Appendix B - User's Manual

Please see attached document(s).

HDA XPLOSION 7.1 DTS CONNECT

7.1 Channel Theater Sound Effect

World's First DTS CONNECT
Certificated PCI Soundcard

Enhanced by Dolby® Digital Live
DTS CONNECT

OWNER'S MANUAL

HiTeC DIGITAL AUDIO, Inc.

Copyright

Copyright © 2005-2006 HITEC DIGITAL AUDIO, Inc. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, without the prior written permission from HiTeC DIGITAL AUDIO, Inc.

In no event will HiTeC DIGITAL AUDIO, Inc. be liable for direct, indirect, special, exemplary, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. In the interest of continued product development, HiTeC DIGITAL AUDIO, Inc. reserves the right to make improvements to this manual and the products it describes at any time, without notices or obligation.

Disclaimer

We makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties, merchantability or fitness for any particular purpose. Any software described in this manual is sold or licensed "as is". Should the programs prove defective following their purchase, the buyer (and not this company, its distributor, or its dealer) assumes the entire cost of all necessary servicing, repair, and any incidental or consequential damages resulting from any defect in the software. HiTeC DIGITAL AUDIO, Inc. reserves the right to make improvements to this manual and the products it describes at any time, without notices or obligation.

Trademarks

HDA, HDA logo are trademarks of HiTeC DIGITAL AUDIO, Inc. C-Media, C-Media logo and Xear 3D are trademarks of C-Media Electronics Inc. Dolby and Dolby Digital, Dolby Digital Live are trademarks of Dolby Laboratories. DTS CONNECT , DTS INTERACTIVE and DTS NEO:PC are trademarks of DTS, Inc. DTS is a registered trademark of DTS, Inc. EAX and A3D are trademarks of Creative Technology Ltd. Microsoft, DirectSound3D, Windows are trademarks of Microsoft Corporation. All brands or product names mentioned in this manual are trademarks or registered trademarks of their respective companies.

License

Dolby Digital Live driver is manufactured under license from Dolby Laboratories.
Manufactured under license from DTS, Inc. U.S. Pat. No's. 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,487,535 and other U.S. and world-wide patents issued and

pending. DTS CONNECT, DTS INTERACTIVE and DTS NEO:PC are trademarks of DTS, Inc. DTS is a registered trademark of DTS, Inc. Copyright 1996, 2002-2005 Digital Theater Systems, Inc. All Rights Reserved.

FCC and CE Radiation Norm

INFORMATION TO USER:

FCC : This equipment has been tested and found to comply with the limits for aClass B digital device, pursuant to Part 15 of Federal Communication Commission (FCC) rules.

CE : This equipment has been tested and found to comply with the limits of the European Council Directive on the approximation of the law of the member states relating to electromagnetic compatibility (89/336/EEC) according to EN 55022 class B.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: (1.) Reorient or relocate the receiving antenna. (2.) Increase the separation between the equipment and receiver. (3.) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. (4.) Consult the dealer or an experienced radio TV technician for help.

FCC DECLARATION OF CONFORMITY

PRODUCT NAME : 7.1 Channel Digital Soundcard

MODEL NUMBER : HDA-DXM7120

FCC RULES : TESTED TO COMPLY WITH FCC PART 15, CLASS B

OPERATING ENVIRONMENT : FOR HOME OR OFFICE USE

FCC COMPLIANCE STATEMENT:

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions. (1) This device may not cause harmful interference and (2)This device must accept any interference received including interference that may cause undesired operation.

CAUTION Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the users authority to operate the equipment.

1. "HDA XPLOSION 7.1 DTS CONNECT" Introduction

Thank you for purchasing our "HDA XPLOSION 7.1 DTS CONNECT" soundcard. This owner's manual is a guide for users to understand how to use the "HDA XPLOSION 7.1 DTS CONNECT" audiocard featured new generation Advanced Driver Software Architecture (ADSA) for C-Media CMI8770 chipset powered by Dolby® Digital Live (Dolby Digital Live Real-Time Content Encoder) , DTS CONNECT (DTS INTERACTIVE encoder, DTS NEO:PC upmix technology) and Xear 3D sound technology. With this manual, users can quickly take advantage of these great features to enjoy amazing sound effects even better than consumer acoustics.

Figure 1. ADSA™ Features for All Applications

(1) Package Contents

The following items are included with the "HDA XPLOSION 7.1 DTS CONNECT" package:

- "HDA XPLOSION 7.1 DTS CONNECT" audio card
- 2Pin-2Pin CD S/PDIF audio cable
- English Owner's Manual
- TOSLINK fiber optic digital cable
- Drivers/Applications installation CD

(2) Product Specifications

1) Sound Processor

▷ C-Media CMI8770/PCI-8ch PCI Chipset (8CH audio single chip with Dolby Digital Live Real-Time Content Encoder and the wolrd's first DTS CONNECT technology enabled PCI audio chipset)

▷ 8CH codec embedded PCI audio single chip

▷ Full-duplex 8CH 24bit/96kHz DAC / 2CH 16bit/48kHz ADC

▷ Integrated S/PDIF Input/Output supports 44.1kHz/48kHz/96kHz samplerate and 16/24bits resolution

2) System Interface

▷ PCI Rev. 2.2 compliant with 32bit PCI bus mastering modes

▷ Two S/PDIF Input for CD_SPDIF Input (S/PDIF-IN #1) , Digital I/O(SPDIF_EXT) Input (S/PDIF-IN #2)

▷ Built-in earphone buffer at Front Output (32 Ohm Loading)

▷ External EEPROM Interface for Sub-Vendor/Sub-Device ID using custom driver

▷ 16Pin MIDI_IO Header for supporting MPU-401 MIDI UART Port

▷ Swappable four high perfomance OPAMP for Output channel, two high perfomance OPAMP for MIC Input - increase gain level and improve SNR

▷ Onboard TOSLINK transmitter for up to 24bit/96kHz Optical Digital Output, Gold Plated RCA connetor for Coaxial Digital Output

▷ 12Pin SPDIF_EXT Header for using "HDA DIM-X10" Digital Input Module (Optional) - COAXIAL, OPTICAL S/PDIF Input for recording, monitoring, bypassing digital audio from external sources 16bit/44.1kHz, 16bit/48kHz, 24bit/96kHz sampling rate.

▷ C-Media Xear 3D 7.1 Virtual Speaker SHIFTER technology

▷ Sensaura CRL3D HRTF 3D positional sound enhancement with MultiDrive , EnvironmentFX , ZoomFX , MacroFX , etc.

▷ DirectSound 3D HW acceleration

▷ A3D 1.0 , EAX 1.0, 2.0 (powered by Sensaura), HRTF-based 3D Positional Audio (C3DX), DirectSound 3D SW

▷ Unique Karaoke functionality : Mic Echo, Key-shifting, Vocal Cancellation

▷ Special feature for Winamp broadcasting , VOIP, Online-games, Online messenger application : Magic Voice , Support Stereo-MIX recording mode for Winamp Broadcasting

▷ 10-band Equalizer with 12 preset modes; 27 global environment effects

▷ Support 7.1Ch playback for Windows XP, Windows 2000, Windows Server 2003, Windows ME, Windows 98 SE (Microsoft DirectX 9.0 or higher is required)

⚠ **All specifications are subject to change without prior notice.**

(3) Product Features

"HDA XPLOSION 7.1 DTS CONNECT" represents the latest generation in multi-channel PC audio and provides the following key features:

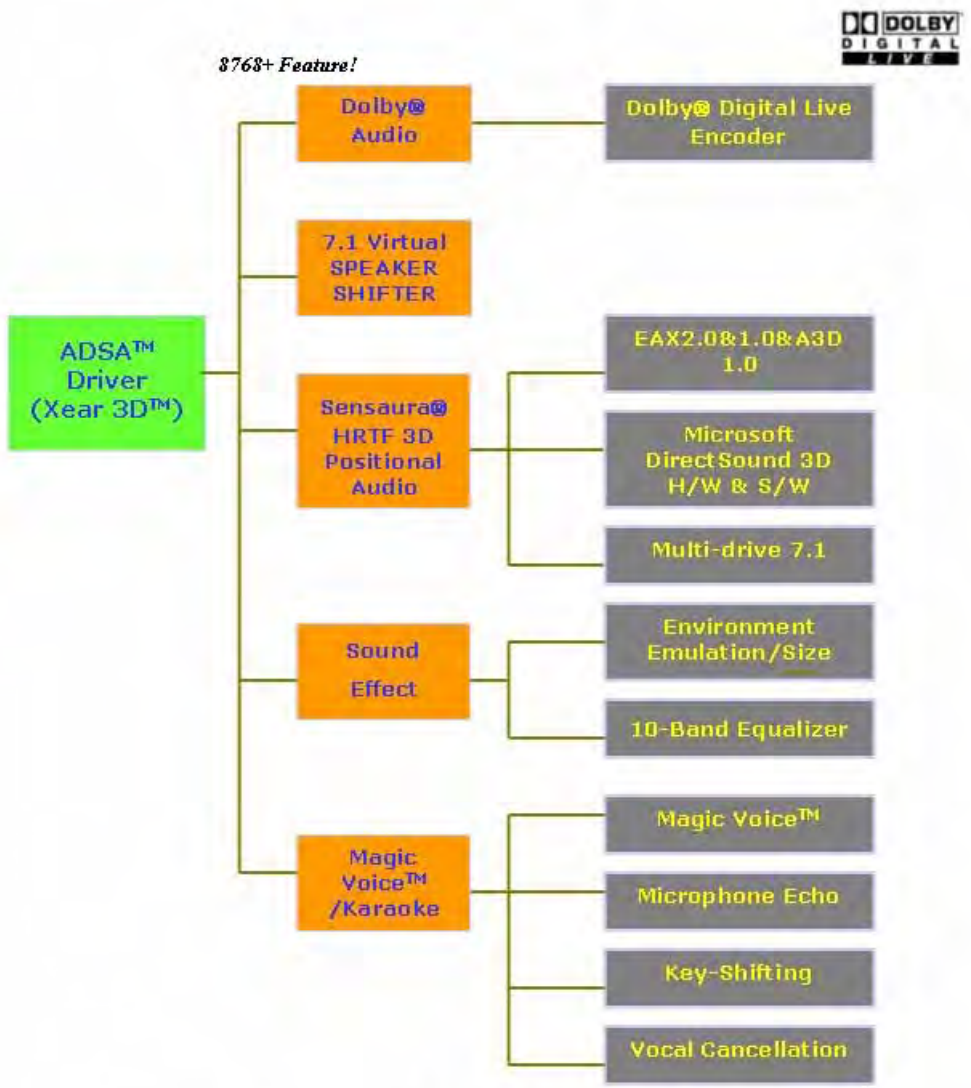


Figure 2. ADSA™ Xear 3D Driver Function Diagram

▷ **Dolby® Digital Live** : A real-time encoding technology, Dolby® Digital Live converts any audio signal into a Dolby® Digital bitstream (48kHz at 640Kbps). Dolby® Digital Live provides a single cable connection(via coaxial or optical) to your Dolby® Digital enabled surround sound system. The real-time interactive capabilities of Dolby® Digital Live technology are ideally suited to PCs because it reproduces audio cues and effects that follow the on-screen action, transforming gameplay into an exciting and realistic entertainment.

▷ **DTS INTERACTIVE** : A real-time encoder that takes any LPCM (2 channel or more) and encodes it into DTS® bitstream(48kHz at 1.5 Mbps). DTS INTERACTIVE provides a single cable connection(via coaxial or optical) to your DTS enabled surround sound system. Your stereo or multi-channel (up to 5.1) audio sources are re-encoded into a DTS audio signal and sent out from the "HDA XPLOSION 7.1 DTS CONNECT" to any DTS enabled system such as, powered PC speakers, an A/V receiver or any other DTS- compatible surround decoder sound system. The installation process is simple and eliminates the clutter, tangles, and cost of multiple analog cables.

▷ **DTS NEO:PC :** : An up-mix matrix technology that turns any 2 channel audio into 7.1 surround sound. You can turn your stereo audio (WMA, MP3, CD, and more!) into a convincing multichannel audio experience. Borrowing from DTS® NEO:6 technology that provides you with surround sound from stereo sources in high-end home theatre products, NEO:PC is optimized for your personal computer and is the perfect companion to DTS INTERACTIVE .

▷ DVD Playback with full 5.1 speaker and 7.1 speaker surround sound using PowerDVD, WinDVD software decoding application. (with DD 5.1, DTS 5.1, DD-EX 6.1/7.1, DTS-ES 6.1/7.1 decoding)

▷ MP3 playback with Directsound hardware acceleration function on multichannel speakers (4, 5.1, 7.1 speakers)

▷ Supports Game Surround Sound API such as Sensaura CRL3D HRTF 3D positional sound enhancement with multi-drive 7.1, EnvironmentFX, ZoomFX, MacroFX. A3D 1.0 , EAX 1.0, 2.0 (powered by Sensaura),Direct Sound 3D SW

▷ Coaxial, Optical S/PDIF output for playback of pure PCM digital audio at resolutions of 16bit/44.1kHz, 16bit.48kHz, 24bit/96kHz sampling rates.

▷ Onboard COAXIAL RCA connector, OPTICAL Toslink trasmitter for high quality Digital Output

▷ SPDIF output allows pass-through of Non-PCM Dolby® Digital and DTS® stream to external DD/DTS decoder and A/V receivers in Windows® 98SE/ME/2000/XP/Server2003.

▷ Supports 44.1kHz / 48kHz / 96kHz S/PDIF Input with HDA X-10 Digital Input extension board [Digital I/O (SPDIF-IN #2)]

▷ Supports CD S/PDIF Input (SPDIF-IN #1) via CD_SPDIF 2pin connector

▷ Adopt large capacity positeive./negative regulators and 6pcs of DUAL DIP TYPE OPAMP, Special two OPAMP controlled preamp circuits on board provides increased MIC input gain and improvement of SNR quality.

▷ Anti-Pop control Circuit using high perfomance audio muting transistor

▷ 7.1 Virtual Speaker Shifter

▷ Support Stereo MIX recording option and Mic Echo which makes the best environment for Winmap broadcasting

▷ Support Karaoke features such as Echo, Magic Voice, Vocal Cancel, and Key Control

(4) System Requirements (Minimum)

▷ Genuine Intel® Pentium® III 800 MHz, or equivalent AMD® processor or faster

▷ Motherboard with above level Intel, AMD CPU support

▷ At least 256 MB RAM for Windows OS

▷ Microsoft® Windows® 98 SE, Windows Me, Windows 2000 Service Pack 3 (SP3) ,Windows Server 2003, Windows XP Service Pack 1 (SP1)

▷ Available PCI 2.1 or higher compliant slot for the audio card.

▷ Available adjacent slots for the optional MIDI port bracket(available separately) or optional HDA DIM-X10 digital input module(available separately)

▷ Headphones or 2channel amplified speakers (available separately)

▷ 500 MB of free hard disk supporting UDMA 66/100 and 5400rpm

▷ CD-ROM, DVD-ROM drive required for software installation

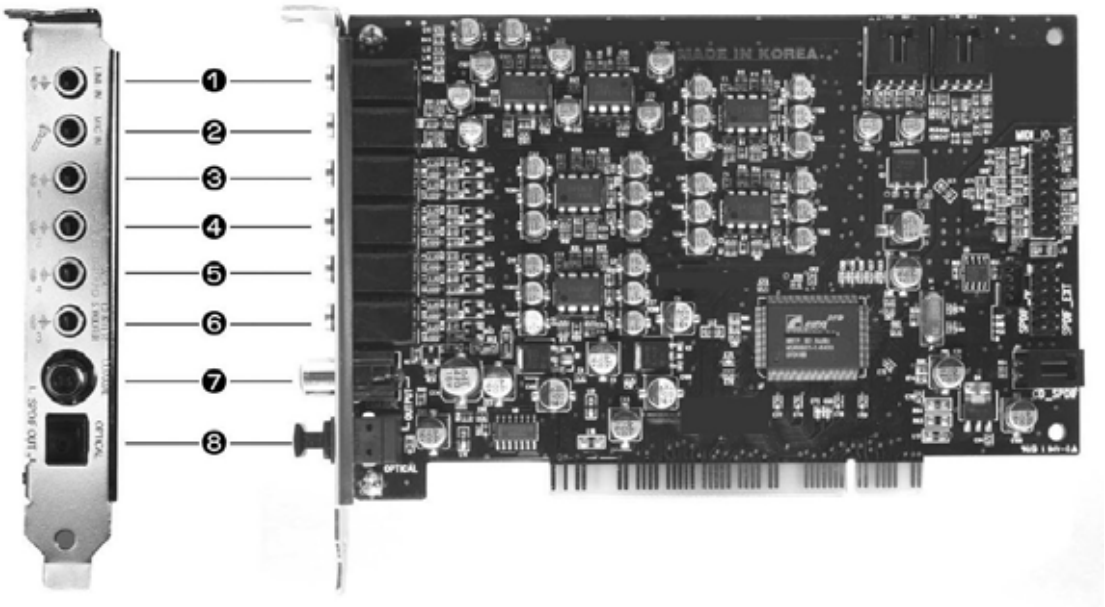
(5) Technical Support

Please visit **http://www.hidiaudio.com** for the latest HDA brand products informations. The site also includes information on making purchases for international users, technical support, and the latest driver updates.

HiTeC DIGITAL AUDIO
http://www.HiDiAudio.com

2. "HDA XPLOSION 7.1 DTS CONNECT" hardware

(1) Jacks



① LINE IN (3.5mm Stereo minijack) : Connects to external analog line-level sources, such as CD players, MP3 players, MD players, cassette players, TV card's internal line output, any analog stereo output devices.

② MIC IN (3.5mm Stereo minijack) : Connects to external condenser or dynamic microphone for voice input. Special two OPAMP controlled preamp circuits on board provides increased MIC input gain and improvement of SNR quality.

③ FRONT (3.5mm Stereo minijack) : Connects to Front Left/Right inputs on powered analog speakers, an external amplifier or headphones.

④ SIDE SURROUND (REAR / 3.5mm Stereo minijack) : Connects to Rear Left/Right inputs on powered multichannel analog speakers, an external mutichannel amplifier in 4, 5.1 and 7.1 channel analog playback modes.

⑤ BACK SOURROUND (REAR CENTER / 3.5mm Stereo minijack) : Connects Rear Center 1 / 2 inputs on powered multichannel analog speakers, an external mutichannel amplifier in 7.1 channel analog playback modes.

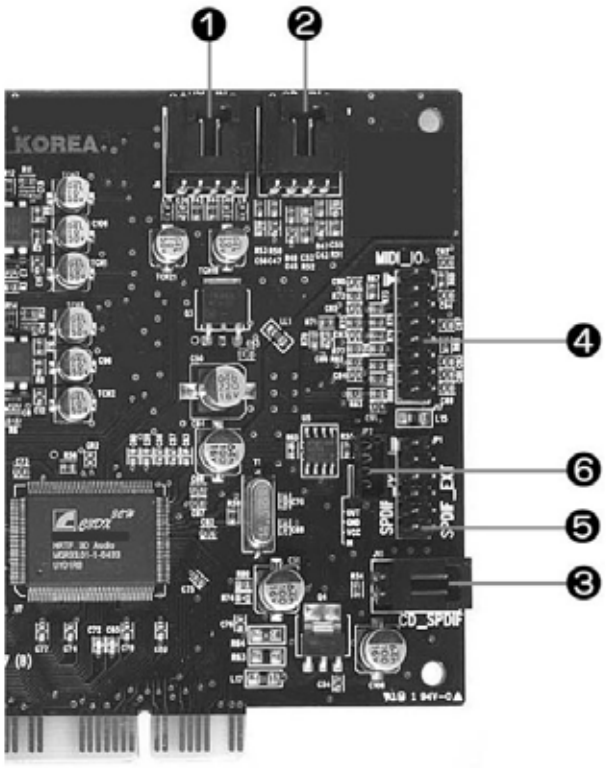
⑥ CENTER/S.WOOFER (3.5mm Stereo minijack) : Connects to Front Center and

Sub-Woofer inputs on powered multichannel analog speakers, an external mutichannel amplifier in 5.1 or 7.1 channel analog playback modes.

⑦ **COAXIAL OUTPUT (S/PDIF COAXIAL Digital Output, Gold Plated RCA Jack)** : Connects to external digital devices like AV receivers, decoders or digital speaker systems. Coaxial(75 Ohms) S/PDIF output transmitts pure PCM digital audio at resolutions of 16bit/44.1kHz, 16bit/48kHz, 24bit/96kHz sampling rates. Also allows pass-through of Non-PCM Dolby® Digital and DTS® stream to external DD/DTS decoders and A/V receivers.

⑧ **OPTICAL OUTPUT (S/PDIF OPTICAL Digital Output,TOSLINK connector)** : Connects to external digital devices like AV receivers, decoders or digital speaker systems. High quality TOSLINK Optical S/PDIF output transmitts pure PCM digital audio at resolutions of 16bit/44.1kHz, 16bit/48kHz, 24bit/96kHz sampling rates. Also allows pass-through of Non-PCM Dolby® Digital and DTS® stream to external DD/DTS decoder and A/V receivers.

(2) Headers/Connectors



① **AUX_IN (4Pin MPC2) :** Connects to the internal analog audio from CD-DROM/DVD-ROM Drive or other internal PCI devices line output. (4pin MPC2 to 4pin MPC2 CD Audio Cable, available separately) Pin configuration:

Pin 1 - Left (white)
Pin 2 - Ground (black)
Pin 3 - Ground (black)
Pin 4 - Right (red)

② **CD_IN (4Pin MPC2) :** Connects to the CD analog audio output on an internally mounted CD-ROM/DVD-ROM drive using an analog CD audio cable. (4pin MPC2 to 4pin MPC2 CD Audio Cable, available separately) Pin configuration:

Pin 1 - Left (white)
Pin 2 - Ground (black)
Pin 3 - Ground (black)
Pin 4 - Right (red)

③ **CD_SPDIF (2Pin CD Digital IN)** : Connects to the CD digital audio (16bit/44.1kHz) output using included CD S/PDIF cable (2pin-2pin S/PDIF digital audio internal cable) from an internally mounted CD/DVD drive with 2Pin S/PDIF out connector. WDM driver utilizes digital audio transfer to the sound card from the PCI bus, so this connection may not be required. However, you have to use this connection with 2Pin-2Pin CD S/PDIF digital audio cable for PCM or Non-PCM (such as DTS-CD) digital audio bypass or loopback output from CD media. In case of this, also you have to disable for digital audio transfer function in CD Drive or DVD Drive properties and CD playback application such as WMP, Winamp.

④ **MIDI_IO (MIDI Port Bracket 16Pin Header) :** Connects to the MIDI Port bracket for MIDI devices such as master keyboard and synthesizer. Customers must palce an order a optional MIDI port bracket seperately from our local distributors or online stores. MIDI port bracket connector has a polarization key for 16th pin, so users can make sure you are connecting to the correct connector, and that the cable is properly aligned with the connector. Also you can align the red-colored wire to Pin 1 (with trangle mark) of the connector.

MIDI port bracket for "HDA XPLOSION 7.1 DTS CONNECT" (with 16pin red-colored ribbon wire) (Optional, available separately)

⑤ **SPDIF_EXT (SPDIF Input Extension Board 12Pin Header) :** Connects to the SPDIF_EXT connector on the HDA DIM-X10 Digital Input Module (Optional, available separately). For connection Optical and Coaxial S/PDIF input for recording, monitoring or bypassing digital audio from external sources at resolutions 16bit/44.1kHz, 16bit/48kHz and 24bit/96 kHz sampling rate. 12pin connection cable (12pin ribbon cable) have polarization keys for 3rd, 7th, 8th pin, so users can make sure you are connecting to the correct connector, and that the cable is properly aligned with the connector. Also you can align the red-colored wire to Pin 1 (with trangle mark) of the connector.

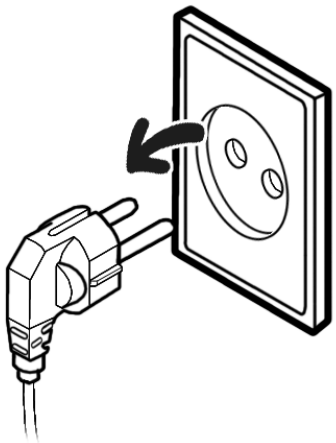
⑥ **SPDIF_IO (4Pin SPDIF connector) :** Connects to the 4pin digital I/O connectors on 3rd party digital I/O boards such as Hoontech or other pin compatible digital i/o module.

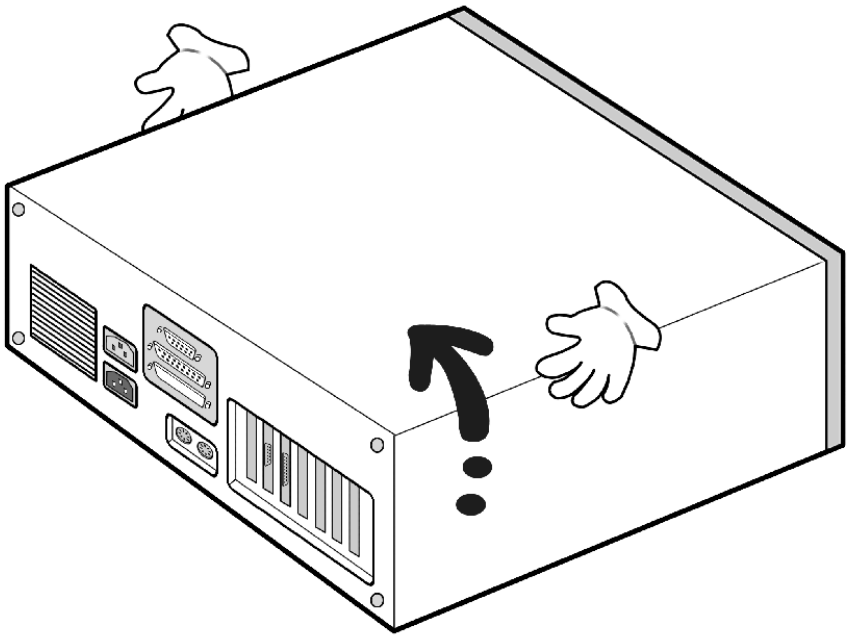
3. Installing H/W, S/W, and Speakers

When you have a existing PCI soundcard in your PC or when you have an onboard sound/audio device like as AC97 codec or HD Audio Azalia codec on the motherboard, please disable it in the motherboard BIOS setup program and must remove the associated software and drivers for previous soundcard or AC97/Azalia codec before installing your "HDA XPLOSION 7.1 DTS CONNECT" for avoiding devices/drivers corruptions or conflicts. Each manufacturer's drivers and applications can be removed in the ADD or Remove Programs menu in Windows Control Panel.

(1) Installing the "HDA XPLOSION 7.1 DTS CONNECT" audio card

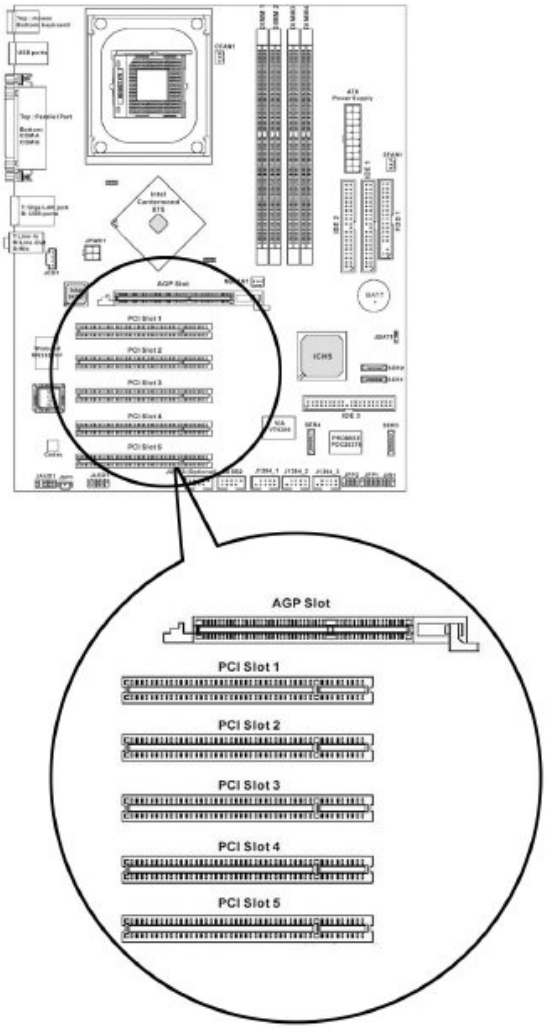
① Turn off your main power supply, unplug the power cord from the wall outlet for avoiding electric damage and disconnect any peripheral devices. Remove your PC cover casing.



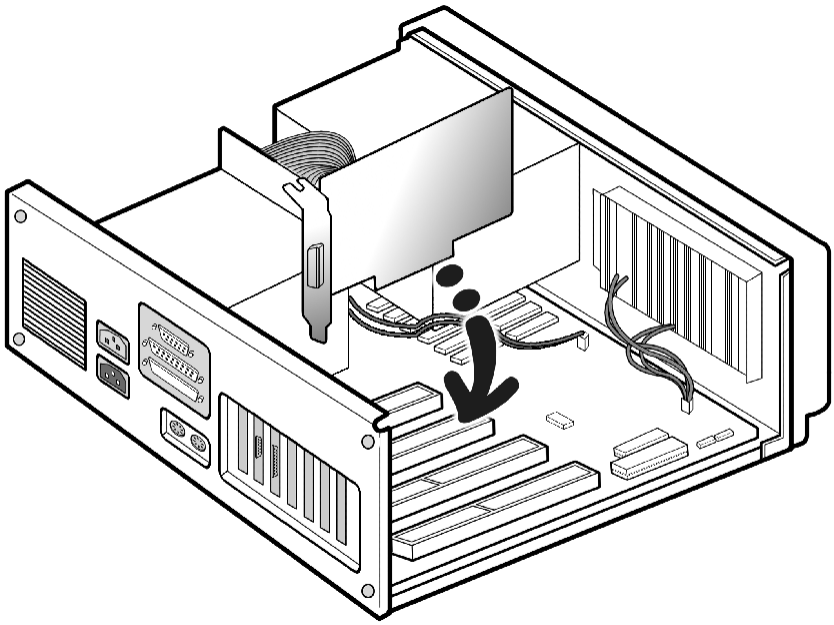


② Before removing the "HDA XPLOSION 7.1 DTS CONNECT" audio card from its anti static electricity bag, touch the PC chasis or metal plate to ground yourself to discharge any static electricity from your body.

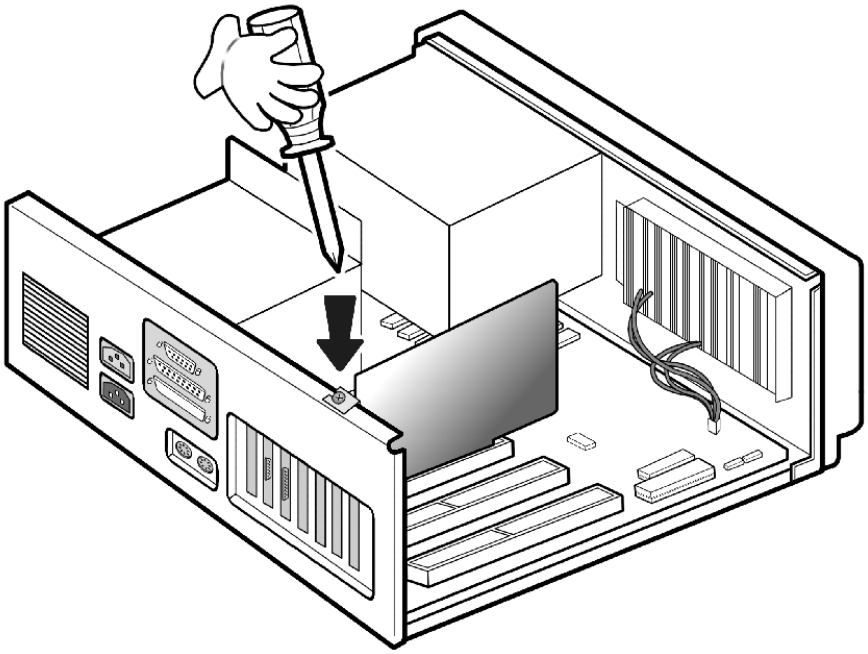
③ Remove a metal bracket from an unused PCI slot by unscrewing its securing screw. Save the screw to secure the audio card to the chassis later. If you are installing HDA DIM-X10 Digital Input Module and(or) MIDI port bracket, remove adjacent metal bracket. Select one that is empty for installing the card. We recommend using a free PCI expansion slot that's furthest away from the graphic board and power supply. Most motherboards with five slots will have two or more slots that share the same IRQ (interrupt request line). Be sure to install the "HDA XPLOSION 7.1 DTS CONNECT" in a PCI slot that has its own, unshared IRQ. If you find that your computer locks up after you have installed the "HDA XPLOSION 7.1 DTS CONNECT" , reinstall the audio card to a different, unshared PCI slot.



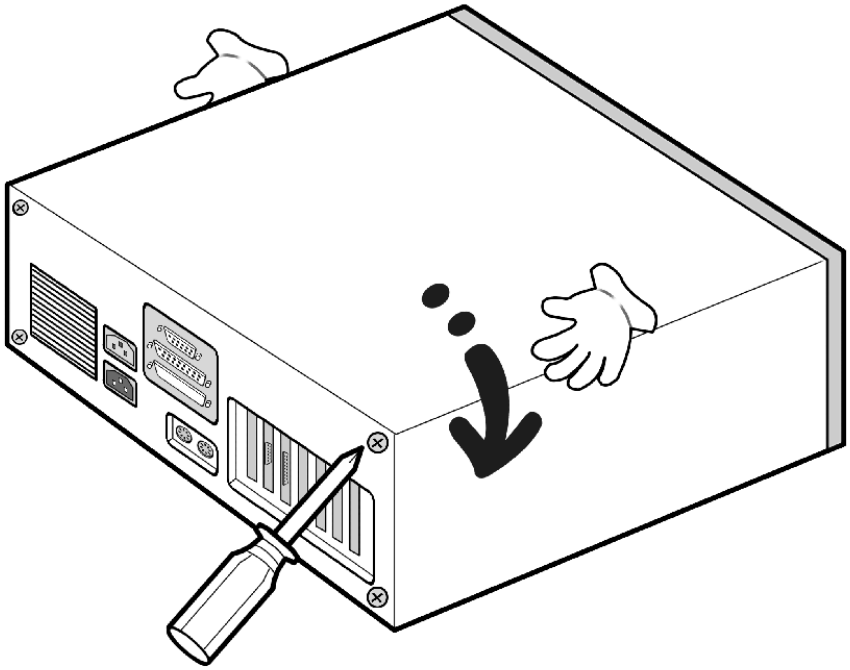
④ Align the "HDA XPLOSION 7.1 DTS CONNECT" audio card gently but firmly the PCI slot until it snaps in place. Secure its metal bracket to the chassis with the screw. Do not force the audio card into the slot. Be sure that the gold pins (male) of the card's PCI connector is aligned with the PCI bus connector(female) on the motherboard before you insert the card into the slot. If it does not fit properly, gently remove it and try again.



If you are installing a HDA DIM-X10 Digital Input Module or MIDI Port bracket (optional), secure the their bracket to the slot next to the "HDA XPLOSION 7.1 DTS CONNECT" audio card. Before securing the any bracket in place then connect the 12pin red-colored ribbon cable of HDA DIM-X10 Digital Input Module to the SPDIF_EXT header and MIDI port bracket cable to the MIDI_IO header on the audio card. Align the red-colored wire to Pin 1 (with trangle mark) of the header.

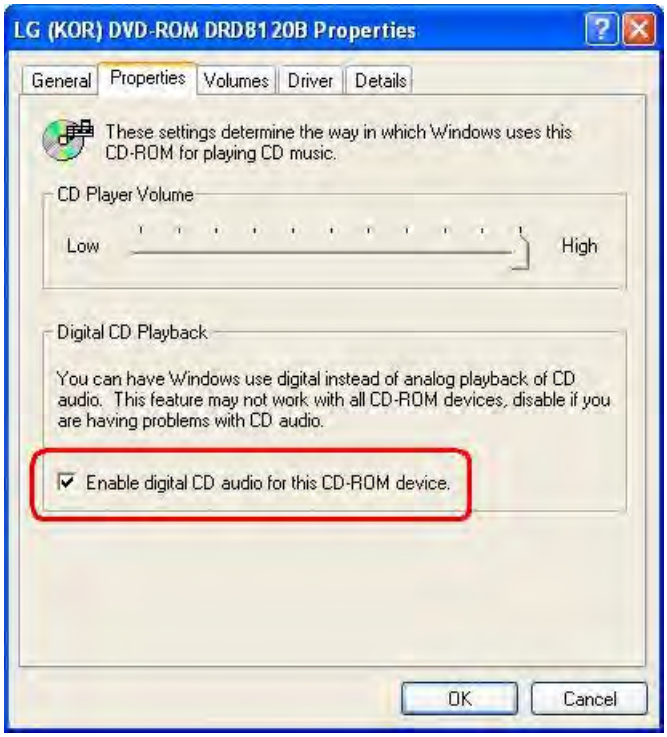


⑤ Replace the PC's cover casing, plug the power cord into the AC wall outlet. Connect your powered speakers, microphone, and any other audio peripherals to the appropriate inputs and outputs on the audio card

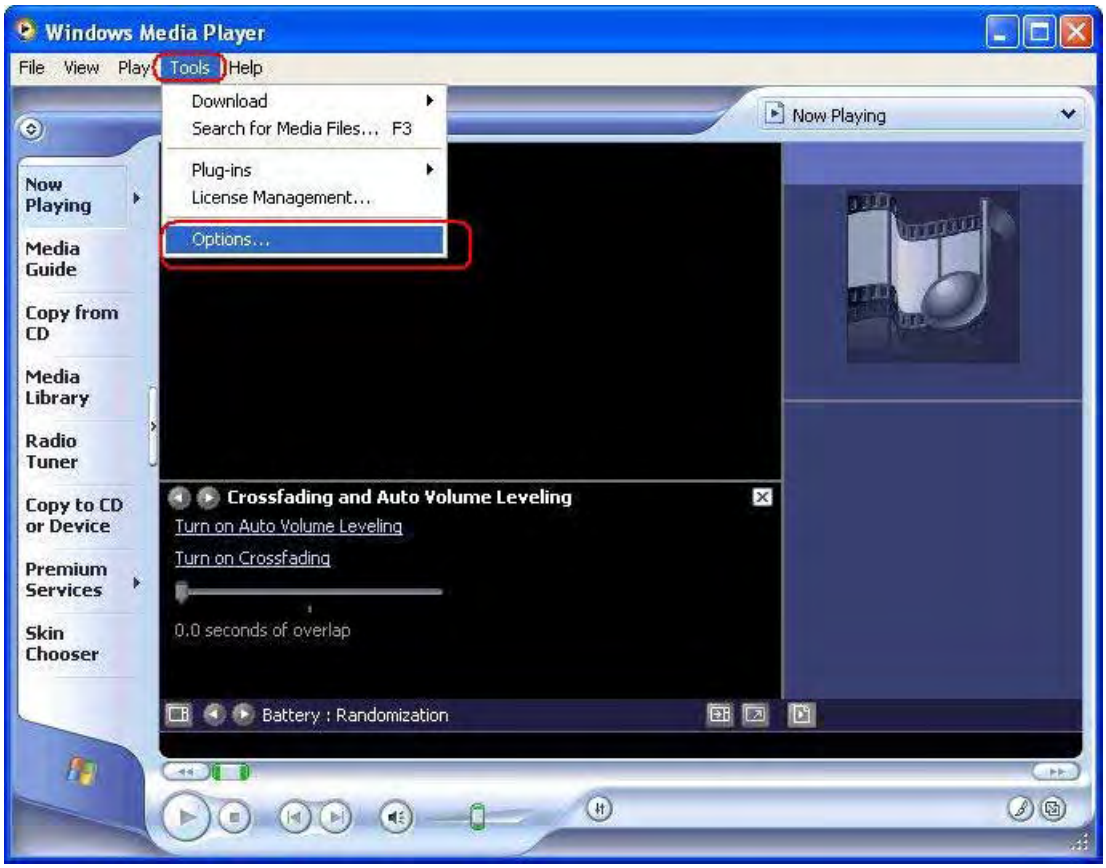


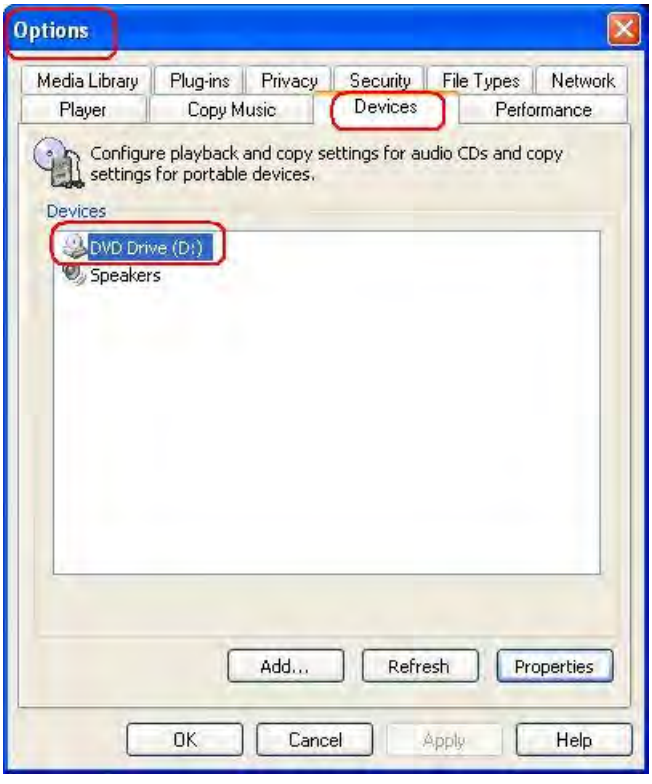
(2) Installing the Analog / Digital CD-ROM Audio cable

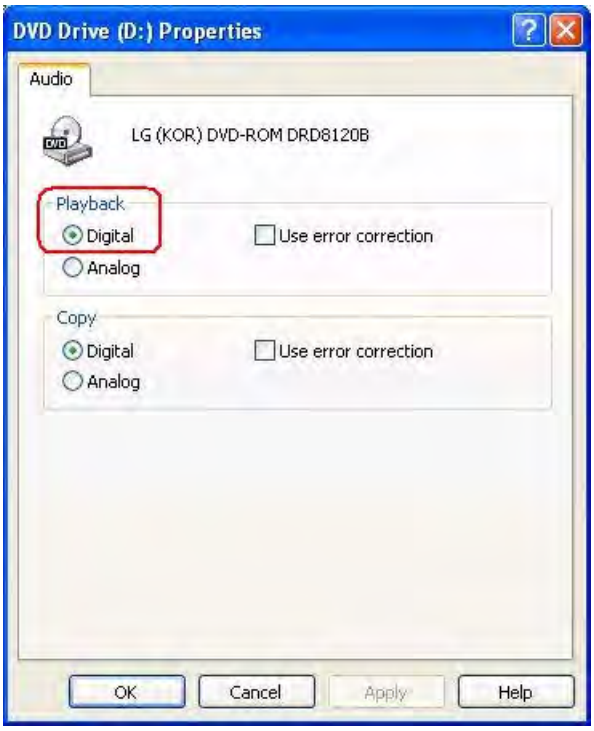
Using Digital CD Audio Extraction(CD-DA) in WDM driver, audio can be sent to your computer through your CD-ROM/DVD-ROM drive's IDE cable instead of via an analog or digital SPDIF cable. Please open Device Manager , select DVD/CD ROM drives and open it. Then switch to Properties page and enable digital CD audio for this CD-ROM device. Windows XP default setting is digital CD audio enabled.



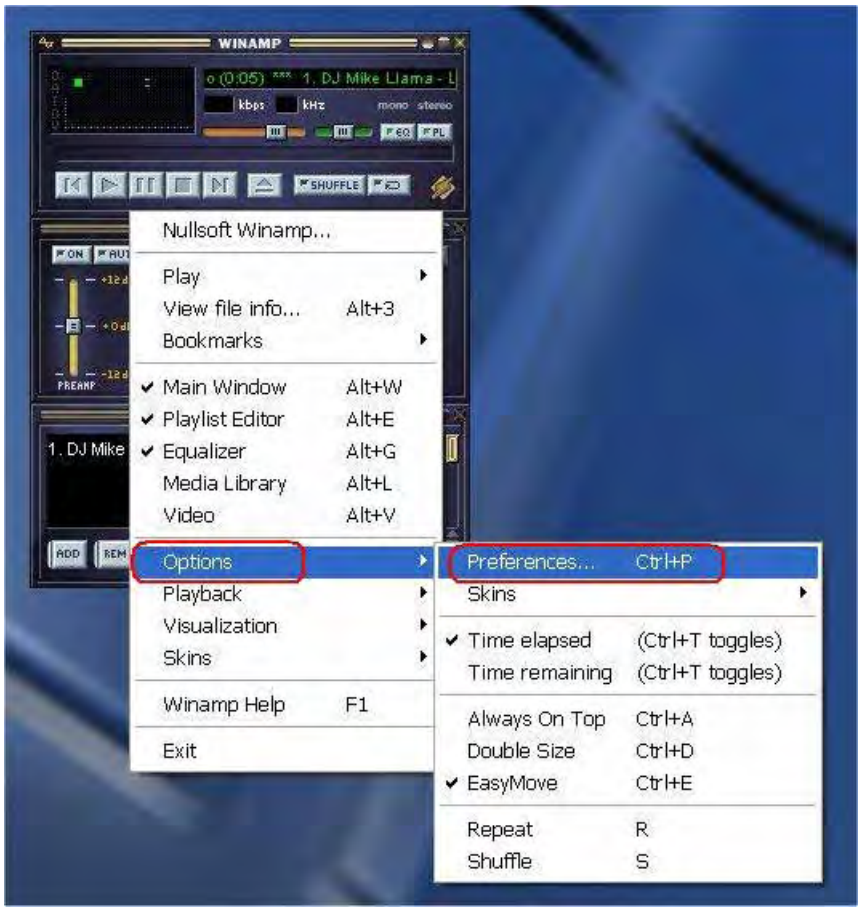
You need to also check Windows Media Player setting is in digital playback mode. Go to [Tools=>Options=>Devices=>DVD Drive or CD Drive=>Playback-Digital]. You will see the following window.

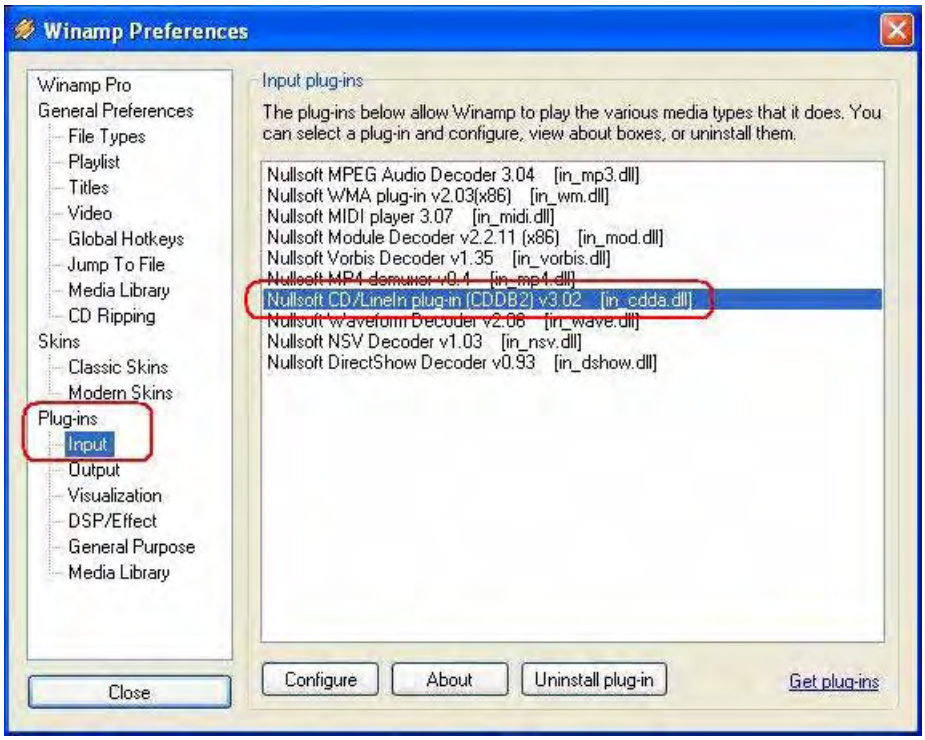

Windows Media Player
File View Play Tools Help
Download
Search for Media Files... F3
Plug-ins
License Management...
Options...
Now Playing
Now Playing
Media Guide
Copy from CD
Media Library
Radio Tuner
Copy to CD or Device
Premium Services
Skin Chooser
Crossfading and Auto Volume Leveling
Turn on Auto Volume Leveling
Turn on Crossfading
0.0 seconds of overlap
Battery : Randomization


Options
Media Library
Plug-ins
Privacy
Security
File Types
Network
Player
Copy Music
Devices
Performance
Configure playback and copy settings for audio CDs and copy settings for portable devices.
Devices
DVD Drive (D:)
Speakers
Add...
Refresh
Properties
OK
Cancel
Apply
Help



Also you need to also check Winamp Player setting is in digital playback mode. Go to [Options=>Preferences=>Plug-ins=>Input=>Nullsoft CD/LineIn plug-in(CDDB2)=> Select Enable digital audio extraction when possible]. You will see the following window.


WINAMP
1. DJ Mike Llama - L
kbps
kHz
mono stereo
SHUFFLE
PREAMP
1. DJ Mike
ADD
Nullsoft Winamp...
Play
View file info... Alt+3
Bookmarks
Main Window Alt+W
Playlist Editor Alt+E
Equalizer Alt+G
Media Library Alt+L
Video Alt+V
Options
Playback
Visualization
Skins
Winamp Help F1
Exit
Preferences... Ctrl+P
Skins
Time elapsed (Ctrl+T toggles)
Time remaining (Ctrl+T toggles)
Always On Top Ctrl+A
Double Size Ctrl+D
EasyMove Ctrl+E
Repeat R
Shuffle S

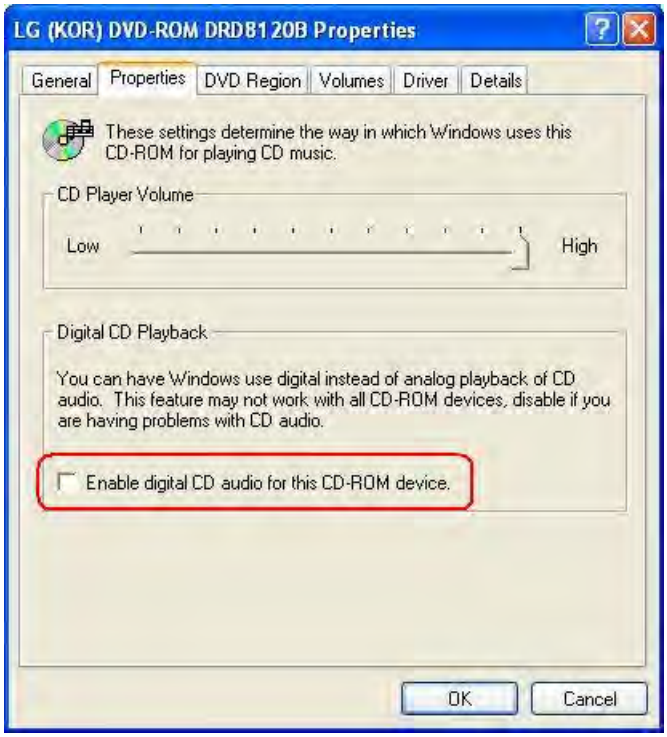


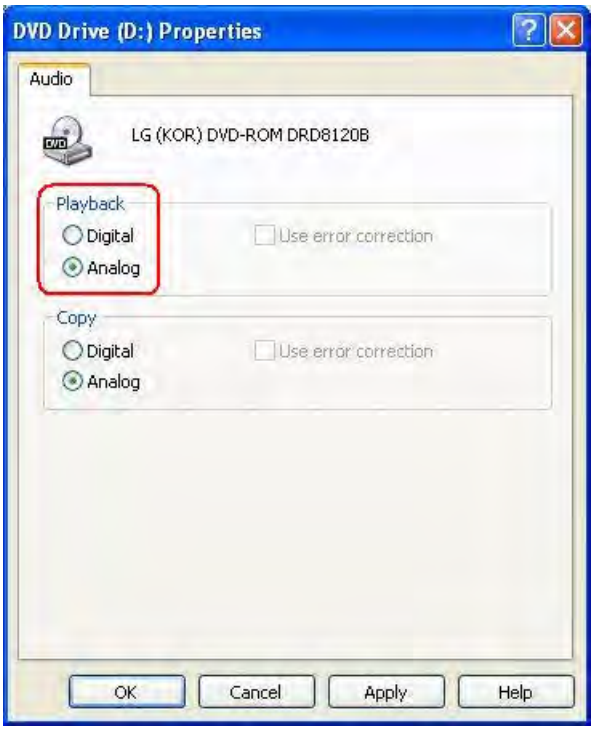
However "HDA XPLOSION 7.1 DTS CONNECT" have two internal connector for an audio cable to connect the analog stereo output of your CD-ROM drive or DVD-ROM drive. This cable should have been provided with your CD-ROM/DVD-ROM drive and is not included with audio card. Connect an analog CD audio cable from the analog

audio connector on your CD-ROM/DVD-ROm drive to the CD_IN or AUX_IN connector on the "HDA XPLOSION 7.1 DTS CONNECT". The CD audio cable should be plugged into the CD-ROM/DVD-ROM drive first; then the other end of the cable should be plugged into the appropriate connector(CD_IN, AUX_IN) on the audio card.

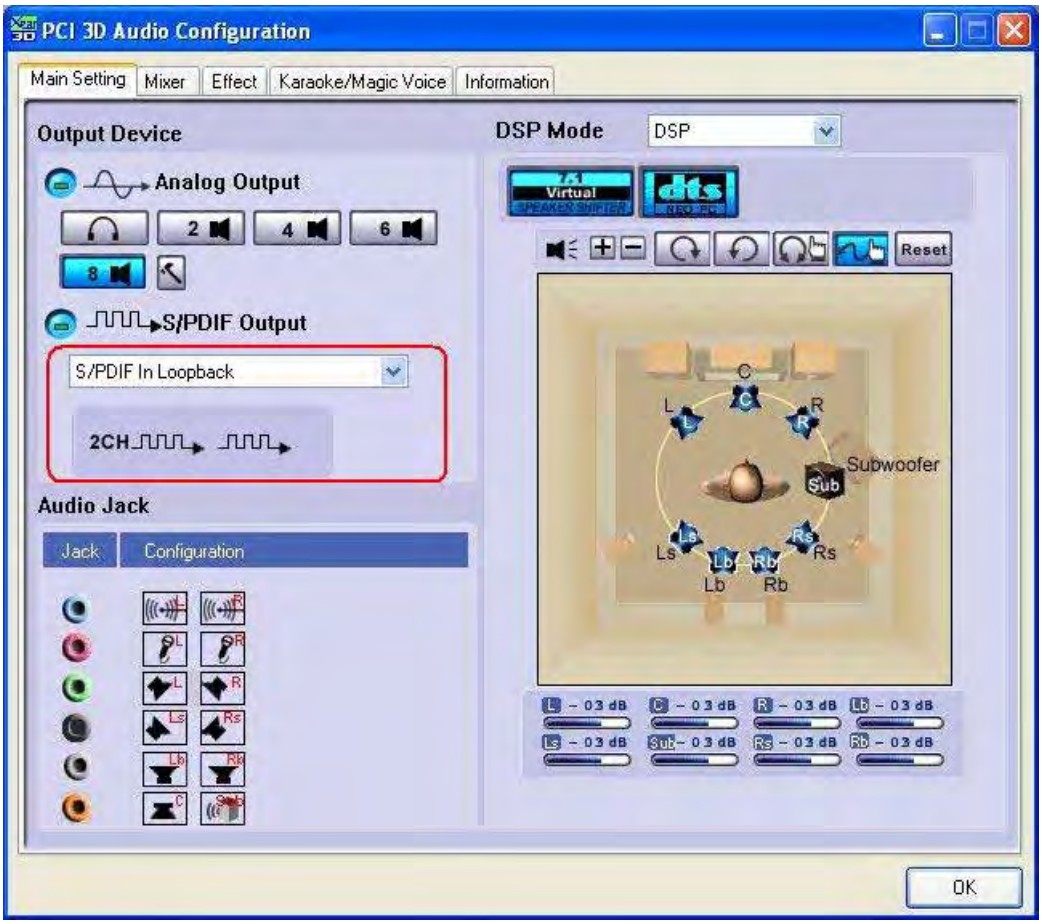
Also "HDA XPLOSION 7.1 DTS CONNECT" have an internal connector for an audio cable to connect the S/PDIF PCM, Non-PCM (DTS-CD) output of your CD-ROM drive or DVD-ROM drive. This cable(2Pin MPC to 2Pin MPC) is included with your audio card. Connect the digital CD audio cable from the digital audio connector on your CD-ROM/DVD-ROM drive to the CD_SPDIF connector on the "HDA XPLOSION 7.1 DTS CONNECT". The CD audio cable should be plugged into the CD-ROM/DVD-ROM drive first; then the other end of the cable should be plugged into the appropriate connector(CD_SPDIF) on the audio card.

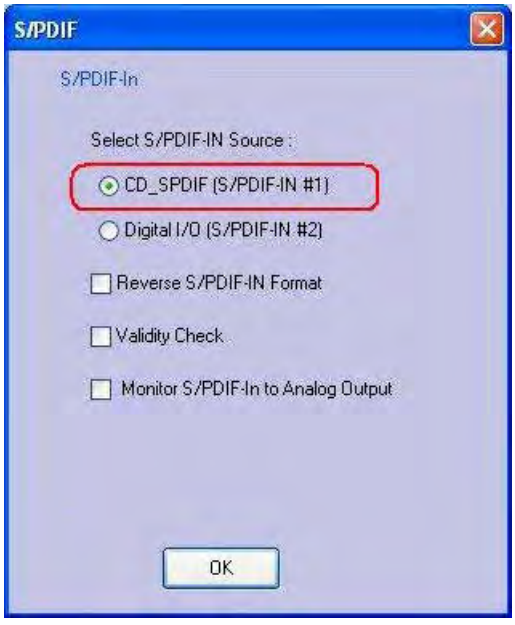
You have to use this connection with 2Pin-2Pin CD S/PDIF digital audio cable for PCM or Non-PCM (such as DTS-CD) digital audio bypass or loopback output from CD media to external digital devices such as AV receivers, decoders. In case of this, also you have to disable for digital audio transfer function in CD Drive or DVD Drive properties and CD playback application such as WMP, Winamp. Make sure your digital audio extraction setting is fully disabled as following.




DVD Drive (D:) Properties
Audio
LG (KOR) DVD-ROM DRD8120B
Playback
Digital
Analog
Use error correction
Copy
Digital
Analog
Use error correction
OK
Cancel
Apply
Help

CD playback settings
Digital Audio Extraction
Enable digital audio extraction when possible
Use Sonic engine when possible
Sampling (when not in DAE mode)
Sample input from soundcard (for vis) (requires 44khz 16bit stereo capability)
(note: be sure to set up your soundcard sampling input to the correct input source in order to have visualization)
CDDB
Use CDDB
POWERED BY
gracenote
cddb
OK
Cancel


PCI 3D Audio Configuration
Main Setting
Mixer
Effect
Karaoke/Magic Voice
Information
Output Device
Analog Output
2
4
6
8
S/PDIF Output
S/PDIF In Loopback
2CH
Audio Jack
Jack
Configuration
DSP Mode
DSP
Virtual
dts
Reset
C
L
R
Subwoofer
Sub
Ls
Rs
Lb
Rb
OK

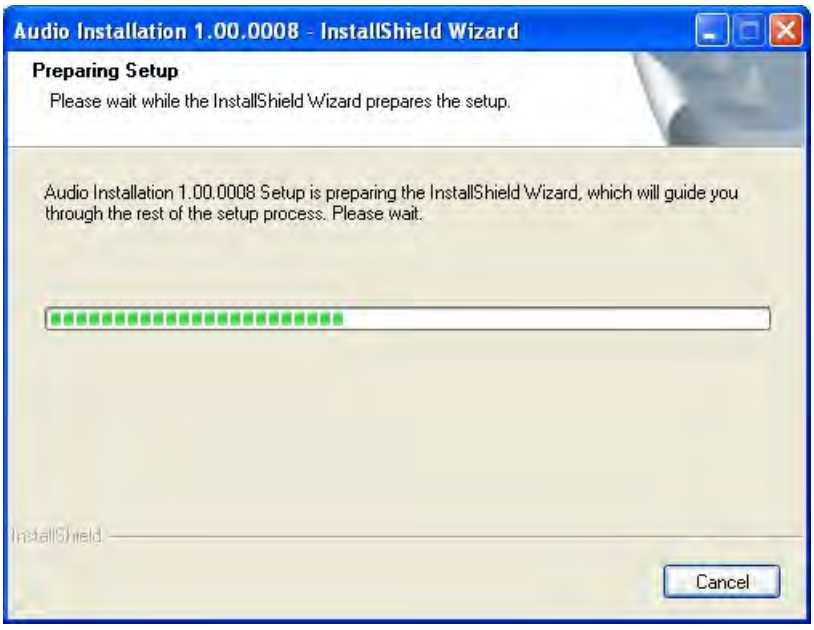

S/PDIF
S/PDIF-In
Select S/PDIF-IN Source :
CD_SPDIF (S/PDIF-IN #1)
Digital I/O (S/PDIF-IN #2)
Reverse S/PDIF-IN Format
Validity Check
Monitor S/PDIF-In to Analog Output
OK

(3) Installing the drivers and software

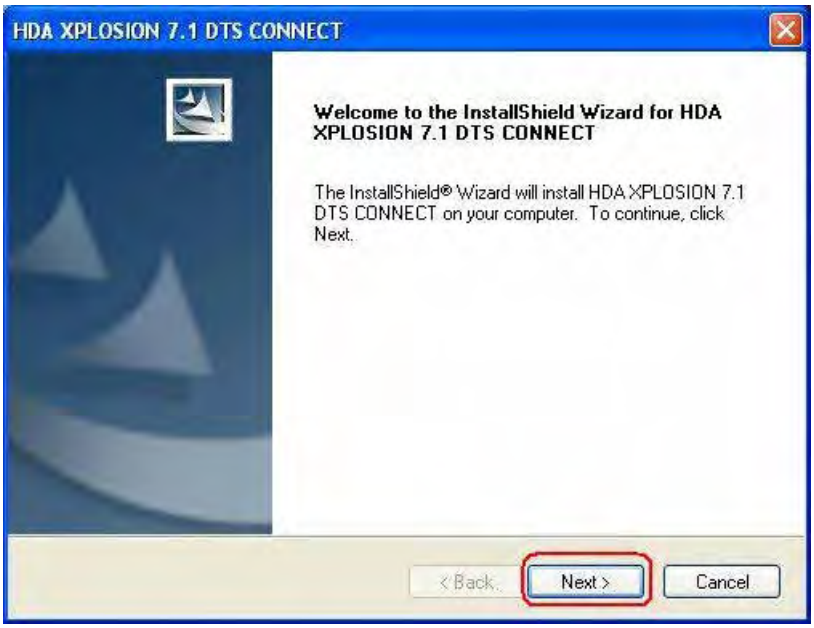
① Turn on the PC. After Windows has booted then Windows automatically detects new hardware-Multimedia Audio Controller and **Found New Hardware Wizard** is displayed, click on the **Cancel** button to end this process.

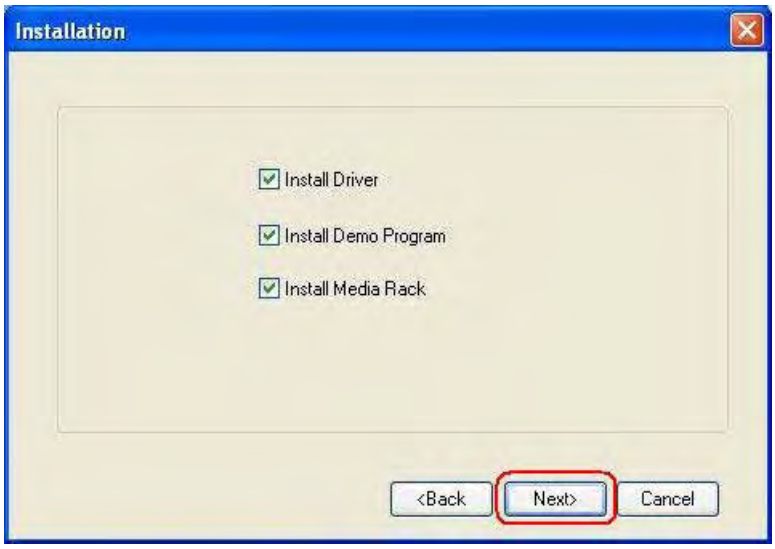
② Insert installation CD into the CD-ROM/DVD-ROM drive. Installation CD will launch automatically only if the Auto-Insert Notification option is enabled for your CD-ROM/DVD-ROM drive. If the installation menu does not appear after inserting the installation CD into your CD ROM/DVD-ROM drive, browse to the drive letter that contains the CD, double-click on the CD-ROM /DVD-ROM drive icon to open it, and search and run "**SETUP.EXE"** then return to the installation instructions

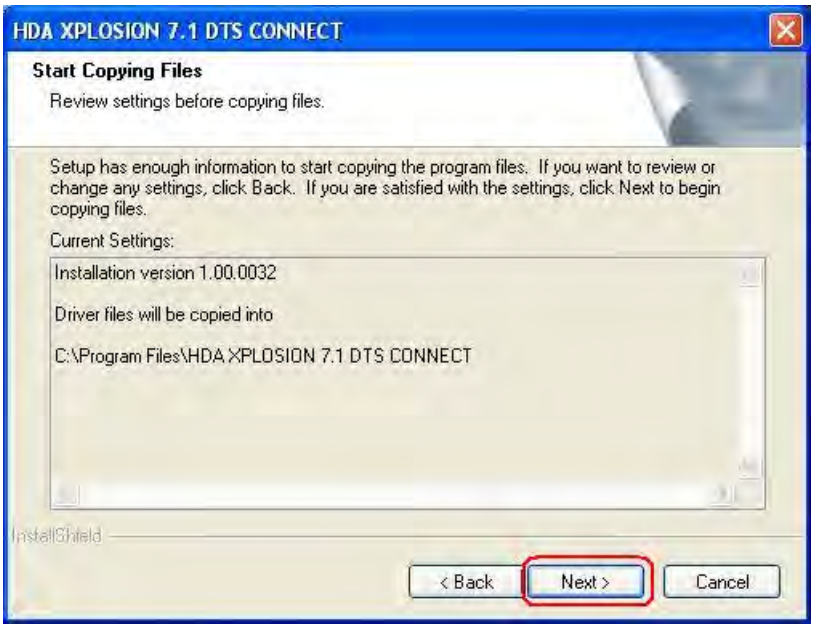
i

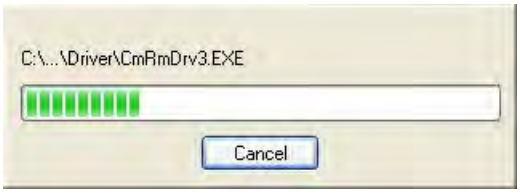


③ When the "HDA XPLOSION 7.1 DTS CONNECT" installation menu appears, select "**Next**". Follow the instructions that appear during the install, selecting the options that best match your audio setup. During the installation process, Windows 98 SE users will be prompted to insert the Windows 98 SE installation CD into the CD/DVD-ROM drive. Insert the installation CD into the CD/DVD-ROM drive and then click the OK button.


HDA XPLOSION 7.1 DTS CONNECT
Welcome to the InstallShield Wizard for HDA XPLOSION 7.1 DTS CONNECT
The InstallShield® Wizard will install HDA XPLOSION 7.1 DTS CONNECT on your computer. To continue, click Next.
< Back
Next >
Cancel

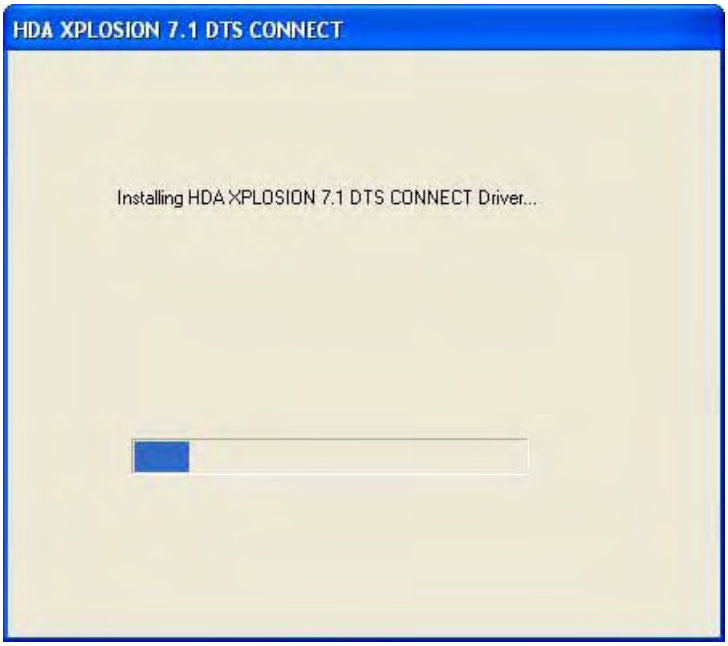

Installation
Install Driver
Install Demo Program
Install Media Rack
<Back
Next>
Cancel



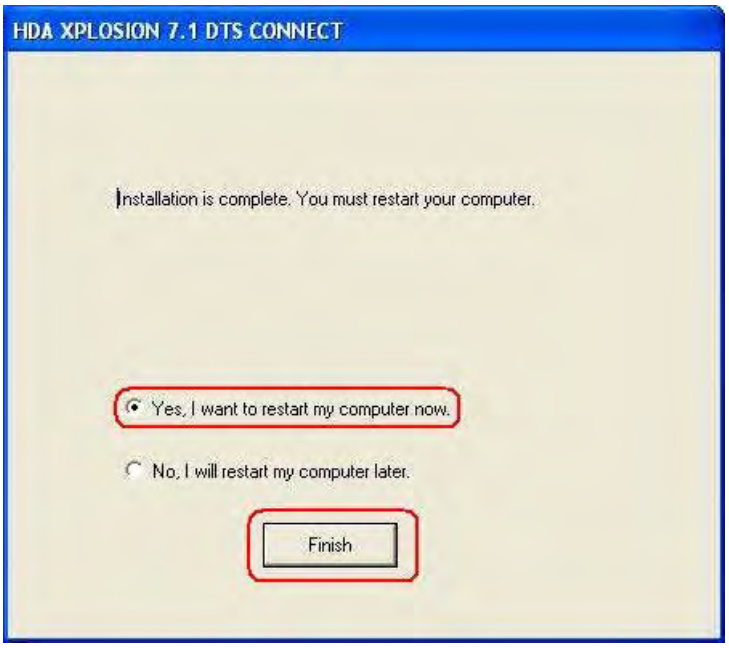


④ If the following dialog box appears, explaining that the software has not passed Windows Logo testing or does not have a Digital Signature, setup program will

automatically process "**Continue Anyway**" or "**Yes**" (depending on the operating system).

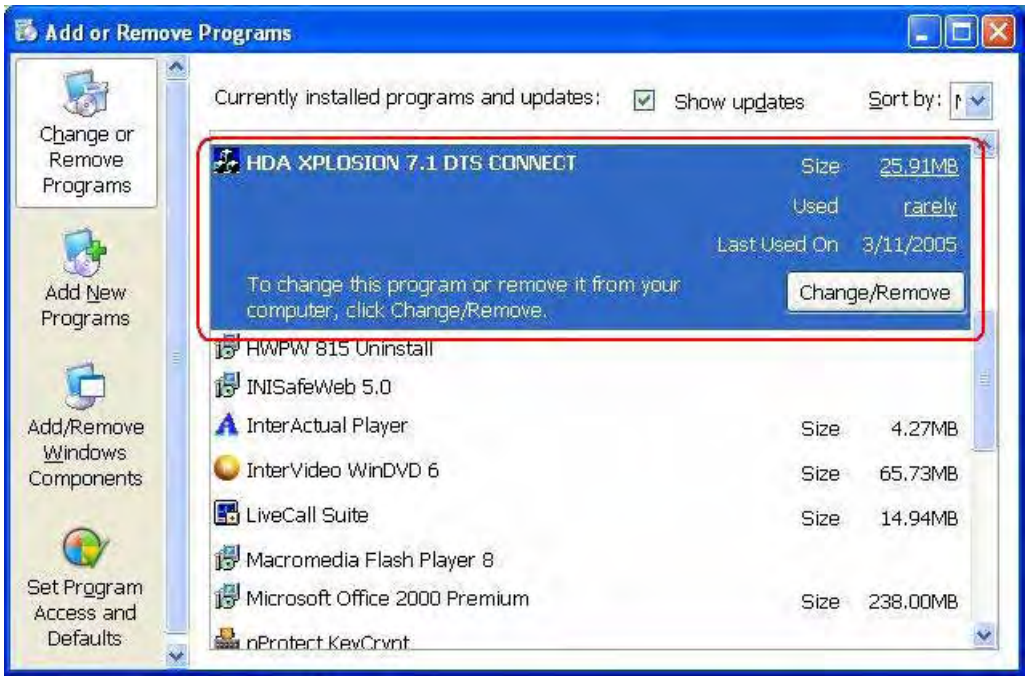


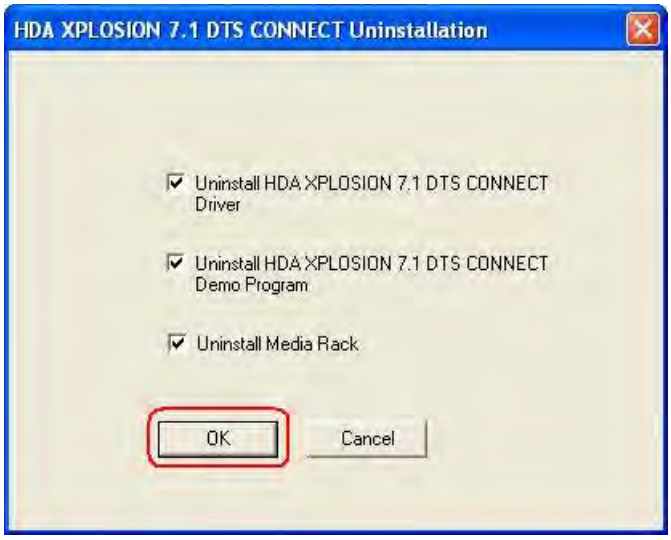
⑤ When prompted, reboot the system. Wait a few minutes for the installation to complete. The wait time will vary depending on the speed of your PC. Please wait for the system to reboot to properly complete the installation.



(4) TO UNINSTALL "HDA XPLOSION 7.1 DTS CONNECT" drivers and softwares

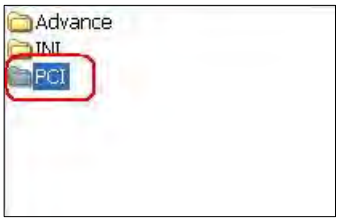
① Open the Windows Control Panel (Start => Settings => Control Panel).
② Open the Add/Remove Programs applet. Select "HDA XPLOSION 7.1 DTS CONNECT" ("HDA XPLOSION 7.1 DTS CONNECT") and click on the "Change/Remove" button to the lower right of the screen.



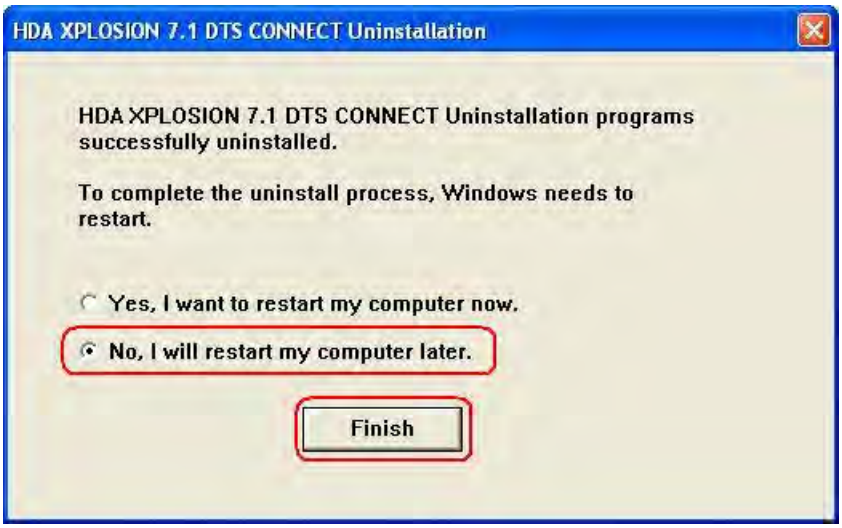


OR

If you want to remove drivers only in another way, you may browse to the drive letter that contains the CD, double-click on the CD-ROM /DVD-ROM drive icon to open it, and search **..\Driver\PCI** folder and run "**CmRmDrv3.EXE"** then driver unintallation procedure starts.



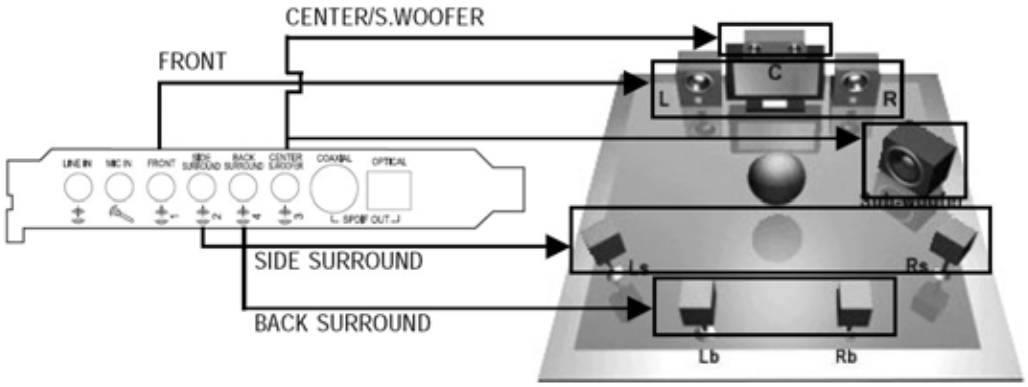
③ To complete the uninstall process, Windows needs to restart. Select No, I will restart my computer later then press Finish button. Shut down your PC manually, remove the audio card from PCI slot, then reboot your PC.



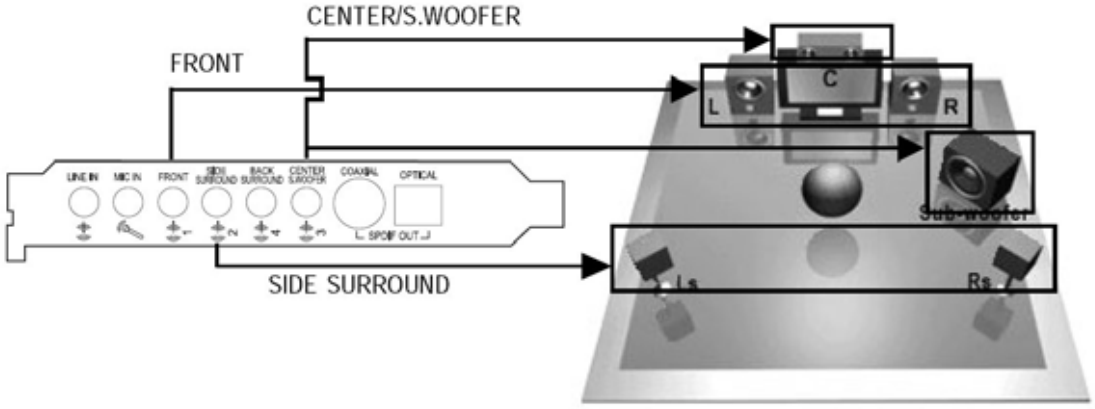
(5) Connection and Speaker Setup

1) Connection

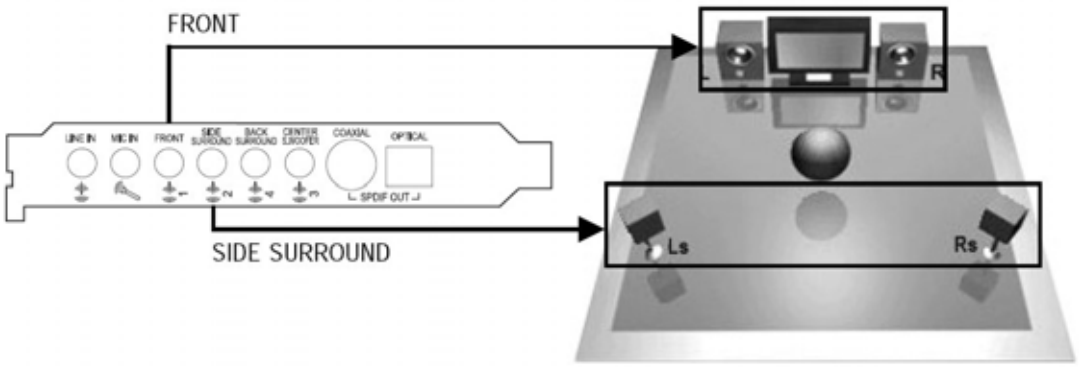
① Connecting 7.1 Channel Speakers



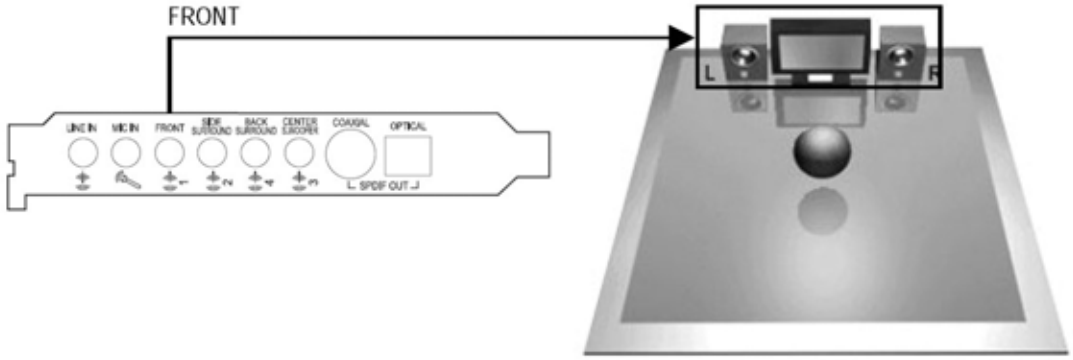
② Connecting 5.1 Channel Speakers



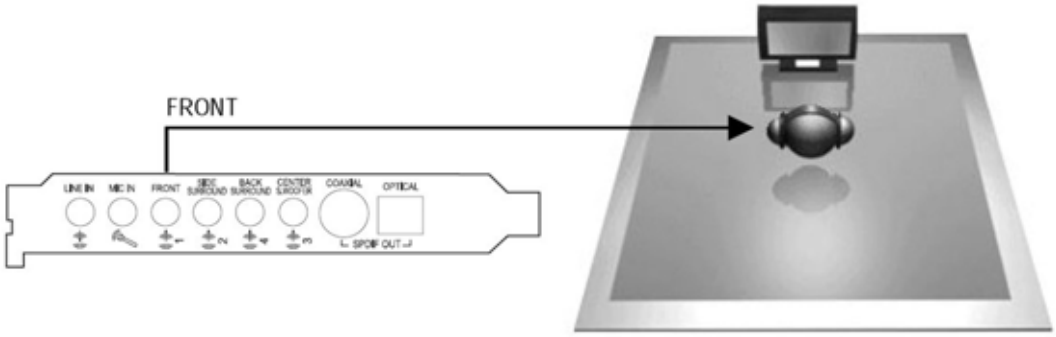
③ Connecting 4 Channel Speakers



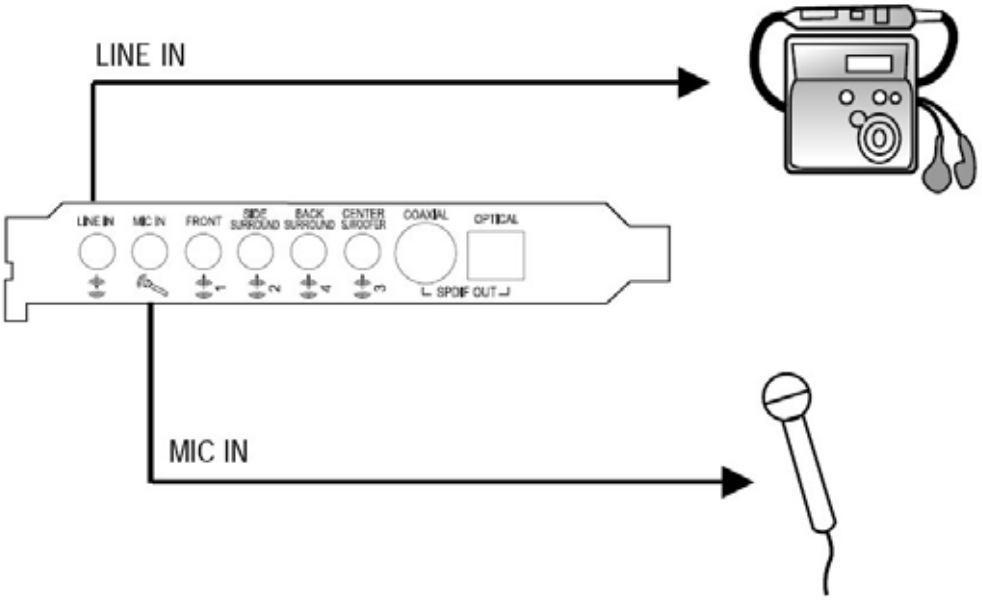
④ Connecting 2 Channel Speakers



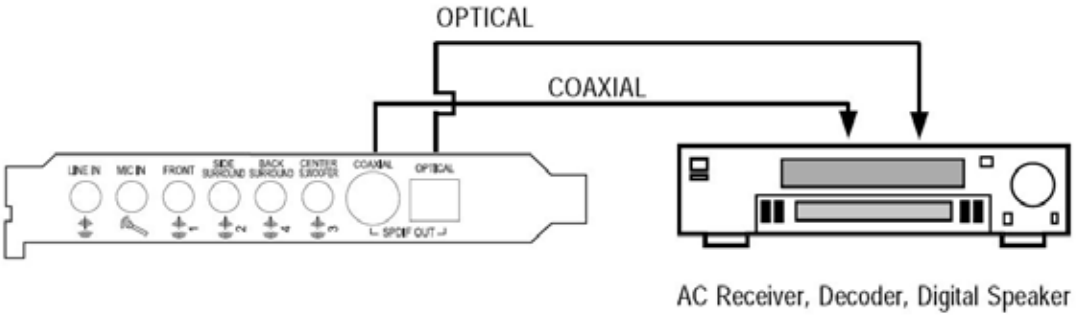
⑤ Connecting Headphone



⑥ Connecting Microphone and External Analog Devices



⑦ Connecting External Digital Devices



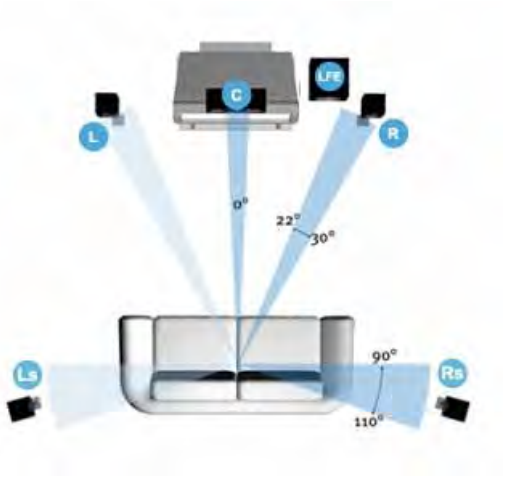
2) Speaker Setup for 5.1, 7.1 Speakers

After connecting your speakers, you should place your 7.1 or 5.1 speakers standing on the pictures below to get best surround sounds. Dolby Digtial Surround EX and DTS-ES soundtracks are recorded for additional back surround speakers behind the listeners. As a result, alien creatures in the movie can circle all around you, fighter planes can fly directly over you, and rain can pour down all around you more realistically than ever before.

Dolby website provides a picture about the positions for 5.1 and 7.1 speakers.

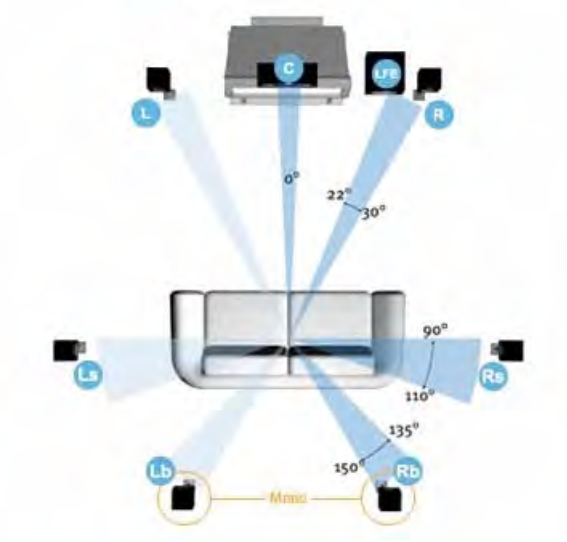
① 5.1 Setup

This system has six channels: five full-range channels, and a low-frequency effects channel (the .1 of 5.1) usually expressed through a subwoofer. Many DVDs and digital broadcasts feature a Dolby Digital (5.1) soundtrack, so this will give you optimum sound for most programming. It also most closely approximates the sound in most cinemas.



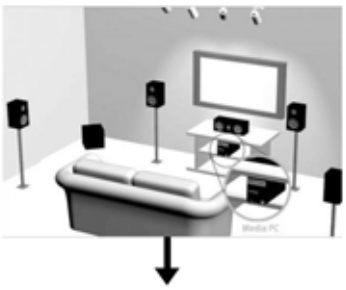
② 6.1 or 7.1 Setup

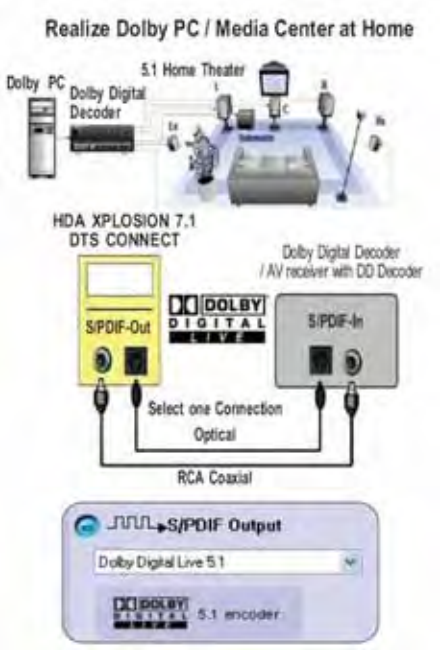
The most advanced home theater systems feature six (with Center Back) or seven (with Left Back/Right Back) full-range channels that allow viewers to take full advantage of Dolby Digital EX soundtracks and Dolby Pro Logic IIx matrix-surround decoding technology. Both of these processes add surround information for greater realism and more dramatic effects.



③ Speaker Setup for Dolby® Digital Live Encoder

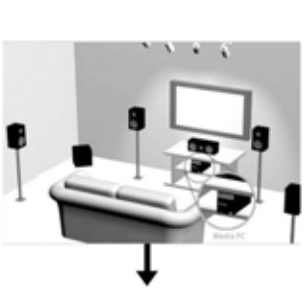
"HDA XPLOSION 7.1 DTS CONNECT" provides Dolby® Digital Live Real-Time Content Encoder with new CMI8770 chip, you can generate the Dolby® Digital audio stream for any digital PC sounds (3D Games, WMA, DVD, MP3, CD, Wave, streaming audio·) on your PC with DirectSound application and make use of your hi-fi home theater to decode and play the perfect sound. Just connect your PC to the external Dolby Digital decoder/AV receiver with only one S/PDIF optical fiber or coaxial cable like the figure below.

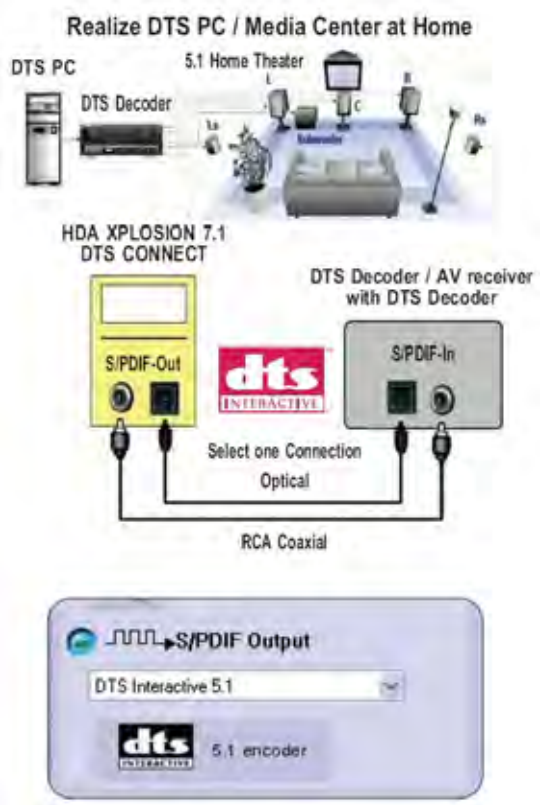




④ Speaker Setup for DTS INTERACTIVE Encoder

DTS INTERACTIVE real-time encoder that takes any LPCM (2 channel or more) and encodes it into DTS® bitstream(48kHz at 1.5 Mbps). DTS INTERACTIVE provides a single cable connection(via coaxial or optical) to your DTS enabled surround sound system. Your stereo or multi-channel (up to 5.1) audio sources are re-encoded into a DTS audio signal and sent out from the "HDA XPLOSION 7.1 DTS CONNECT" to any DTS enabled system such as, powered PC speakers, an A/V receiver or any other DTS- compatible surround decoder sound system.



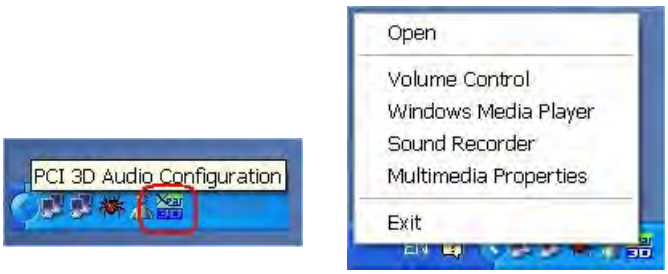


4. Using Audio Driver

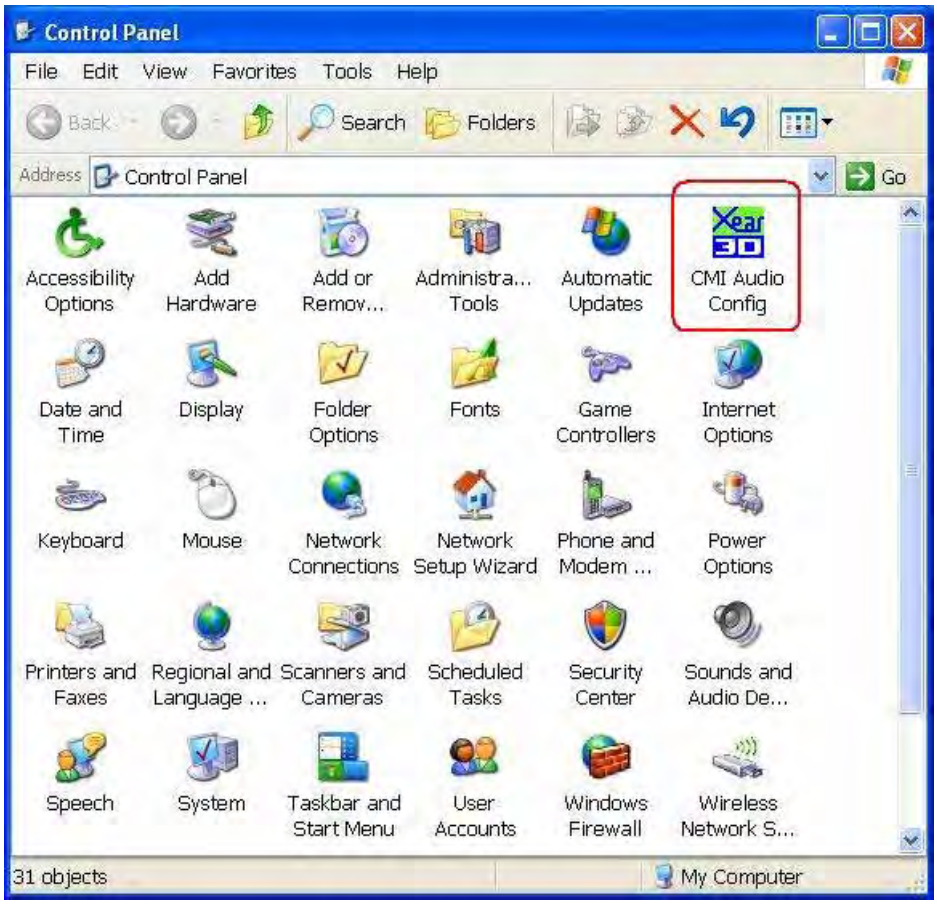
(1) Find Out 3D Audio Configuration

3D Audio Configuration is C-Media's 3D audio control panel with that you can control all audio configuration. After finishing the installation of the driver and rebooting the system, you can find the panel from two places:

1) Left-Click the icon in the system tray in the right-bottom of your screen. You can also click right button of the mouse on it to get an audio-related menu as follows.



2) Double-click CMI Audio Config icon in Windows Control Panel . (Start=>Setting=>Control Panel)



(2) Main Setting

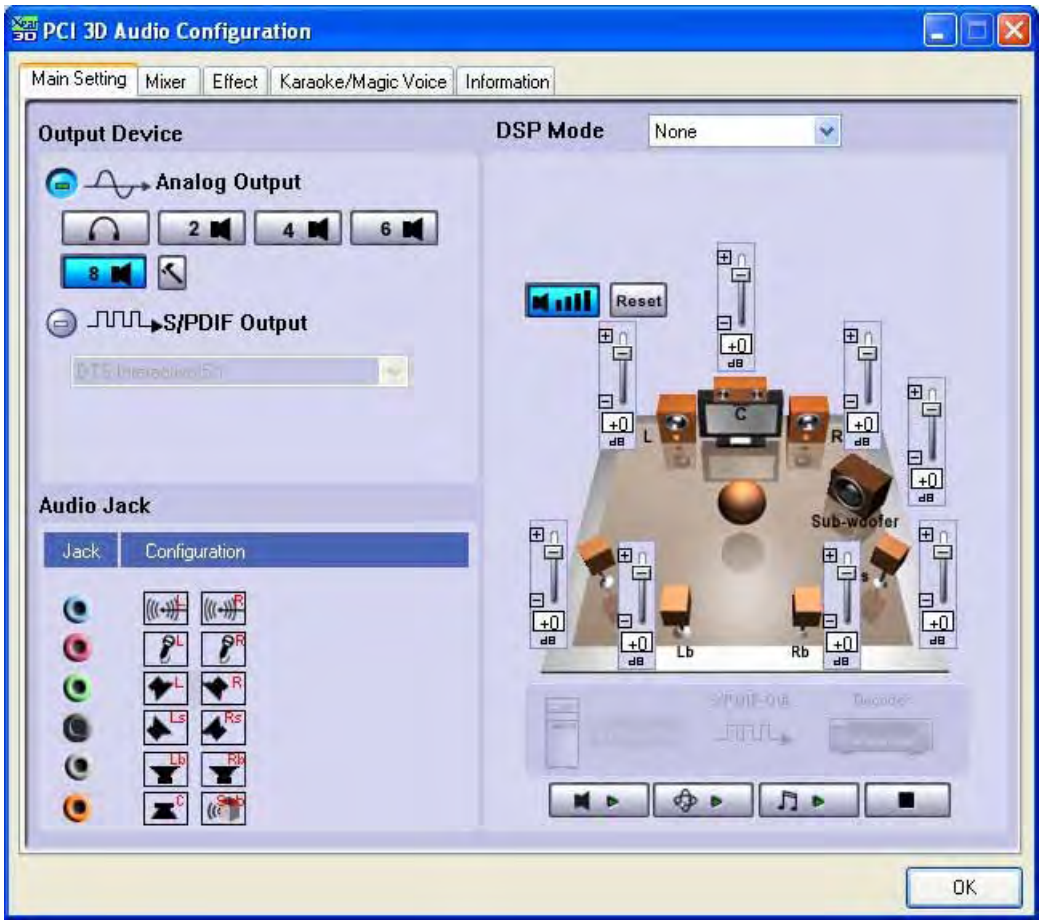
1) Using Analog Output or Digital S/PDIF-Out

Step 1: Turn on Analog Output and select Speaker Type, or turn on Digital S/PDIF Output

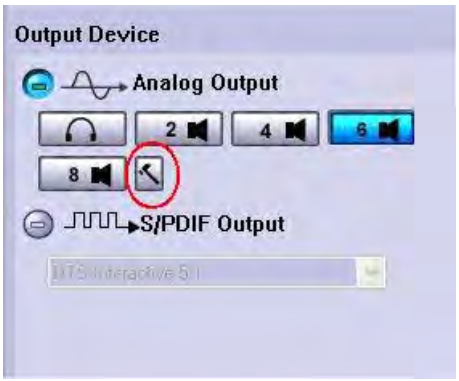
Step 2: Check the connection is consistent with the audio jack configuration information

Step 3: Do Speaker Test/3D Sound/Multi-channel Music Demo if you want

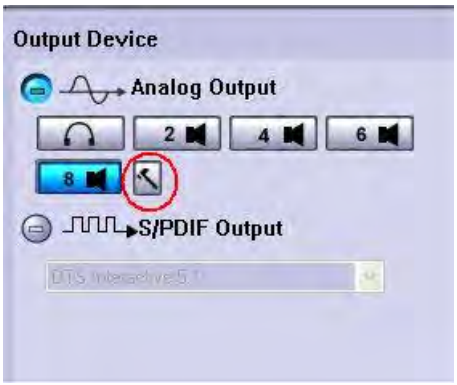
Step 4: You can click Digital Volume button to fine-tune the volume for each speaker.



① Analog Output advanced option : 6 Speakers mode



② Analog Output advanced option : 8 Speakers mode



* **Bass Enhancement** : activate subwoofer for music.

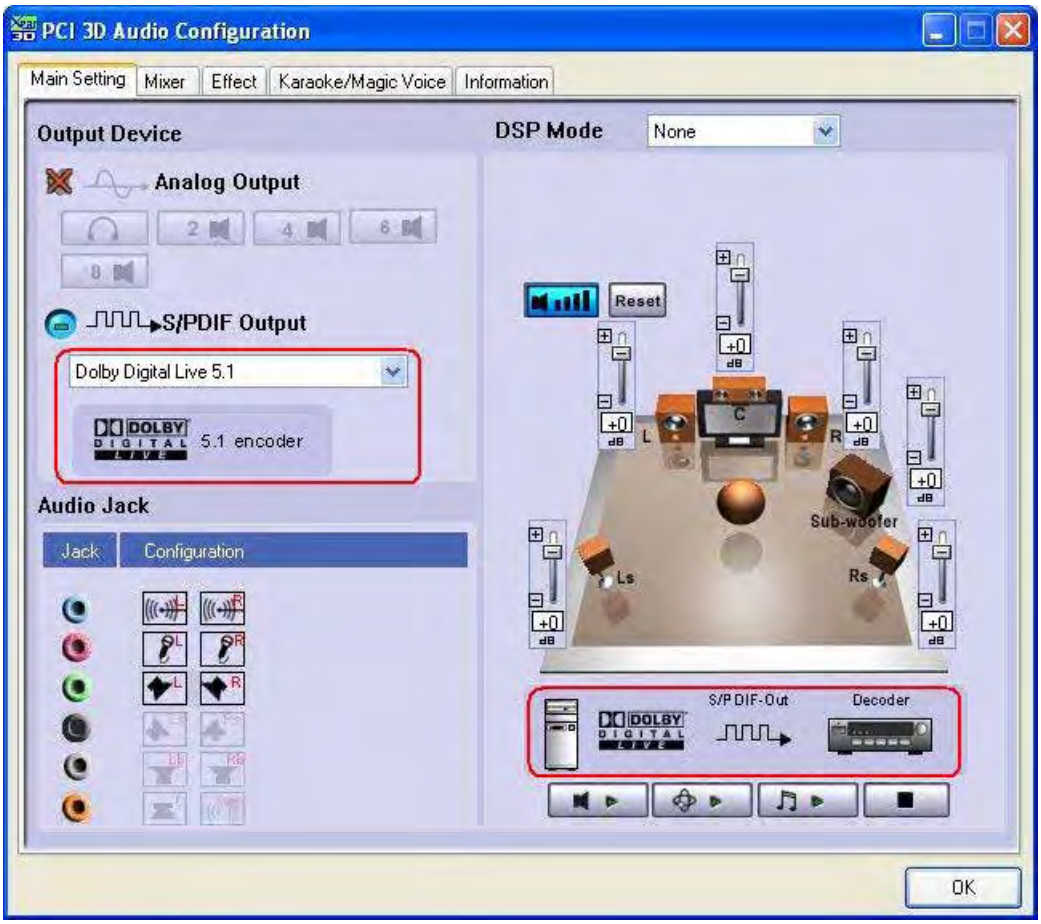
* **Center / Bass Output swap** : check this box when center and bass channels are exchanged in certain audio application.

* **Side / Back Surround Output Swap** : If you experience problems with exchanged rear and side channels in 7.1 mode, change this setting. Bear in mind that the speaker test will not match speaker placement when swap is disabled.

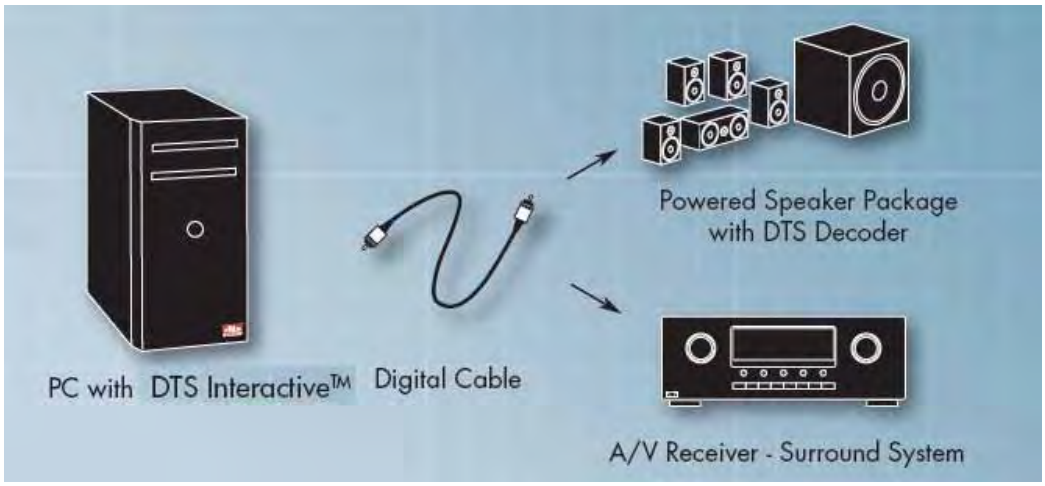
2) Using Dolby® Digital Live Real-Time Content Encoder (DDL)

Step 1: Connect the S/PDIF-Out to the external Dolby® Digital decoder / AV receiver with DD Decoder using Optical fiber or RCA coaxial cable like the interface indicates. (Especially if you have hi-fi home theater high-quality 5.1 speakers at home. This function lets you to make use of both your PC and consumer electronics. Your Dolby PC can be a multi-media platform in the living room, which is often called Media Center.)

Step 2: Select Dolby® Digital Live 5.1 Encoding then you will get high-quality Dolby Digital audio stream output. When Dolby® Digital Live is enabled, analog output will be turned off in case of interference.



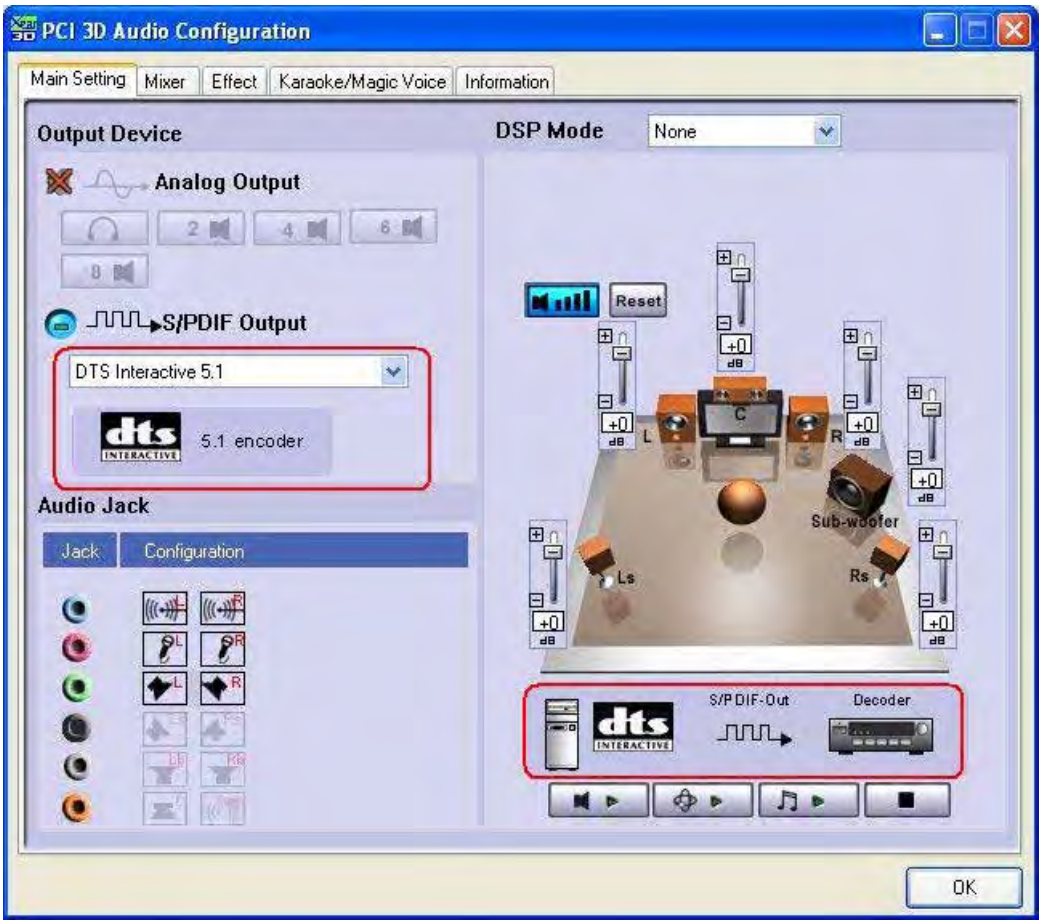
3) Using DTS INTERACTIVE Real-Time Encoder



Step 1: Connect the S/PDIF-Out to the external DTS® decoder / AV receiver with

DTS® decoder using Optical fiber or RCA coaxial cable like the interface indicates. (Especially if you have hi-fi home theater high-quality 5.1 speakers at home. This function lets you to make use of both your PC and consumer electronics. Your DTS PC can be a multi-media platform in the living room, which is often called Media Center.)

Step 2: Select DTS INTERACTIVE 5.1 Encoding then you will get high-quality DTS® audio stream output. When DTS INTERACTIVE is enabled, analog output will be turned off in case of interference.



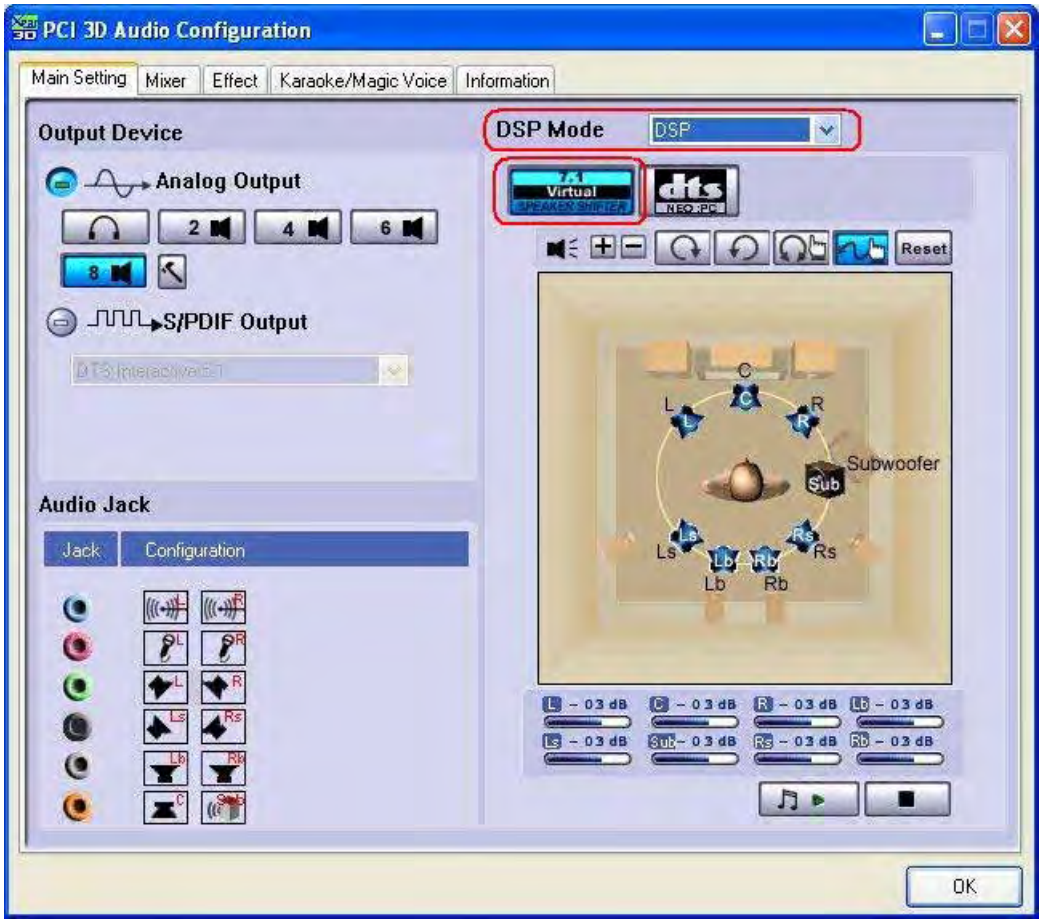
4) Using Xear 3D ™ - 7.1 Virtual Speaker Shifter

Step 1: Select DSP in DSP Mode

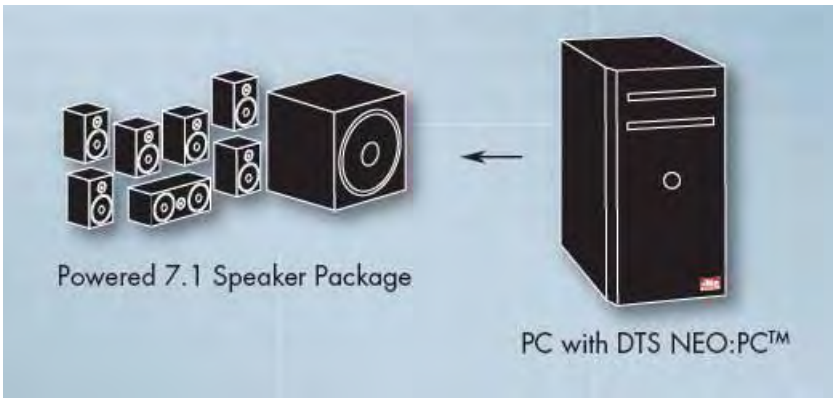
Step 2: Click the 7.1 Virtual Speaker Shifter button.

Step 3: Each virtual speaker represents the specified channel sound. You can move each virtual speaker to anywhere you want to optimize the sound field when you are running any application. You can even move the place of the virtual listener.

Step 4: You can reset the placement, manual shifting, group-rotate, auto-rotate and increase/decrease the volume of the virtual speakers

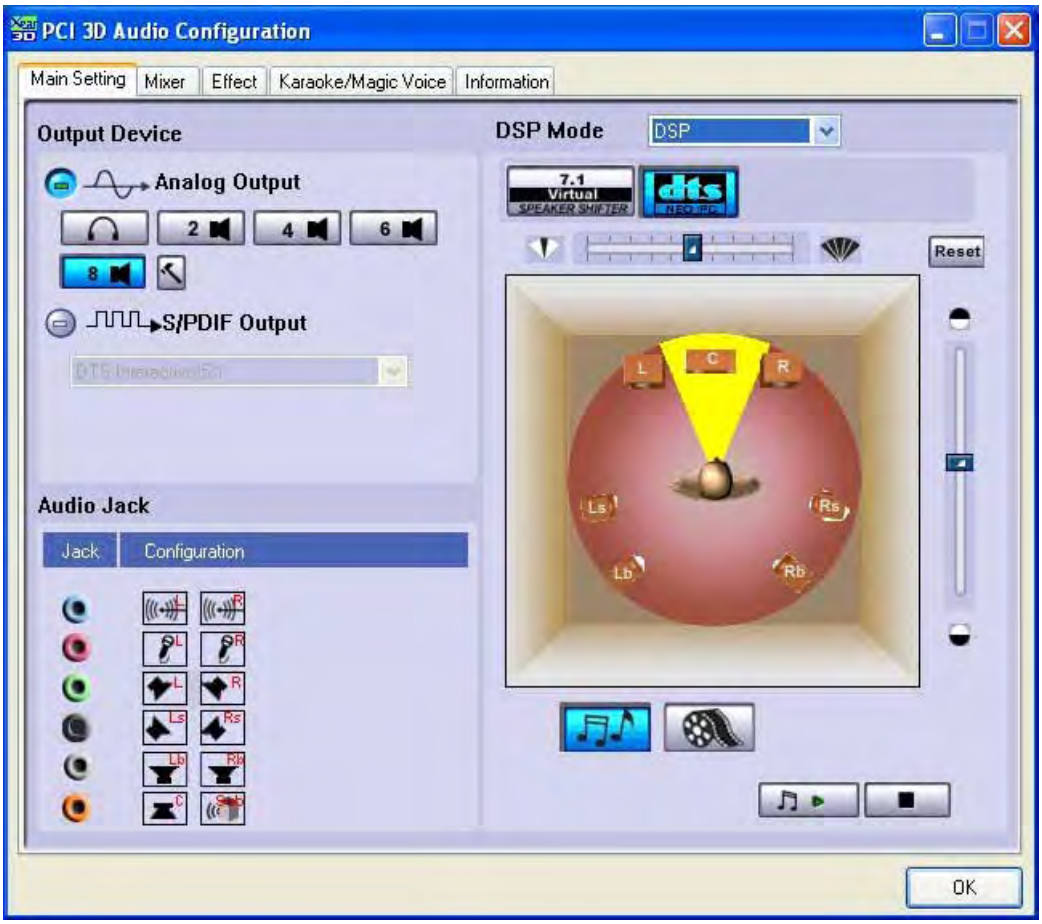


3) Using DTS NEO:PC Upmix Matrix Decoder

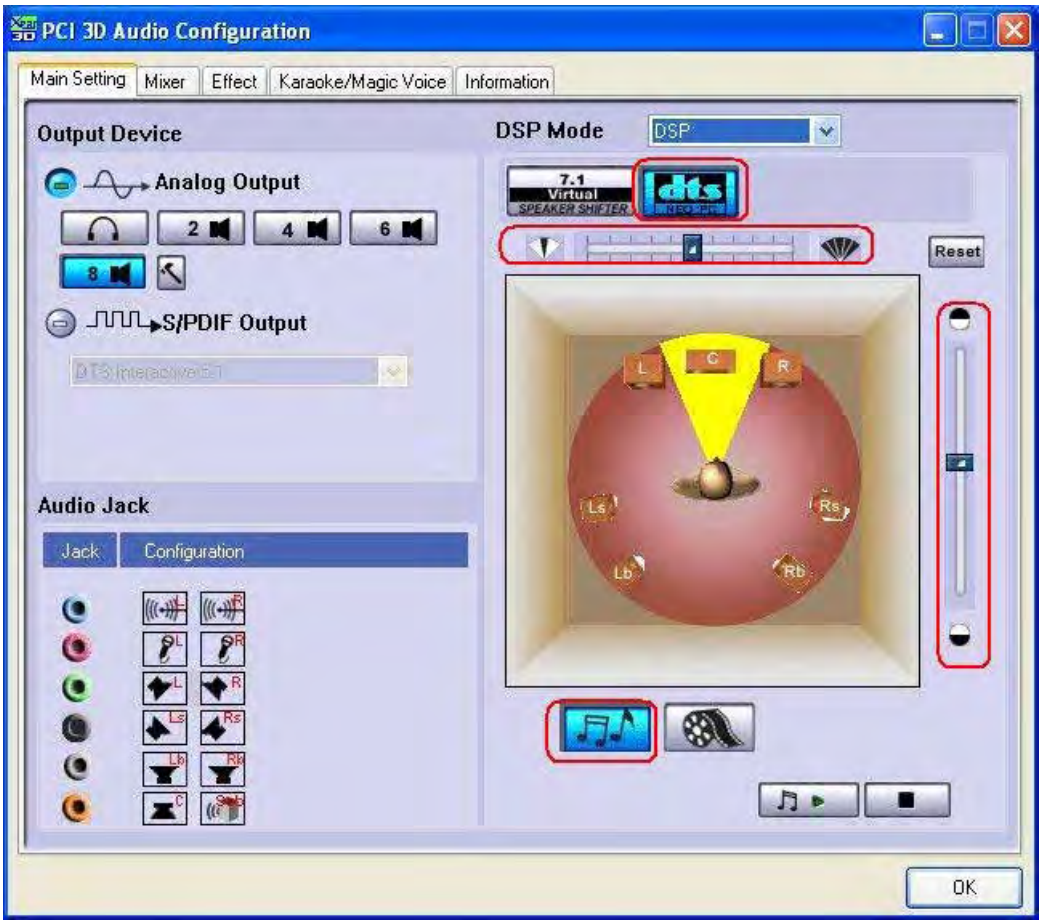


Step 1 : Connect the Max 7.1 Channel analog output to the powered 7.1 speaker package.

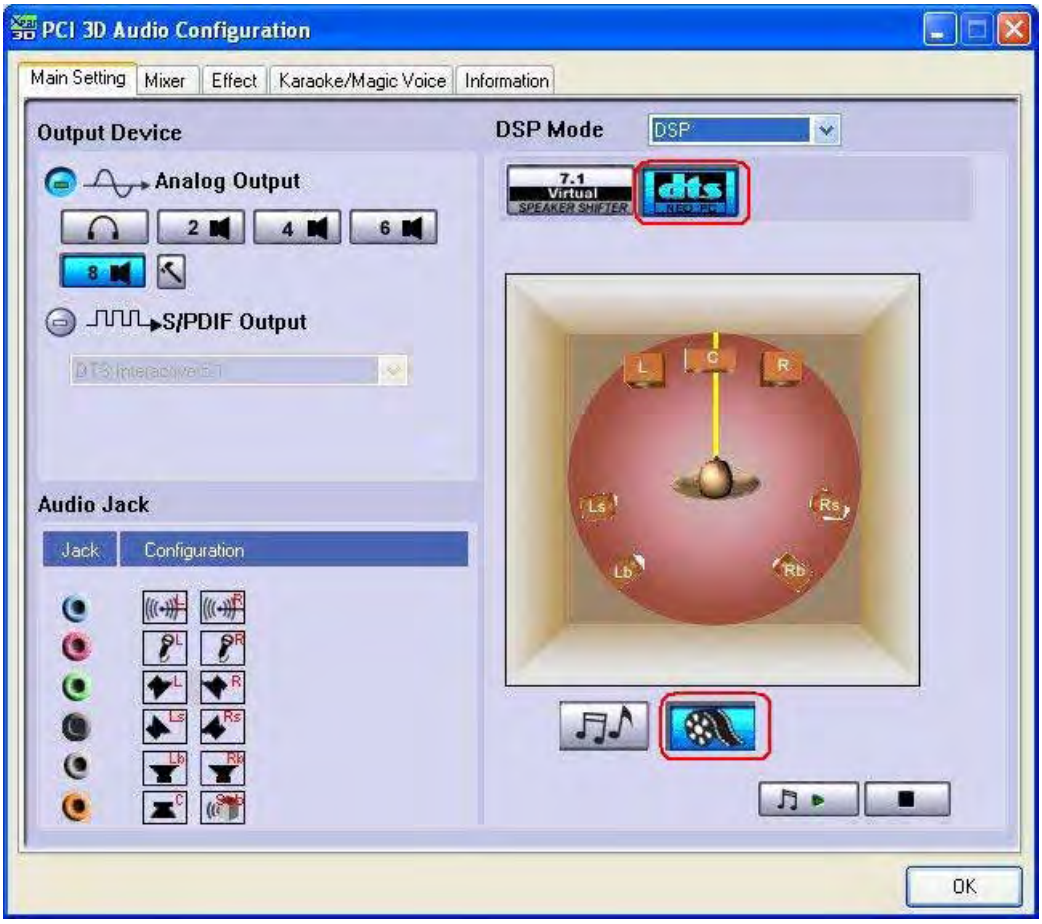
Step 2 : DTS NEO:PC provides two listening modes for DTS NEO:PC Music mode and DTS NEO:PC Cinema mode. Select DTS NEO:PC Music mode for music listening or DTS NEO:PC Cinema mode for movie soundtrack experiencing.



DTS NEO:PC **Music mode** : This mode is suited mainly for playing stereo music materials. It allows you to control music's vocal to be concentrated or separated with center gain adjustment bar. Center gain adjusts the balance of the main vocals in the center and front channels on music mode.



DTS NEO:PC **Cinema mode** : This mode is optimum for playing matrix surround motion picture soundtracks. It can set to let PC audio to be movies theater sound shock effect and dramatic impact.



(3) Mixer / Volume

1) Playback Volume

Step 1: Check that the playback devices/sources you want are turned on (in blue color). You can turn others off (it means to mute them). There might be some hided sources that cannot be showed in the block. Please click the arrow to move to the rest items.

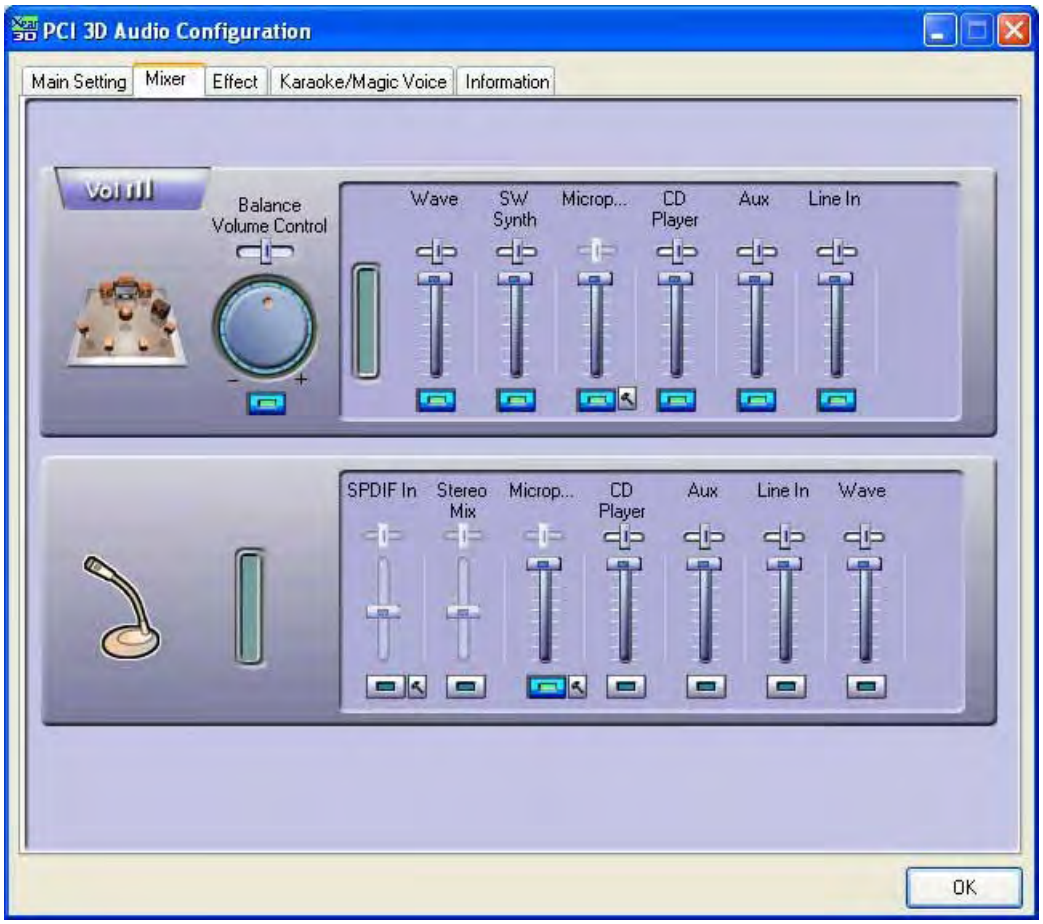
Step 2: In general cases, you can adjust Master Volume Control knob (just using the mouse) to change the volume level for all sources.

Step 3: If you want to change the volume for a specific device/source, please fine-tune the correspondent scroll bar.

2) Recording Gain

Step 4: Select the recording source you want (one for once). The left picture will show the related sign for the source you have selected.

Step 5: If you want to change the volume for a specific device/source, please fine-tune the correspondent scroll bar. In general cases, you dont have to make slider higher than half of the scroll bar in case the signal will be scaled too much and will be distorted.

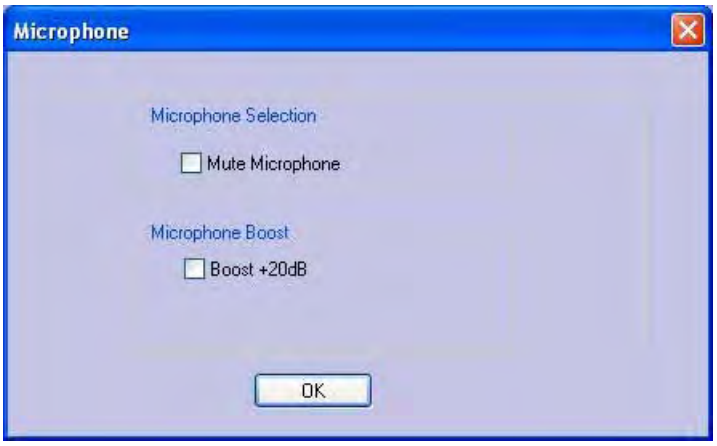


3) Advanced Setting

① Microphone Setting

Step 1: You can click the checkbox to mute the microphone. Normally open.

Step 2: If you feel the mic sound is too quiet, there are +20dB boost option. Click the checkbox of Boost to enable it. Its nature that you will also get the background noise louder certainly.



② **S/PDIF-IN Setting**

Step 1 : Before you connect S/PDIF interface, you should select the connection type: CD_SPDIF (S/PDIF-IN #1) 2pin-2pin CD SPDIF digital cable or Digital I/O (S/PDIF-IN #2) RCA coaxial or optical cable.

Step 2 : The format of some SPDIF signal sources may be inverse, and you will hear kind of noise. You have an option to reverse the format for normal reception.

Step 3 : Vaility Check will assure to neglect the non-PCM audio to avoid the noise. It requires that the input data follow the specification of IEC60958.

Step 4 : When you are recording S/PDIF-In audio, you can choose to monitor it using analog speakers. However, it may stop usual playback function. Therefore, please remember to keep it unchecked.

(4) Sound Effects

1) Environment Emulation / Size

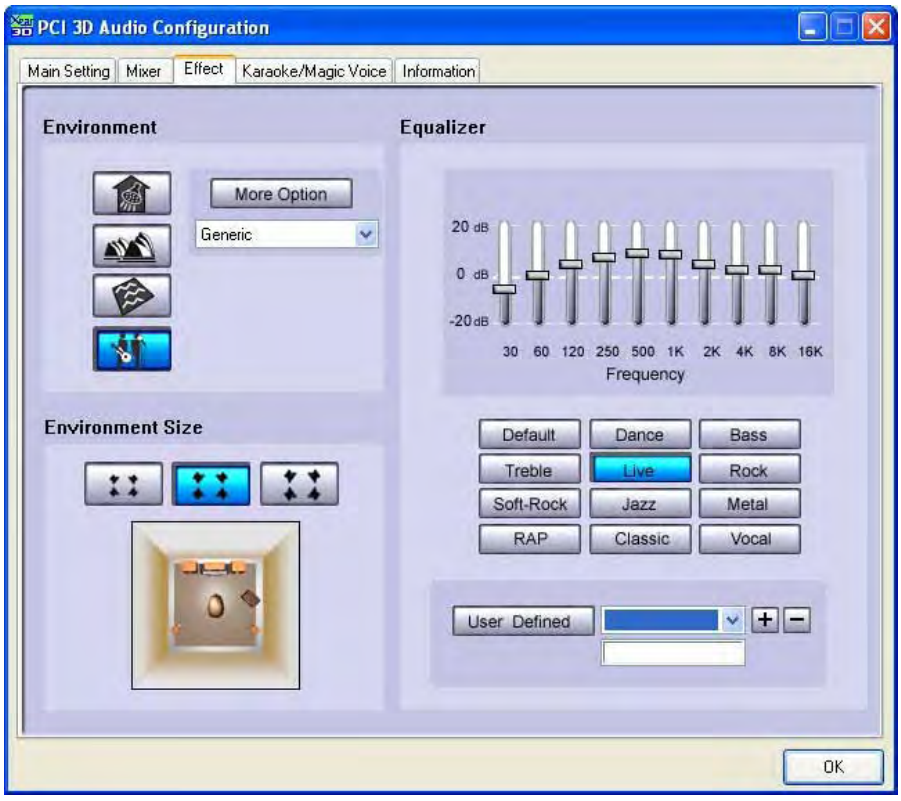
Step 1: Select an Environment button for emulation that is implemented by producing the sound reflection and reverberation

Step 2: You can change the Environment Size to Large or Small (pre-setting is Medium). You will hear the different feeling about the environment space.

2) 10-Band Equalizer

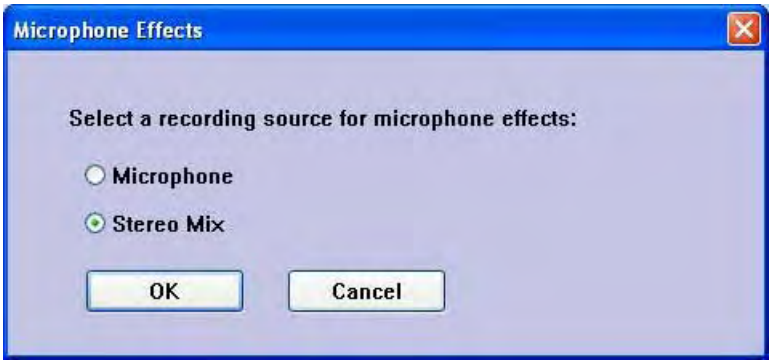
Step 3: Select a pre-set mode for equalizer that is actually frequency response modeling. There are 12 preset modes such as Bass, Treble, Live, Rock, Jazz, etc.

Step 4: You can change the gain setting for each band and then give it a name in the following blank. Click + to add your personal setting into the User Defined list. Click - is to delete current setting record.



(5) Magic Voice and Karaoke

Step 1: Click On to turn on the Karaoke function (that button will be blue.) You may press check box and following window is poping up then you can select recording sources from Microphone or Stereo-Mix.

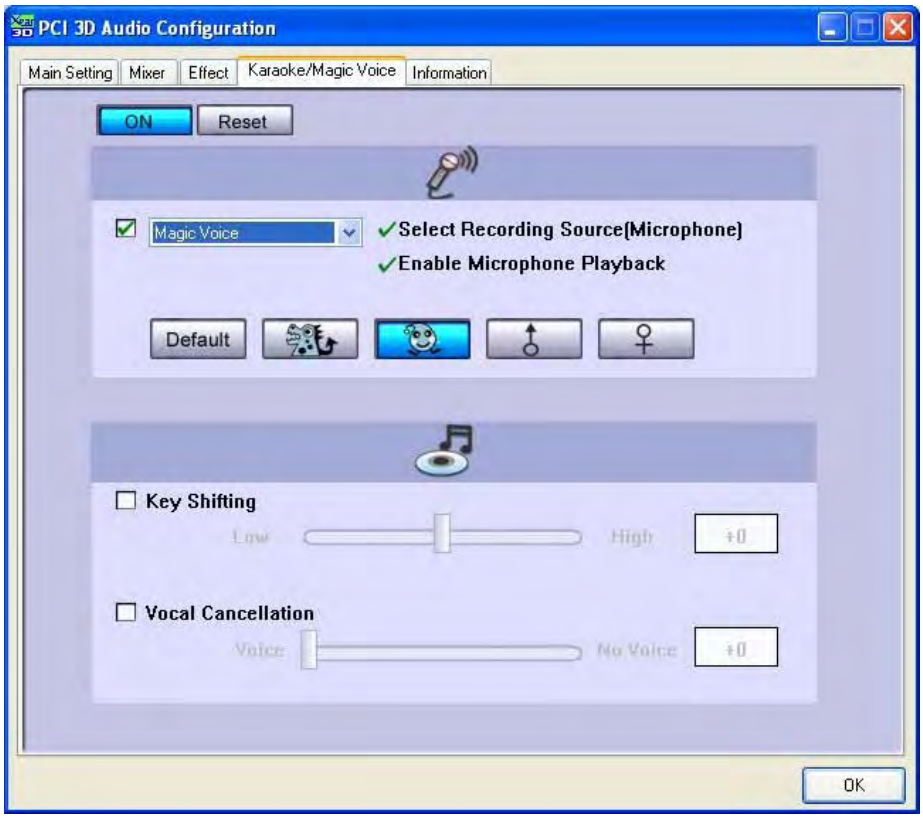


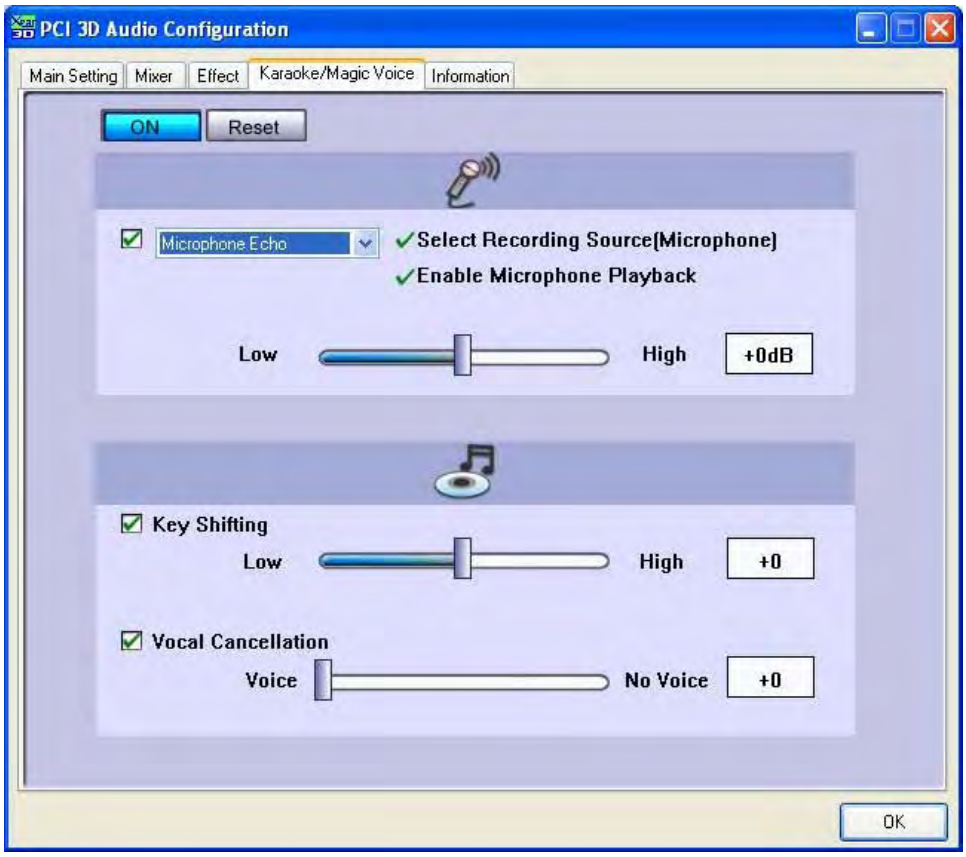
If you want to enable analog input(line input or microphone input) to PCM digital output and DDL/DTS INTERACTIVE encoded signal output, you have to select Stereo Mix.

Step 2: When singing a song, you may need the Voice Echo to make the singing more euphonious. You can select Microphone Echo to get the effect and adjust the volume of the echo sound to optimize it. When you are talking to other people over the network like messenger, VOIP, online game applications, you can also choose Magic Voice effect in the pull-down menu to disguise your identification or just for fun. Just select one kind of the voice type. (These two features require real-time Microphone recording. You should suspend other recording application.)

Step 3: You can enable Key-Shifting for the Karaoke VCD or the music to make it suitable for your voice pitch. The range is -4b to +4#.

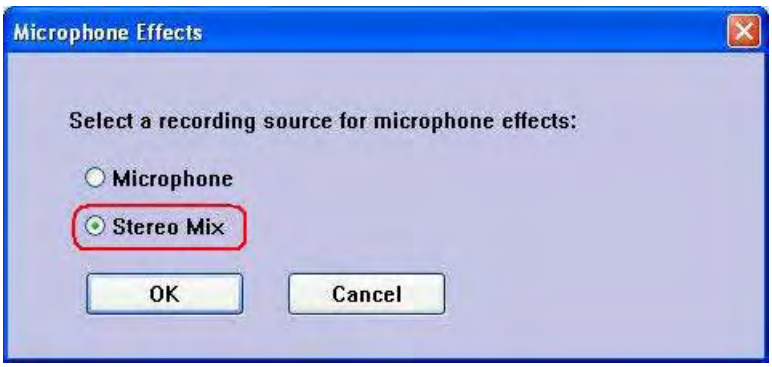
Step 4: If the music source includes original singers voice, you may try Vocal Cancellation function to cancel it (0~100). But the effect doesnt always work well and it depends on the recording method of the source. Its usually not needed for Karaoke VCD or CD, which do not have voice inside generally.





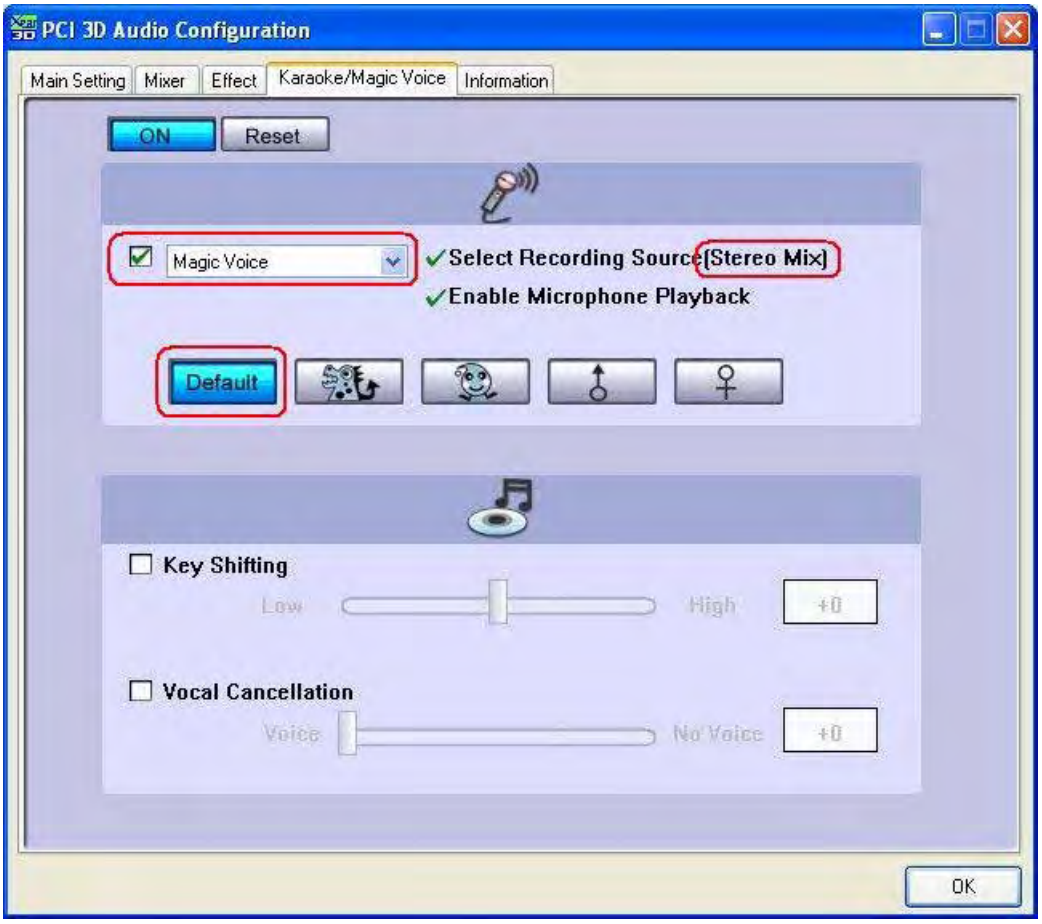
⚠ To enable Analog input(line input or microphone input) to PCM digital output and DDL/DTS INTERACTIVE encoded signal digital output

STEP 1 : Click On to turn on the Karaoke function (that button will be blue.) You may press check box and following microphone effects window is poping up then you have to select recording sources from Stereo-Mix.



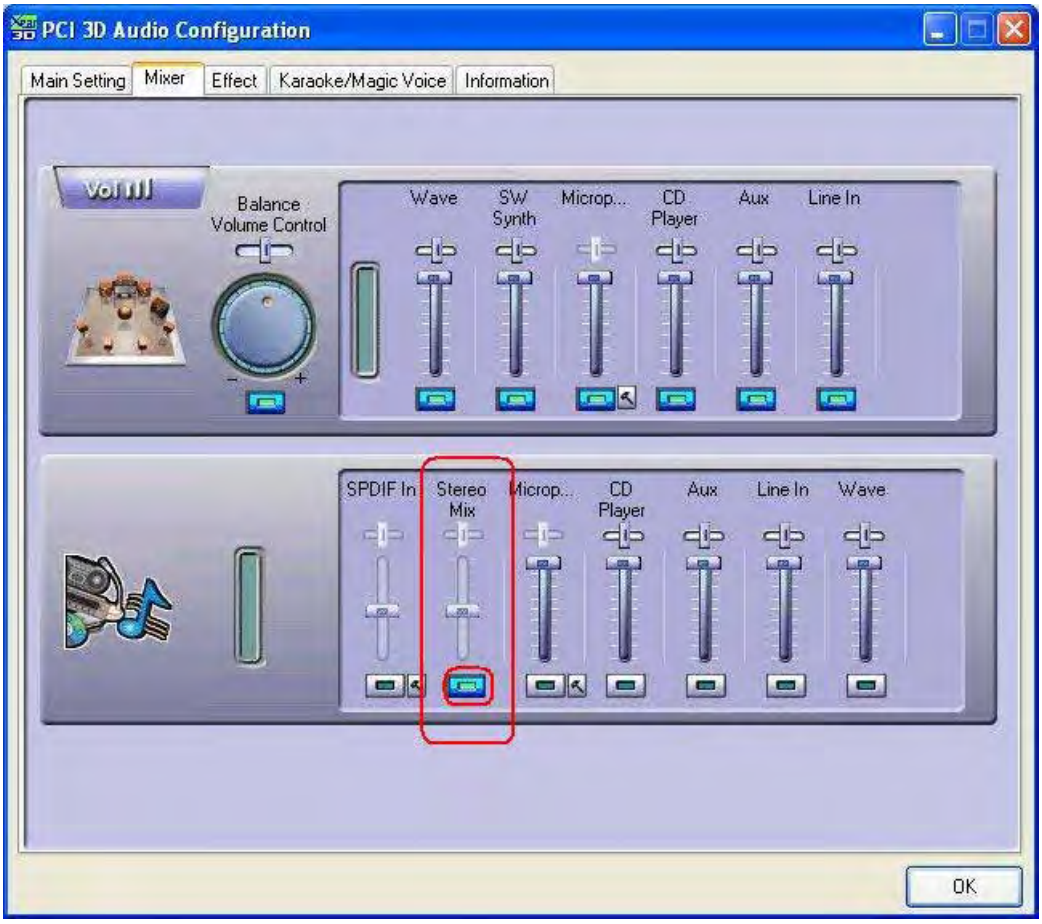
STEP 2 : Turn on the "Magic Voice" on Karaoke/Magic Voice tab on PCI 3D Audio

Configuration



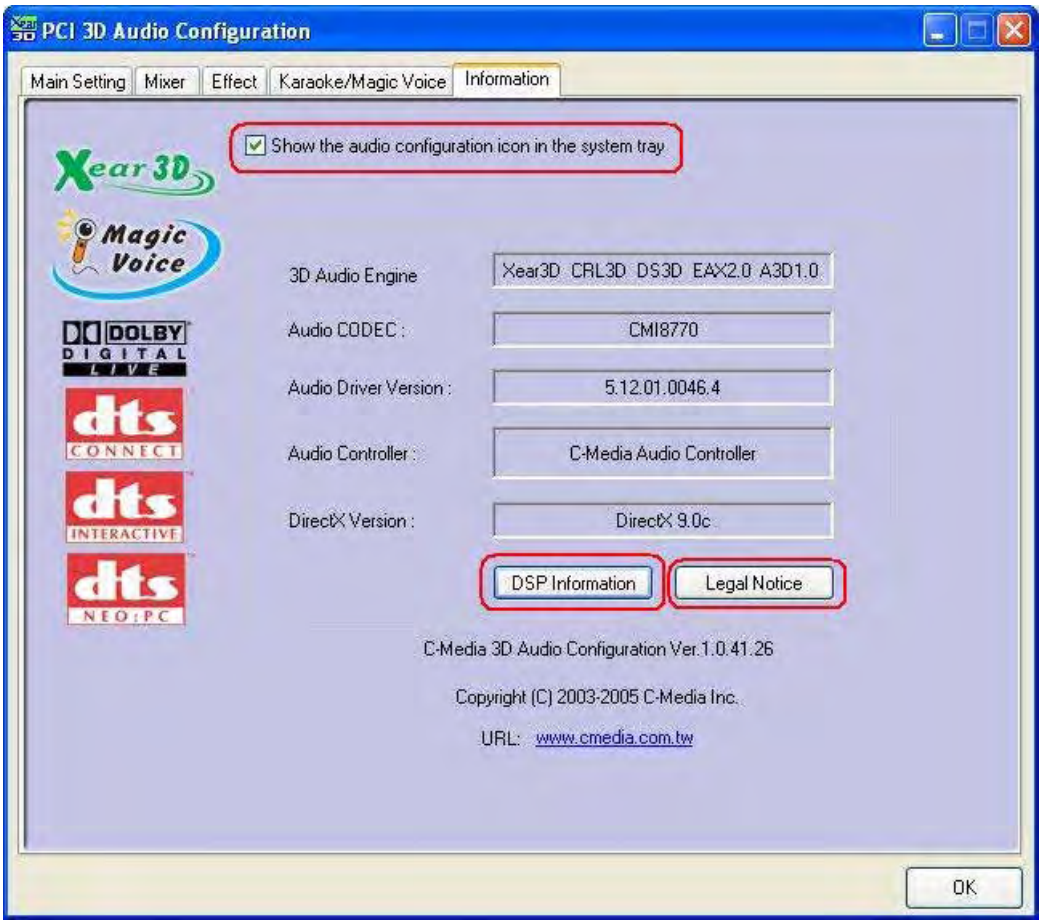
and then press "Default" button.

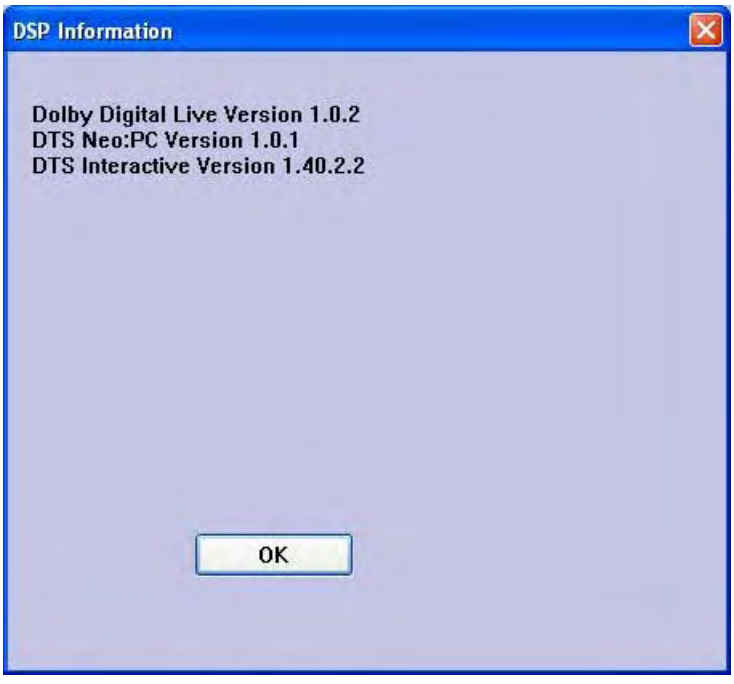
STEP 3 : You may also check current status of " Stereo Mix" is enabled on Mixer tab of PCI 3D Audio Configuration.

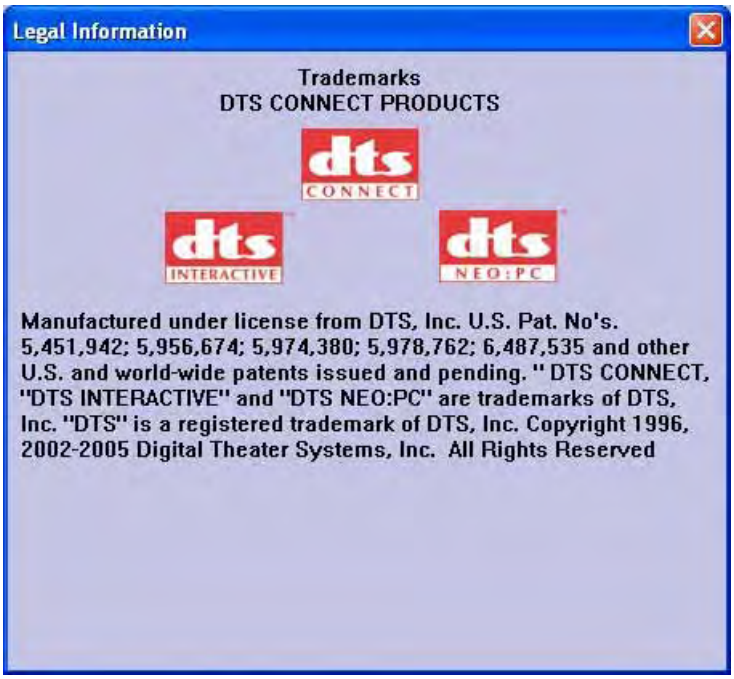


(6) Look for Information

There is a C-Media audio-related Information tab in 3D Audio Configuration. You can get a whole picture about the audio chip, driver version, 3D Audio Engine, Microsoft DirectX Version, and Configuration Version itself. Besides, you can decide if the audio configuration icon should be showed in the system tray.


PCI 3D Audio Configuration
Main Setting
Mixer
Effect
Karaoke/Magic Voice
Information
Show the audio configuration icon in the system tray
Xear 3D
Magic Voice
DOLBY DIGITAL LIVE
dts CONNECT
dts INTERACTIVE
dts NEO:PC
3D Audio Engine
Xear3D CRL3D DS3D EAX2.0 A3D1.0
Audio CODEC :
CMI8770
Audio Driver Version :
5.12.01.0046.4
Audio Controller :
C-Media Audio Controller
DirectX Version :
DirectX 9.0c
DSP Information
Legal Notice
C-Media 3D Audio Configuration Ver.1.0.41.26
Copyright (C) 2003-2005 C-Media Inc.
URL: www.cmedia.com.tw
OK


DSP Information
Dolby Digital Live Version 1.0.2
DTS Neo:PC Version 1.0.1
DTS Interactive Version 1.40.2.2
OK



5. Using Play3D Demo

C-Media also provides an interesting Play3D demo program as below. After installing the setup program, you will find the demo program from the path:

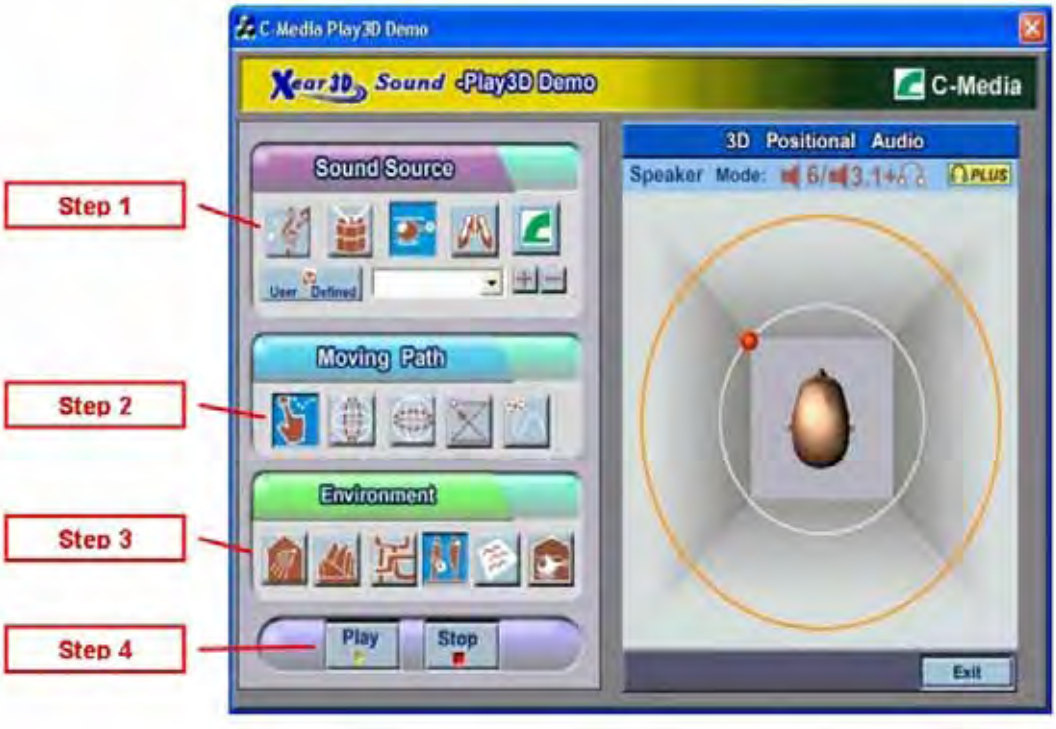
Start->Programs->C-Media 3D Audio->Play3D Demo .

Step 1: Select a Sound Source you want to play. There are five saved sound sources and you can to add your own .wav audio into the list (Click + to add, and - to delete.)

Step 2: Select a Moving Path for the 3D sound

Step 3: Select a Environment emulation if you want.

Step 4: Click Play or Stop button.


Step 1
Step 2
Step 3
Step 4
C-Media Play3D Demo
Xear 3D Sound -Play3D Demo
C-Media
Sound Source
User Defined
Moving Path
Environment
Play
Stop
3D Positional Audio
Speaker Mode:
PLUS
Exit