XWAVE4000 Integrated PCI Audio Accelerator

Hardware Configuration and Installation

July 1999

Table of contents

1.

2. Description

The XWAVE4000 Integrated PCI Audio Subsystem is a single chip designed for plug and play specification which minimizes support and installation issues. This highly integrated plug and play audio subsystem incorporates the following functions:

- High Performance PCI Subsystem Control Logic
- Built-in ALSFM Synthesizer
- Power Management
- Enhanced normal/digital game port
- XWAVE4000 Integrated PCI Audio Accelerator fully supports the PCI Plug and Play standard. Add-in sound cards and motherboard implementations designed around the XWAVE4000 Integrated PCI Audio Accelerator are completely jumper and switch free.

1.1 Features

1.1.1 Hardware/Software Features

- High performance VLSI sound ASIC
- Compatible with DirectSound™, DirectSound3D™, Blaster™, Sound Blaster Pro™, and Sound Blaster 16 Emulation.
- PC98 Specifications Compliant
- Avance ALSFM Synthesizer
- PCI Power Management Interface(PPMI) Compliant
- PCI Bus Master for PCI Audio/PCI 2.1/2.2 Compliant PCI Interface
- Supports DDMA, Avance Legacy Support for legacy DMAC Emulation
- 64-Voice Wavetable Synthesis w/ DLS-1 Support
- Supports Sound Blaster ADPCM decompression
- 3D Effect Sound
- Enhanced Normal & Digital Game Port Support
- 16-Bit Full-duplex for Concurrent Recording and Playback
- Single Crystal Operation(14.318Mhz)
- 5.0V Digital/Analog Mode

1.1.2 Built-in Functional Blocks

- High Performance PCI Subsystem Control Logic
- Built-in ALSFM Synthesizer
- PPMI Power Management
- Enhanced normal & digital game port
- 3D Effect Sound

1.1.3 Functions built-in in XWAVE4000 Integrated PCI Audio Accelerator

Audio Input

- CD-ROM Audio
- Line In
- Microphone
- TAD

Audio Output

- Line-Out / Speaker-Out

Game/MIDI Port

- External MIDI input and output
- Joystick input and MIDI connector

1.1.4 Software Support

- Windows 3.1
- Windows 95/98
- Windows NT 3.51/4.0
- Windows Sound System
- All DOS-based games

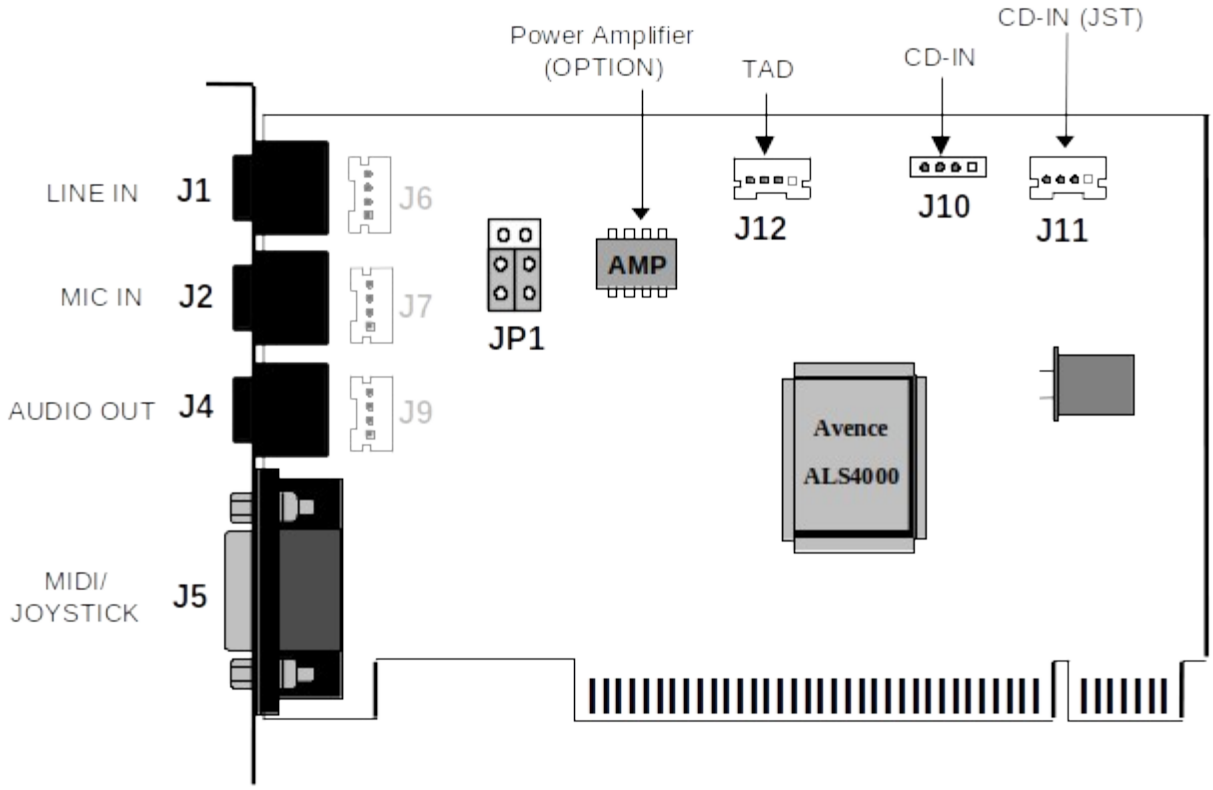
1.1.5 Compatibility

- Adlib
- All Sound Blaster Pro applications
- All Sound Blaster 16 applications
- Yamaha OPL3 FM Synthesizer
- Yamaha OPL4 Wavetable Synthesizer
- MPU-401 UART MIDI

1.1.6 Emulation

- Sound Blaster Pro™
- Sound Blaster 16™
- Sound Blaster ADPCM
- MPU-401 UART MIDI interface

2 Card Figure



2.1 Connectors

2.1.1 External Connectors:

J1:.....ｆ 3.5mm Phone Jack for **LINE IN.**
J2:.....ｆ 3.5mm Phone Jack for **MIC IN.**
J4:.....ｆ 3.5mm Phone Jack for **AUDIO OUT.**
J5:.....Connector for **MIDI/JOYSTICK.**

2.1.2 Internal Connectors:

J6:.....Connector for **LINE IN.** (JST)(Optional)
J7:.....Connector for **MIC IN.** (JST)(Optional)
J9:.....Connector for **AUDIO OUT.** (JST)(Optional)
J10:.....Connector for **CD-AUDIO IN.**(Base Pin/ATAPI)
J11:.....Connector for **CD-AUDIO IN.** (JST)
J12:.....Connector for **TAD.** (JST)
JP1:.....Jumper for switching between **SPEAKER OUT/LINE OUT.**

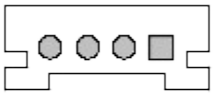
2.2 Audio Connectors:

J10: CD-Audio-In
ATAPI

R G G L

L: LEFT CHANNEL SIGNAL
G: GROUND
R: RIGHT CHANNEL SIGNAL

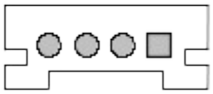
J11: CD-Audio-In
JST



R G L G

L: LEFT CHANNEL SIGNAL
G: GROUND
R: RIGHT CHANNEL SIGNAL

J12 (TAD/Voice Modem)

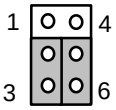
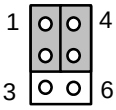


4 3 2 1

1: PHONE IN
2,3 : GROUND
4: MONO OUT

.

2.3 Audio Output Jumper Settings for JP1:

Audio	Settting
SPEAKER OUT with Power Amplifier (Default)	
LINE OUT without Power Amplifier	

2.4 About the Connectors

Phonejacks, connectors, and headers are used to connect other devices to the sound cards. A phonejack is a single hole receptacle for a phoneplug and headers and connectors are multi-hole receptacles for multi-pin plugs. The Line Out, Line In, and Microphone In connections are phonejacks, the Game/MIDI Port is a D-shell 15-pin connector, and the CD-ROM audio, and external controller connections are headers of various sizes.

Line Out - The Line Out phonejack provides the non-amplified/amplified outputs for the left and right stereo channels. Non-amplified output is for attaching powered speakers or an external audio amplifier.

Line In - The Line In phonejack is used to attach monaural or stereo devices such as a cassette, Digital Audio Tape, or Minidisc players for playback, mixing, or recording.

Mic In - The Microphone In phonejack is used to attach a monaural microphone for live audio input for playback, mixing, or recording.

Game/MIDI Port - The Game/MIDI Port connector is used to attach a joystick for game interaction or to attach an external MIDI device for playback, mixing, or recording.

ATAPI IDE/Sony CD-ROM Audio - The ATAPI IDE/Sony CD-ROM Audio connector is used to connect the audio cable from either an ATAPI IDE or Sony CD-ROM drive for playback, mixing, and recording.

Mitsumi CD-ROM Audio - The Mitsumi CD-ROM Audio connector is used to connect the audio cable from a Mitsumi CD-ROM drive for playback, mixing, or recording. Only one of the two CD-ROM audio connectors may be used at a time.

3 Installing the Sound Card

1. Power off the system and all peripheral devices. Unplug all power cords from the power utility outlets.
2. Momentarily touch the chassis of the system unit with your bare hand to discharge any static electricity.
3. Remove the cover from the system unit.
4. Locate a free PCI expansion slot and remove its cover plate. Retain the screw.
5. Carefully remove the sound card from the anti-static envelope and install it into the expansion slot.
6. Secure the sound card with the screw removed earlier.
7. Attach any CD-ROM Audio to the sound card.
8. Put back the system unit cover.
9. Attach all external devices to the sound card.
10. Plug all power cords into power utility outlets.
11. Power on the system and install the appropriate software driver..