Xonar Phoebus

PCI Express 7.1-Channel Gaming Soundcard

User's manual

E11110

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November 2015

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Notices

Federal Communications Commission Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. 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 manufacturer's 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:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canadian Department of Communications Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

This class B digital apparatus complies with Canadian ICES-003.

Australia statement notice

From 1 January 2012 updated warranties apply to all ASUS products, consistent with the Australian Consumer Law. For the latest product warranty details please visit http://support.asus.com. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
If you require assistance please call ASUS Customer Service 1300 2787 88 or visit us at http://support.asus.com

Safety information

- Before installing the device on a motherboard, carefully read all the manuals that came with the package.
- To prevent electrical shock hazard or short circuits, switch off the power supply before installing the device on a motherboard or connecting any signal cables to the device.
- If the device is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.
- Before using the product, make sure all cables are correctly connected. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

This symbol of the crossed out wheeled bin indicates that the product (electrical and electronic equipment) should not be placed in municipal waste. Check local regulations for disposal of electronic products.

Trademarks

Xonar and ASUS logo are trademarks of ASUSTek Computer Inc. “Dolby” and “Dolby Digital Live”, “Dolby Pro Logic IIx”, “Dolby Virtual Speaker”, “Dolby Headphone” are trademarks of Dolby Laboratories. “DTS” and “DTS CONNECT”, “DTS Interactive”, “DTS Neo: PC” are trademarks of Digital Theater Systems, Inc. EAX and A3D are trademarks of Creative Technology Ltd. Microsoft, DirectSound3D, Windows are trademarks of Microsoft Corporation. Other company and product names may be trademarks of the respective companies with which they are associated. ASIO is a trademark and software of Steinberg Media

Technologies GmbH.

License

Dolby Master Studio driver is manufactured under license from Dolby Laboratories; DTS Connect driver is manufactured under license from Digital Theater Systems, Inc.

1. Introduction

1.1 Package Contents

- Xonar™ Phoebus 7.1 Channel PCI Express Audio Card
- Phoebus Control Box
- Driver CD
- S/PDIF TOSLINK optical adaptor x1
- ATX 4P-to- 6P Power Cable x1
- Quick Start Guide

1.2 System Requirements

- One PCI Express 1.0 (or higher) compatible slot for the audio card
- 6-pin peripheral power cable connector from your computer's power supply unit (PSU)
- Microsoft® Windows® 10 / 8.1 / 8 / 7 (32/64bit) / XP(32/64bit) / Vista / MCE2005
- Intel® Pentium® 4 1.4GHz or AMD Athlon 1400 CPU or faster CPU
- More than 256 MB system memory
- More than 60 MB available storage space for driver installation
- CD-ROM drive (or DVD-ROM drive) for software installation
- High-quality headphones, powered analog speakers, or a Dolby Digital decoder, to enjoy the audio card's high fidelity

1.3 General Specification

Items	Description
Audio Performance	
Output Signal-to-Noise Ratio (A-Weighted)	118dB for Front channel of Line-out 112dB for other channels of Line-out 110dB for Headphone-out with 600ohm load
Input Signal-to-Noise Ratio (A-Weighted):	118dB
Output Total Harmonic Distortion + Noise at 1kHz (-3dB) :	0.00039% (-108dB) for Front channel of Line-out 0.00063% (-102dB) for other channels of Line-out 0.0019% (-94dB) for Headphone-out with 600ohm load
Input Total Harmonic Distortion + Noise at 1kHz (-3dB) :	0.0003% (-110dB) for Line-in
Frequency Response (-3dB, 24-bit/96kHz format):	< 10Hz to 46KHz
Output / Input Full-Scale Voltage	2 Vrms (5.65 Vp-p)
Headphone Output Full-Scale Voltage	Up to 6.8 Vrms (supports headphones with up to 600ohms impedance)
Bus Compatibility	
PCI Express	- PCI Express Rev.1.0a specification compatible - Max. full 2.5Gbps bandwidth per direction and optimized latency for high-definition audio processing - Compatible with x1, x4, x8, x16 PCI Express slots
Main Chipset	
Audio Processor	ASUS CM8888 HDT High-Definition Sound Processor (Max. 192KHz / 24bit)
24-bit D-A Converter of Digital Sources	Texas Instruments PCM1796 * 1 for Front-Out (123dB SNR, Max. 192kHz/24bit) Cirrus-Logic CS4362A * 1 for other 6 channels (114dB SNR, Max. 192kHz/24bit)
High Fidelity Headphone Amplifier	Texas Instruments 6120A2*1 (120dB SNR, -117dB THD+N @ Vcc±12V, RL=600Ω, f=1kHz)
24-bit A-D Converter for Analog Inputs	Cirrus-Logic CS5381* 1 (120dB SNR, Max. 192kHz/ 24bit)
Sample Rate and Resolution	
Analog Playback Sample Rate and Resolution	44.1K/48K/88.2K/96K/176.4K/192KHz @ 16/24bit
Analog Recording Sample Rate and Resolution	44.1K/48K/88.2K/96K/176.4K/192KHz @ 16/24bit
S/PDIF Digital Output	44.1K/48K/88.2K/96K/176.4K/192KHz @ 16/24bit, Dolby Digital

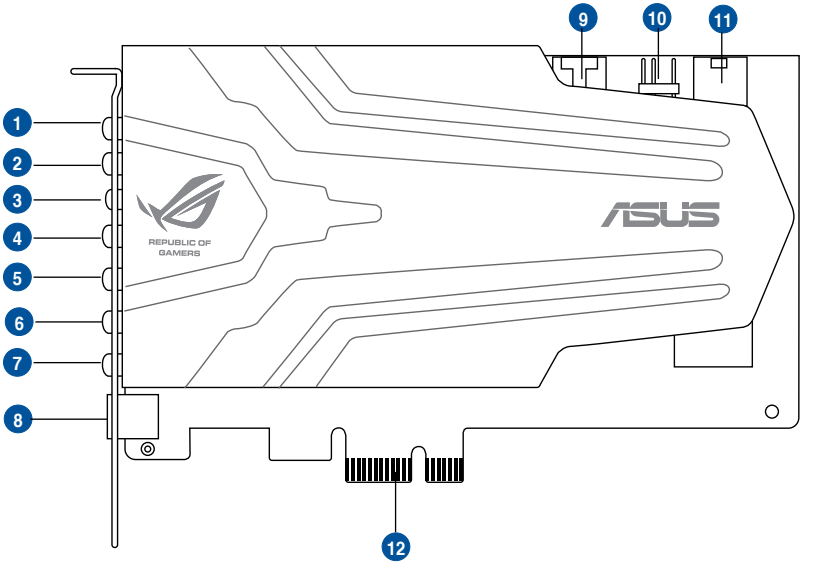
(continued on the next page)

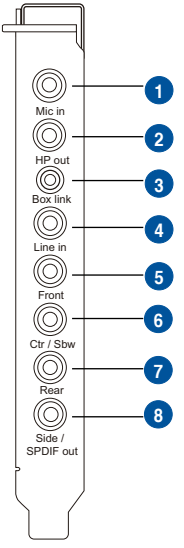
Items	Description
I/O Ports	
Analog Output Jack	3.5mm jack * 1 (Headphone out)
Analog Input Jack	3.5mm jack * 1 (Shared by Line-In / Mic-In)
Digital S/PDIF Output	High-bandwidth TOS-Link combo port supports 192KHz/24bit
Other line-level analog input (for TV Tuner or CD-ROM):	Aux-In (4-pin header on the card)
Driver Features	
Operating System	Windows® 10 / 8.1 / 8 / 7 (32/64bit) / XP(32/64bit) / Vista / MCE2005
Dolby® Digital Live	Dolby Digital Live encodes any audio signal on PC in real-time to Dolby Digital (AC3) 5.1 surround sounds to your home theater environment through one single S/PDIF connection
Dolby® Headphone	Dolby Headphone technology allows users to listen to music, watch movies, or play games with the dramatic 5.1-channel surround or realistic 3D spacious effects through any set of stereo headphones.
Dolby® Virtual Speaker	Dolby Virtual Speaker technology simulates a highly realistic 5.1-speaker surround sound listening environment from as few as two speakers.
Dolby® Pro-Logic IIxx	Dolby Pro-Logic IIx is the well-known technology to process any native stereo or 5.1-channel audio into a 7.1- channel output, creating a seamless, natural surround soundfield.
DirectSound3D Game EXtensions 3.0	GX 3.0 supports EAX gaming sound effects and DirectSound 3D hardware enhanced functions for more games on Windows Vista/Win 7 & XP. (DirectX/ DirectSound 3D compatible)
Smart Volume Normalizer™	Normalizes the volume of all audio sources into a constant level and also enhances your 3D sound listening range and advantages in gaming
FlexBass™	Professional Bass Management / Enhancement system
Xear 3D™ Virtual Speaker Shifter	Virtual 7.1 speaker positioning
Other Effects	10-band Equalier / 27 Environment Effects
ASIO 2.0 Driver Support:	Supports 44.1K/48K/88.2K/96K/176.4K/192KHz @16/24bit with very low latency

***Specifications are subject to change without notice.**

2. About Hardware

2.1 Xonar Phoebus Audio Processing Card





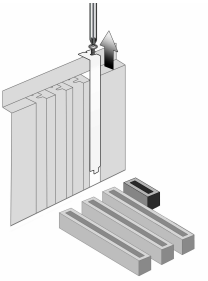
No	Item	Description
1	Microphone Input Port	Connect your external PC microphone to this 3.5mm jack for voice input. Built-in high-quality Microphone pre-amplifier.
2	Headphone Output Port	Connect your headphones to this jack.
3	Box Link	Connect the Xonar Phoebus Control Box to this 2.5mm port.
4	Line Input Port	Connect analog devices like MP3 players, CD players, music synthesizers, and other line-level sound sources to this 3.5mm jack for audio recording or processing.
5	Front Output Port	For 2 channel speaker systems, connects to the front left / right input on the powered speakers.
6	Center/Subwoofer Out Port	Connect to the center / subwoofer input on 5.1/7.1 powered analog speakers.
7	Rear Output Port	Connect to the back surround input on 7.1 powered analog speakers.
8	S/PDIF Output / Side Out port	Digital output jack. Connect to an external digital decoder or digital speaker systems, Home Theater systems, AV receivers for outputting digital audio including PCM, Dolby Digital, DTS, WMA-Pro, etc. Connect to the surround channel input on 5.1 powered analog speakers.
9	Aux Input Header	4-pin header. Usually connects to the Analog Audio output of TV tuner card or other sound source inside your PC system. (To monitor your TV tuner card's audio from this Aux-In, you must enable the "monitor" function for Aux-In in the Xonar Audio Center software's recording mixer.)
10	S/PDIF Out Header	Connects to the graphics card with HDMI support.
11	Power connector	Connects to the 6-pin power cable of your power supply unit.
12	PCI Express Bus Golden Fingers	Inserts into the PCI Express slot on your motherboard.

3. Installing the Xonar Hardware

3.1 Preparing Your Computer

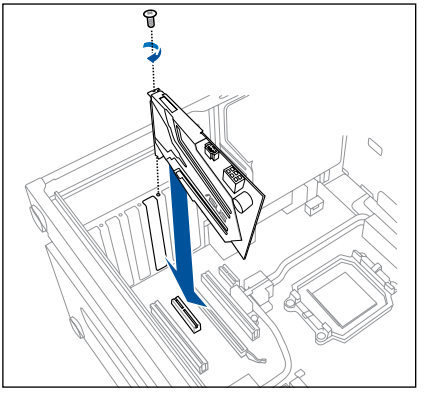
Before you proceed with the following installation steps, it's recommended that you disable your onboard audio device in your BIOS settings, or uninstall any other sound cards on your PC. (For BIOS setting or uninstallation of other sound cards, refer to the user manuals of your motherboard and sound card)

1. Power OFF the computer, the monitor, and all other peripheral devices connected to your computer.
2. Unplug the computer power cord from your computer and power outlet.
3. Touch the metal back or side panel of the computer to avoid static electricity.
4. Remove the chassis cover.
5. Remove the metal bracket from an available PCIE slot for the Xonar Phoebus audio card.

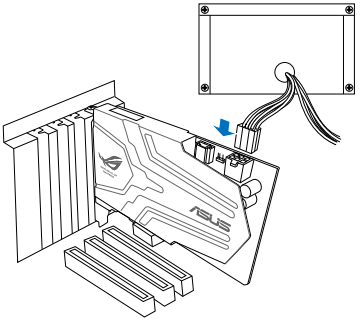


3.2 Installing the Audio Processing Card

1. Face the bracket of the Xonar Phoebus audio card toward the back panel of your computer and insert the audio card gently into an available PCI Express slot. Make sure it's completely inserted into the PCI Express slot. (Warning! Do not force the audio card into the slot. Make sure that the gold pins of the card's PCI Express connector are aligned with the motherboard's PCI Express connector before you insert the card into the PCI Express slot. If it does not fit properly, gently remove it and try again.)



2. Secure the audio card bracket to the back of your computer with the screw that you removed. Refer to section 3.1.
3. Connect the power cable of your power supply to the power connector on the Xonar Phoebus audio card.



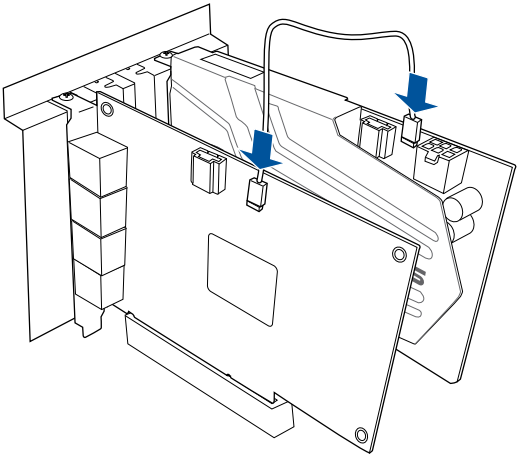
The PCI Express high-quality audio card requires additional power from your computer. If the power cable is not connected properly, the audio card will not work at all.

3.3 Connecting TV tuner card

If you have a traditional PCI or PCI Express TV tuner card on your PC, you may need to connect it to the audio card to send the tuner card's sound to your PC speakers.

1. Secure the PCI/PCI Express TV tuner card and screw it into the back-panel.
2. Connect the audio output header from the TV tuner card to the Aux-In header of the audio card, as shown in the figure below.

For optimum TV audio quality, Xonar uses ADC recording to digitize the signal and loops it back to DAC playback. Please select Aux-In as the recording source in the Xonar Audio Center's recording mixer and enable the monitoring button to pass this signal to the audio output. Using this setup, you can even turn on sound effects such as Pro-Logic IIx to expand the stereo TV audio to 5.1 or 7.1 channel surround sound. TV audio on your PC will become even better than on your TV set!



4. Installing Software

4.1 Installing the Audio Card Driver

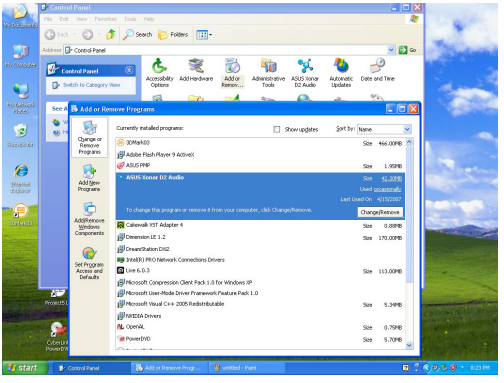
1. After you have installed your audio card, turn on your computer. Windows automatically detects your audio card and searches for device drivers. When prompted for the audio drivers, click the **Cancel**.
2. Insert the Support CD into the optical drive. If Windows® AutoPlay mode is enabled in your system, the setup starts automatically. If not, double-click the **setup.exe** from your Support CD.
3. Follow the onscreen instructions to finish the installation.

The version and content of the support CD are subject to change without notice.

4.2 Uninstalling or Reinstalling Software

4.2.1 Uninstalling Software

1. Click **Start** -> **Settings** -> **Control Panel**.
2. Double-click the **Add/Remove Programs** icon.
3. Click the **Change or Remove Programs** button.
4. Select each program you would like to remove, and then click the **Add/Remove (or Change/Remove)** button.



5. In the **InstallShield Wizard** dialog box, select the **Remove** option.
6. Restart your computer when prompted.

4.2.2 Reinstalling Software

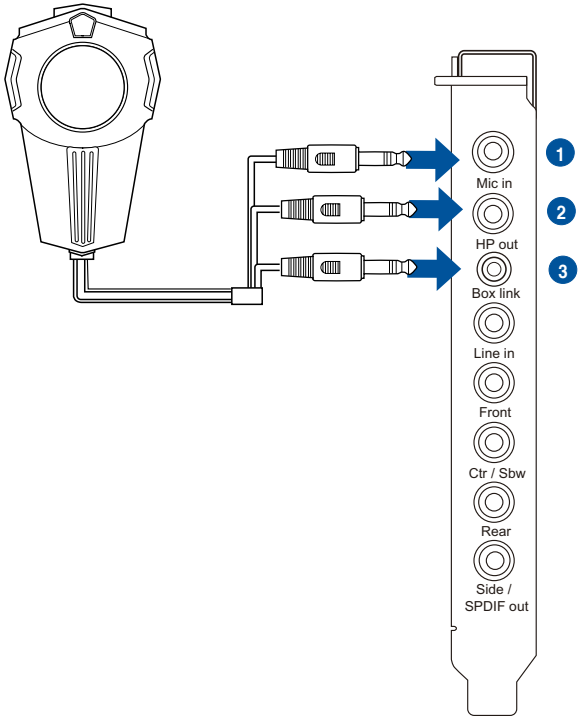
To reinstall the Xonar Phoebus card driver:

1. Before reinstalling any software, it's recommended to uninstall the existing software first.
2. After finishing the uninstallation of the software, please follow the installation process again to reinstall the same or updated software.

5. Connecting Speakers and Peripherals

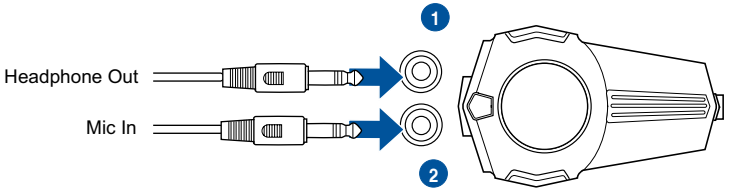
5.1 Connecting to Phoebus Control Box

5.1.1 Connecting Phoebus Box



No	Item	Description
1	Microphone Input Port	Connect the microphone's 3.5mm plug from the Phoebus Control Box into this Mic-In port for voice communication, recording or karaoke.
2	Headphone Port	The headphone port has a built-in high-quality amplifier to drive headphones. Connect the Phoebus Control box directly to this port.
3	Box Link Port	Connect the Phoebus Control box directly to this port.

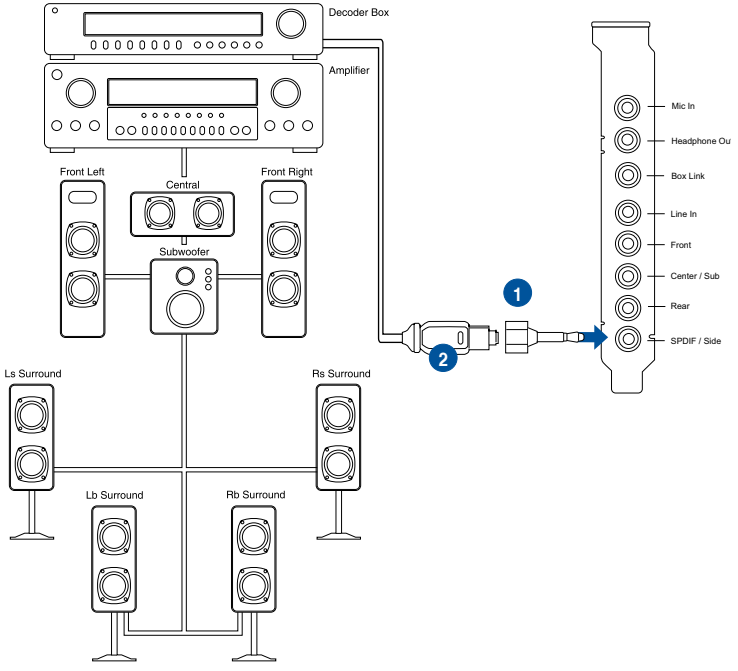
5.1.2 Connecting Phoebus Box with external headphone and microphone



No	Item	Description
1	Headphone Port	Connect headphone to headphone port on Phoebus Control box
2	Microphone Input Port	Connect microphone's 3.5mm plug to Phoebus Control Box Mic-In port.

5.2 Connecting Digital Speaker Systems (Home Theater)

Xonar Phoebus makes playback through your home theater system possible, creating an impressive surround sound experience. A single digital cable connection can carry high-quality digital audio from any of your PC audio sources to any digital speakers or AV Receivers.

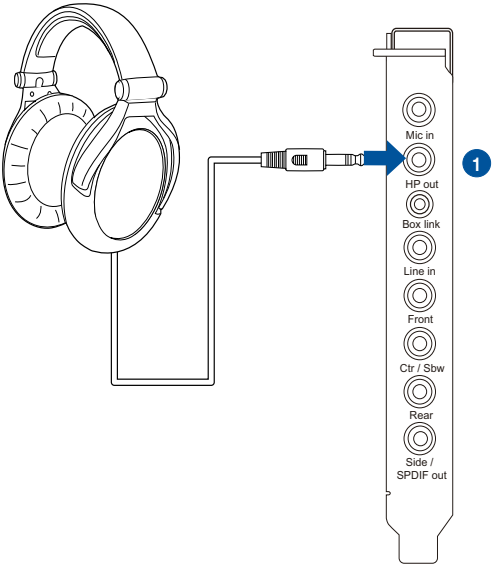


No	Item	Description
1	Optical adapter	Plug the optical TOSLINK adapter into the S/PDIF-Out connector.
2	Optical cable	Connect your decoder's S/PDIF-In port to the optical adapter with the TOSLINK optical cable.

5.3 Connecting stereo headphones

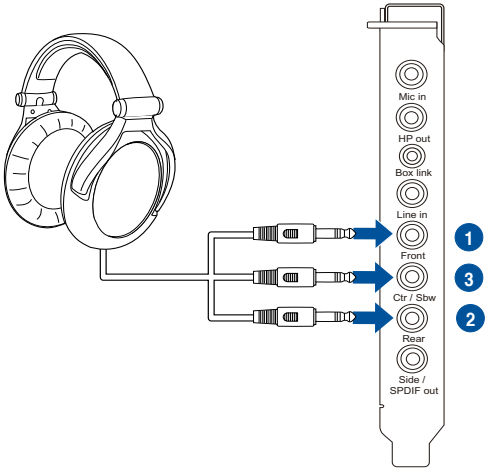
5.3.1 Connecting stereo headphones

Connecting stereo hadphones



No	Item	Description
1	Headphone Out Port	The Headphone Out Port has a built-in high-quality amplifier to drive headphones. Please connect your stereo headphones directly to this jack.

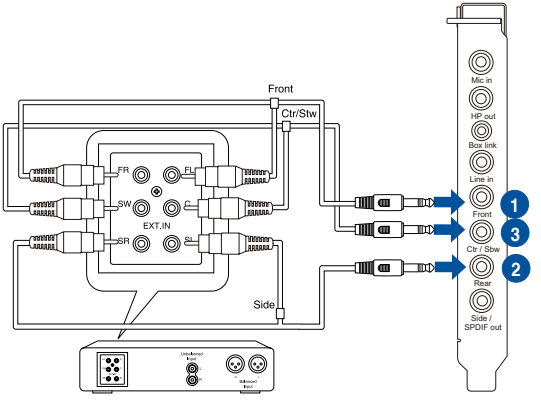
Connecting 5.1 channel hadphones



No	Item	Description
1	Front Out	Connect the front-channel 3.5mm plug of your 5.1 headphones into this jack.
2	Back Surround Out	Connects to the Back Surround input port with the mini-jack cable.
3	Center/Subwoofer Out	Connect the Center/Bass-channel 3.5mm plug of your 5.1 headphone into this jack.

5.4 Connecting Analog Speaker Systems

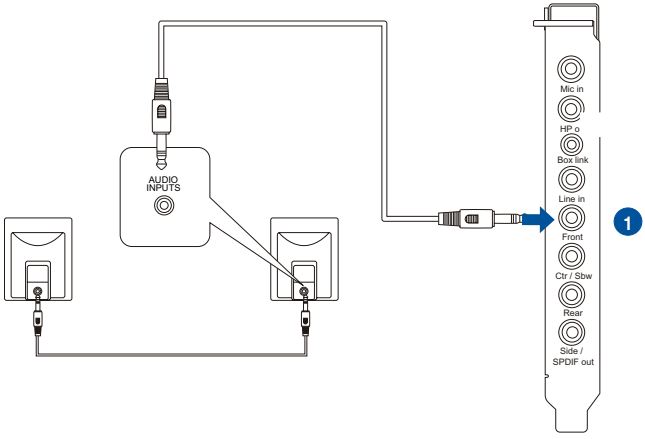
5.4.1 Connecting Analog Power Amplifier



No	Item	Description
1	Front Out	Connects to the “left front” and “right front” input ports of the analog amplifier with the mini-jack to RCA cable.
2	Back Surround Out	Connects to the Back Surround input port with the mini-jack cable.
3	Center/Subwoofer	Connects to the “Center” and “subwoofer” input ports of the analog amplifier with the mini-jack to RCA cable.

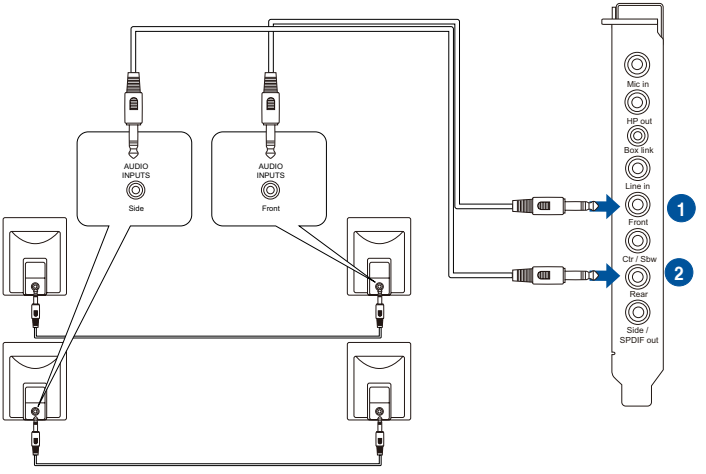
5.4.2 Connecting 2/2.1 Channel Speakers

2 Speakers



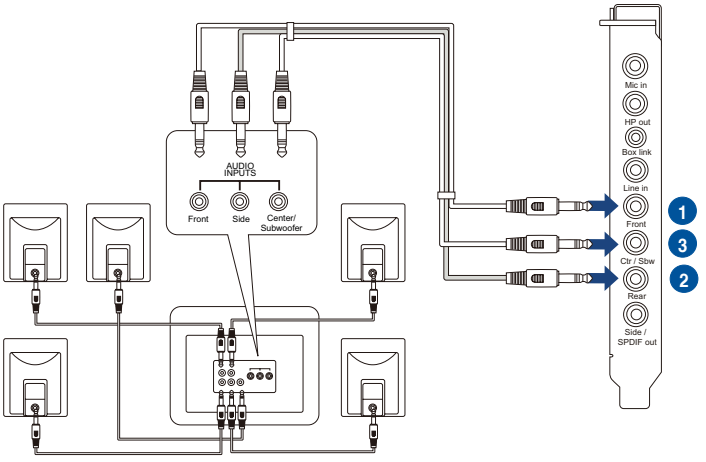
No	Item	Description
1	Front Out Port	Connect the 2 channel speaker set's 3.5mm plug into this Front Out jack.

4 Speakers



No	Item	Description
1	Front Out	Connects to the Front input port of the 4/4.1 speakers with the mini-jack cable.
2	Back Surround Out	Connects to the Back Surround input port with the mini-jack cable.

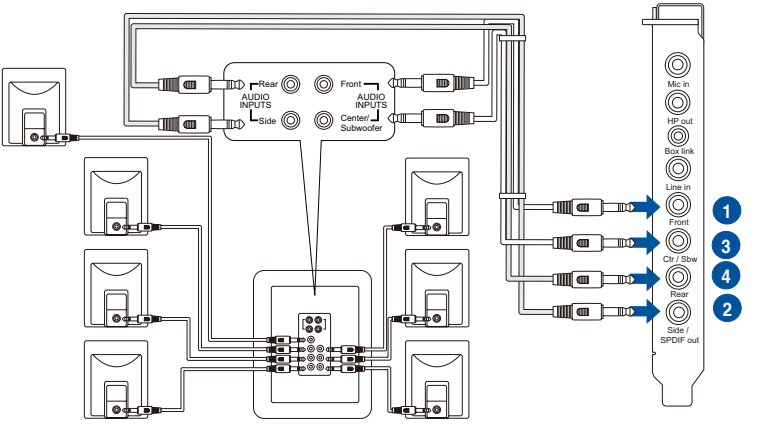
5.1 Speakers



No	Item	Description
1	Front Out	Connects to the Front input port of the 5.1 speakers with the mini-jack cable.
2	Back Surround Out	Connects to the Back Surround input port with the mini-jack cable.
3	Center/Subwoofer	Connects to the Center/Subwoofer input port of the 5.1 speakers with the mini-jack cable..

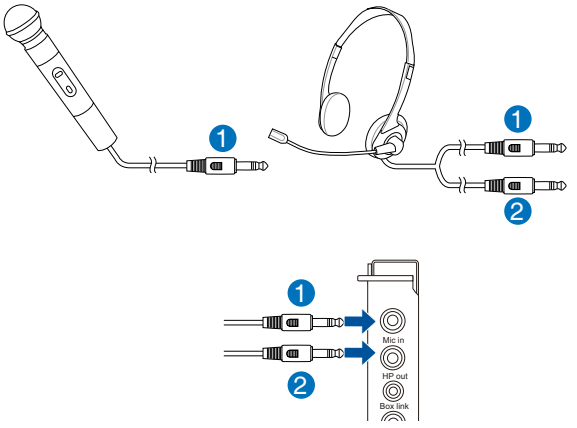
Connecting 7.1 channel speakers

7.1 speakers



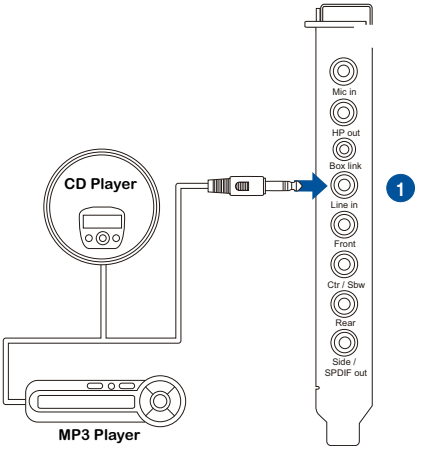
No	Item	Description
1	Front Out	Connects to the Front input port of the 7.1 speakers with the mini-jack cable.
2	Side Surround Out	Connects to the Surround input port of the 7.1 speakers with the mini-jack cable.
3	Back Surround Out	Connects to the Back Surround input port of the 7.1 speakers with the mini-jack cable.
4	Center/Subwoofer	Connects to the Center/Subwoofer input port of the 7.1 speakers with the mini-jack cable.

5.5 Connecting Microphone



No	Item	Description
1	Microphone Input Port	Connect the microphone's 3.5mm plug into this Mic-In port for voice communication, recording, or karaoke.
2	Headphone Port	The headphone port has a built-in high-quality amplifier to drive headphones. Connect your stereo headphones directly to this jack.

5.6 Connecting Line-In audio sources

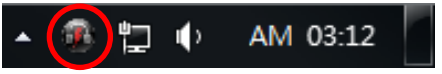


No	Item	Description
1	Line Input Jack	Connect the 3.5mm plug of the CD/MP3 Player or any other Line level analog audio sources into this Line-In jack for sound recording.

6. Xonar Phoebus Driver Guide

6.1 Introduction to the Xonar Phoebus Audio Center GUI

1. After finishing the driver installation and rebooting your computer, you will find the Xonar Phoebus Audio Center's icon in the system tray on the bottom right-hand corner of the screen. Double click this icon to open the Xonar Audio Center utility.



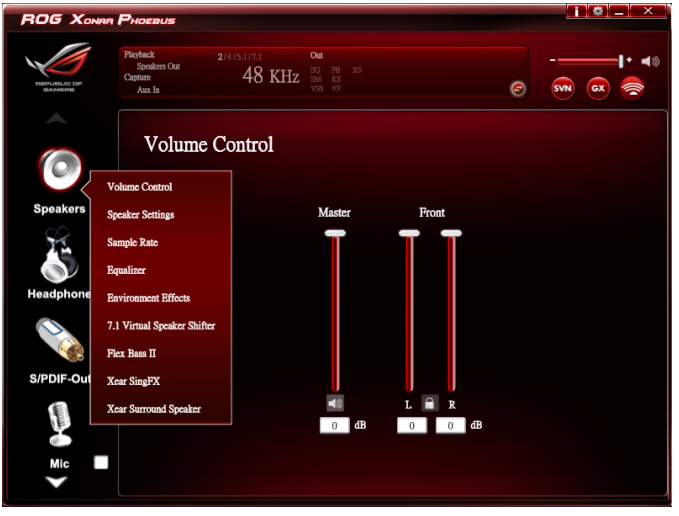
If the icon could not be found in the system tray, go to the Windows Control Panel and double click the "**Xonar Phoebus Audio Center**" icon.

6.1.1 Function Pop-up Menu

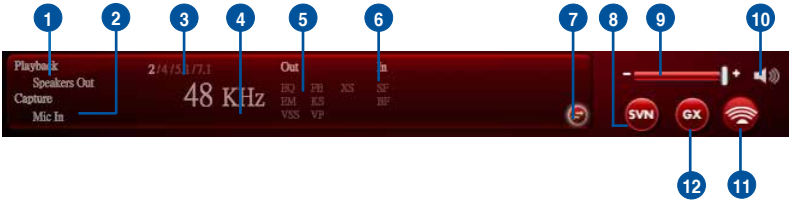
Xear Audio Center provides serveral sound effects. There is a pop menu for each output / input device and you can enter the sound effect page to enjoy music, movie and gaming.

To open the pop-up menu:

1. Double-click the left button of the mouse on the Device icon.
2. Left-click the mouse on the Device icon.



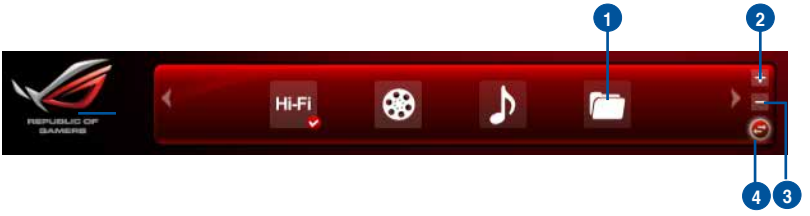
6.1.2 Audio Status Panel



No	Item	Description
1	Playback (Speaker Out)	Indicates the output default device.
2	Capture (Mic In)	Indicates the input default device.
3	Speaker Numbers	Indicates the speaker numbers for Speaker device only.
4	Sample Rate	Indicates the sample rate of playback sources.
5	Audio Output effect indicator	Indicates the playback sound effect status. Abbreviation of Sound effect: EQ: Equalizer EM: Environment Effects VSS: 7.1 Virtual Speaker Shifter FB: Flex Bass II KS: Xear SingFX for key shifting VF: Xear SingFX for vocal fading XS: Xear Surround
6	In effect indicator	Indicates the playback sound effect status. Abbreviation of Sound effect: SF: Xear SingFX for microphone echo SF: Xear SingFX for Magic Voice
7	Switch to Profile Panel button	Click to switch the status bar to the Profile panel.
8	Smart Volume Normalizer (SVN) (Vista / XP only)	Click to enable the SVN function. SVN is abbreviated from Smart Volume Normalization, which normalizes the volume of all audio sources into a constant level and also enhances your 3D sound listening range and advantages in gaming.
9	Volume Adjust	Click to increase or decrease volume.
10	Mute / Unmute	Click to mute or unmute a device.
11	SonarMax	Click to enable SonarMax with amplified 3D/2D sounds.
12	GX	Click to enable GX 2.0.

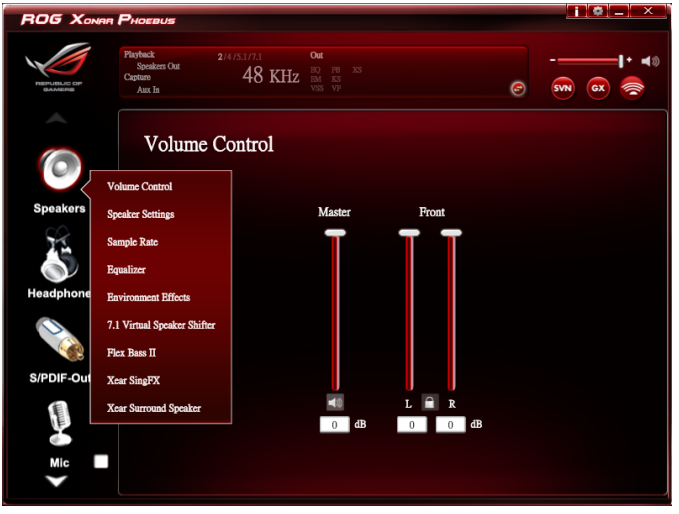
6.1.3 Profile Panel

This profile panel for sound effect contails a preset mode and a user-defined mode.



No	Item	Description
1	Profile Mode	Click to select the presets in profile mode.
2	Add Profile	Adjust specific sound effects (EQ, EM etc…) settings and click “+” to create a user-defined mode.
3	Delete Profile	Click to delete a user-defined mode.
4	Switch Button	Click to switch between the Profile panel and Audio Status Panel.

6.2 Speaker Function Introduction



Click the device icon on the right side to open the pop-up menu.

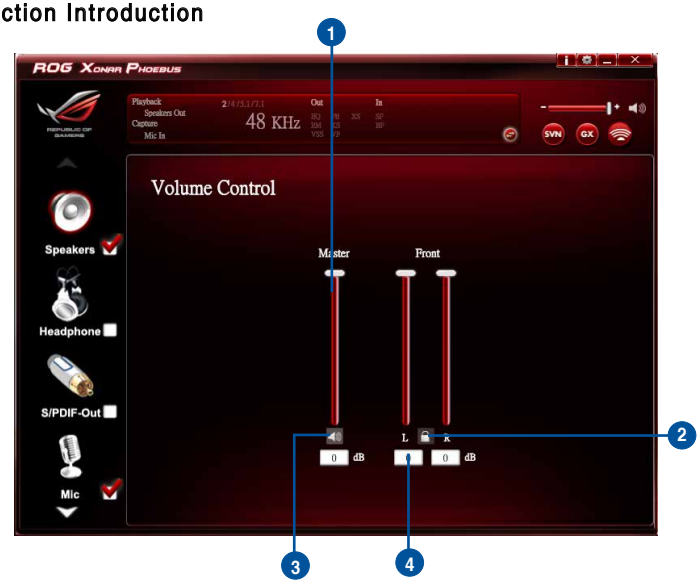
6.2.1 Dolby® Home Theater (Windows® 7 Only)

Function Introduction

- The following items will be replaced by Dolby® Home Theater V4 under Windows® 7 Operating System.
  - 7.1 Virtual Speaker Shifter
  - 10-Band Equalizer
- Refer to Dolby's official manual for Dolby® Home Theater V4 functions.

6.2.2 Volume Control

Function Introduction

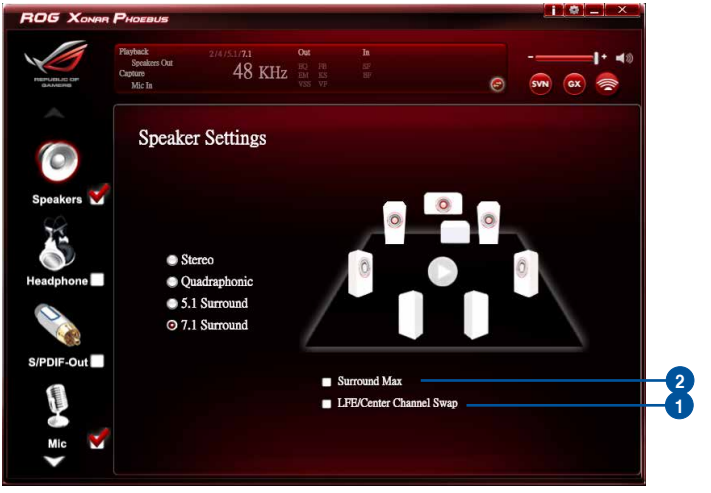


The function allows you to control the volume of the Speaker.

No	Item	Description
1	Volume Control bar	Master – Adjust the volume level for all channels. Front - Adjust the volume level for the front channel.
2	Left/ Right Channel Lock	Click to lock the left / right channel to sync L/R channel.
3	Mute / Un-mute	Click to mute or ummute all channels.
4	dB Input Area	Key in a dB value in this field to set the volume level.

6.2.3 Speaker Setting

Function Introduction

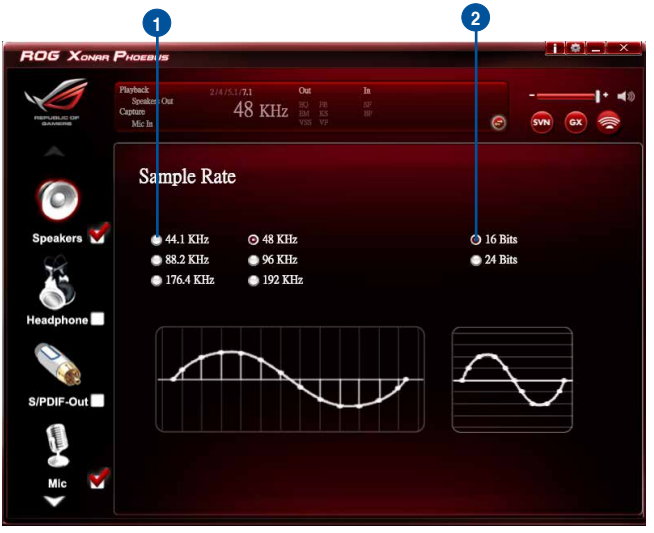


This function allows you to set the speaker numbers (stereo, quadraphonic, 5.1 surround, 7.1 surround).

No	Item	Description
1	LFE / Center Channel Swap	When enabled, the function can swap the audio stream between Center/LFE. (Available for 5.1 and above)
2	Surround Max	When enabled, the function allows the stereo to have the benefits of multi-surround effects.

6.2.4 Sample Rate

Function Introduction

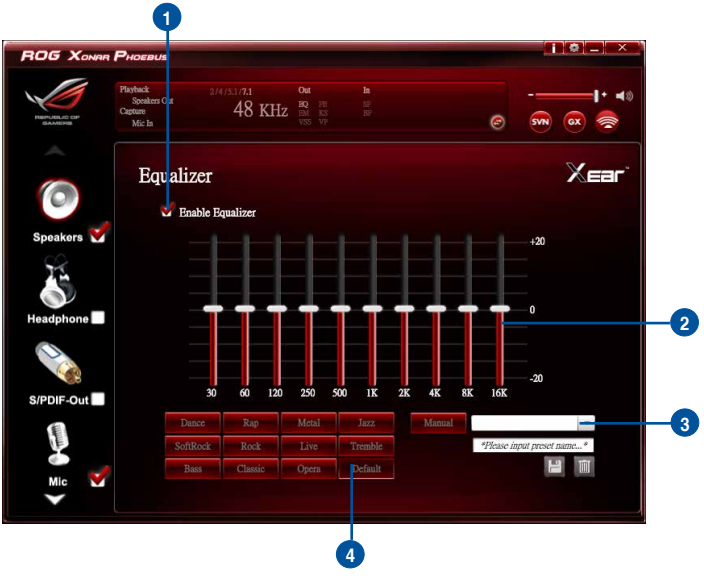


This function allows you to set the sample rate for the Speaker.

No	Item	Description
1	Sample Rate button	44.1 KHz - set the playback sample rate to 44.1K 48 KHz - set the playback sample rate to 48K 88.2 KHz - set the playback sample rate to 88.2K 96 KHz - set the playback sample rate to 96K 176.4 KHz - set the playback sample rate to 176K 192 KHz - set the playback sample rate to 192K
2	Bit Depth button	16bit - set the playback bit depth to 16bit 24bit - set the playback bit depth to 24bit

6.2.5 Equalizer

Function Introduction

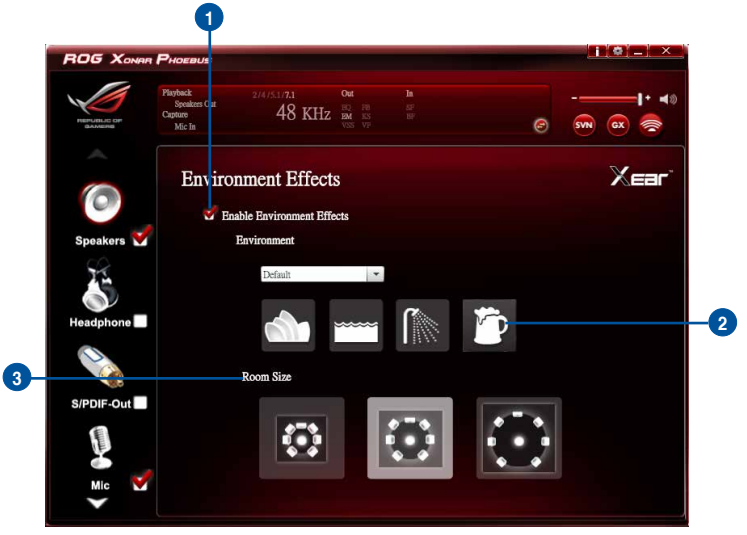


This 10-band EQ function allows you to adjust the EQ band manually and create customized preset items or click to select a preset EQ mode.

No	Item	Description
1	EQ enable/disable switch	Click to enable / disable EQ.
2	EQ band controller	Change the gain setting for each band (30/ 60/ 120/ 250/ 500/ 1K/ 2K/ 4K/ 8K/ 16K).
3	Manual mode	Change the gain setting for each band, key in a name in the input field and then click **save** to add your new setting. New setting will appear in the Manual Mode List. Click **trash** to delete settings.
4	Preset mode	Select a preset mode for equalizer that is designed accordingly. There are 12 preset modes such as Bass, Treble, Live, Rock, Jazz, etc.

6.2.6 Environment Effect

Function Introduction

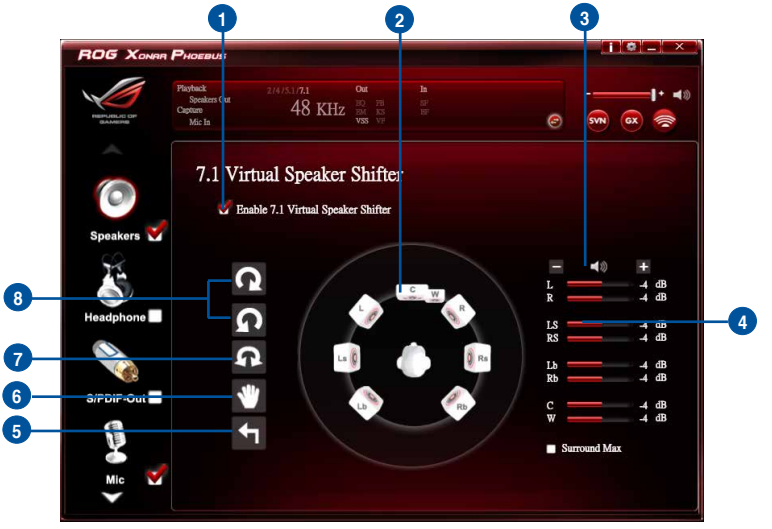


This function provides 28 special environment emulations for different sound reflections and revweberation.

No	Item	Description
1	Environment Effect enable/disable switch	Click on the check box to enable / disable Environment Effect.
2	Environment Effect mode	Click on an Environment Effect button or drop the dropdown list to choose an Environment Effect.
3	Room Size	Change the Room Size icon to simulate a larger or smaller space.

6.2.7 7.1 Virtual Speaker Shifter

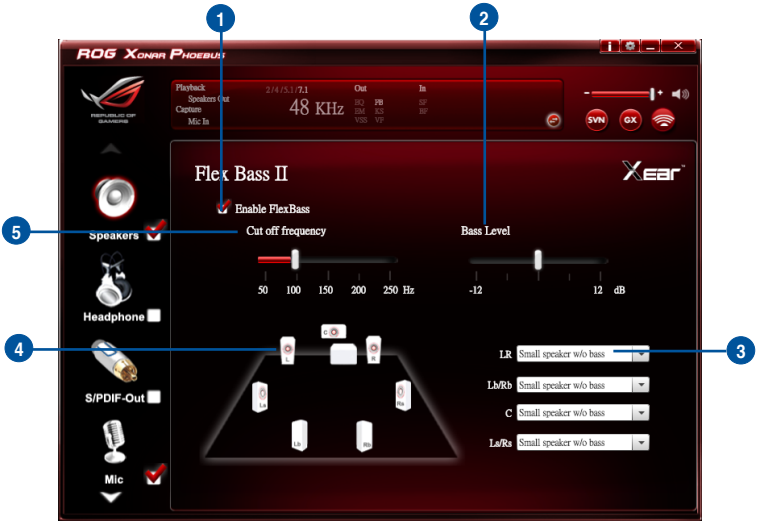
Function Introduction



No	Item	Description
1	7.1 Virtual speaker shifter enable/disable switch	Click on the check box to enable / disable 7.1 Virtual Speaker to simulate the speaker direction and distance.
2	Virtual Speaker (L/R/ Ls/Rs/Lb/Rb/C/W)	Each virtual speaker virtualizes one channel of the 7.1 channel speakers in the real world.
3	Volume Control	Each virtual speaker virtualizes one channel of the 7.1 channel speakers in the real world.
4	Volume indicator	Indicate the volume of each channel.
5	Reset	Reset the location of virtual speakers / virtual listener to default.
6	Manual Shifting (Free Moving Mode)	Use the pointer to click and drag to move the location of individual virtual speakers.
7	Manually Rotation Mode	Use mouse to rotate the virtual speakers on the screen manually.
8	Auto Rotation Mode	The virtual speakers rotate clockwise or counterclockwise slowly.

6.2.8 Flex Bass II

Function Introduction



This function allows you to increase / decrease the LFE strength. This function would cut the low frequency band (50~250Hz) of stereo music content (eg. Mp3,WMA, CD Audio) and transfer to subwoofer or each speaker.

No	Item	Description
1	Flex Bass II enable/ disable switch	Click on this check box to enable / disable Flex Bass II.
2	Bass Level	The bass level range is from -12 to 12dB.
3	Speaker Size	Small Speaker w/o bass When the speaker size is set to small, you can hear the sound resonance more obvious and reverberation from subwoofer.
4	Speaker Diagram	You can also check the speaker size from this home theater diagram.
5	Cut Off Frequency	The cut off range of low frequency is from 50Hz to 250Hz.

6.2.9 Xear SingFX

Function Introduction

Xear SingFX function provides two features for karaoke applications.

No	Item	Description
1	Key Shifting switch	It provides the key change function. There are four steps to shift up or down. Use the slide bar to change the key level.
2	Vocal Fading	It provides the vocal removing function for any stereo music content (eg. Mp3, WMA and CD). Use the slide bar to change the vocal fading level.

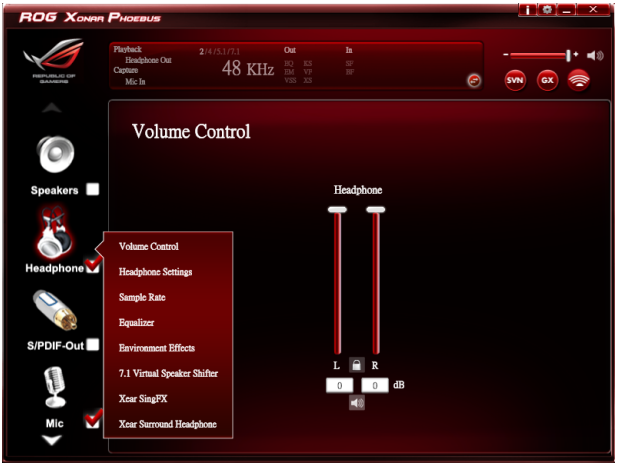
6.2.10 Xear Surround Speaker

Function Introduction

No	Item	Description
1	Xear Surround Speaker enable/ disable switch	The Xear Surround Speaker allows you to enjoy the multichannel effects on stereo. Click the checkbox to enable or disable it.
2	Surround Max	Click the checkbox to enable or disenable the Surround Max.
3	Sound Field Expansion & Speaker Angle	Change to simulate a larger or smaller space.

6.3 Headphone Function Introduction

Function Introduction



Click the device icon on the right side to open the pop-up menu.

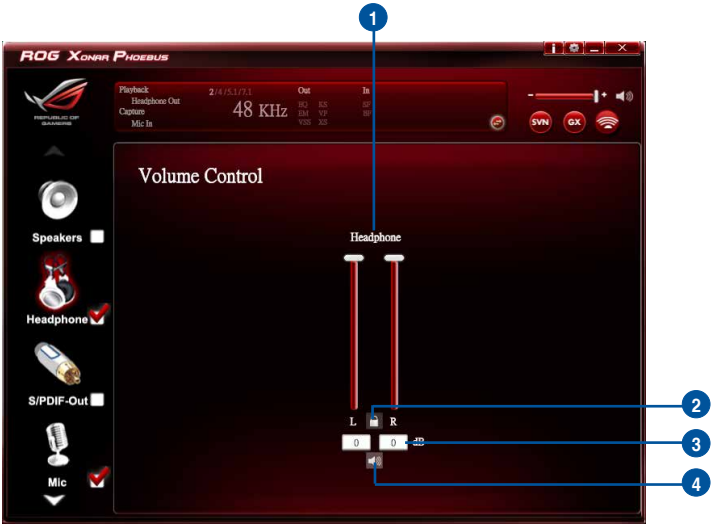
6.3.1 Dolby® Home Theater (Windows® 7 Only)

Function Introduction

- The following items will be replaced by Dolby® Home Theater V4 under Windows® 7 Operating System.
  - 7.1 Virtual Speaker Shifter
  - 10-Band Equalizer
- Refer to Dolby's official manual for Dolby® Home Theater V4 functions.

6.3.2 Volume Control

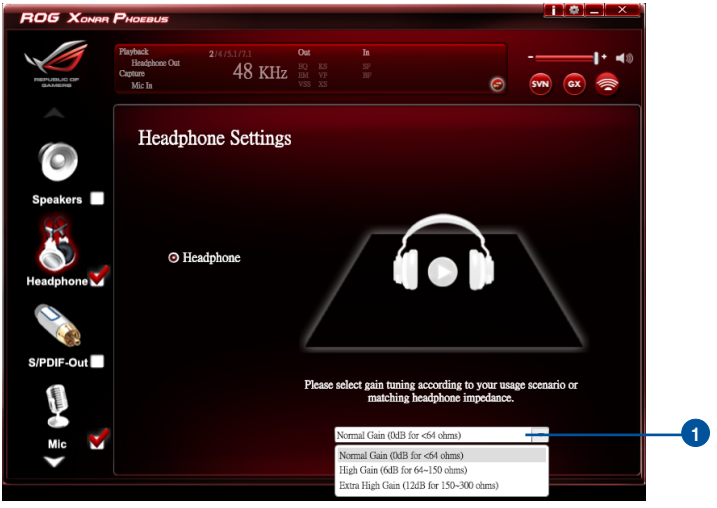
Function Introduction



No	Item	Description
1	Volume control bar	Adjust the volume level for all channels.
2	Left/ Right Channel Lock	Click the lock/ unlock button to lock / unlock the left channel and right channel to sync L/R channel.
3	dB Input Area	Key in a dB value in this text box to set the volume level.
4	Mute / Un-mute	Click this button to enable / disable the mute function

6.3.3 Headphone Settings

Function Introduction

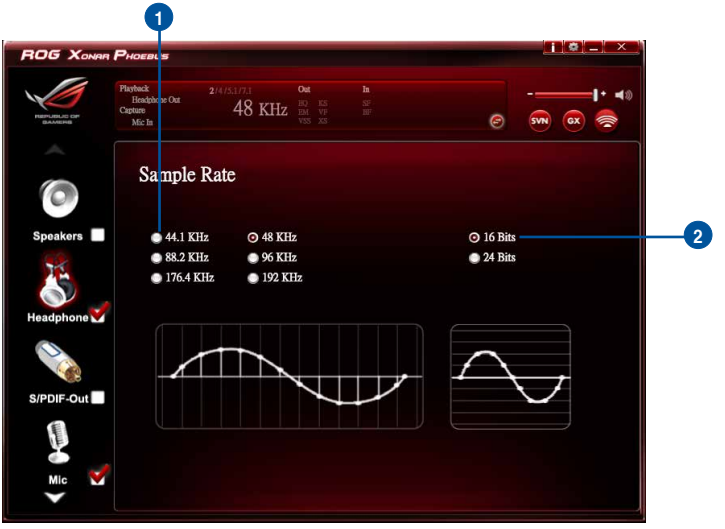


You can set the gain setting based on your headphone impedance.

No	Item	Description
1	Normal Gain High Gain Extra High Gain	0dB for < 64 ohms 6dB for 64 ~150 ohms 12dB for > ohms

6.3.4 Sample Rate

Function Introduction

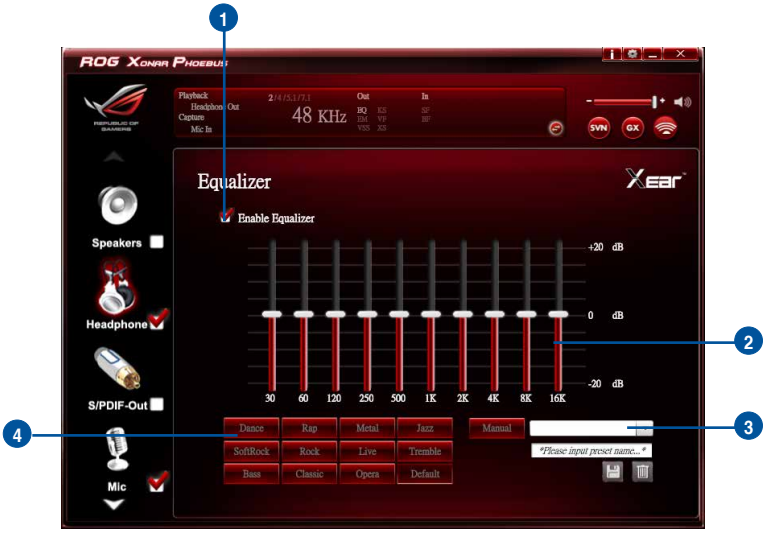


This function page provides a sample rate setting for the headphone device.

No	Item	Description
1	Sample Rate button	44.1 KHz - set the playback sample rate to 44.1K 48 KHz - set the playback sample rate to 48K 88.2 KHz - set the playback sample rate to 88.2K 96 KHz - set the playback sample rate to 96K 176.4 KHz - set the playback sample rate to 176K 192 KHz - set the playback sample rate to 192K
2	Bit Depth button	16bit - set the playback bit depth to 16bit 24bit - set the playback bit depth to 24bit

6.3.5 Equalizer

Function Introduction

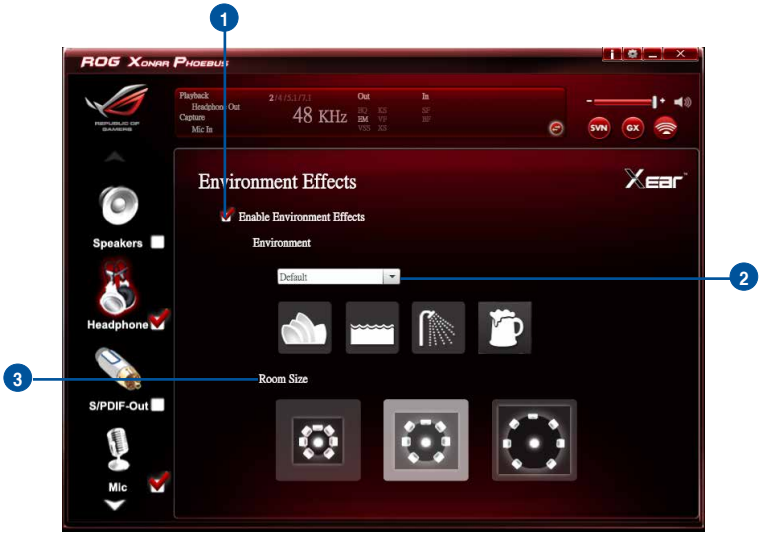


This 10-band EQ function allows you to adjust the EQ band manually and create customized preset items or click to select a preset EQ mode.

No	Item	Description
1	EQ enable/disable switch	Click on this check box to enable / disable the Equalizer.
2	EQ band controller	Change the gain setting for each band (30/ 60/ 120/ 250/ 500/ 1K/ 2K/ 4K/ 8K/ 16K)
3	Manual mode	Change the gain setting for each band and key in a name in the input field, and then click **save** to add your new setting. The new setting will appear in the Manual Mode List. Click **trash** to delete settings.
4	Preset mode	Select a preset mode for equalizer that is designed accordingly. There are 12 preset modes, such as Bass, Treble, Live, Rock, Jazz and so on.

6.3.6 Environment Effects

Function Introduction



This function provides 28 special environment emulations for you to enjoy different sound reflection and reverberation.

No	Item	Description
1	Environment Effect enable/disable switch	Click on this check box to enable / disable the Environment Effects.
2	Environment Effect mode	Click on an Environment effect button or drop the dropdown list to choose an Environment effect.
3	Room Size	Change the “Room Size” to simulate a larger or smaller space.

6.3.7 Virtual Speaker Shifter

Function Introduction

No	Item	Description
1	7.1 Virtual Speaker Shifter enable/disable switch	The 7.1 Virtual Speaker simulates the speaker direction and distance. Click the check box to enable / disable it.
2	Virtual Speaker (L/R/ Ls/Rs/Lb/Rb/C/W)	Each virtual speaker virtualizes one channel of the 7.1 channel speakers in the real world.
3	Volume Control	Each virtual speaker virtualizes one channel of the 7.1 channel speakers in the real world.
4	Volume indicator	Indicate the volume of each channel.
5	Reset	Reset the location of virtual speakers / virtual listener to default.
6	Manual Shifting (Free Moving Mode)	Use the pointer to click and drag to move the location of individual virtual headphones.
7	Manually Rotation Mode	Use the mouse to rotate the virtual speakers on the screen manually.
8	Auto Rotation Mode	The virtual speakers rotate clockwise or counterclockwise slowly.

6.3.8 Xear SingFX

Function Introduction

The Xear SingFX function provides two features for karaoke applications.

No	Item	Description
1	Key Shifting switch	It provides the key change function. There are four steps to shift up or down. Use the slide bar to change the key level.
2	Vocal Fading	It provides the vocal removing function for any stereo music content (eg. Mp3, WMA and CD). Use the slide bar to change the vocal fading level.

6.3.9 Xear Surround Headphone

Function Introduction

No	Item	Description
1	Xear Surround Headphone enable/ disable switch	The Xear Surround Headphone allows you to enjoy multichannel effects on stereo. Click the check box to enable or disable it.
2	Surround Max	Click the check box to enable or disenable the Surround Max.
3	Room Size	Change the “Room Size” to simulate a larger or smaller space.

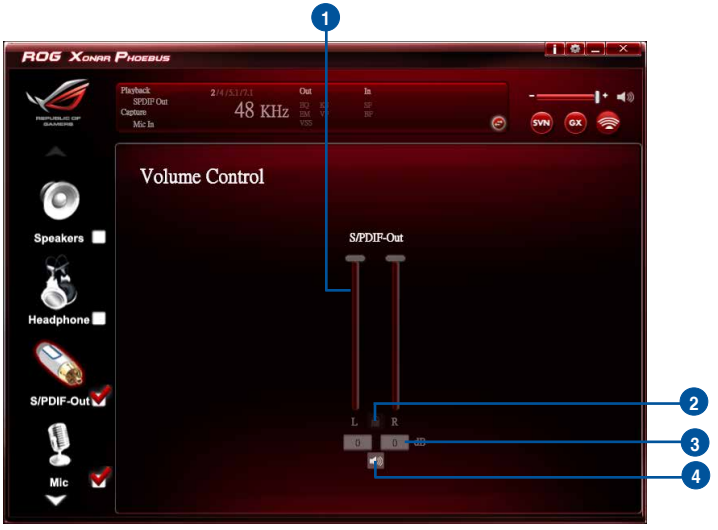
6.4 S/PDIF Function Introduction

Function Introduction

Click the device icon on the right side to open the pop-up menu.

6.4.1 Volume Control

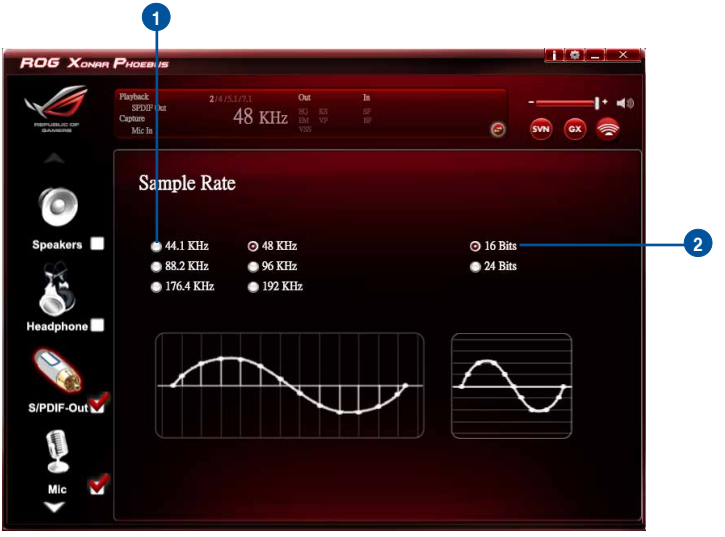
Function Introduction



No	Item	Description
1	Volume Control bar	Adjust the volume level for all channels.
2	Left/ Right Channel Lock	Click the lock/ unlock button to lock / unlock the left channel and right channel to sync L/R channel.
3	dB Input Area	Key in a dB value in this text box to set the volume level.
4	Mute / Un-mute	Click the button to enable / disable the mute function.

6.4.2 Sample Rate

Function Introduction

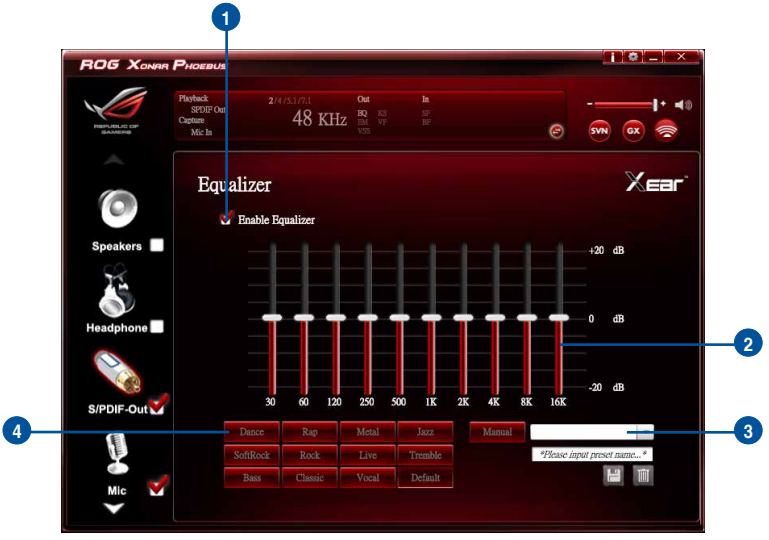


This function allows you to set the sample rate for the S/PDIF device.

No	Item	Description
1	Sample Rate button	44.1 KHz - set the playback sample rate to 44.1K 48 KHz - set the playback sample rate to 48K 88.2 KHz - set the playback sample rate to 88.2K 96 KHz - set the playback sample rate to 96K 176.4 KHz - set the playback sample rate to 176K 192 KHz - set the playback sample rate to 192K
2	Bit Depth button	16bit - set the playback bit depth to 16bit 24bit - set the playback bit depth to 24bit

6.4.3 Equalizer

Function Introduction

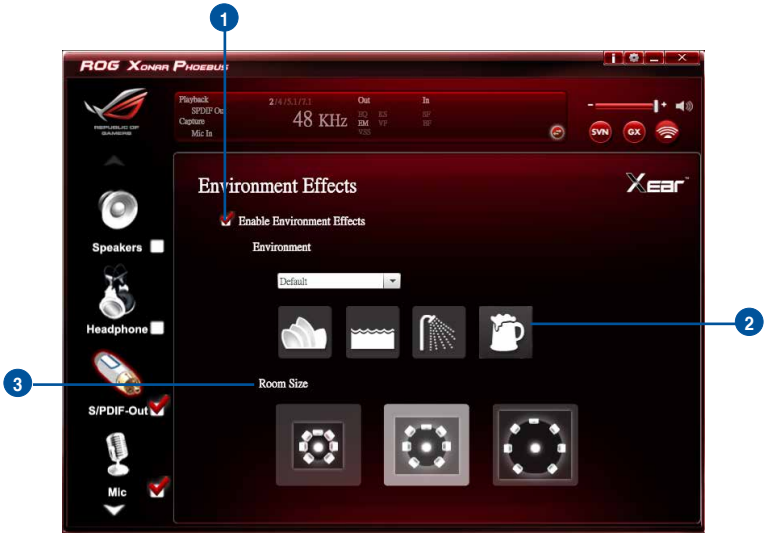


The 10-band EQ function allows you to adjust the EQ band manually and create customized preset items or click to select a preset EQ mode.

No	Item	Description
1	EQ enable/disable switch	Click on this check box to enable / disable the Equalizer.
2	EQ band controller	Change the gain setting for each band (30/ 60/ 120/ 250/ 500/ 1K/ 2K/ 4K/ 8K/ 16K)
3	Manual mode	Change the gain setting for each band and key in a name in the input field, and then click **save** to add your new setting. The new setting will appear in the Manual Mode List. Click **trash** to delete settings.
4	Preset mode	Select a preset mode for equalizer that is designed accordingly. There are 12 preset modes, such as Bass, Treble, Live, Rock, Jazz and so on.

6.4.4 Environment Effects

Function Introduction



This function provides 28 special environment emulations for you to enjoy different sound reflection and reverberation.

No	Item	Description
1	Environment Effect enable/disable switch	Click on this check box to enable / disable the Environment Effects.
2	Environment Effect mode	Click on an Environment Effect button or drop the dropdown list to choose an Environment Effect.
3	Room Size	Change the “Room Size” to simulate a larger or smaller space.

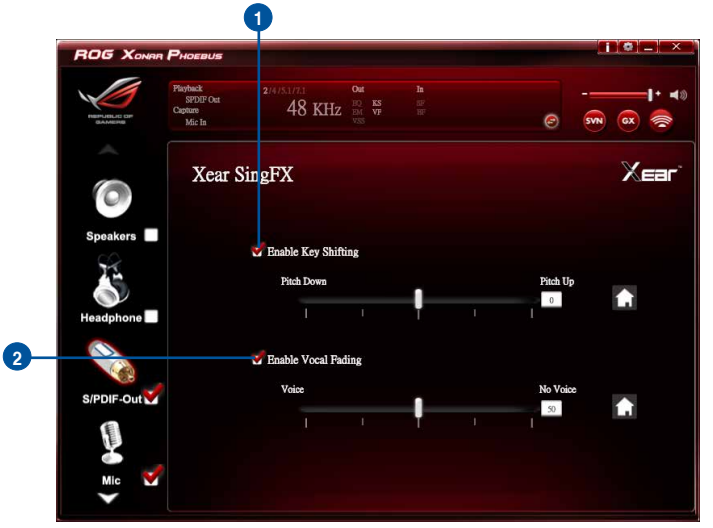
6.4.5 Virtual Speaker Shifter

Function Introduction

No	Item	Description
1	7.1 Virtual speaker shifter enable/disable switch	The 7.1 Virtual Speaker simulates the speaker direction and distance. Click the check box to enable / disable it.
2	Virtual Speaker (L/R/ Ls/Rs/Lb/Rb/C/W)	Each virtual speaker virtualizes one channel of the 7.1 channel speakers in the real world.
3	Volume Control	Each virtual speaker virtualizes one channel of the 7.1 channel speakers in the real world.
4	Volume indicator	Indicate the volume of each channel.
5	Reset	Reset the location of virtual speakers / virtual listener to default.
6	Manual Shifting (Free Moving Mode)	Use the pointer to click and drag to move the location of individual virtual headphones.
7	Manually Rotation Mode	Use the mouse to rotate the virtual speakers on the screen manually.
8	Auto Rotation Mode	The virtual speakers rotate clockwise or counterclockwise slowly.

6.4.6 Xear SingFX

Function Introduction



The Xear SingFX function provides two features for karaoke applications.

No	Item	Description
1	Key Shifting switch	It provides the key change function. There are four steps to shift up or down. Use the slide bar to change the key level.
2	Vocal Fading	It provides the vocal removing function for any stereo music content (eg. Mp3, WMA and CD). Use the slide bar to change the vocal fading level.

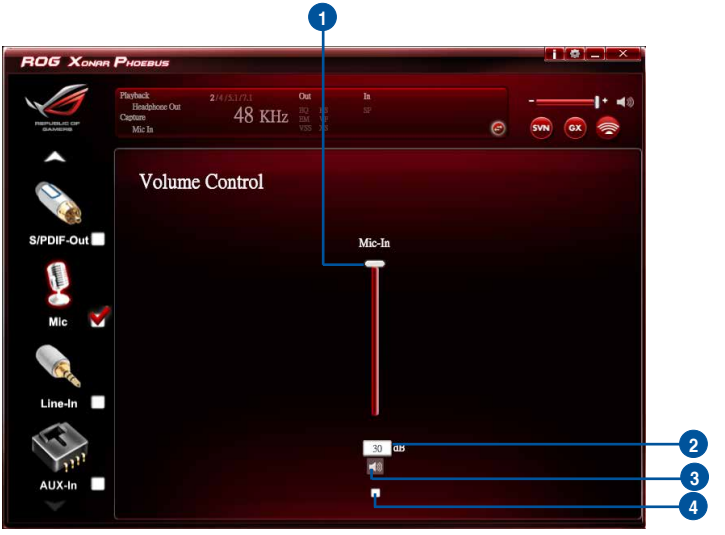
6.5 Microphone Function Introduction

Function Introduction

Click the device icon on the right side to open the pop-up menu.

6.5.1 Volume Control

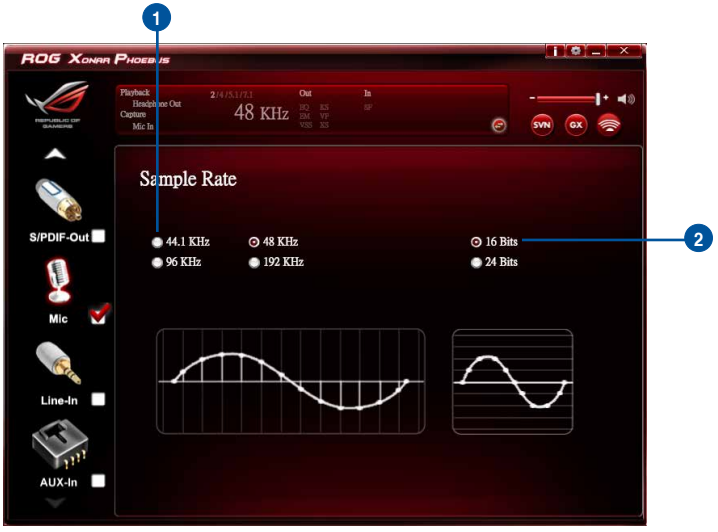
Function Introduction



No	Item	Description
1	Volume Control bar	Adjust the volume level of all channels.
2	dB Input Area	Key in a dB value in this text box to set the volume level.
3	Mute / Un-mute	Click the button to enable / disable the mute function.
4	Monitor	Click the checkbox to enable monitoring.

6.5.2 Sample Rate

Function Introduction



This function allows you to set the sample rate for the microphone device.

No	Item	Description
1	Sample Rate button	44.1 KHz - set the playback sample rate to 44.1K 48 KHz - set the playback sample rate to 48K 96 KHz - set the playback sample rate to 96K 192 KHz - set the playback sample rate to 192K
2	Bit Depth button	16bit - set the playback bit depth to 16bit 24bit - set the playback bit depth to 24bit

6.5.3 Xear SingFX

Function Introduction

The Xear SingFX function provides two features for karaoke applications.

No	Item	Description
1	Microphone Echo	Click the check box to enable / disable the Microphone Echo function. Use the slide bar to adjust the echo level.

6.5.4 Xear Magic Voice

Function Introduction

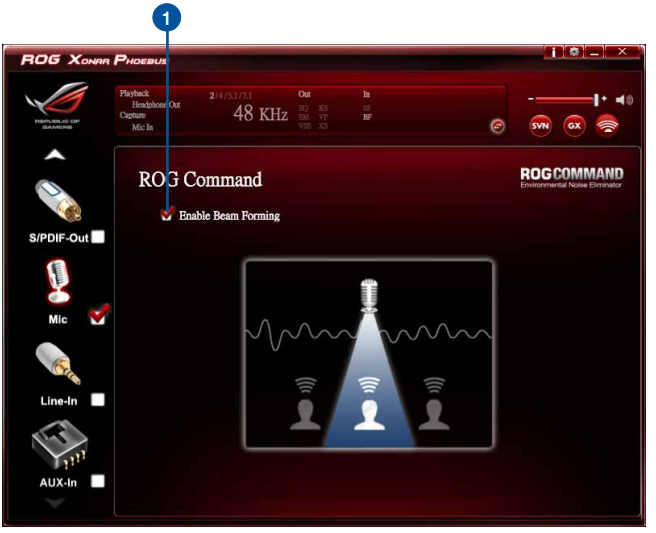
While talking to your friends online (eg.Messenger, VOIP, online game applications), use the “Magic Voice” effects to simulate funny voices.

Choose one type of voice only at one time.

No	Item	Description
1	Xear Magic Voice	Click this check box to enable / disable the Microphone Magic Voice function.
2	Magic Voice mode (Monster/Carton/Male/ Female)	Click to choose a magic voice mode.

6.5.5 ROG Command Beam Forming

Function Introduction

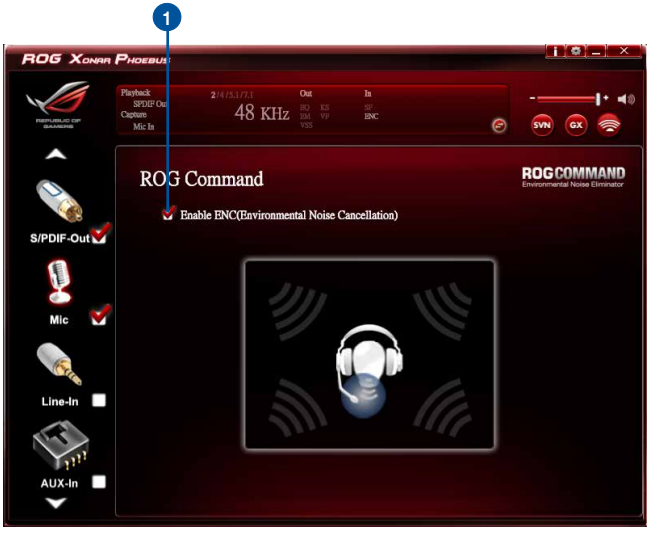


Beam Forming function is available only when the Control Box is connected to the audio card without any other external microphones.

No	Item	Description
1	Beaming Forming	Click the check box to enable / disable the Beam Forming function.

6.5.6 ROG Command ENC (Environmental Noise Cancellation)

Function Introduction

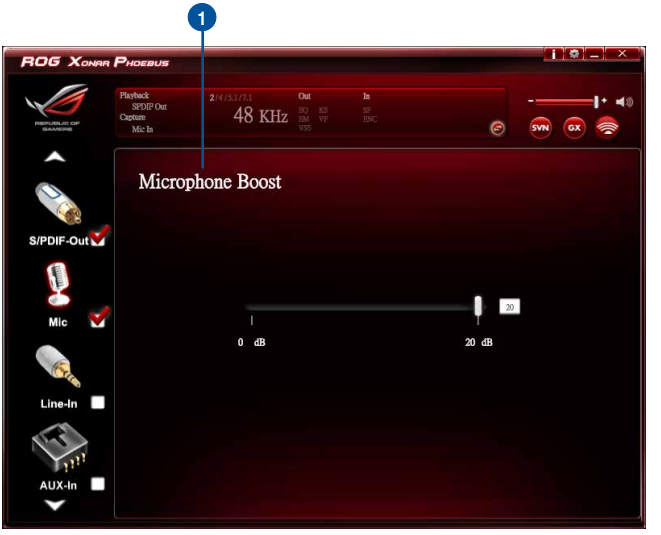


ENC is available only when the Control Box is connected to the audio card with an external microphones.

No	Item	Description
1	Environmental Noise Cancellation	Click the check box to enable / disable the Environmental Noise Cancellation function.

6.5.7 Microphone Boost

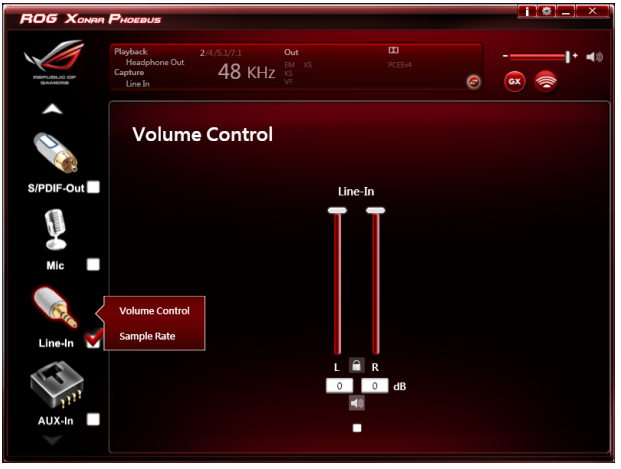
Function Introduction



No	Item	Description
1	Microphone Boost	Drag the slide bar to boost microphone volume and sensitivity

6.6 Line-in Device Function Introduction

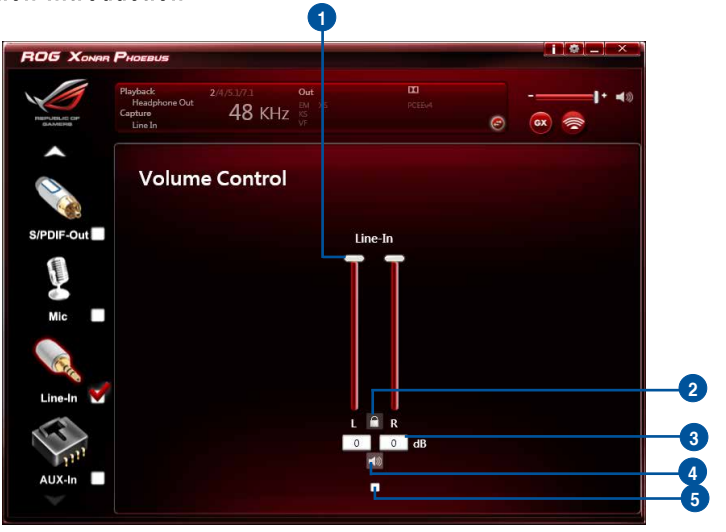
Function Introduction



Click the device icon on the right side to open the pop-up menu.

6.6.1 Volume Control

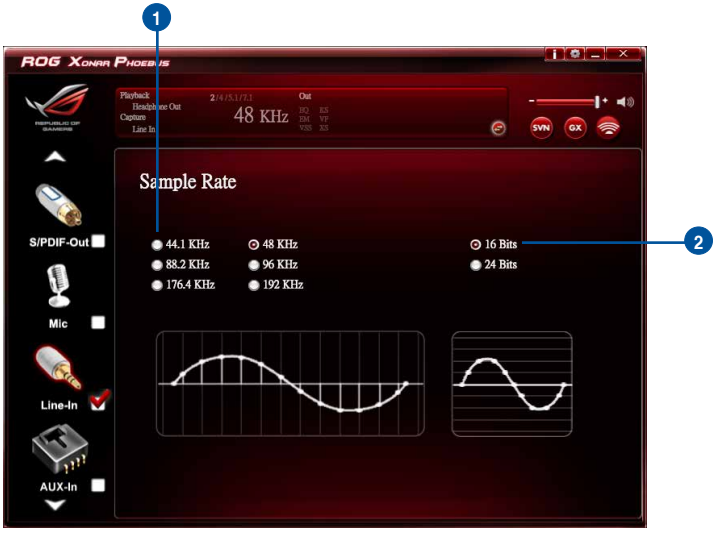
Function Introduction



No	Item	Description
1	Volume Control bar	Adjust the volume level of all channels.
2	Left/ Right Channel Lock	Click the lock/ unlock button to lock / unlock the left channel and right channel to sync L/R channel.
3	dB Input Area	Key in a dB value intthis text box to set the volume level.
4	Mute / Un-mute	Click the button to enable / disable the mute function.
5	Monitor	Click the checkbox to enable monitoring.

6.6.2 Sample Rate

Function Introduction



This function allows you to set the sample rate for the line-in device.

No	Item	Description
1	Sample Rate button	44.1 KHz - set the playback sample rate to 44.1K 48 KHz - set the playback sample rate to 48K 88.2 KHz - set the playback sample rate to 88.2K 96 KHz - set the playback sample rate to 96K 176.4 KHz - set the playback sample rate to 176K 192 KHz - set the playback sample rate to 192K
2	Bit Depth button	16bit - set the playback bit depth to 16bit 24bit - set the playback bit depth to 24bit

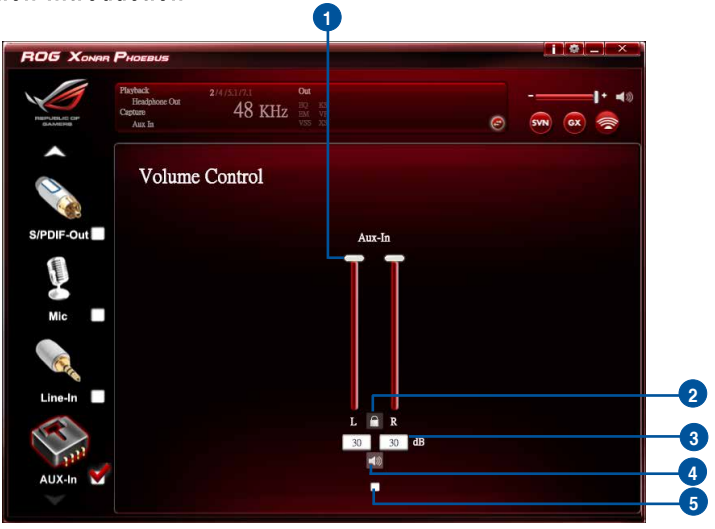
6.7 Aux-in Device Function Introduction

Function Introduction

Click the device icon on the right side to open the pop-up menu.

6.7.1 Volume Control

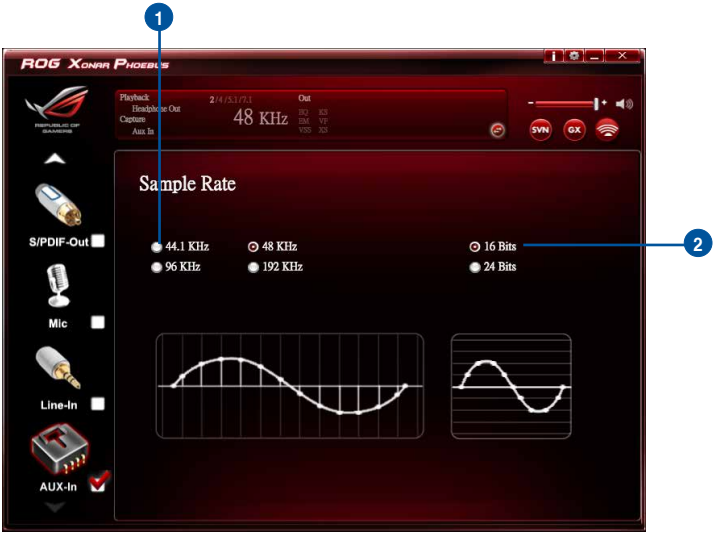
Function Introduction



No	Item	Description
1	Volume Control bar	Adjust the volume level for all channels.
2	Left/ Right Channel Lock	Click the lock/ unlock button to lock / unlock the left channel and right channel to sync L/R channel.
3	dB Input Area	Key in a dB value in this text box to set the volume level.
4	Mute / Un-mute	Click the button to enable / disable the mute function.
5	Monitor	Click the checkbox to enable monitoring.

6.7.2 Sample Rate

Function Introduction



This function allows you to set the sample rate setting for the aux-in device.

No	Item	Description
1	Sample Rate button	44.1 KHz - set the playback sample rate to 44.1K 48 KHz - set the playback sample rate to 48K 96 KHz - set the playback sample rate to 96K 192 KHz - set the playback sample rate to 192K
2	Bit Depth button	16bit - set the playback bit depth to 16bit 24bit - set the playback bit depth to 24bit

6.8 Information Page Introduction

This page lists the driver information and the technologies' trademark logo. You can get both hardware/software details and legal information references here.

Click the device icon on the left side to open the pop-up menu.

6.9 Tray Icon Function Introduction

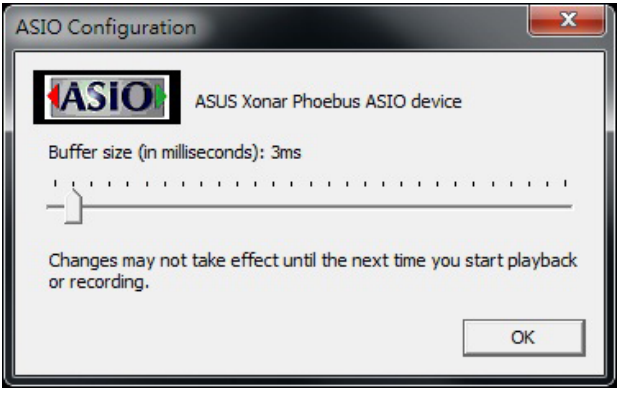
Open the "CPL Tray Icon Function List" by right-clicking on the tray Icon in the system tray.

1. **Open**: Click the **Open** item to restore the USB Audio Software CPL.
2. **Volume Control**: Click the **Volume Control** item to launch the Volume Mixer of Windows OS, which allows you to control the volume of speakers and other audio devices seperately.
3. **Windows Media Player**: Click the **Windows Media Player** item to launch the Microsoft Windows Media Player.
4. **Sound Recorder**: Click the **Sound Recorder** item to open the Windows Sound recorder.
5. **Multimedia Properties**: Launch the **Multimedia Properties** page of Windows OS to select the working sample rate & bit rate.
   (1) Select the **Speakers** device and then click the **properties** button.

(2) Click the **Advanced** tab and click the dropdown list to open default format support list as shown in the diagram below.

(3) Follow the same step to change the sample rate & bit rate for **Microphone** device.

6. **Open ASIO**: Click to open ASIO.



7. **Settings**: Click **setting** to launch the **Advanced Settings** page as shown below.

(1) **Language Select**: Change the UI language.

(2) **UI Transparent**: Adjust the UI vision of transparent.

(3) **Show System Tray Icon**: Check **Show System Tray Icon** box to show the Xear Audio center icon in the system tray.

8. **Exit**: Click **Exit** to exit the tray Icon from the system tray.

7. Troubleshooting and FAQs

7.1 Troubleshooting

1: I cannot install the audio card driver in my PC.

Instructions:

(1). Make sure that you have properly plugged the audio card into the PCI Express slot on your motherboard.

(2). Check that the Windows hardware Device Manager has discovered a multimedia audio device. If no device is found, please try scanning for new hardware.

(3). Try to restart your Windows.

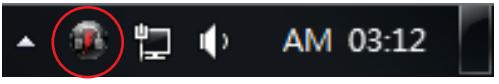
(4). Remove the card and plug it into another PCI Express slot.

2: I cannot find the Xonar Phoebus Audio Center.

Instructions:

(1). Make sure you have installed the driver.

(2). Find the Xonar Phoebus Audio Center icon in the system tray on the right bottom of the screen. Double click the icon to launch the Xonar Phoebus Audio Center utility.



(3). If you cannot find the icon in the system tray, go to the Windows Control Panel and double click the “Xonar Phoebus Audio Center” icon to make it visible in the system tray again.

(4). After the driver installation is complete, it’s recommended that you reboot your computer to complete the setup. If the icon still doesn’t appear, please try installing the driver package again.

3. I can’t hear any sound from my analog speakers

Instructions:

(1). The Xonar Phoebus PCI Express audio card needs the power cable to supply additional power in addition to the basic PCI Express bus power. Please double check you have plugged the small 6-pin power plug into the Xonar Phoebus power connector. If you did not plug the internal power, the Xonar Phoebus audio center will remind you a warning message and won’t allow your operation when you double click the Xonar Phoebus audio center icon in the system tray.

(2). Please ensure that you have connected speakers properly and have powered on your speakers.

(3). Please ensure that the device master volume or the software player has NOT been muted on the Xonar Phoebus Audio Center.

(4). If you are using Dolby Digital Live encoder through the S/PDIF output, the analog output will be muted to get rid of the interference between your digital speaker system and analog speakers or headphones. Please check if this is the case.

(5). Please go to the sound and audio device of Windows Control Panel to check if the playback default device is set to Xonar Phoebus Audio Device, instead of other onboard AC97 or HDA codec device. If it's not, please set it to Xonar Phoebus Audio Device and restart your applications.

(6). Please try restart your Windows.

4. I can't hear any sound from the S/PDIF output

Instructions:

(1). Please ensure that you have enabled S/PDIF output in the Audio Center GUI (Main page).

(2). Please ensure that you have connected the correct S/PDIF output jack in the card to the decoder's (AV receiver) S/PDIF input jack.

(3). You may need to select the correct input and mode of your decoder or AV receiver. For Dolby Digital or DTS output, you may have to double check that the AV receiver is in that decoding mode.

(4). If you are using 192KHz PCM output, please make sure that your decoder can support 192KHz decoding. Try changing it to 44.1K or 48KHz first.

5. I can't hear audio input (Mic, Line-in, AUX, etc.) from my speakers

Instructions:

(1). Please select the correct input as the recording source. If you are using Windows Vista/Win 7, please also go to system audio control panel to see the current default recording/input device is right.

(2). Please remember to turn on the digital monitoring button for that recording source.

6. I can't hear the TV tuner audio from my speakers

Instructions:

(1). If you are using a traditional TV tuner card which has analog audio output, please connect it to the Aux-In header on the audio card

(2). Select Aux as the recording source and remember to turn on the digital monitoring button in the recording mixer page.

(3). If you are using a TV tuner card which has digital audio output instead of analog, please check that the sound is not muted and whether other applications can play normally. If you still have problem, please read the TV tuner card's software user guide.

7.2 FAQ

Q1: Does the Xonar Phoebus support Windows Vista / Win 7?

Answer:

Yes, the Xonar Phoebus driver package does support Windows Vista / Win 7 32/64 bit and most key features are available. In addition, the Xonar Phoebus supports unique GX on Windows Vista / Win 7, which can recover DirectSound 3D hardware and EAX gaming sound effects on Vista / Win 7 for a lot of existing DirectX games.

Q2: Why does the Xonar Phoebus support Dolby technology?

Answer:

Dolby is the ONLY brands and technology recognized by the CE industry and available on a wide range of audio equipment. The Xonar Phoebus includes these features to make your PC a powerful media and entertainment center.

Q3: Does the Xonar Phoebus support EAX on Vista / Win 7?

Answer:

Yes, The Xonar Phoebus can support EAX not only on Windows XP but also on Vista / Win 7 through innovative GX3.0 technology.

Q4: Why do I need Dolby for PC games?

Answer:

(1). Dolby Headphone is available in the latest game consoles, like XBOX360, PS3, and Wii. Dolby can provide the best gaming sound experience and compatibility with home theater or TV systems.

(2). Dolby Headphone is the best 3D sound positioning, spatial modeling and 5.1-channel virtualization technology for regular stereo headphones and speakers.

Q6: Will PCM sound output through S/PDIF be just 2 channels even with different analog output channels?

Answer:

The S/PDIF protocol specification (IEC-60958) can only carry 2-channel PCM data or non-PCM AC3/DTS data. So, when a user selects PCM output for S/PDIF, the Xonar Phoebus audio card will always deliver 2 channel PCM data through the S/PDIF output port. To attain the 5.1 channel surround sound, you can select DDO, which allows the Xonar Phoebus to deliver 5.1 surround sound for DVD movies, and even stereo music.