
User's Guide

Ultimate Edge™ 5.1 High Definition 24-bit Sound Card plus PSA2 HD™



Philips Sound Solutions



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Philips Ultimate Edge™

5.1 Channel Soundcard

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1. Introduction

Congratulations on your purchase of the Ultimate Edge Soundcard! The Ultimate Edge has been designed to transform your computer into a next generation Media PC. We are confident that you will experience the ultimate in PC audio performance and features.

This document contains information that should help you with learning all the features of your new soundcard and the PSA2 HD graphical user interface. It includes instructions on how to install the new hardware and software drivers. Please take a few minutes and familiarize yourself with the soundcard before starting to install it.

1.1. KEY FEATURES

Professional grade audio components transform your computer into an advanced digital audio processor!

- Front output external speaker jack (Left/Right) – 24-bit / 96KHz
- Surround output external speaker jack (Left/Right) – 24-bit / 96KHz
- Center / LFE output external speaker jack – 24-bit / 96KHz
- Standard microphone input jack – 24-bit / 96KHz
- Standard line input jack – 24-bit / 96KHz
- CD audio and audio from Video card internal input connector – 24-bit / 96KHz
- Coax S/PDIF Output compatible with Dolby Digital/DTS pass-thru – 24-bit / 96KHz

Sound Agent 2 HD™ 24-bit Audio Control Center:

- 32-bit floating point digital signal processing enhances sound while maintaining 24-bit precision for music, gaming, DVD movies and external inputs.
- Full 24-bit effects processing all channels.
- Exclusive **QMSS5.1** technology creates 6 independent channels of audio from ALL stereo sources when in 5.1 channel speaker mode.
- **QSurround** enhances Dolby Digital 6-channel sources by filling the sound gap between speakers to create a complete 360-degree wrap-around audio experience that is smooth and natural. But more importantly, it creates virtual 3D surround over a two-speaker setup.
- Active Dynamic Filtering found in the new **QSizzle** and **QRumble** components feature low, mid and high frequency enrichment algorithms that help restore sonic fidelity for highly compressed digital audio files such as MP3s and WMAs. Simply put, it makes MP3's sound great.
- **QInteractive3D** technology offers precise 3D sound positioning with all headphone and speaker output configurations and is compatible with DirectSound3D, EAX 1.0, EAX 2.0/3D Level 2, and A3D enabled games.
- **QXpander** stereo enhancement creates input to virtual 3D surround sound with any headphone or two-speaker set configuration.
- Professional style **10-Band Equalizer** for precise sound tailoring of all digital audio media.
- Industry standard digital output (S/PDIF Out) allows connection to digital speakers or external decoders.
- 15 unique reverb environments using the exclusive **QSound Environmental Modeling (QEM)** algorithms for totally immersive gaming and dramatic musical performances.
- **Normalization** smoothes out the volume differences within audio files and reduces the volume variations for all audio sources - automatically.
- **Default** and user defined **Presets** for most settings to personalize all your games, music, and movies - exactly the way you like it.
- **S/N Ratio > 104dB**
- **THD = 0.004%**

1.2. Minimum System Requirements

Genuine Intel Pentium III 450 MHz or faster

64 MB RAM (128 MB recommended)

One CD-ROM Drive

800 x 600 screen resolution (1024 x 768 recommended)

20 MB of available hard drive space

PCI 2.2 compliant slot

Windows® 2000 or Windows® XP Operating System

NOTE: Each operating system has its own minimum requirements that should be observed. In addition, various games and DVD applications may require higher limits than listed above.

1.3. Audio Performance

Signal-to-Noise Ratio: > 104 dB

Total Harmonic Distortion + Noise: 0.004%

Frequency Response: <20 Hz to >20 kHz

2. Installation of The New Sound Card

Installing your Philips Ultimate Edge soundcard is easy. Please take a moment to read all the steps before proceeding with the installation. If you need more details, read through this user's guide.

Note: Computers come in different shapes and sizes. The installation procedure in this manual is general in nature and you should compare the illustrations shown here with your computer hardware before starting your soundcard installation.

2.1. Quick Installation Guide

This Quick Installation Guide is provided for those who are very familiar with PC hardware and software and do not require detailed information to install new hardware. For more detailed explanation and step-by-step instructions, please refer to the **Detailed Installation Guide** section following this section.

2.1.1. Step 1

Disconnect the power cord and all the attachments from the PC. Remove any existing soundcard. The existing soundcard may be an add-on, or an on-board audio device. If it is on-board audio device, it must be disabled in BIOS. Remember to uninstall all audio drivers using either the uninstall program associated with the drivers, or use the one in the system Control Panel (Add or Remove Programs).

2.1.2. Step 2

Install the Ultimate Edge in one of the available PCI slots, preferably one that is away from the AGP slot. Installing the soundcard next to the AGP slot may cause resource conflicts in some computers.

2.1.3. Step 3

Install PSA2 HD drivers and user interface from the driver CD. *Not installing PSA2 HD will limit the soundcard to stereo output only.*

Attach at least a stereo self-powered PC speaker to the appropriate connectors on the Ultimate Edge soundcard. Run PSA2 HD by double-clicking on the PSA2 HD icon in the system tray, and familiarize yourself with all the features of the control panels. Plenty of tool-tips have been provided to introduce and define various features of this easy to use user interface.

If there is no audio coming out of the speakers, run the speaker test from the "setup" tab in the "main control panel". For more information refer to the **Detailed Installation Section** or the **Troubleshooting** sections of this document.

2.2. Detailed Installation Guide

Please have the PC and the old soundcard documents at hand. Refer to them for the removal or disabling the existing soundcard on your PC.

2.2.1. Before Installing the New Soundcard

Before starting the installation of the new soundcard you will need to determine if your PC already has a soundcard, or an integrated sound device on the motherboard. Your PC can only have one active sound device. Therefore, please remove or disable the existing sound system before installing the Ultimate Edge soundcard. *This is very important and failure to do so may result in the Ultimate Edge not working properly.*

The following paragraphs and illustrations will help to determine the type of sound system existing on your PC. Please go to the appropriate section to disable, or remove the old sound system.

2.2.2. Identifying The Old Sound System

Check the back of the PC in the area of PCI slots, usually toward the bottom on the tower and mini tower cases, or to the right side, on desktop cases. All the audio related connectors line up in one row on a 4-inch end bracket. See **Figure 1**.

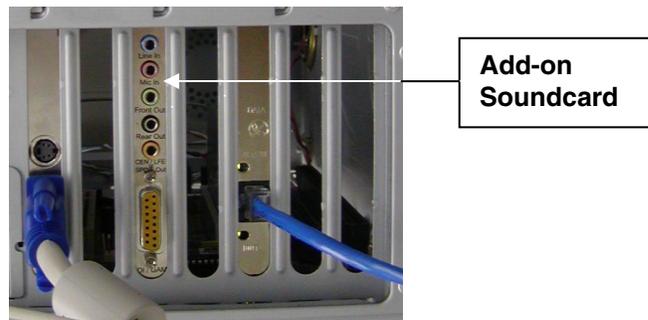


Figure 1

If the sound system is integrated on the motherboard, usually, the connectors are similar to the add-on card, but they are not on a bracket. They might be stacked up in one or two rows.

Figure 2 shows examples of on-board audio connectors.

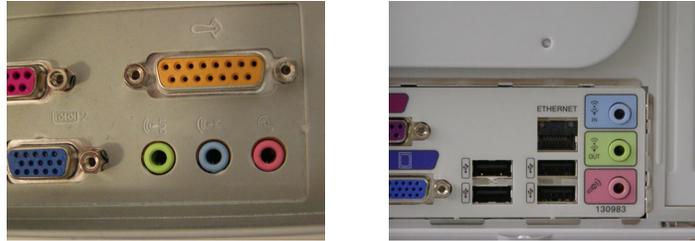


Figure 2

If your PC does not have any type of sound system, proceed to **2.2.5. Installing the new Soundcard** section of this manual.

If you know your PC has an add-on soundcard skip to **2.2.4. Uninstalling the Old Soundcard and Drivers** section of this document.

If you know your PC has integrated sound system skip to **2.2.3. Disabling the Integrated Sound** section of this manual.

2.2.3. Disabling the Integrated Sound

To disable your integrated sound (on-board audio) you will have to enter the system BIOS utility. Warning: Do not alter any other settings of your BIOS, or your system may not function properly. Refer to your system documentation on how to activate the BIOS utility.

For useful examples on how to disable the on-board audio please refer to **Appendix C**.

Once you have disabled the on-board audio, proceed to **2.2.5. Installing the new Soundcard** section of this manual.

2.2.4. Uninstalling the Old Soundcard and Drivers

Uninstall the drivers for any previously installed soundcards. *This is very important and failure to do so may result in improper operations of the Ultimate Edge soundcard.* Please uninstall the driver before removing the old soundcard from your PC. Consult the documentation of your old soundcard for details. **Appendix B** contains some useful general instructions on how to uninstall the old audio drivers.

After you remove the old audio drivers, turn off your computer and disconnect the power cable and all devices that are connected to the computer.

Caution: Static electricity can permanently damage to your soundcard.

To Prevent Damage:

1. Always hold the soundcard by its edges. Avoid touching any electronic components on the soundcard.
2. Use a grounding strap or touch any non-painted surface of your computer chassis before you begin installation to discharge static electricity.

Follow these steps to remove the old card. See **Figure 3**.

- Remove the PC cover. Because every PC is different it is very important that you refer to the users manual that came with your PC on how to remove the cover.
- Unscrew the old soundcard and save the screw for the Ultimate Edge soundcard.
- Remove the analog audio cable (if connected) from the old soundcard, but do not disconnect the other end. This cable is usually connected to the CD ROM drive or DVD ROM drive. You will need this cable for the Ultimate Edge soundcard.
- Remove the old soundcard by firmly pulling it out.
- Select an available PCI slot and remove its cover plate.

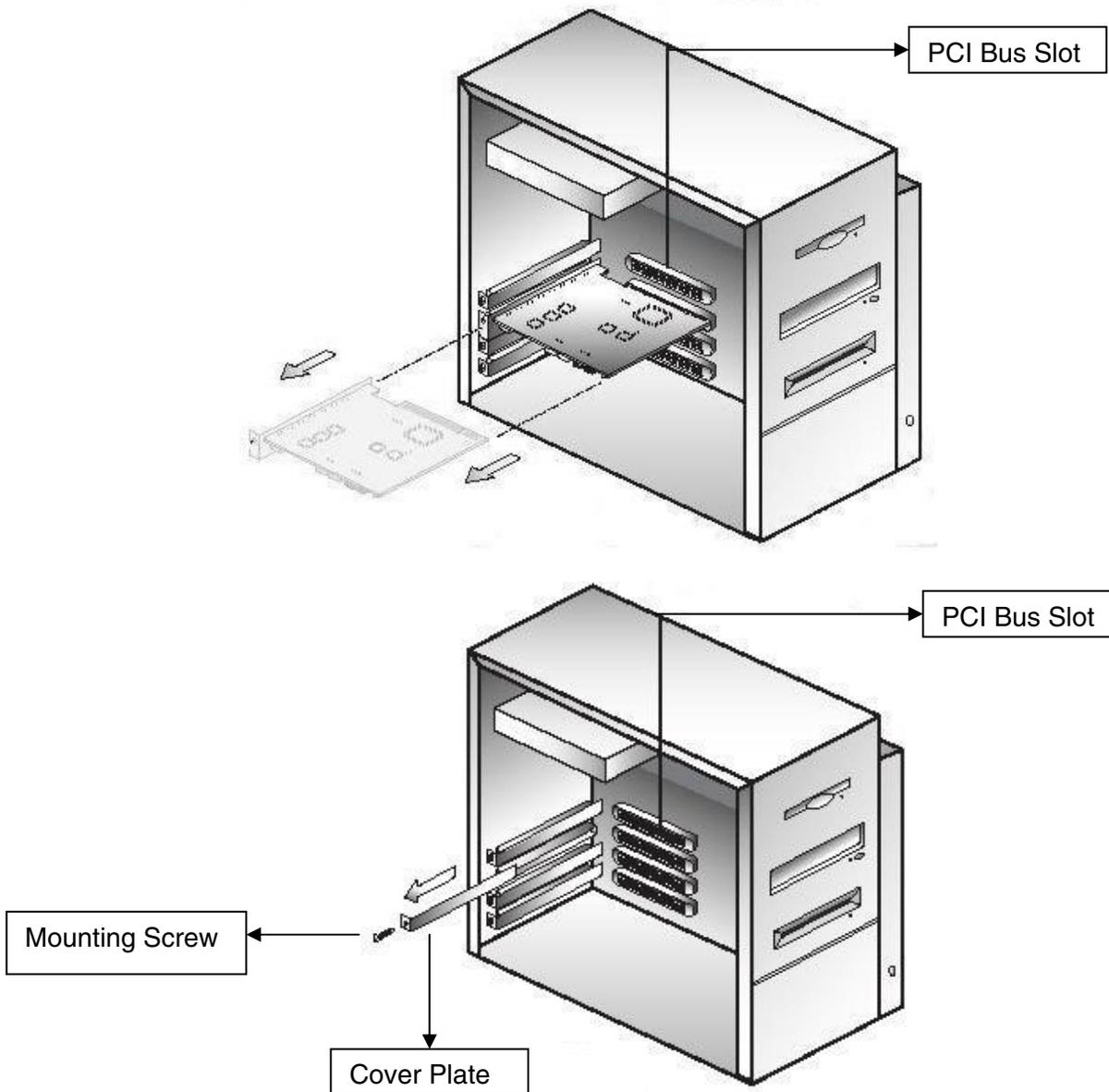


Figure 3

2.2.5. Installing the New Soundcard

Follow these steps to install the Ultimate Edge soundcard. See **Figure 4**.

- Remove the Ultimate Edge soundcard from the anti-static bag.
- Align the soundcard with the selected PCI bus slot and firmly push it into the slot. Be sure the soundcard is aligned properly and fits snugly into the slot.
- Connect the cable to the CD In/Video In or Aux In connector on top edge of the card (see **Figure 5**). You can connect the analog lines from CD ROM or DVD ROM drive to this input.
- Use the screw from the slot cover to secure the soundcard to the frame of the computer chassis.
- Put the cover back on the PC and connect the power cord and all the required peripherals to the computer.

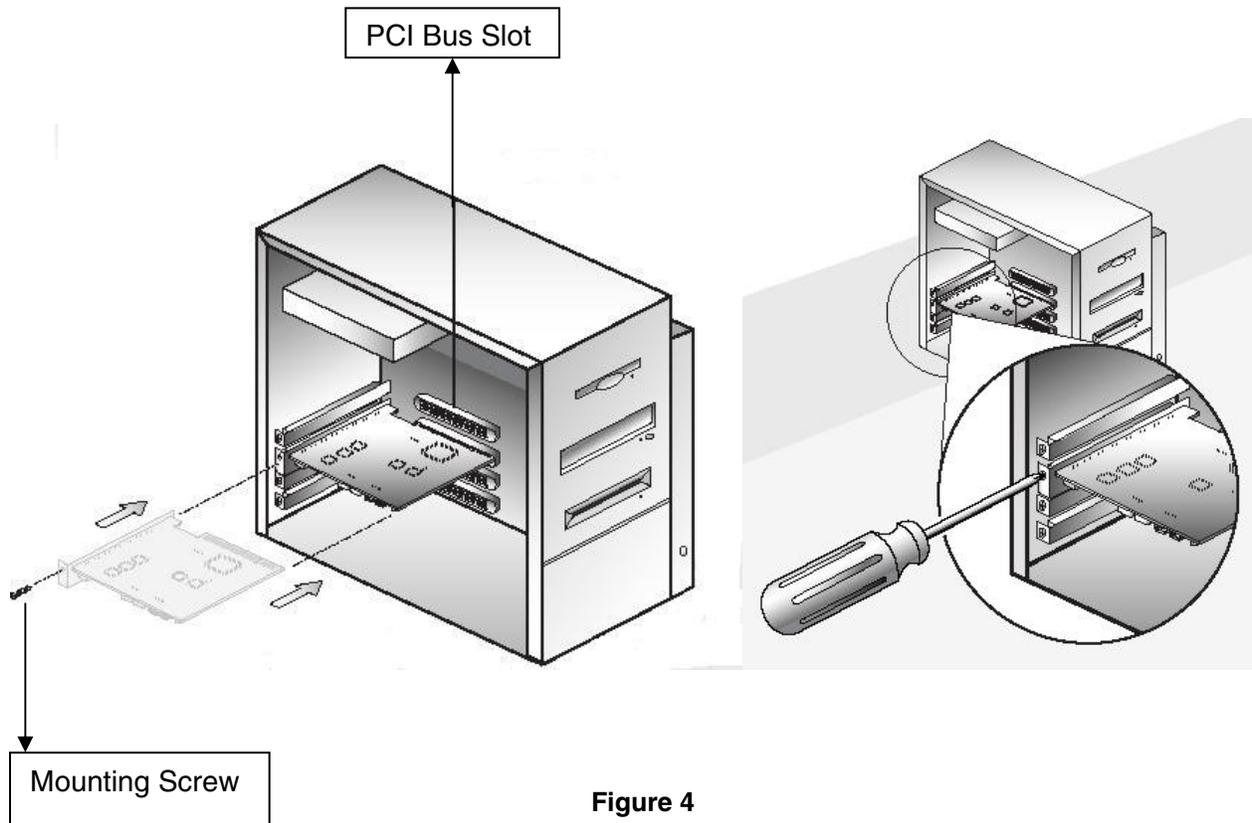


Figure 4

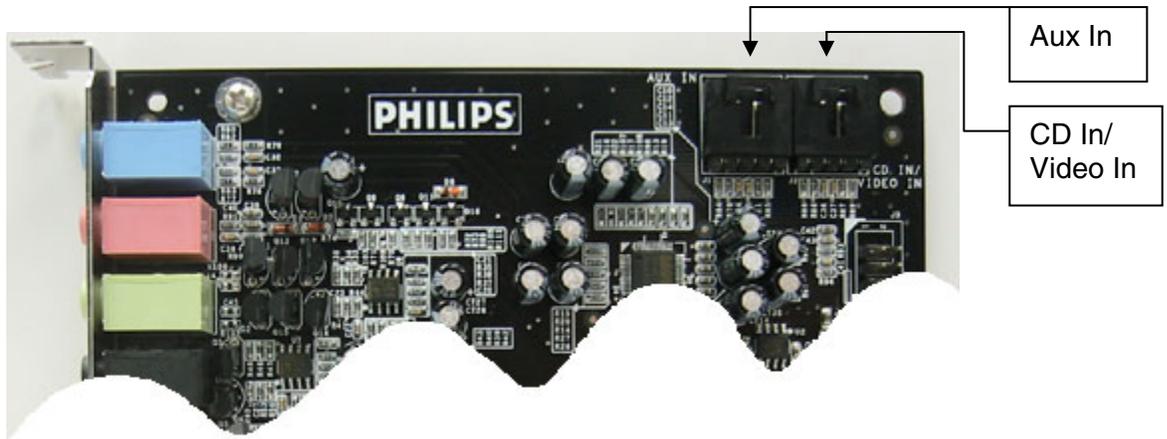


Figure 5

2.2.6. Speaker Connection

You need to have a set of self-powered speakers. Self-powered means that the speakers have their own power supply that plugs into an AC outlet or use batteries. It is strongly recommended that you refer to the documentation that came with your speakers to determine the type and connection for your speakers.

There are six jacks on the end bracket of the Ultimate Edge soundcard. External analog stereo sources with line level output can be connected to light blue 3.5mm stereo jack at the top of the soundcard bracket. A microphone can be connected to the pink 3.5mm mono jack.

If you have a set of PC stereo speakers, connect them to the green jack labeled “Front” on the end bracket of the soundcard. See the diagram in **Figure 6**.

Connect the Rear speakers to the black jack and connect the Center/LFE to the peach color jack on the end bracket of Ultimate Edge soundcard.

2.2.6.1. Digital Speakers

If you have digital speakers, or any type of digital decoder box that uses a digital audio (S/PDIF) signal, use the cable that is supplied with the speaker set to connect to the jack labeled S/PDIF on the end bracket of the soundcard. To enable Digital output go to the Mixer tab of the PSA2 HD panel (see Mixer tab description under **Main Control Panel** section of this document), select the advanced sub-tab and click on S/PDIF Enable radio button.

Check out www.philips.com/ce (US) or www.philips.com/sound (Europe) to see Philips’s full range of self-powered speakers.

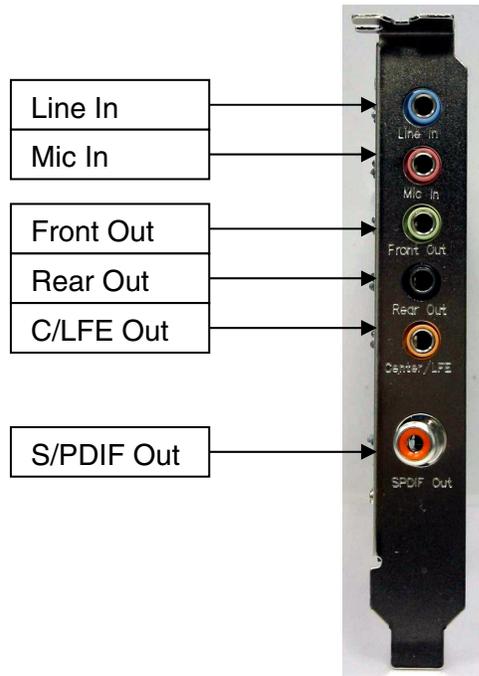


Figure 6

After connecting the speakers, run the speaker test utility to ensure proper connection. Click on the setup tab in the Main control panel, and then click on the Test button. For more information refer to the **Setup tab** section of this document.

2.3. Software Installation

Install the Philips Sound Agent 2 using the Installation CD (included). Place the CD in the CD-ROM and if Autorun is enabled, it will launch the PSA2 HD Autolauncher panel. Click on the “Install Philips Sound Agent 2” button and follow the instructions on the screen.

If Autorun is disabled, click on the Start menu at the bottom of the screen and click on Run. Type the following in the Run window and click OK:

D:\autolauncher.exe (where D:\ is your CD drive designator letter).

Once the installation is complete, you will be asked to restart the computer. After the reboot, the Philips Sound Agent 2 icon will appear in the Windows System Tray (or Systray, normally at the lower right hand corner of screen), as shown in **Figure 7**.

Note: Not installing PSA2 HD will limit the Ultimate Edge soundcard to stereo output only.

If you can see the PSA2 HD icon in the system tray (See **Figure 7**) the software has been installed and you should be able to launch it by double clicking on the icon.

3. The Philips Sound Agent 2 HD

The Philips Sound Agent 2 is a Graphical User Interface that provides all the unique and powerful features of the Ultimate Edge Soundcard. The PSA2 HD and the soundcard have the intelligence to detect the source and the type of your audio stream. Based on these factors, the system determines the nature of the audio processing and spatial algorithms that deliver the best quality sound possible. However, sound quality is personal and subjective. That is why PSA2 HD allows the capability to adjust and fine-tune the audio to suit individual taste.

The following sections provide a detail description of the PSA2 HD features.

3.1. Basic Interface Operation

To launch and setup Philips Sound Agent 2 control panel, double click on the PSA2 HD icon in the System Tray (normally the lower right hand corner of the screen). See **Figure 7**.



Figure 7

When PSA2 HD is launched for the first time, it appears in the fully expanded form as shown in **Figure 8**. The panel contains three distinct sections; **Compact Control Panel**, **Main Control Panel**, and **Visual Control Panel**. Use the **Resize button** to reduce the expanded form to a compact form. The **Compact Control Panel** takes up very little space on the screen and it contains the top-level controls. However, to set or change some of the settings, you need to expand to the **Main Control Panel**. Use the **Resize** button when you need to expand the Main control panel again.

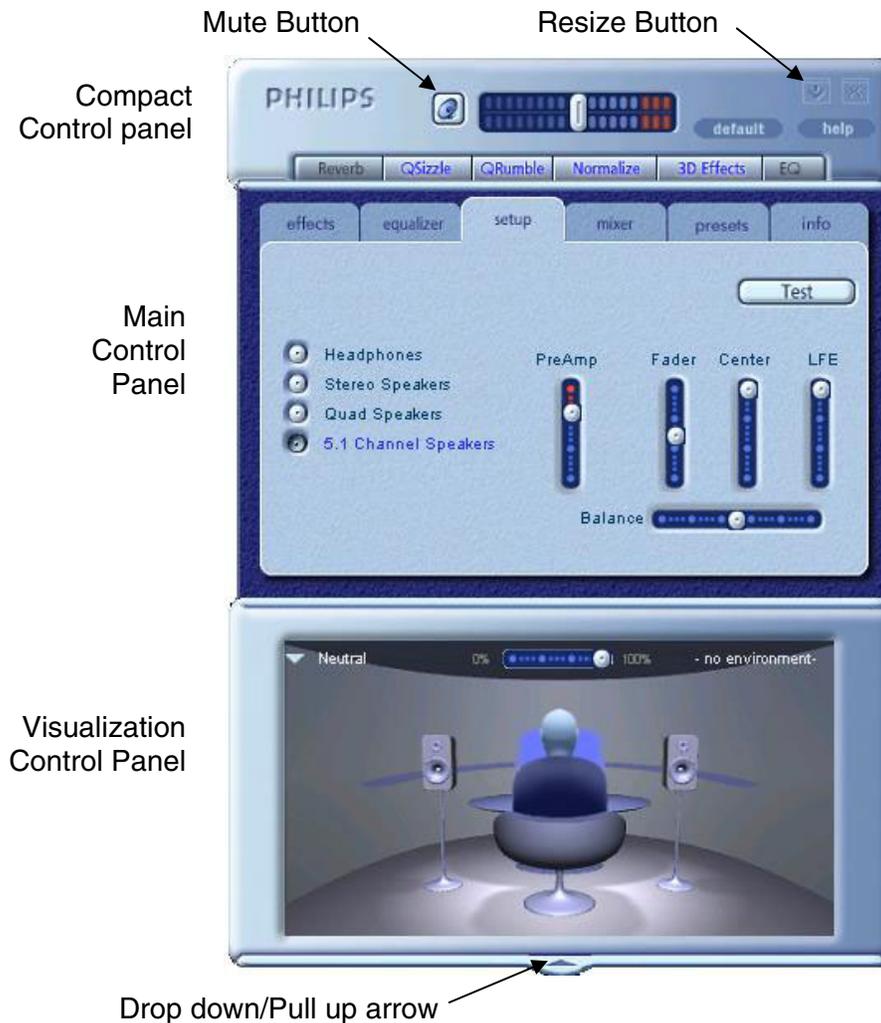


Figure 8

The **Visualization Control Panel** provides a graphic representation of the advanced audio processing features of the Ultimate Edge soundcard. It also includes controls to enable the environmental effects. The Visualization Control Panel appears only in the expanded mode as a sliding cover for the Main Control Panel.

3.2. Compact Control Panel

The Compact Control Panel contains the following controls:

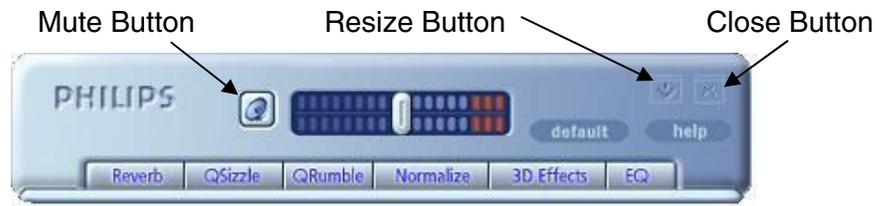


Figure 9

Master Volume

Master Volume controls the overall output level of the sound system. This volume control is synchronized with the volume control on the system tray (the yellow speaker icon).

Mute

This button toggles the sound on or off to attached speakers or headphones. It mutes the sound but does not stop the player.

Resize

Resize button toggles between the compact mode (basic controls) and the expanded mode (for more advanced options).

Close

Closes the PSA2 HD control panel without affecting audio operation.

Default

Pushing the *Default* button resets most controls to a predefined functional state.

Help

This button launches the on-line help system. It contains detail descriptions of all features of the PSA2 HD interface and its operation.

Reverb

This button toggles the QSound Environmental Modeling (QEM) on or off. However, some games apply their own environmental effects, which are not controlled by this button. Environmental modeling uses reverb (reflected sound) and delay to create the impression that the listener is in a particular environment.

QEM provides a wide range of high-quality environmental modeling effects that are selectable from the Visualization panel. By selecting a default environment, you impose the effects of that environment for music, movies, or games that do not use the EAX feature.

PSA2 HD responds automatically to games that use the EAX and EAX2.0 commands. These games automatically control the selection of environments (regardless of what is selected from the Visualization Control Panel) to match various scenes and locations, and change these selections as the environment changes. The slider in the Visualization Control Panel controls the intensity of the reverb. If the level of Reverb is not as expected, check the slider in the Visualization Control Panel and adjust properly.

QSizzle

Toggles the QSizzle effect. When on, enhances the mid/high frequency range of a digitally compressed audio stream. The button label illuminates when QSizzle is enabled.

QRumble

Toggles the QRumble effect. When on, it enhances the low frequency range of the audio stream. The button label illuminates when QRumble is enabled.

Normalize

Toggles Normalization (automatic volume leveling) on or off. The button label illuminates when Normalization is enabled.

3D Effects

Toggles 3D Effects on or off. This does not affect 3D audio games, but does affect non-3D audio games utilizing the 2D to 3D remixing feature. The button label illuminates when 3D Effects are enabled. To enable automatic audio features such as QSurround, QMSS, and QXpander this feature must be enabled

EQ

Toggles the 10-band Equalizer on and off. The button label lights up when the Equalizer is enabled. When the button is not activated the EQ remains inoperative.

3.3. Main Control Panel

The Main Control Panel is in the center of the expanded mode, and it provides access to advanced settings for most PSA2 HD controls, which are grouped in five separate tabs. See **Figure 10**.

If only the Compact control panel is visible, you must expand it by clicking on the Resize button on the right hand corner, next to the Close icon. See **Figure 9**.

If the Visualization Control Panel is covering the Main Control Panel, slide the Visualization Control Panel cover down to reveal the Main Control Panel by clicking on the arrow at the middle of the lower edge of the Visualization Control Panel. See **Figure 8**.



Figure 10

Once the Main Control Panel is open, you can choose any of the tabs to select the desired set of controls. The following is a description of each tab from left to right:

3.3.1. Effects Tab

The Effects Tab is the first of the Main Control Panel tabs. Below is a description of all the features on the Effects tab.

QSizzle

QSizzle is a mid and high frequency (treble) enhancement algorithm that helps to compensate for the loss of presence, punch and signal detail that often results from compressed digital media, such as MP3 and WMA formats.

QSizzle self-adjusts in real time according to frequency response of the input signal. This is different from the Equalizer, which is a fixed frequency processor. The Equalizer does not monitor the input signal or perform self-adjustment. The label **QSizzle Active** appears in illuminated text when QSizzle is enabled, and **QSizzle Off** when disabled.

QRumble

QRumble is a powerful low frequency enhancement algorithm that helps to compensate for loss of bass that may result from compressed digital media such as MP3's or WMA formats.

QRumble responds in real time to the varying nature of the input signal, automatically adjusting itself accordingly. This is very different from the Equalizer, which is a static frequency processor. The Equalizer does not monitor the input signal or perform self-adjustment.

The label **QRumble Active** appears in illuminated text when QRumble is enabled, and **QRumble Off** when disabled.

Normalization

Normalization automatically adjusts the volume variations in various audio files or streams. Quieter signals are amplified to match the level of louder ones, so that the listening volume maintains a consistent level. This means that when playing files with various output levels, the need to constantly adjust your speaker volume is minimized.

The label **Normalization Active** appears in illuminated text when Normalization is enabled, and **Normalization Off** when disabled.

NOTE: If the pre-recorded volume of the source is too high, the playback might sounds 'wavy'. This is 'as designed' and can be minimized by turning off the Normalization for that particular song.

3D Effects

Three separate 3D audio enhancement algorithms are provided to maximize the spatial experience no matter what the combination of signal type and output hardware.

When 3D Effects are enabled, the audio processor will automatically choose the appropriate algorithm (3D mode) according to your output configuration and the type of input signal. The 3D Effects indicator LED's on front panel and the indicators on the Effects Tab illuminate to show which algorithm is active at any given time.

QXpander optimizes stereo input played over 2 speakers or headphones. When QXpander is active it provides a wider sound field far exceeding physical position of the speakers.

QSurround optimizes a multi-channel source (e.g. a 5.1 channel DVD) to create "virtual" speakers and immerse the listener in surround sound when using either 5.1, quad or stereo speakers.

NOTE: The source must be a multi-channel in order for this feature to be activated (e.g. on 5.1 DVD playback, please make sure the software-DVD player is set to 6-channel output).

QMSS optimizes stereo input sources for playback over a multi-channel speaker set (4 or 5.1 channels). The majority of audio sources are stereo (e.g. MP3's, CD music tracks, WAV files, games, etc). QMSS transforms these stereo sources into immersive multi-channel experience with 4 or 5.1 discrete channels, depending on speaker configuration.

3.3.2. Equalizer Tab

The Equalizer (EQ) controls the frequency response of the system by increasing or decreasing the frequency response of ten independent frequency bands.

This Equalizer works very much the same as the equalizers in high quality sound systems. Each slider controls the relative level of a band (range) of frequencies. The number listed above each slider column is the center frequency of the band controlled by that slider. When a slider is set to the center position, frequencies within this band are left flat and the gain is 0dB. See **Figure 11**.

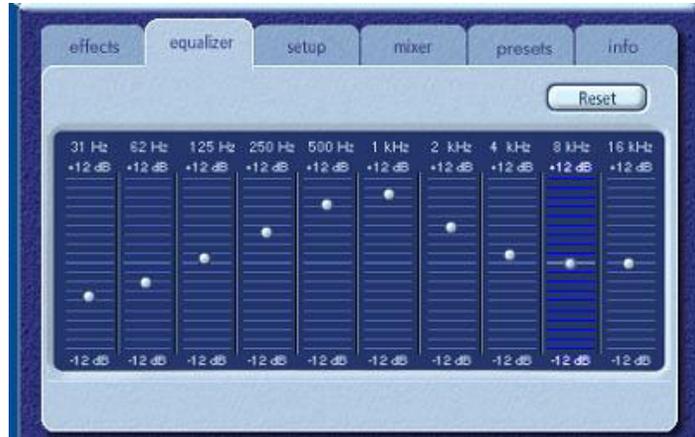


Figure 11

To boost the level of a given band, move its slider above the centerline. To cut the relative level of a given band, move its slider below the centerline. Maximum boost or cut is ± 12 dB on each frequency level.

Sliders can be individually centered by right clicking anywhere within the slider area, or collectively by clicking the Reset button on top right corner of the panel. Clicking the default button on the compact panel can also collectively center the sliders. Please note that the default button resets several other features as well.

3.3.3. Setup Tab

Located under the setup tab is a speaker configuration panel and other critical audio controls. This tab contains the controls to select and configure the speaker mode based on the type and number of speakers you have. The Ultimate Edge soundcard supports a wide range of speakers. From the list on the left side of the Setup tab, you can choose the desired output configuration. This sets up the nature of audio processing, spatial algorithms, and the number of outputs, to suit your preference. The following is a detailed explanation of each output mode and each control on this tab. See **Figure 12**.

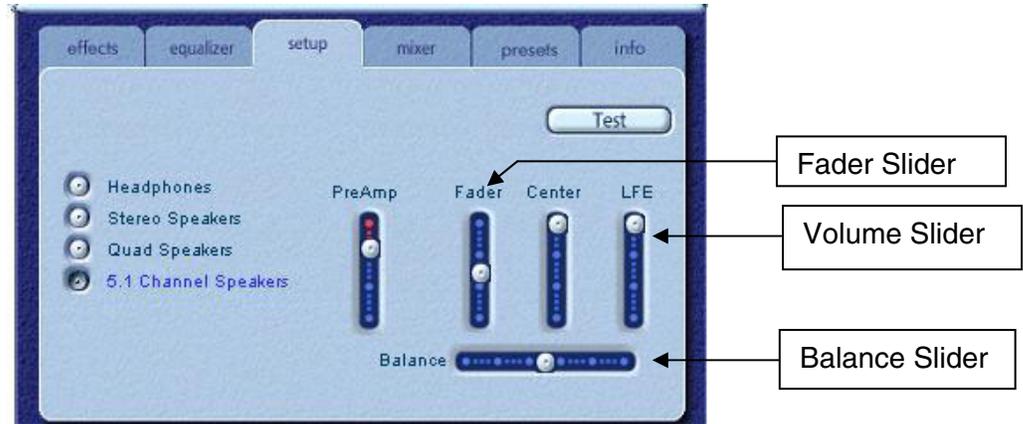


Figure 12

Speaker Test Utility

The Speaker Test Utility can be utilized to test the current speaker configuration for proper connection to the soundcard. Testing each speaker channel ensures each speaker is positioned and connected properly.

The test utility highlights each of the available output channels for testing. Click any active speaker to send the test sound to the corresponding speaker. **Figure 13** shows that 5.1 speakers are selected on the setup tab.

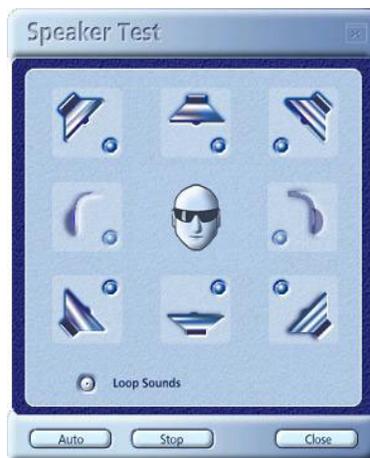


Figure 13

Preamp Slider

The Preamp Level control allows you to boost the input audio signal before it is processed by the PSA2 HD. It has a similar effect as the master volume, but should not be used instead of it. The Preamp can be particularly useful to boost low level DVD movie soundtracks.

NOTE: Increasing the Preamp may cause audio distortion from saturation on some high level input signal. In some cases, an input signal can be of such amplitude that audio distortion can occur at the preamp default level. If this is the case simply lower the preamp level to help eliminate any distortion.

Fader Slider

You can use this slider to control the balance between the front and the rear speakers.

Center Slider

Center controls the level of output on the center speaker only. Use this slider to adjust the volume on the center speaker.

LFE Slider

This slider allows you to control the volume level of the subwoofer.

Balance Slider

This slider allows you to balance the left and the right speakers. It affects the front and the rear speakers only.

The **Loop Playback button** allows the test to repeat until the stop button is pressed. If the Loop Sounds is off, the sound will play once for each click of a speaker button.

The **Auto button** sends the test sound to each speaker once and moves to the next speaker automatically. If the Loop and the Auto buttons are used in conjunction, the test signal will loop through all attached speakers until the Stop button is pressed.

Speaker Connection Considerations

When connecting speakers it is important that you connect them properly to obtain maximum performance. Connecting to the wrong jack will degrade the quality of the sound output.

If you have only two speakers connect to the **Front** output jack.

If you have four speakers, connect to the **Front** and **Rear** output jacks.

If you have six speakers (5.1), connect to the Front, Rear and Center/LFE output jacks. Ensure that labeling of the speakers match the labeling of the jacks, i.e., front speakers to the front jack, rear speakers to the rear jack and so on.

3.3.4. Mixer Tab

Mixer controls allow you to select and control playback and recording input sources.

3.3.4.1. Playback source controls

You can individually mute or un-mute as many playback sources as you wish.

Volume sliders set the playback level for each source.

Balance sliders adjust the relative left and right output levels for each stereo source. Balance sliders should normally be left in the center, which is the default position. Right-click any of the balance sliders to center it.

Depending on the number of available playback sources in your PC, the number of horizontal and vertical slider may vary, and a scrollbar may or may not be present. The viewing area on the Mixer Tab displays controls for a maximum of four playback sources at one time. Use the Playback Source Scrollbar (if present) to reveal more source controls. See **Figure 14**.



Figure 14

When playing audio CD's using the CD ROM driver of the PC, one should enable the digital audio extraction in the system device manager. If you need more information refer to the **Troubleshooting** section in **Appendix D** of this document.

NOTE: CD In playback/recording volume is controlled from the CD/Video slider under recording tab. CD Player slider under playback tab doesn't control anything.

3.3.4.2. Recording Source Control

The Ultimate Edge soundcard allows you to record sounds and music from multiple input sources. Select the "mixer" tab, go to the bottom of the panel and click on the "recording" tab. This panel enables you to select and control recording sources.



Figure 15

Before you start recording, you need to configure the recording source. Select a source by clicking the appropriate “Select” button. Each source has its own level and balance controls. To set each slider in its default position, right click on the sliders. See **Figure 15**.

The default recording source is Input Mix, but you can select other sources by going to the Mixer tab and clicking on the Recording sub-tab.

3.3.4.3. Advanced Mixer Sub-Tab

S/PDIF Enable

The S/PDIF digital output normally supplies the digital equivalent of the signal present at the analog (front speakers or headphones) outputs. However, when this button is selected, Dolby Digital (AC3) or DTS audio from DVD playback is passed through to the RCA S/PDIF output for external decoding. See **Figure 16**.

NOTE: For proper AC3/DTS pass-thru operation, the software DVD player application used may require additional configuration settings. Refer to the DVD player documentation for additional instructions.

Figure 16

HI-SR(96KHz)

Selecting the HI-SR (High Sample Rate) button will enable 96KHz sample rate for both input and output from the Ultimate Edge. When you enable HI-SR on the Ultimate Edge:

- Input streams are sampled at 96kHz and processed by PSA2 HD at that rate. PSA2 HD output may then be converted to a lower rate if required by the recording program.
- Output streams lower than 96kHz will be converted to 96kHz.

NOTE: In order to use this feature over S/PDIF output, please make sure that you have a 96KHz capable decoder. Failure in providing a 96KHz capable decoder with this feature enabled may result in no sound or garbled playback.

Listen To Analog Inputs

Enable this button to monitor the playback from the analog inputs (CD In, Line In, Mic In, and Aux In) during recording. Enabling this button will enable ***Front Speakers or Headphones*** button or ***All Available Speakers and Outputs with Effects (QMSS)*** button to be selected.

Front Speakers or Headphones

Enable this button to monitor the analog inputs over front speakers or headphones (stereo).

All Available Speakers and Outputs with Effects (QMSS)

Enable this button to monitor the analog inputs over the current speaker configuration. Enabling this button will also activate the **3D Effects** function. Be aware that PSA2 HD effects are not applied to any recording made.

NOTE: Please check the Troubleshooting section if you are having problem with microphone feedback during the recording.

3.3.5. Presets Tab

The Preset functions enable you to make snapshots of the state of all Philips Sound Agent 2 controls, so that you can conveniently reload the same settings at any time.

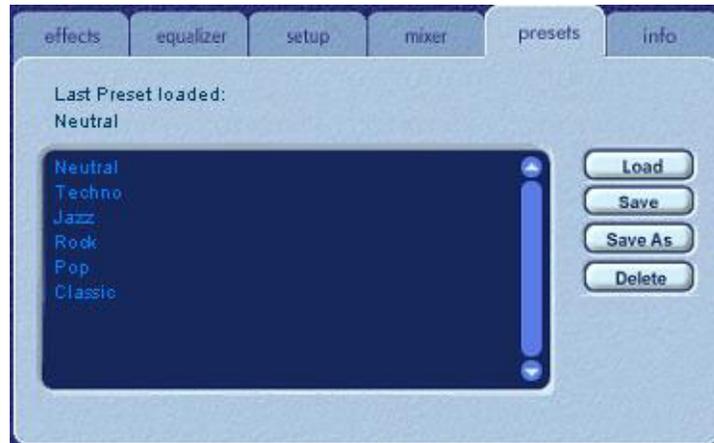


Figure 17

The Preset system enables you to save the state of PSA2 HD controls once you have made adjustments to customize your listening experience, so you can recall settings for any source and playback environment.

For example, if you have been listening to music with predominant drums and bass and have adjusted the controls to suit your taste, you can quickly save a preset called “My Classic” (just a name). Whenever you listen to this type of music again, simply load this preset, and all the controls will return to the settings you had in effect when you saved it.

Sound Agent 2 comes with six factory presets as listed on the Presets tab. The following is a description of each feature on the Presets tab.

Load

Clicking on this button loads an existing preset. To load another preset, highlight it on the list and click the **Load**.

Save

When you load one of your presets and make changes to it, you can save it by clicking on the **Save** button. If you have selected one of the factory presets and made changes to it, you will have to save it under a different name. Sound Agent 2 will not overwrite factory presets, but you can overwrite your own unique presets.

Save As

You can load an existing preset (factory or one of yours), modify it to your taste, and save it as a new preset.

Delete

Deletes the selected preset permanently from the list. When you select one your presets and click on this button, a confirmation dialog box will appear and when you confirm by clicking the OK button, the preset will be removed from the list. This button will not delete any of the factory presets.

3.3.6. Info Tab

This tab contains useful information regarding the product. It includes the software driver's version number, manufacturer's name, and web page addresses.

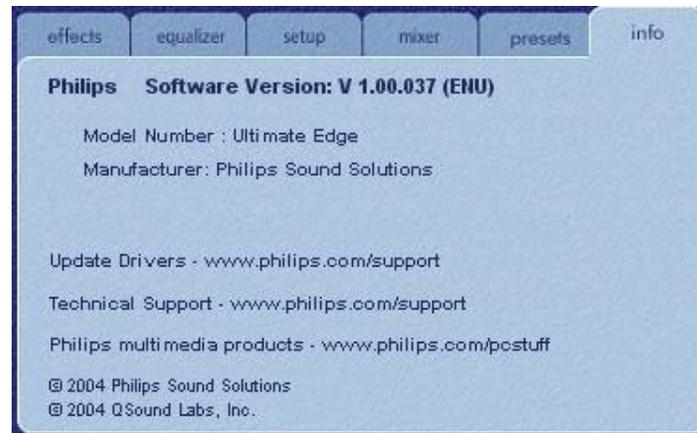


Figure 18

3.4. Visualization Control Panel

The Visualization Control Panel provides a graphical representation of the environments and effects that are created by Sound Agent 2. It also contains two drop-down menus and the Reverb Intensity Slider.

The drop-down menu on the right contains fifteen different types of environmental effects to select from. To select a reverb environment, the Reverb button located on the Compact Control Panel must be enabled.

The drop-down menu on the left contains all factory and user defined presets for various types of music. This menu allows easy preset access via the Visualization Control Panel.

The top center horizontal slider controls the intensity of the reverb effect that is being applied. Adjust as necessary to achieve the right amount of Reverb based on individual content.

QXpander, QSizzle, and QRumble visuals can be adjusted by clicking and dragging the corresponding graphic.

The Visualization Control Panel may be moved up and down to conceal or reveal the Main Control Panel by clicking the arrow at the bottom center of the panel.



Figure 19

4. Uninstalling PSA2 HD

If for any reason it becomes necessary to uninstall the PSA2 HD drivers, you can choose one of two available methods. You may go to the system control panel and launch the “Add/Remove Programs” utility as shown in **Figure 20**. From the list of programs find PSA2 HD and click on it so it is highlighted. Click the “Change/Remove” button.

Or, you may choose the uninstall program that comes with PSA2 HD program. For this you click on the Windows Start button, click on the “All Programs”, click on the Philips folder, then select and execute the Philips Uninstall program.

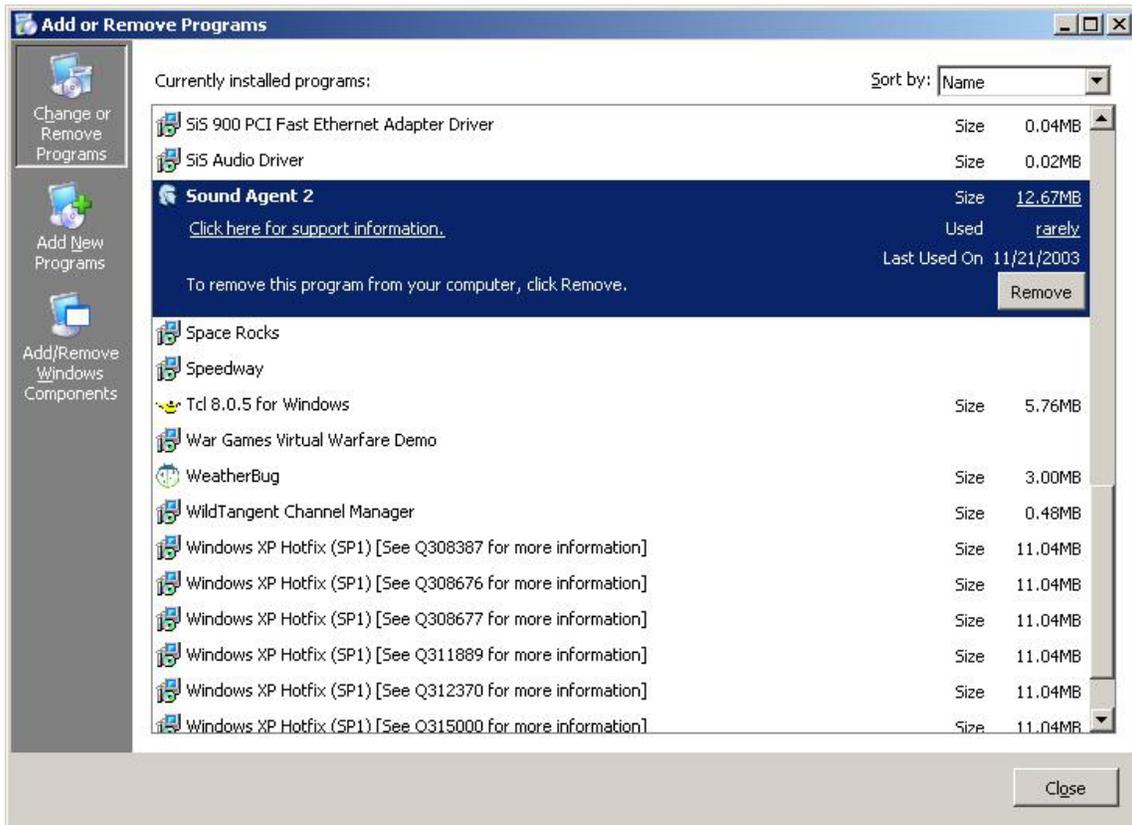


Figure 20

5. Technical Support And Warranty

Before calling the technical support number please make sure you have the following information available:

- Model number and date of purchase.
- Computer type, processor speed, and available memory.
- Computer operating system (IE; Windows® 2000, or XP).
- On-screen error information.
- Other hardware connected to the soundcard.

5.1. Internet Address:

Technical support and driver:

<http://www.philips.com/support>

The web site for Europe is:

<http://www.philips.com/sound>

Philips general web site is:

<http://www.philips.com/ce>

5.2. Technical Support Information:

Toll-Free telephone numbers:

Available 6:00 AM – 10:00 PM Central Standard Time

USA: 1-800-835-3506

Elsewhere: See the Warranty Conditions document in your package.

6. Appendix A

Useful Tips For Speaker setup

Following is some suggestions to help you set up your speakers for best results.

6.1. Ideal Listening Scenario (Speakers)

The ideal way to experience proper imaging, whether stereo, surround, or 3D, is to begin by arranging each pair of speakers as symmetrically as possible.

Front speakers should be at the same height, angle and distance relative to the listener. You will obtain best imaging if the distance between you and speakers are about the same distance as between the speakers.

A typical multimedia set-up, with the speakers placed just to either side of the computer monitor, is ideal for stereo or quad listening. However, if your system has a center speaker, then it is advisable to move the left and right front speakers further apart, maintaining equal distance from the listening position.

Surround speakers should be placed behind the listener, and ideally be no further than the front speakers from the listener. They also need to be at the same height and angle as the front speakers.

6.2. Ideal Listening Scenario (Headphones)

When using headphones, many of the potential problems associated with speaker listening are essentially eliminated. For example, you are automatically positioned in the center, and if you move around, this doesn't change your position relative to the speakers.

6.3. Avoid Reflective Surfaces (Speakers)

If possible, keep your speakers away from reflective surfaces. For example, if your setup is in a corner and one speaker is very close to a sidewall, this will degrade imaging. This is because sound waves will bounce off the wall and arrives at your ears slightly later than the waves originating directly from the speaker.

This is true of any environment except an anechoic (echo-free) chamber. However, when the surface is close to the speaker, the reflected sound energy will be only slightly delayed and still quite strong compared to the original, which will reduce the clarity of the signal you hear.

The same can be true of placing your speakers directly on a hard desktop. If possible, elevate your speakers on stands so they are further away from the reflective surface. This will slightly improve the imaging and effects.

6.4. Balance the Speakers and Headphones

Any imaging, including stereo, surround and especially 3D audio, can be degraded by left/right channel imbalances. If your speakers or amplifier(s) incorporate balance controls, we strongly recommend adjusting them to their center position. Many physical balance controls have a mark to identify the center position.

If each speaker has separate volume controls, try to set them as equally as possible. You can use the Philips Sound Agent 2 test utility to help you judge the volume levels.

This practice applies to headphones as well.

7. Appendix B

Uninstalling the Old Drivers and the Soundcard

Regardless of which one of the supported operating systems you have, the following general steps are used to remove the old drivers. It is recommended that you remove the drivers before you take the old soundcard out of your computer.

- Click on the “Start” button
- Click on the “Settings” and select “Control Panel”
- Double click on “Add/Remove Programs”
- Find the audio drivers on the list. **Warning:** Be sure you select the right drivers and you are not deleting any other program.
- Click on the “Remove”, or “Add/Remove” button.
- When uninstall is finished removing the drivers, click OK, close all applications.

In most cases the above procedure removes the drivers. However, it is a good idea to check the Device Manager to be sure every thing is removed. If you are not familiar with Device Manager just follow these steps:

- Right click on “My Computer” icon and select Properties. If the icon is not displayed on the desktop, click on the “Start” button and Right click on “My Computer”, then select “Properties”. A new window will open.
- On Windows 2000 and XP, select the “Hardware” tab on top and click on the “Device manager button at the middle of the window.
- In the Device Manager window locate “Sound, video, and game controllers”.
- Click on the “+” next to it. A list of devices will drop down from this selection.
- Select the soundcard name in the list (you should recognize it by the name of the card or the manufacturer), right click on it.
- From the drop down menu select “Remove”. Click on OK.

There may be more than one component to the old soundcard, such as a game port. Make sure you remove all components before exiting the Device Manager.

Close Device Manager and shut down your system to proceed with removing the old soundcard out of the PC. Please go back to *Soundcard Installation* section of this document.

8. Appendix C

Disabling the Integrated Sound

To disable the on-board audio you need to enter the system BIOS setup. Most computers only allow you to enter the setup right after power up and just before the operating system starts loading. A message may appear briefly to inform you that you can enter the setup. Typically, this message shows up at one of the corners of the screen and says something like

“Press Del to enter setup”, or “Press F1 to enter setup”.

Some computers allow you to enter setup at any time. Refer to your PC's documentation on how to enter the setup utility. Find out how to enter the setup utility in your system and invoke it.

Warning: Do not change anything that you are not sure what it is, or your system may not function properly.

In the setup utility usually there is a list of options. One is the Standard Features that includes the time/date, and PC's basic peripherals such as hard drive, keyboard, mouse, etc. Another is the Advanced BIOS Features. Yet another is PnP and/or PCI Configuration. You may enter each of these menus and look at the list of the options they provide. Use the arrow keys on the keyboard to navigate through the setup utility.

Find the menu that contains the controls for the audio and sound feature. Select the menu by moving the highlight on this menu, and hit Enter.

Locate the Audio or Sound device and select it using the arrow keys. Read the direction at the bottom of the screen on how to change the settings. It may be the Page Up/Down keys, or +/- or something else. Change the setting from “On” to “Off”, or from “Enable” to “Disable”, or whatever the options are in your PC.

Save your settings and exit. Typically, the F10 key saves the changes and provides you with the exit menu. You may have to press the “Esc” key to once or twice to see the exit menu. Select save and exit. You may also type “Y” for yes to save and exit.

9. Appendix D

Troubleshooting

This appendix covers some of the basic mistakes and pitfalls you might encounter.

No Sound is coming out

1. Check the speakers.
 - a. Ensure the speakers are plugged into the back of the soundcard.
 - b. Ensure the speaker power supply plugged into the AC power outlet, or if they use batteries, try new batteries.
 - c. Ensure the speaker volume turned up.
2. Check the mute button on the compact panel to ensure it is deactivated, i.e., there is no red circle on the mute button.
3. Check the master volume slider and turn it up if it has a low setting.
4. Click on default button on the PSA2 HD compact panel.

No Audio When Playing Audio CD in the CD Drive

The system CD ROM drive could be used to play audio CD's. However, it must be configured to extract the audio digitally and send it over the system data lines to the soundcard to be played. Here are the steps to enable this feature:

Windows 2000

1. Right click on "My Computer". On Windows 2000 this icon on desktop. On Windows XP it is in the upper right portion of the Start menu.
2. Scroll down to "Properties" and click on it.
3. Click on "Hardware" tab.
4. Click on "Device Manager" button at the middle of panel.
5. Click on the + sign next to the DVD/CD-ROM Drives.
6. Right click on the CD ROM drive that appears. If there are more than one CD ROM drives, click on the one that is being used for audio CD playing.
7. Scroll down to "Properties" and click on it.
8. A new panel opens. See **Figure 21**.
9. Click on the Properties tab
10. Click to select the box with the label "Enable digital CD for this CD-ROM device"
11. Click the OK button and close all the relating windows.

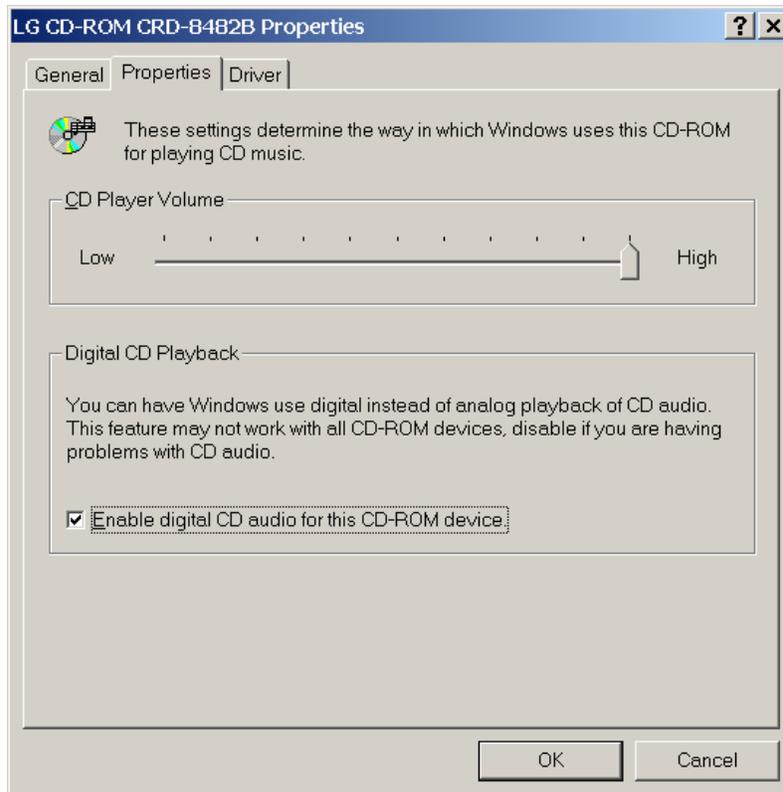


Figure 21

🔊 CD Player Control in the mixer playback tab does not have any effect on the output when Playing Audio CD in the CD Drive

Because the CD player sends the audio streams via the digital data lines, Windows treats this source like other digital audio sources such as MP3 files. Therefore, to control the volume and balance use the controls for “wave”.

🔊 No PSA2 HD Icon in the System Tray

After you have installed PSA2 HD from the installation CD, if the PSA2 HD icon disappears from the System Tray, go to the start menu, click on Programs (Windows 2000 or Windows XP), click on Philips, then click on Philips PSA2 HD, then click on PSA2 HD Control Panel.

🔊 When playing DVD there is background music but no dialog, or the dialog is very low

Check speaker connection. This may happen if the front speakers are not connected while the rear and subwoofer are. If the speakers are connected correctly and this happens it is possible that the sound track of the DVD is corrupted or damaged. One may test the sound track by connecting a set of headphones to the soundcard and listen to the sound. The headphones always output the down-mixed sound track. If the headphones sound similar to the speakers, then the sound track is corrupted.

 **Listen to Analog Inputs is causing feedback when recording from Microphone**

The microphone is too close to the speaker or the Mic In recording level is too high. Please remove the microphone away from the speaker or lower the level of Mic In slider from the Mixer Tab->Recording in the Main Control Panel.