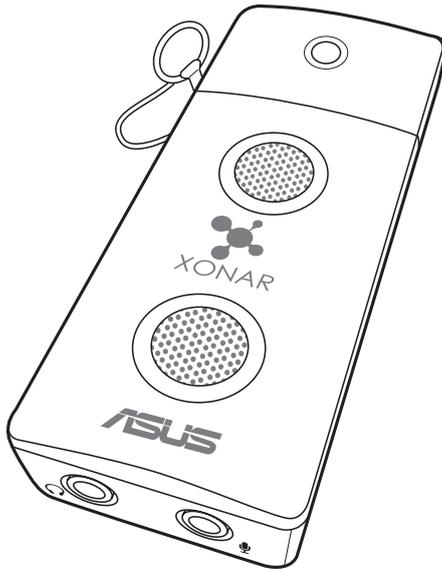




Xonar U3

Mobile Headphone Amp USB Soundcard

User manual



E7803

Second Edition (V2)

October 2012

Copyright © 2012 ASUSTeK Computer Inc. All Rights Reserved.

No part of this manual, including the products and software described in it, may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any means, except documentation kept by the purchaser for backup purposes, without the express written permission of ASUSTeK COMPUTER INC. ("ASUS").

Product warranty or service will not be extended if: (1) the product is repaired, modified or altered, unless such repair, modification or alteration is authorized in writing by ASUS; or (2) the serial number of the product is defaced or missing.

ASUS PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL ASUS, ITS DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF PROFITS, LOSS OF BUSINESS, LOSS OF USE OR DATA, INTERRUPTION OF BUSINESS AND THE LIKE), EVEN IF ASUS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES ARISING FROM ANY DEFECT OR ERROR IN THIS MANUAL OR PRODUCT.

SPECIFICATIONS AND INFORMATION CONTAINED IN THIS MANUAL ARE FURNISHED FOR INFORMATIONAL USE ONLY, AND ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE, AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY ASUS. ASUS ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS OR INACCURACIES THAT MAY APPEAR IN THIS MANUAL, INCLUDING THE PRODUCTS AND SOFTWARE DESCRIBED IN IT.

Products and corporate names appearing in this manual may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent to infringe.

Contents

Notices.....	iv
Safety information	v
Trademarks.....	v
License	v
1. Package contents.....	1
2. System requirements.....	1
3. Specifications summary.....	1
4. Card Installation	3
5. Driver installation.....	3
6. Hardware introduction.....	4
7. Connecting speakers.....	5
8. Xonar Audio Center.....	7
8.1 Xonar Audio Center GUI	7
8.2 Main Setting	9
8.3 Mixer/Volume	17
8.4 Effects	19
8.5 Karaoke / Magic Voice	21
8.6 VocalFX.....	22
8.7 Smart Volume Normalization	25
8.8 DS3D GX2.5 and DSP Modes	27
9. Troubleshooting and FAQs	29

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. 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.

1. Package contents

Check your ASUS Xonar U3 external USB audio card package for the following items:

- ASUS Xonar U3 external USB audio card
- S/PDIF TOSLINK optical adapter x 1
- Driver / User Manual CD x 1
- Quick Start Guide x 1

2. System requirements

To ensure a successful installation of the Xonar U3 external USB audio card, your computer must meet the following requirements:

- IBM compatible PC with one USB1.1 (or higher) compatible port for the USB audio device
- Microsoft® Windows® 7 / Vista / XP(32/64bit) / MCE2005
- Intel® Pentium® 4 1.4GHz or AMD Athlon 1400 CPU or faster CPU
- 256 MB DRAM system memory
- 60 MB available HDD space for driver installation package
- CD-ROM drive (or DVD-ROM drive) for software installation
- High-quality headphones or powered analog speakers to enjoy the ultra-high fidelity sound of the card

3. Specifications summary

Category	Item	Description
Audio Controller and Codec	Audio Chipset	ASUS UA100 USB Audio Chip
	USB Bus	USB 2.0 and 1.0 Full-speed compatible
Bus Interface	USB Audio Class	USB Audio Device Class v1.0 compatible
	Analog Output Jack & Digital S/PDIF Output Combo	3.50mm mini analog and digital combo jack*1 (Headphone/Speakers/SPDIF output)
I/O Ports	Built-in Headphone Amplifier	98dB SNR >1.1Vrms full-scale output voltage for >32 ohms load Frequency Response (-3dB/48KHz): 20~20KHz for 32ohms
	Analog Input Jack:	3.50mm mini shared jack *1 (Line-In/Mic-In)

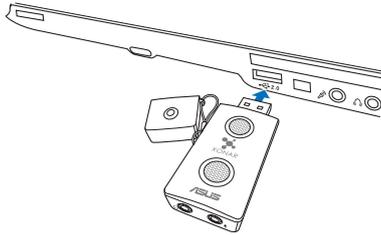
(continued on the next page)

Category	Item	Description
Outlook Features	LED indicator	Play music. Idle: LED on Mute: LED off
	Operation System	Windows® 7/Vista/XP(32/64bit)
	Dolby® Technologies	Dolby® Headphone, Dolby® Virtual Speaker, Dolby® Pro-Logic IIx, Dolby® Digital Live
Driver Features	Smart Volume Normalizer™	Normalizes the volume of all audio sources into a constant level
	Xear 3D™ Virtual Speaker Shifter	Virtual 7.1 speaker positioning
	Magic Voice™	Modifies the sound of your voice, for VOIP and online chat applications (Windows XP)
	Karaoke Functions	Music Key-Shifting and Microphone Echo effects (Windows XP)
	Other Effects	10-band Equalizer/27 Environment Effects
	3D Sound Engines/APIs	EAX® 2.0&1.0, A3D® 1.0, DirectSound® HW & SW, OpenAL generic modes
	S/PDIF Digital Output	PCM, Dolby Digital
Audio Performance	Output Signal-to-Noise Ratio (silence, A-Weighted):	~100dB
	Output THD+N (1kHz -3dBfs)	<0.005%
	Cross-talk (10Kohms, 1KHz)	-104dB
	Frequency Response (-1dB, 48KHz):	< 20Hz to 20KHz
	Output/Input Full-Scale Voltage	2.0 Vrms / 2.0 Vrms
Accessories	S/PDIF optical adaptor*1, Driver CD*1, Quick Start Guide*1	

*Specifications are subject to change without notice.

4. Card Installation

Connect the USB connector to any USB 2.0 port on your notebook or PC as the following drawing shows.



5. Driver installation

After installing the Xonar U3 external USB audio card on your computer, you need to install the device driver that enables the Xonar U3 audio card to work with Windows operating system.



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

To install the device driver:

1. Insert the ASUS Xonar U3 support CD into your optical drive. If Autorun is enabled, the ASUS Xonar Card Driver screen appears automatically. Go to step 4. If Autorun is not enabled in your computer, perform step 2.
2. Click **My Computer** on your desktop and double-click the optical drive icon.
3. Double-click the **setup.exe** icon located on the optical drive.
4. Follow the on-screen instructions to complete the installation. Read the **END USER LICENSE AGREEMENT** in the process and make sure that you understand and accept it before continuing the installation.
5. When the installation finishes, you may be prompted to restart your computer. You can choose to restart the computer later if desired.

6. Hardware introduction

Xonar U3 external USB audio card layout



1. Light indicator

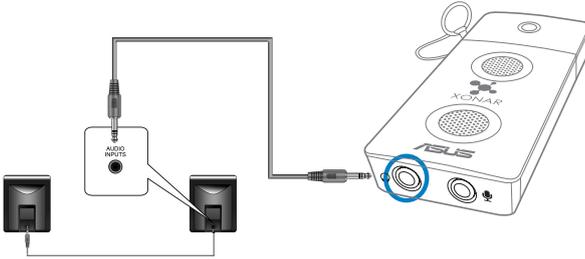
Description	Status
Play music (not Mute)	LED on
Play music (Mute)	LED off
Idle (not Mute)	LED on
Idle (Mute)	LED off

2. Headphone & S/PDIF-Out port
3. Mic & Line-in port

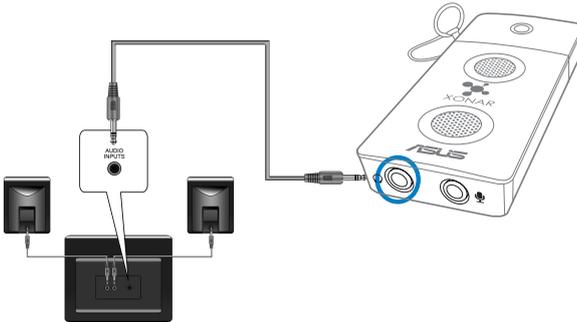
7. Connecting speakers

For Analog Speakers

2 Speakers

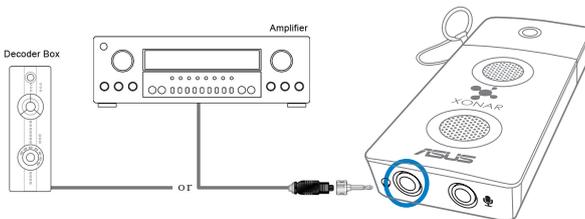


2.1 Speakers



For Digital Speakers

SPDIF Out

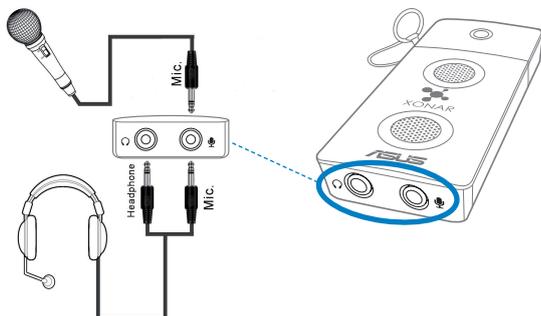


Plug the optical TOSLINK adapter into the S/PDIF-Out port. Then, connect your decoder's S/PDIF In port to the optical adapter with a TOSLINK optical cable.

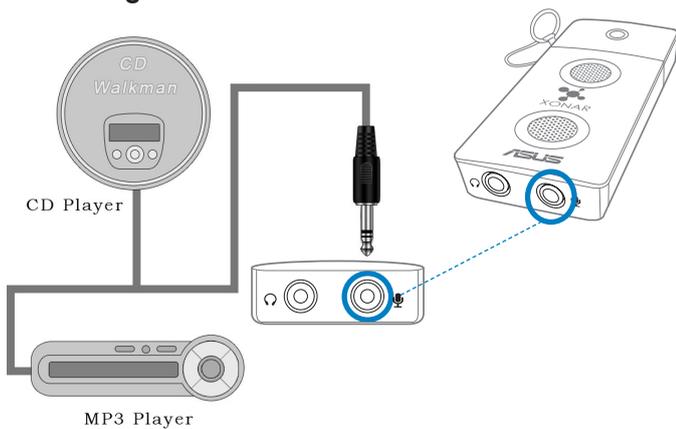


The TOSLINK optical cable is purchased separately.

Connecting headphone / microphone



Connecting Line-In audio sources



8. Xonar Audio Center

8.1 Xonar Audio Center GUI

1. After the driver installation is complete and your computer has been rebooted, you will find the Xonar 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, launch the Xonar Audio Center from the Windows desktop by clicking **Start > All Programs > ASUS Xonar U3 Audio > Xonar U3 Audio Center**.

2. The Xonar Audio Center is the Graphic User Interface (GUI) for the Xonar U3 driver. You can control the functions and features of the Xonar U3 driver on the Audio Center. The following picture shows a basic overview of the Xonar U3 Audio Center. The following sections of this manual will describe its functions in more detail.

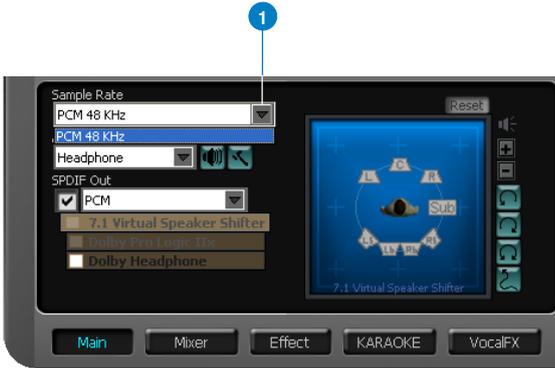


No	Item	Description
1	Display Area	This display area shows the 10-band signal meter, volume level, and the status of the Dolby Headphone, EQ, and DSP modes. Note: this area just displays information, but is not used to alter settings.
2	Menu Open/Close	Clicking this button will move the display area and reveal the configuration area below. Clicking it again will move the display area back down.
3	Master Volume	This rotary knob controls the master playback volume. Drag the small circle inside it to change the volume level.
4	SVN Button	Click this button to enable the "Smart Volume Normalization" feature for constant volume from all playback sources. It will display a blue light when enabled.
5	Mute Button	Click this button to mute audio playback; it will display a red light when playback is muted.
6	DSP Mode	These 5 buttons give access to quick sound effects combinations for Music, Games, Movie, effect-free (Hi-Fi), and gaming surround sound effect (GX2.5) modes.
7	Setting Menu Panel	This panel gives access to setting tabs, including Main Settings, Mixer/volume, Effects, Karaoke/MagicVoice, and VocalFX.
8	Information icon	Clicking this icon will pop up driver's Information window.

8.2 Main Setting

8.2.1 Sample Rate

The Sample rate determines the number of audio samples per second that the Digital-to-Analog Converters (DAC) and S/PDIF digital interface will output. The Xonar U3 audio card can support sample rates up to 48KHz. Even if your setting differs from the audio source's sample rate, the Xonar U3 engine will do super high fidelity sample-rate-conversion with a double floating-point filter.



No	Item	Description
1	Sample Rate	The Xonar U3 supports sample rates up to 48KHz.

8.2.2 Analog Out mode

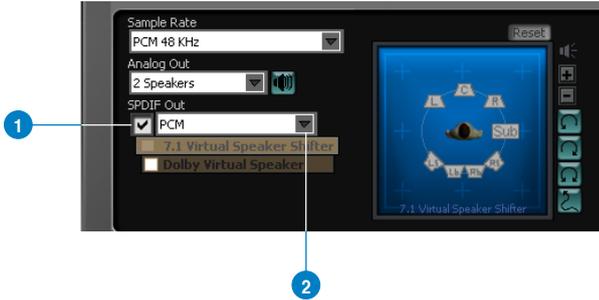
Headphone



No	Item	Description								
1	Analog Out	The Analog Out setting is used to match your actual speaker setting, such as headphones, 2 speakers (or 2.1). Xonar U3 will play the channels and does the proper 3D/Dolby sound processing accordingly. Select the correct speaker/ Headphone type for your connected speakers/ Headphone.								
2	Speaker Test	Click this button to show the speaker test window in the right pane. Click the “play” button to test each speaker one by one or click each speaker manually to test. Note: The Speaker Test function is not available on Windows Vista due to a limitation in its audio stack.								
3	HP Advanced Setting	Clicking this button allows you to select the gain tuning according to your headphone impedance. <table border="1"> <thead> <tr> <th>Usage scenario or Headphone impedance</th> <th>DAC setting</th> </tr> </thead> <tbody> <tr> <td>Exciter Mode or for >64ohms headsets</td> <td>16 dB boost</td> </tr> <tr> <td>Pro-gaming Mode or for 32~64ohms headsets</td> <td>9 dB boost</td> </tr> <tr> <td>VOIP Mode or for <32ohms headsets</td> <td>0 dB boost</td> </tr> </tbody> </table>	Usage scenario or Headphone impedance	DAC setting	Exciter Mode or for >64ohms headsets	16 dB boost	Pro-gaming Mode or for 32~64ohms headsets	9 dB boost	VOIP Mode or for <32ohms headsets	0 dB boost
Usage scenario or Headphone impedance	DAC setting									
Exciter Mode or for >64ohms headsets	16 dB boost									
Pro-gaming Mode or for 32~64ohms headsets	9 dB boost									
VOIP Mode or for <32ohms headsets	0 dB boost									

8.2.3 SPDIF Out/DDL

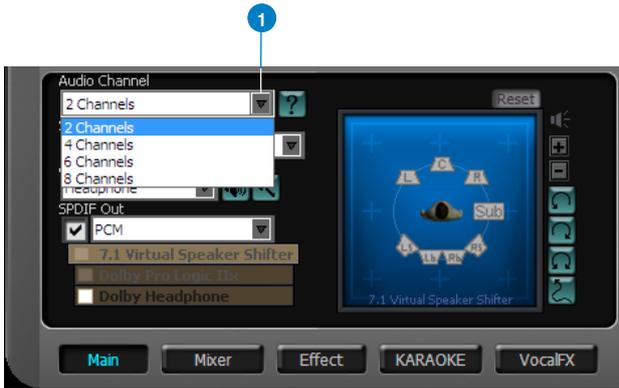
Xonar U3 is capable of outputting Dolby Digital Live, which are real-time encoders that transcode any audio, including games and music, into industry-standard Dolby Digital bit-streams on-the-fly. This is ideal for playback through a home theater system, creating an immersive and impressive cinema surround sound experience. It enables a single digital connection to carry high quality Dolby Digital surround audio from your PC to digital speakers and AV Receivers.



No	Item	Description
1	S/PDIF Out enable/disable	Click this check box to enable S/PDIF output.
2	S/PDIF Output Formats/Functions	This pull-down menu allows you to select one of the following two formats: <ul style="list-style-type: none">- PCM (Pulse Code Modulation, which is a typical raw audio data format.)- Dolby Digital Live: real-time 5.1ch encoding

8.2.4 Audio Channels (For Win7/Vista only)

This setting only appears in Windows Vista / Windows 7. Windows Vista / Windows 7 will deliver the audio channels to the audio driver according to this setting, no matter what the original audio content is or how many channels they have. Therefore, you need to set this in accordance with your audio content before you play it. Please note that this setting is synchronized with Vista's system speaker configuration and changing the setting during playback will cease the audio playback program. You may have to restart the program after the change. It's recommended that you close all playing programs before you change the setting.

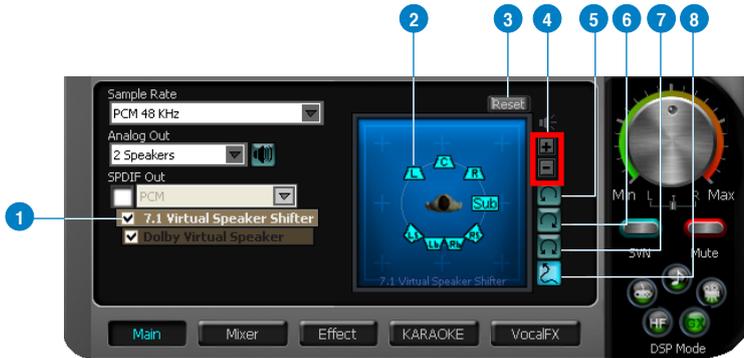


No	Item	Description
1	Audio Channels	Here are some typical suggestions: <ul style="list-style-type: none">- MP3, WMA, AAC, CD, VCD, 2D games => 2 channels- DVD-Video with Dolby Digital or DTS 5.1 => 6 channels- DVD-Video with Dolby Digital EX or DTS ES => 8 channels- 3D games => 8 channels

8.2.5 7.1 Virtual Speaker Shifter

The 7.1 Virtual Speaker Shifter has the following major features:

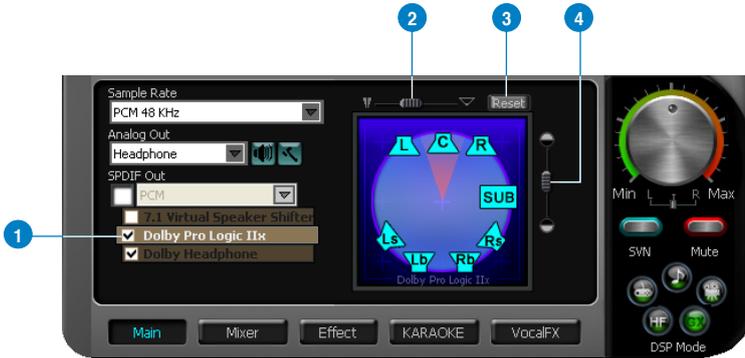
- Expanding/upmixing audio to 7.1-channel surround sound
- Virtualizing 7.1 surround sound over any set of speakers
- Shiftable virtual speaker positioning allows you to adjust the best sound field easily without moving physical speakers and wires



No	Item	Description
1	Shifter enable/disable	Click this check box to enable the 7.1 Virtual Speaker Shifter. Clicking the text bar will switch the right window to the Speaker Shifter page for manual adjustments.
2	Drag speaker or listener	You can drag each speaker or listener to a different relative position “virtually” using only your mouse. The Xonar U3 audio card will process it and virtualize each speaker position in real-time. The Subwoofer has no directional sounds, and hence can be moved only closer or further away.
3	Reset	Reset all Speaker Shifter settings to the defaults.
4	Increase/decrease volume	Click + to increase volume (move speakers closer); click – to decrease volume (move speakers further away)
5	Counter-clockwise	Make all speakers (except Subwoofer) rotate counter-clockwise
6	Clockwise	Make all speakers (except Subwoofer) rotate clockwise
7	Manual Rotation	Manually drag and rotate all speakers (except Subwoofer)
8	Manual Drag Mode	This is the default mode that allows you to manually drag each speaker or the listener with your mouse.

8.2.6 Dolby Pro-Logic IIx

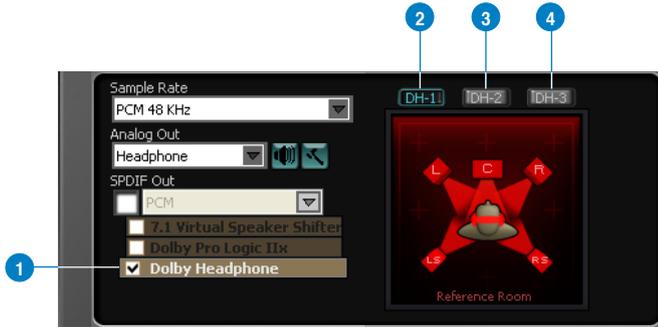
Dolby Pro-Logic IIx is a 7.1 surround upmixing technology and is widely used in home theater systems, TVs, game consoles, and car audio systems. It can expand stereo audio, such as MP3, CD, and TV programs into immersive 5.1 or 7.1-channel surround.



No	Item	Description
1	Dolby Pro-Logic IIx enable/disable	Click this check box to enable Dolby Pro-Logic IIx. Clicking the text bar will switch the right window to the Pro-Logic IIx page for manual adjustments.
2	Center Width	This parameter is used to set the spread of the center, mainly for the vocal signals of songs and music. Drag the scroll bar to the left to centralize the vocal signal. Drag to the right side to widen the vocal sound range.
3	Reset	Reset all settings to the defaults.
4	Dimension	The dimension parameter fades sounds to the front or rear of the listener.

8.2.7 Dolby Headphone

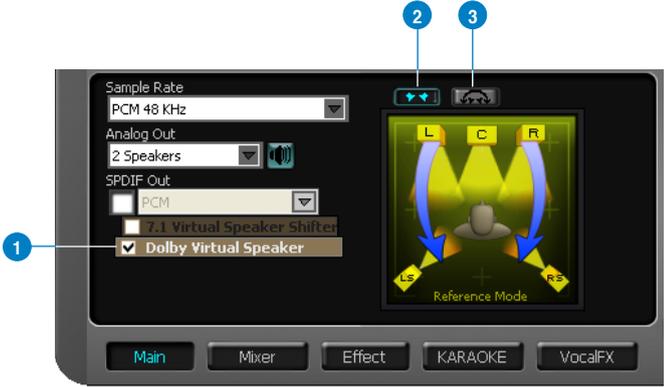
Dolby Headphone creates a stunning multi-channel surround experience over ordinary stereo headphones for playing 3D games, watching 5.1 DVD movies, and listening to music. Dolby Headphone produces surround sound cues so realistic that you will believe you are listening over speakers in a well-controlled studio. Dolby Headphone can also improve listening comfort and reduce “listener fatigue” from long listening over headphones.



No	Item	Description
1	Dolby Headphone enable/disable	Tick this check box to enable Dolby Headphone. Click the textbar to switch the right window to Dolby Headphone page for manual adjusting. * 7.1 Virtual Speaker Shifter and Dolby Pro-Logic IIx can be selected only when Dolby Headphone is enabled.
2	DH1	Dolby Headphone (DH) provides three room filters that may be used with any type of audio. They differ in the sense of the “spatial dimension” they impart. DH1—Reference Room: Small, acoustically damped room.
3	DH2	DH2—Livelier Room: More acoustically live than DH1
4	DH3	DH3—Larger Room: Larger room than DH1; more distant and diffused effect.

8.2.8 Dolby Virtual Speaker

Dolby Virtual Speaker technology simulates a 5.1-speaker surround sound listening environment from as few as two speakers. Dolby Virtual Speaker also creates a wider two-channel environment during playback of stereo CDs and MP3 content, and when combined with Dolby Pro Logic® IIx processing, delivers a virtual 5.1-channel surround listening experience from any high-quality stereo source.



No	Item	Description
1	Dolby Virtual Speaker enable/disable	Click this check box to enable Dolby Virtual Speaker. Clicking the text bar will switch the right window to a Dolby Virtual Speaker page for manual adjusting.
2	Reference Mode	Dolby Virtual Speaker provides two modes of virtualization: The first is Reference mode, which virtualizes the missing speakers as in the following picture. 
3	Wide Mode	Wide mode virtualizes the necessary speakers and enhances the surround experience as in the following picture. 

8.3 Mixer/Volume

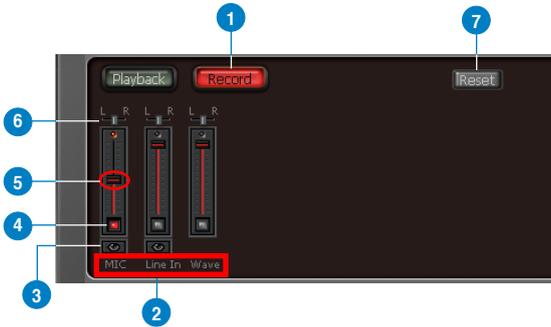
The mixer page is designed to control the volume for playback and recording on the Xonar U3. In addition, the Xonar U3 also provides a high-quality digital monitoring function for hearing the recorded audio from the speakers.

8.3.1 Playback Volume



No	Item	Description
1	Playback volume tab	Click this button to show the playback volume page.
2	Source / path name	This shows the source name for each volume control slider, including: <ul style="list-style-type: none"> - WAVE: All digital audio sources except MIDI files - SW: Software Synthesizer; control the playback volume of the MIDI files - CD: CD-ROM digital playback (CD-DA) volume control - LEFT, RIGHT...: the volume control for each speaker/channel <i>NOTE: Windows® Vista does not support WAVE, Synthesizer and CD-In volume controls.</i>
3	Mute button	Click this button to mute the audio channel; click this button again to restore the audio output.
4	Volume slider	Drag this slider down to decrease the volume; drag it up to increase the volume. The tool-tip reveals the percentage number from 1 to 100 in terms of the full scale level.
5	Left/Right balance	The horizontal slider controls the volume between the left and right channels. (On Windows XP only)
6	Reset	Reset all volume controls to the default settings.

8.3.2 Recording/Monitoring Volume

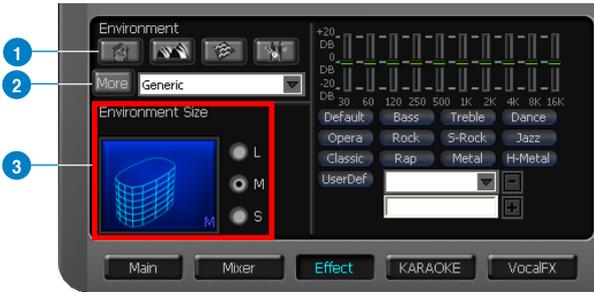


No	Item	Description
1	Recording Volume Tab	Click this button to show the recording volume page.
2	Source / path name	This shows the source name for each volume control slider, including: MIC: recording from MIC jack Line-In: recording from Line-in jack for external audio devices WAVE: recording from digital wave audio you are playing on PC
3	Monitoring button	Click this button to monitor and loopback recording audio to outputs (PC speakers). Therefore, the recording volume will influence the monitoring signals from speaker outputs. The audio will be mixed into the streams you are playing out from your PC and all DGP effects will be applied to the source, too.
4	Recording Selector button	Click this button to select the path/source you are going to record. Please note that the recording function on Windows is a one-path selector. So, you can select only one default recording source at a time. You may have to restart the recorder program if you switch to a different source. (Note: On Vista, some application programs may allow you to select the recording device/path in the recording programs themselves.)
5	Recording Volume Slider	Drag this slider down to decrease the recording volume; drag up to increase the recording volume. The tool-tip reveals the percentage number from 1 to 100 in terms of the full scale level.
6	Left/Right balance	<i>This horizontal slider controls the volume between the left and right channels.</i>
7	Reset	Click to reset all volume controls to the default settings.

8.4 Effects

8.4.1 Environment Effects

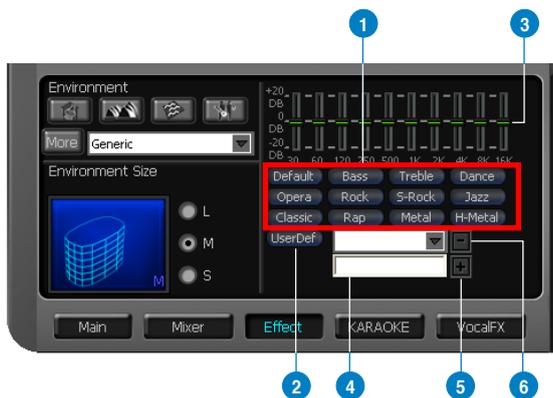
Environment effects can be used to create realistic listening experiences that mimic different environments. There are a total of 27 environment options, which can be applied to all 2D sound sources, like music.



No	Item	Description
1	Default environments	These four buttons activate Bathroom, Concert hall, Underwater, and Music Pub environments, respectively.
2	More options	Clicking this button will apply the environment effect that you select from the pull-down menu on the right side. There are another 23 options in this menu.
3	Environment size	There are three size settings for each environment: Large, Medium, and Small.

8.4.2 10-Band Equalizer

The equalizer can modify the audio output for different frequencies, and be used to compensate for deficiencies in your speakers/systems. There are 12 default patterns and you can also make your own settings.



No	Item	Description
1	Default equalizer options	There are 12 available equalizer patterns. Click one to apply it.
2	User Defined	You can click this button to apply your own defined parameters saved in the pull-down menu.
3	Equalizer slider	Adjust the gain for each band (30~16KHz).
4	Save name	Key in a name for your own "User Defined" equalizer setting.
5	Add / save	Click this "+" button to save the parameters into User Defined list.
6	Delete	Click this "-" button to delete the parameters from User Defined list.

8.5 Karaoke / Magic Voice

The Xonar U3 provides powerful features for VOIP and Karaoke, including Key-Shifting, Vocal Cancellation and Microphone Echo. Microphone Echo can generate natural echo effects on your singing voice just like a karaoke machine. Key-Shifting can change the pitch of Karaoke background music, and Vocal Cancellation can reduce the original vocal in songs and keep the music and symphony for karaoke.

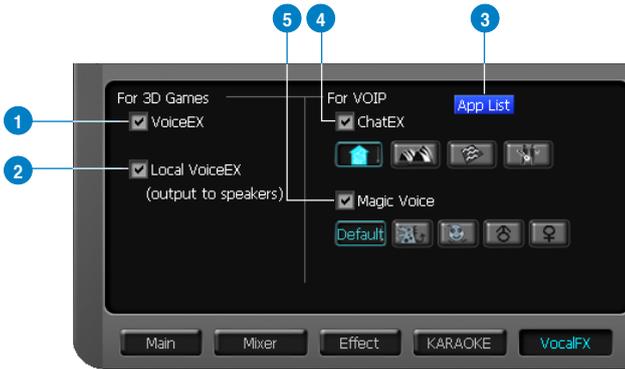
*** Microphone Echo and Magic voice features are not available on Windows Vista.



No	Item	Description
1	On/Off	Click the switch to turn on or off the functions on this page.
2	Key-Shifting	Check the box to enable or disable the key shifting feature for music playback from 4 semitones below, to 4 semitones above.
3	Vocal Cancellation	Check the box to enable or disable the vocal cancellation function and adjust the voice cancellation level from 0 to +100. +100 will eliminate most original vocals (default value is 50).
4	Mic Echo	Select the Mic Echo function and adjust the gain for echo signals (30~16KHz)
5	Reset	Reset all settings to the default.

8.6 VocalFX

VocalFX is an innovative voice processing technology to let your voice get into the realistic game landscape (VoiceEX) or to emulate the background scenes in online chat (ChatEX). It also allows you to change your voice pitch to disguise who you are (Magic Voice). These features dramatically increase the fun for voice communication on PC.



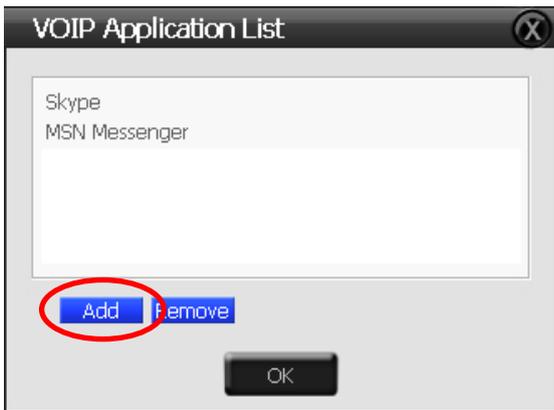
No	Item	Description
1	VoiceEX	It produces realistic and dynamic environmental reverberation for your voice in 3D gaming communication.
2	Local VoiceEX	It produces realistic and dynamic environmental reverberation for your voice in 3D gaming communication. (You can hear your voice from speakers)
3	App List	You can add VOIP application into VOIP application List.
4	ChatEX	It emulates different background environment effects when you chat online.
5	Magic Voice	Changes your voice pitch to different types for disguising your real voice or just for fun in online chatting.

For 3D Games

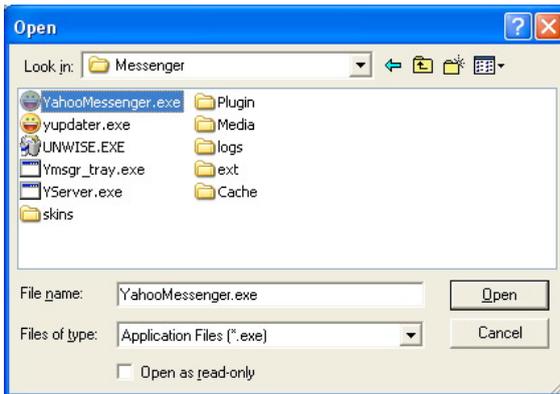
1. Check the check box of VoiceEX and Local VoiceEX.
2. Make sure you and your team member can talk to each other in the game.

For VOIP

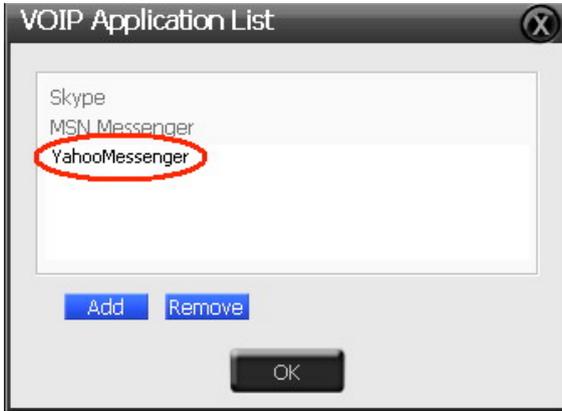
1. Press App List
2. If you don't see the VOIP application of yours in the list, press Add.(Make sure the Skype and MSN Messenger are the latest version)



3. Look for the application's location and Open it.



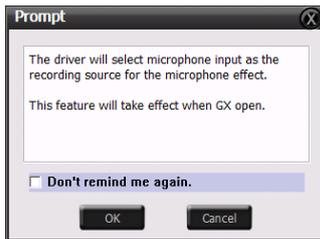
4. Your VOIP application has been added into list.



5. Check the check box of ChatEX and Magic Voice.
6. You can use ChatEX and Magic Voice when you chat online.



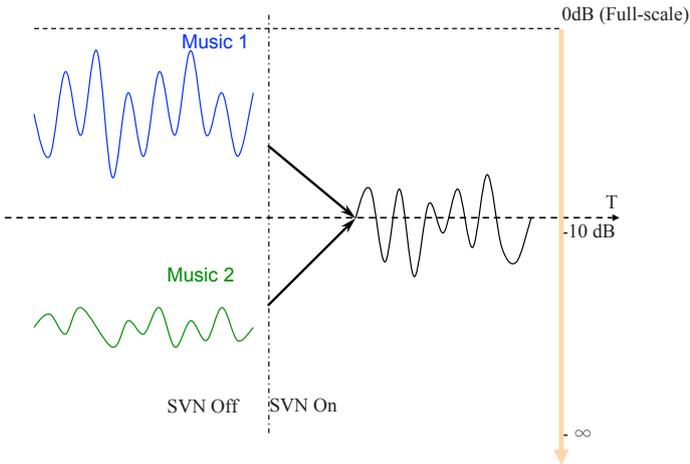
Click the checkbox to enable VocalFX function, then a prompt message will pop up:



This message implies the recording device will be set to microphone from other recording devices except Stereo Mix. The message also reminds the GX function will be enabled automatically in order to have VocalFX effective. Click "OK" to accept it; Click "Cancel" if you want to enable it later. Check "Don't remind me again".

8.7 Smart Volume Normalization

Smart Volume Normalization™ (SVN) automatically keeps all music or video/TV audio output at a constant level to reduce manual adjustment hassles inherent with sound sources of different loudness. It allows you to listen to various content, like MP3, TV program, DVD video and even games with consistent sound level. The following graph shows how different signals 1 & 2 will become the same level (for example, 10dB below full scale) after you turn on SVN. Please note that for lower volume music 2, it will become louder when you turn on SVN; and for higher volume music 1, it will become quieter.





No	Item	Description
1	SVN On/Off	Click this button to enable SVN. This button is outlined blue when active.
2	SVN blue light	When SVN is enabled, the master volume knob will be illuminated by a blue light. It will be lit red if the volume is muted.
3	SVN display	When SVN is enabled, "Smart Volume" will be lit up at the bottom of the volume meter and the volume meter will show the level.

8.8 DS3D GX2.5 and DSP Modes

Xonar U3 is introducing an innovative technology –DirectSound 3D Game Extensions v2.5 (DG3D GX2.5)- to restore DirectSound 3D Hardware acceleration mode and its subsidiary EAX effects on Windows 7/Vista for 3D games.

Unlike some proprietary API like OpenAL, DG3D GX doesn't require games to support OpenAL API. All existing games compatible with Microsoft DirectX and DirectSound 2D/3D will be supported with DG3D GX technology. Before you start EAX and DG3D HW games, please enable DG3D GX on the Xonar U3 audio center, and disable the function after the games.

In addition, Xonar U3 also offers a Hi-Fi mode for hi-fidelity playback without any effect processing to keep the original audio fidelity. Every time you turn on Hi-Fi mode, Xonar U3 will clear all sound effects. It's also recommended to use Hi-Fi mode for audio quality tests (using RMAA software or another machine-based measurement). Use the DSP mode button as the quick setup if you don't wish to know the details of the effect setup.



No sound effects will be applied to high-definition 96KHz/192KHz content.



No	Item	Description
1	Music Mode	This mode is set for Music playback.
2	Movie Mode	This mode is set for DVD Movie playback.
3	GX Mode	DirectSound 3D Game Extensions mode to support EAX and DirectSound 3D Hardware extensions for lots of DirectX/ DirectSound3D games on Windows Vista.
4	Hi-Fi Mode	This mode is set for Hi-Fidelity playback, where all effects will be cleared to keep the original digital data and analog output quality as high as possible.
5	Game Mode	This mode is set for Games.

9. Troubleshooting and FAQs

[Troubleshooting]

The audio card driver could not be installed on my PC.

Instructions:

1. Make sure that you have properly plugged Xonar U3 into a USB port.
2. Check that the Windows hardware device manager has discovered a USB audio device. If no device is found, try scanning for new hardware or restart Windows.
3. Remove Xonar U3, plug it into another USB port, and try again.

I cannot find the Xonar U3 Audio Center

Instructions:

1. Make sure you have installed the driver
2. Locate the Xonar U3 Audio Center icon in the system tray on the bottom right-hand corner of the screen. Double-click the icon to open the Xonar U3 Audio Center utility.



3. If the icon could not be found in the system tray, go to the Windows Control Panel and double click the “Xonar U3 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.

I cannot hear any sound from my analog speakers

Instructions:

1. Ensure that you have connected speakers properly and have powered on your speakers.
2. Ensure that the device master volume or the software player has NOT been muted on the Xonar U3 Audio Center.
3. 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.
4. Try restarting your Windows.

I cannot hear any sound from the S/PDIF output

Instructions:

1. Ensure that you have enabled S/PDIF output in the Audio Center GUI (Main page).
2. Ensure that you are connecting the correct S/PDIF output jack on 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 Live, you may have to double check that the AV receiver is in that decoding mode.

I cannot hear audio input (Mic, Line-in, AUX, etc.) from my speakers

Instructions:

1. Go to the mixer recording page in the Audio Center and select the correct input as the recording source. If you are using Windows Vista, also go to system audio control panel to see the current default recording/input device is right.
2. Remember to turn on the digital monitoring button for that recording source.

[FAQ]

Q1: Does the Xonar U3 support Windows 7/Vista?

Answer:

Yes, the Xonar U3 driver package does support Windows 7/Vista 32/64 bit and most key features are available.

Q2: Why does the Xonar U3 support Dolby® technologies?

Answer:

Dolby is the ONLY brand and technology recognized by the CE industry and available on a wide range of audio equipment. Xonar U3 includes these features to make your PC a powerful media and entertainment center.

Q3: Does the Xonar U3 support EAX on Vista?

Answer:

Yes, Xonar U3 can support the latest EAX on Windows 7/ Vista /XP through innovative DirectSound3D Game EXtensions v2.5 (DG3D GX 2.5) technology.

Q4: Why do I need Dolby Headphone for PC games?

Answer:

1. Dolby Digital and Pro-Logic IIx are available on 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 and Dolby Virtual Speaker are the best 3D sound positioning, spatial modeling and 5.1-channel virtualization technology for regular stereo headphones and speakers.

Q5: What is the most important benefit of the Xonar U3 for gamers?

Answer:

1. **Headphone amplifier:** Enables accurate sound positioning in superb quality for unparalleled gaming experience.
2. **Dolby headphone:** Delivers a realistic and spacious 2-to-5.1 surround and 3D positional sound field over any set of stereo headphones.
3. **GX 2.5:** Enables the latest EAX gaming audio and restore surround gaming in Windows Vista/7 without additional software.

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 sound card will always deliver 2 channel PCM data through the S/PDIF output port.

