windows Sound System™, and FM Synthesis; game port; MPU-401 MIDI interface; IDE CD-ROM interface; modem interface; and 82C924 master control.

The 82C924 also provides front panel, push-button volume control, modem interface, and external serial EEPROM for further customization.

The 82C924 16-bit Sound Controller provides all of the digital functions and interfaces for Sound Blaster Pro-compatible and Microsoft Windows Sound System-compatible cards. The 82C924 is intended to provide an integrated audio solution for business audio, educational/entertainment sound and multimedia applications.

Features

- Sound Blaster Pro & Microsoft Windows Sound System compatible
- Microsoft Plug-and-Play compatible, supports six logical devices
 - Sound Blaster Pro, Windows Sound System and OPL3
 - MPU-401 MIDI interface
 - CD-ROM interface
 - Joystick/Game Port
 - Modem
 - 82C924 control
- 8 or 16-bit sound data
 - Sound Blaster Pro 8-bit audio up to 44.1KHz stereo
 - Windows 8/16-bit audio up to 48KHz stereo
- Ad Lib Compatible
- ADPCM compression
- Built-in MPU-401 MIDI compatible port
- Built-In Joystick/Game Port
- Direct AT bus driving capabilities without additional buffers
- Power-down mode for low-power notebook applications
- OPL4 and Wave Blaster upgrade for wave table synthesis
- Multiple CD-ROM drive interfaces (IDE, Sony, Panasonic, Mitsumi)
- Programmable I/O port, IRQ and DMA



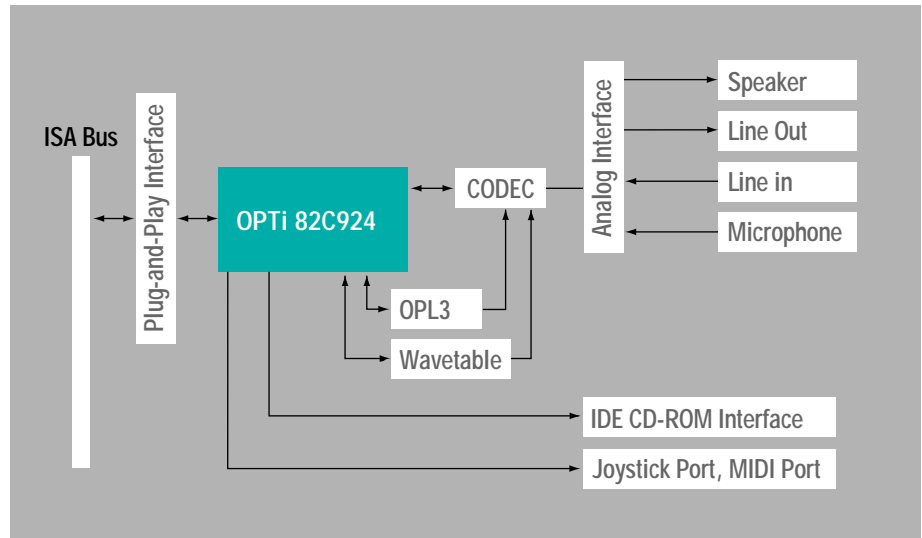
- All interfaces are software programmable including:
 - I/O Address
 - IRQ
 - DRQ
- Silence mode to turn off all audio functions
- Volume control push-button interface
- Supports external serial EEPROM
- External Modem chip set interface
- 100 pin package

Applications

Together with the Yamaha OPL3 FM synthesis chip and a 16-bit Codec, such as Crystal Semiconductor 4231 or Analog Devices 1845, the 82C924 provides an integrated solution for the following applications:

- 16-bit sound quality Sound Blaster Pro and Windows Sound System compatible card
- 20 voice FM synthesis

System Block Diagram



- 16-bit CD-quality WAVE audio up to 48KHz stereo
- IDE CD ROM interface
- Game port
- MPU-401 and Sound Blaster MIDI interface
- OPL4 or other wave table synthesis upgrade
- Software drivers provided:
 - Windows 95
 - Windows 3.1
 - OS/2 Warp
 - Windows NT

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