

Nightingale

**Multi – Dimension All – IN – ONE PCI
Audio Accelerator**

Installation Manual

www.zoltrix.com



Overview and Acknowledgments:

Thank you for purchasing Zoltrix *Nightingale* PCI Audio Accelerator. It will offer you a new generation PCI audio solution: it utilizes the state-of-the-art CRL® 3D Audio technology (HRTF 3D positional audio), and supports Microsoft® Direct Sound ® 3D and Aureal®'s A3D® interfaces. Better yet, it supports two / four speakers and DLS based (Down Loadable Sound) wave table music synthesizer which supports the Direct Music®. Besides being legacy audio SB16® compatible and providing professional SPDIF IN/OUT non-distortion digital interface, it also supports MPU-401 interface, dual game ports, etc. What we provide at the side of the sound card are line-in/rear speaker jack, microphone jack, audio output jack, SPDIF/OUT jack, and 15pin D-SUB multiplexed joystick/MIDI connector.

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Manual Version 1.0

Information in this manual is subject to change without notice.

Product Features:

- **Special Features**

- * PCI Plug and Play (PnP) bus interface, 32 bit PCI bus master.
- * Full duplex playback and recording, built-in 16 bits CODEC.
- * C-Media's HRTF 3D positional audio technology-**C3DX**- based on **professional CRL 3D Audio technology**.
- * Supports both Direct Sound 3D® & A3D® interfaces.
- * Supports earphones, two and four channel speakers mode.
- * **4.1 Channel audio interface support DVD AC3® decoder (Cyberlink-PowerDVD®/InterVideo-WinDVD®)**
- * Supports Windows® 3.1 / 95 / 98 and Windows® NT 4.0.
- * Built-in 32 OHM Earphone buffer and 3D surround.
- * MPU-401 Game/Midi port and legacy audio SB16 support.
- * Downloadable Wave Table Synthesizer, supports DirectMusic®.
- * Upgradeable **Optical** Digital Playback/Recording MP3 -->MD
(Requires Nightingale Optical Module Kit)

- **Digital Audio (SPDIF IN/OUT)**

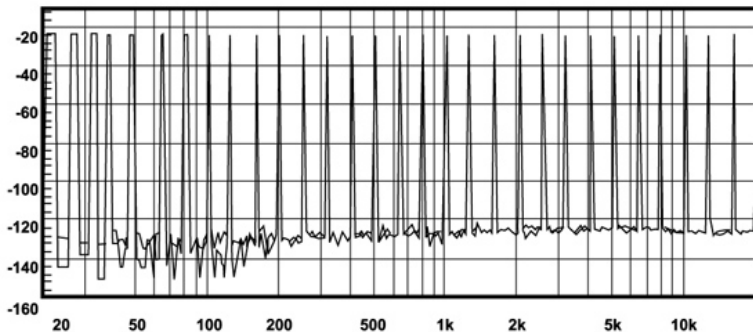
- * Up to 24-bit stereo 44KHz or 48KHz sampling rate playback/recording.
- * Full duplex playback and recording, 120dB audio quality measured.
- * Auto detectable SPDIF/IN signal level from 0.5V to 5V.
- * **Supports Optical fiber interface**

- **Stereo Mixer and FM emulator**

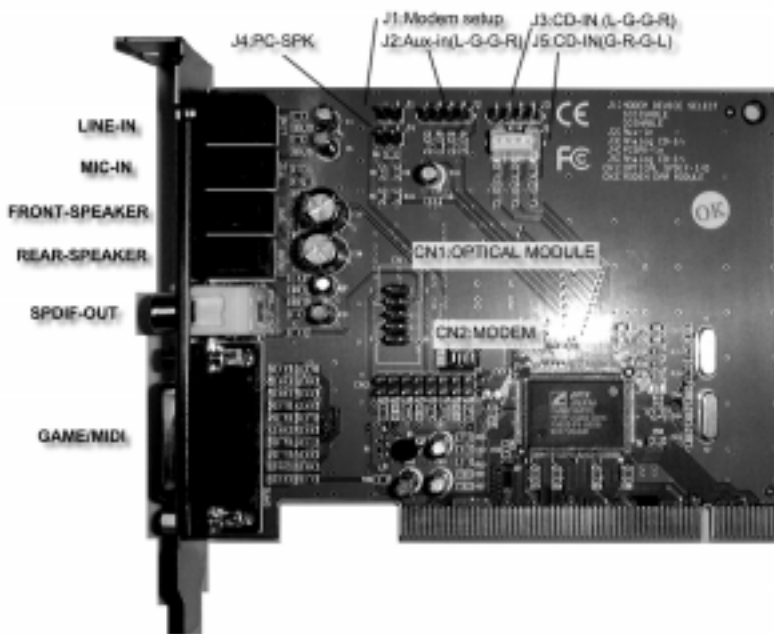
- * Stereo analog mixing from CD-Audio, Line-in
- * Stereo digital mixing from Voice, FM/Wave-table, Digital CD-Audio
- * Mono mixing from MIC and software adjustable volume
- * **FM emulator** synthesizer (4 operators)
- * Up to 15 melody sounds and 5 rhythm sounds (20 voices)

- **Game and Midi Interface**

Fully compatible with MPU-401 Midi UART and Sound Blaster Midi mode/ Standard IBM PC joystick/game port (dual channels)



120dB audio quality in playback, recording, and bypass modes.



DOS Installation

Before the installation, please make sure that your hard disk has sufficient space (min. 4MB). Insert the driver CD into the CD-ROM drive.

1. Change directory to PCI audio DOS drivers folder (ex. D:\DOSDRV) at DOS prompt, and type:

INSTALL [Enter]

2. Type DOS utilities path which you want to install.
3. Program will expand the file to the path which you've specified.
4. Install program will add initial drivers into AUTOEXEC.BAT file.

Win95/98 Installation

We recommend that you install Microsoft® Windows™ before installing this PCI sound card, and you did not install any other sound card device drivers in your current system.

1. Power off your system, install the PCI sound card, the audio cable, the speaker, the microphone, and insert driver CD into the CD-ROM drive.
2. Turn on the computer, and enter Microsoft® Windows™ 95 / 98.
3. You will see a windows prompt like this:

“New Hardware Found
PCI Multimedia Audio Device”

4. Click “Next” and Select “Search for the best driver for your device (Recommend)”.
5. Click on “Next” and select “Specify a location” to D:\W95-98\drv. Note: Replace D: with the drive letter of your CD-ROM driver if necessary.
6. When CMI8738/C3DX PCI Audio Device found, click “Finish”.
7. Now, system is installing device drivers automatically. After a while, the system will finish the installation which includes the following device drivers.

CMI8738/C3DX PCI Audio Device

CMI8738/C3DX PCI Audio Joystick Device

CMI8738/C3DX PCI Audio Legacy Device

DOS mode MPU-401 Emulator

8. Click “start” key
9. Select “Run”
10. Key in the drive and path for Windows application installation program, for example, “D:\W95-98\APP\SETUP.EXE”

11. Click "OK" to start the installation procedure, and follow the on-screen instructions to finish the installation. When all the application softwares have been installed, please shut down Windows 95/98 system, and reboot your system.

Win95/98 Un-installation

If you install Win95/98 and a sound card at the same time, you might experience some technical difficulties(the device might not function properly). It is suggested that you proceed with the un-install procedure:

1. Click "start" button.
2. Select "run" item.
3. Find UINSTDRV.EXE in driver disk under Win95/98 drivers folder.
4. Run it.
5. Follow the on-screen instructions to re-install the hardware.

If you want to completely remove the drivers, you can also run the un-install procedure as described previously. Remove the sound card from the slot, then reboot the system.

Windows NT 4.0 Installation

We recommend that you install Windows NT 4.0 before installing this PCI sound card, and you did not install any other sound card device drivers in your current system.

1. Click "Start" button, move the highlight bar to "Setting" item, and select the "Control Panel".
2. Double-click "Multimedia" icon.
3. Select "Devices" page, and press "Add" button.
4. Select "Unlisted or Updated Driver" item in "List of Drivers".
5. Specify the drive and the path where NT drivers are (such as D:\NT40\DRV).
6. Select "C-Media CM8738" item and press "OK" button.
7. Select proper I/O value.
8. Press "OK".
9. Reboot the system when being asked.
10. Now, you have already installed the PCI Audio Adapter under Microsoft Windows NT 4.0 successfully. if you want to install the Windows applications, continue the following steps:
11. Click "start" key.
12. Select "Run" item.
13. Key in drive and path for Windows NT application installation program, for example, "D:\NT40\APP\SETUP.EXE"
14. Click "OK" to start the installation procedure, and follow the on-screen instructions to finish the installation. When all of application softwares have been installed, shut down the Windows NT system, and then reboot your system.

Windows Appc. (The Audio Rack)

Introduction

By means of a user-friendly interface(as easy as operating your home stereo system), this PCI audio rack avails you to your PC audio functions, including four speakers mode enable/ disable availability, and perfect digital sound (SPDIF) input / output.



This Audio Rack consists of several major components:

Control Center: Controls the display of the PCI Audio Rack's components.



MIDI Player: Plays MIDI music files, and allows you to create your personal song playlists, and play the song files.

Wave Player: Records and plays digital audio (wave) files. Allows you to create wave file playlists, and playback the wave files.

CD Player: Plays standard audio CDs. Allows you to create your favorite song playlists.

System Mixer: Controls the volume level of your audio inputs and outputs.

Showing or Hiding Audio Rack Components

To remove or add a component from the display, click on the component's button on the Control Center's Button Bar or toggle it off.

MIDI Player, Wave Player, and CD Player



CD Player (above, similar to Wave Player and MIDI Player)

Sel (or Trk) field: If you have multiple selections in your playlist, this shows the number of the current selection or CD track.

Current File or Track: The name of the current MIDI file, wave audio file, or CD track.

Total Length field: displays the total length of files or tracks in minutes and seconds.

Current Time field: displays the current time of files or tracks in minutes and seconds when playback or recording.

Please refer to the help screen for more detail button function descriptions. (click on help “?” button on the player)

System Mixer

System Mixer allows you to control all the audio output and input levels.

System Mixer displays the volume controls which your audio drivers make available. *The names for these controls may vary.*



Mixer panel while the four speakers mode is enabled.



Mixer panel while the four speakers mode is disabled.

Volume Control: Clicking on this button shows and allows you to use the output level controls.

Recording Control: Clicking on this button shows and allows you use the input level controls.

Input and Output Level Sliders and Buttons: For each input or output signal type, the control slider controls the loudness whereas the horizontal slider controls the balance between the two speakers. The mute button temporarily stops input or output without changing slider positions.

Control types and names might vary. The common types are listed below:

- **Vol:** The master control for all outputs. The strength of an output signal is determined by both the Vol slider and the slider for the individual output. To affect *all* outputs, move the Vol slider. To change the output of an *individual* output type, move *its* slider.
- **Line-in/Rear:** Controls the audio hardware's Line In or Line Out levels. Line levels might be for an externally attached cassette player, for instance, while the four speakers mode is enabled, this control becomes the Rear speaker volume control.
- **Mic:** Controls the microphone input level.
- **Wave:** Controls wave (voice) playback or the recording levels.
- **FM:** Controls the FM music playback or the recording level.
- **Aux-in:** Controls the Aux-in music play or the recording level.
- **PC-SPK:** Controls the external PC speaker input level.
- **CD:** Controls the CD drive output level, for CD drives configured to play their audio output through the PC's audio hardware.

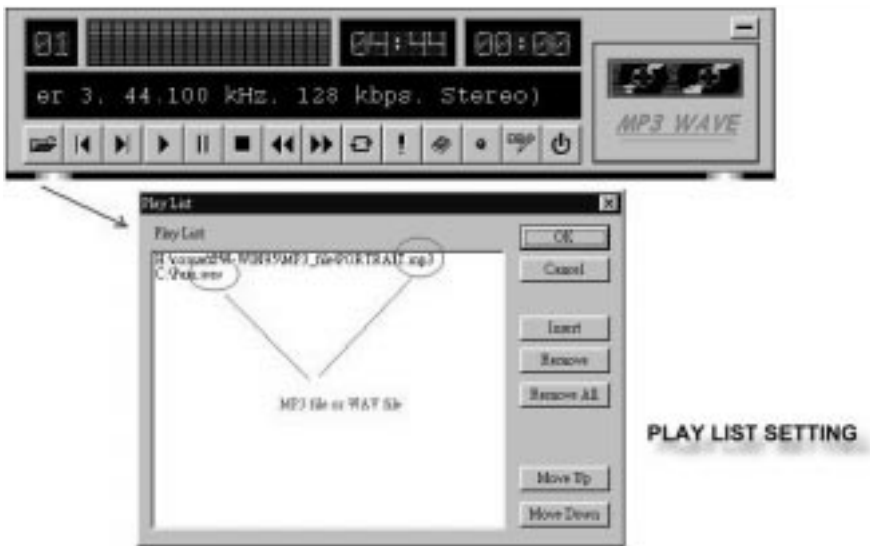
- **4SPK:** Turn on or turn off the Rear speakers effect.
- **SPDIF-in:** Turn on or turn off the SPDIF digital signal input.

Mute Buttons: Toggle between muting and enabling the signal. A button with a lit LED is enabled, and when it is not lit, it means it is mute. Several *output* signals can usually be enabled at once.

MP3 Player

To Install:

1. Click “start” key.
2. Select “Run” and key in D:\MP3\MP3inst.exe

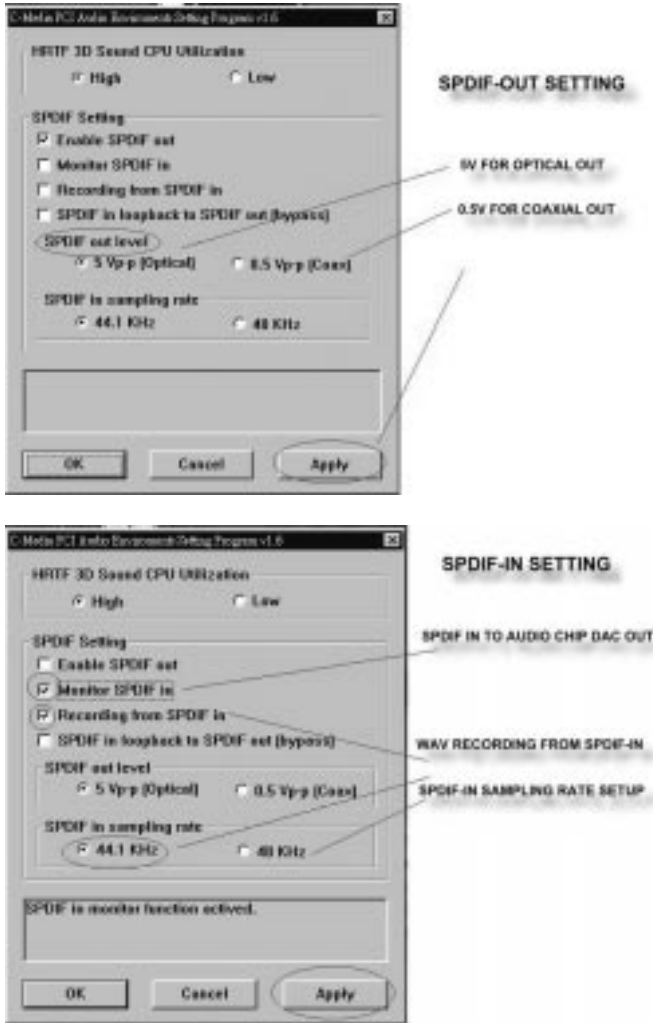


To Play: Click the open file button(as shown) and click the “Insert” to browse your favorite MP3 or WAV music files.

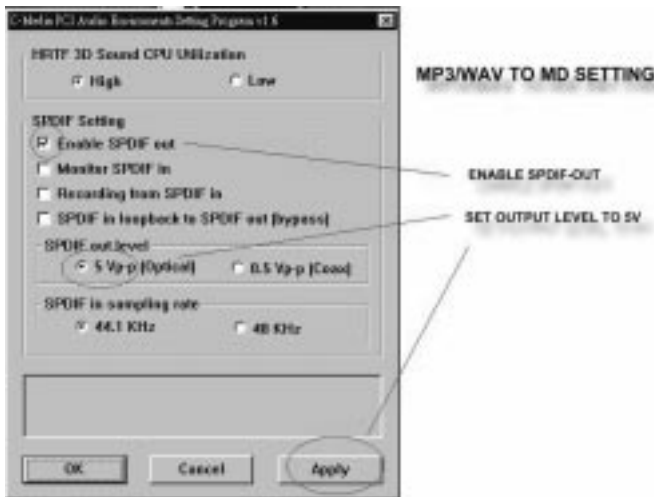
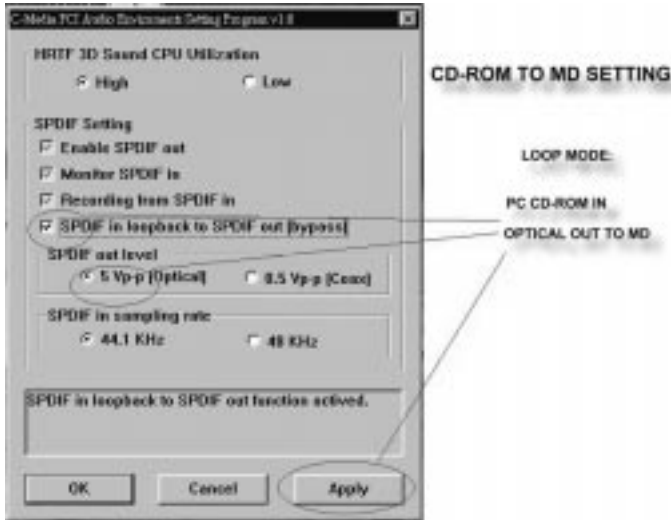
Please refer to the help screen for more detail button function descriptions. (click on help “?” button on the player)

Audio Environment Setting

The following program allows you to select the SPDIF settings:



Note: The SPDIF IN requires the *Nightingale Optical Module Kit*.



Note: The CD-ROM to MD and MP3/WAV to MD settings require the *Nightingale Optical Module Kit*.

The 4 Speakers System

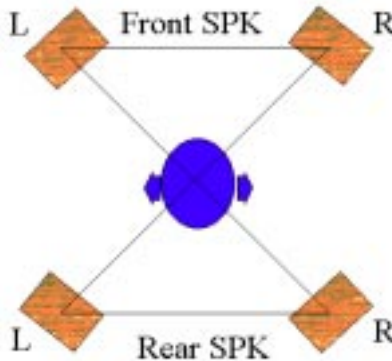
This Audio Accelerator provides 2 wave channels(front/rear), known as the 4 speakers system. When games or application programs via DirectSound® 3D or A3D® interface locate the sound sources to the listener's back, the two rear speakers will work to enhance the rear audio positional effect, so as to complement the insufficiency of using only two front speakers to emulate the audio effect. The following is the hardware installation and the software setups:

1. The speaker installation.

Connect the front pair speakers to the Line-out jack of the audio adapter, and then connect rear pair speakers to **Rear** jack of the audio adapter.

2. The positions of the speakers

Put your speakers the way the following picture suggests, so as to avail yourself to the best audio result.



3. The demo

Execute the "Helicopter" demo within the C3D HRTF Positional Audio Demos of this audio adapter. When the helicopter flies behind you, the rear speakers will work.

The Optical Module Kit(Optional)

This Audio Accelerator gives you an upgradeability to record/playback the MP3 music to MD player. The kit comes with an Optical Module, Optical Toslink to Mini Plug Cable and an Instruction Manual. Please contact your local dealer for upgrade information.

