acoustic edge

User's Manual

PSC706

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PHILIPS

Philips Acoustic Edge™

5.1 Channel PCI Sound Card

A581-T8

Philips Consumer Electronics Company

One Philips Drive

Knoxville, TN 37914

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Philips Acoustic Edge™

5.1 Channel PCI Sound Card

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This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference; and
(2) This device must accept any interference received, including interference that may cause undesired operation.
Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

Introduction

Congratulations on your purchase of the Philips Acoustic Edge™ Sound Card!

Now get ready to ignite your imagination with the most immersive soundstage ever created on a PC . . .

. . . a full-blown, digital surround-sound, discrete six-channel home theater experience, through your new Philips Acoustic Edge Sound Card. Acoustic Edge is the first PC card to deliver the impact of 6 distinct channels of sound, using advanced digital signal processing algorithms and extreme hardware acceleration, extracting audio-phile-quality sound from your PC with no added strain to your processor – not just from DVD's or 3D audio games but from all your games, music and movies.

Load your favorite music, games and movies and be prepared to hear every detail as never before articulated through 96 distinct 3D voices, 256 distinct DirectSound voices and 576 distinct synthesized Wavetable voices.

The heart of your sound card is Philips' powerful new ThunderBird Avenger audio processor, which relieves your computer of performing enormously complex audio processing. The results are dramatically faster, more-responsive gaming effects and more-convincing three-dimensional audio soundfields, all without placing new demands on your computer.

Advanced DSP algorithms from QSound Labs provide rich three-dimensional sound for every application. If you have headphones or only two speakers, Acoustic Edge's patented psycho-acoustic codes envelop you in a virtual soundfield created from up to ninety-six independent 3D voices.

Add rear, center and subwoofer speakers, and Acoustic Edge will transform your PC into your personal home theatre system, fully capable of playing the very latest Hollywood DVD releases in full-blown digital glory. Take your music CDs, MP3s, video files, cut scenes and stereo games to the max while you're at it – rediscover your existing collection while you add new favorites too!

Acoustic Edge truly revolutionizes PC sound. Install your sound card as directed, connect a 5.1 speaker system (left & right front, left & right rear, center, and subwoofer) and try these:

- Play the latest Hollywood DVD hit and be prepared for goosebumps as sound effects sweep you away.
- Rediscover your favorite music in a whole new dimension – even those golden oldies. You've never heard them like this before!
- Play a 3D audio-enabled game and experience what "virtual reality" can mean.
- Elevate your classic 2D games to a whole new level of audio realism.
- Compare enhanced QMSS to ordinary Dolby Digital on DVD and hear the remarkable differences.

Thank you for enhancing your computer with the **Philips Acoustic Edge**™. We know you'll agree, once you give it the edge, that your PC will never sound the same again.

Introduction

Key Features

- 256 streams of DirectSound acceleration and digital mixing
- 96 streams of 3D audio acceleration including positional reverb, obstruction and occlusion
- Full-duplex, 48khz digital recording and playback
- Philips ThunderBird Avenger™ high performance audio accelerator
- Hardware DSP accelerated QSound 3D algorithms including
  QSound3DInteractive™ positional 3D
  QSound Environmental Modeling for EAX™ and DS3D™ games
  QSound Multi Speaker System™ for quad or 5.1 output of stereo sources
  QXpander™ for 3D enhancement of stereo
  DVD QSurround™ 5.1 speaker virtualization over stereo speakers (compatible SoftDVD player required)
- 576 voice total wavetable synthesis music polyphony
  512 Voice professional quality soft-synth with XG and GM compatibility
  64 channel hardware wavetable synthesizer
- Dual gameport accelerator with legacy and digital joy-stick modes
- DirectSound™, DirectSound3D™, EAX™ 1.0 , EAX™2.0/I3D Level 2, and A3D™ 1.0 compatibility
- Stereo, 4 channel surround , 5.1 speaker or headphone output
- QMSS™ enhanced DVD playback mode (compatible SoftDVD player required)

Minimum System Requirements

Installation of your Philips Acoustic Edge™ requires the following minimum hardware and operating system:

- One available PCI 2.1 compliant slot
- Intel Pentium® class or 100% compatible 133Mhz or faster processor
- Intel® or 100% compatible motherboard chip set
- 16MB system RAM
- CD ROM for driver installation
- Stereo, 4 channel surround powered speakers, 5.1 speakers or headphones
- Windows® 95, Windows® 98, Windows NT® 4.0 (SP3)*, Windows® 2000

What's Included

You will find the following items in your Acoustic Edge™ package:

1 – Acoustic Edge™ sound card in a anti-static pouch
1 – Acoustic Edge™ installation CD
1 – Analog audio cable to connect CD/DVD drive to sound card
1 – Line Out cable
1 – S/PDIF cable
1 – Acoustic Edge™ user's manual
1 – Product registration card

Bundled applications may be included on the installation CD or on separate media depending on the Acoustic Edge™ model.

Please retain the Yamaha Certificate of Authenticity. The included serial number will be needed during software installation.

* Not all product features supported using this operating system.

Installing Acoustic Edge

What you need for installation

Computers come in different shapes and sizes. The installation procedures in this manual apply generally and you should compare the illustrations here with your computer before you start your sound card installation.

- Sound card
- Installation CD
- CD Analog Audio Cable
- Line out Cable
- S/PDIF Cable
- A Phillips screwdriver

Have your Windows® installation CD available as it may be needed to complete installation of common software components.

Installing the Sound Card

✔ Uninstall the drivers for any previously installed sound cards. Consult your previous sound card documentation for details. Turn off computer and remove existing sound card. If your computer has on-board sound, consult your PC documentation to disable it.

✔ **Static Electricity can cause permanent damage to your sound card**

To prevent damage please:

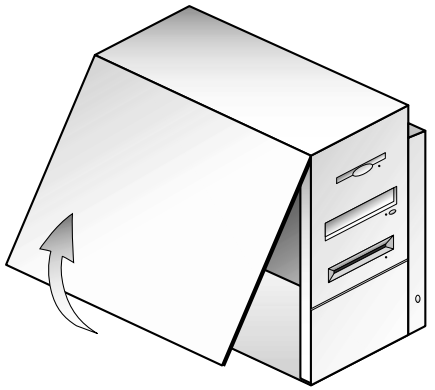
1. Always hold your sound card by its edges. Avoid touching any electronic components on your sound card.
2. Use a grounding strap or touch any non -painted surface of your computer chassis before you begin installation to discharge static electricity.

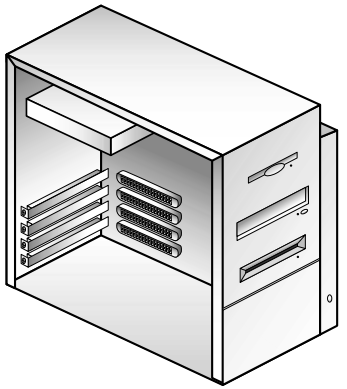
Installing Acoustic Edge

To install the sound card:

Turn off your computer, and disconnect the power cable. Disconnect all devices that are connected to the computer.

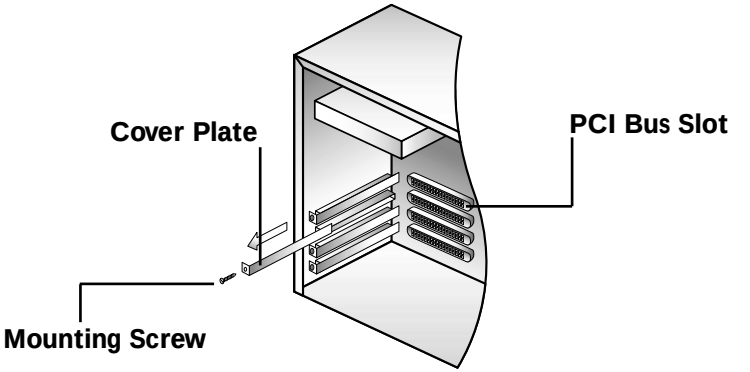
Remove the computer cover.

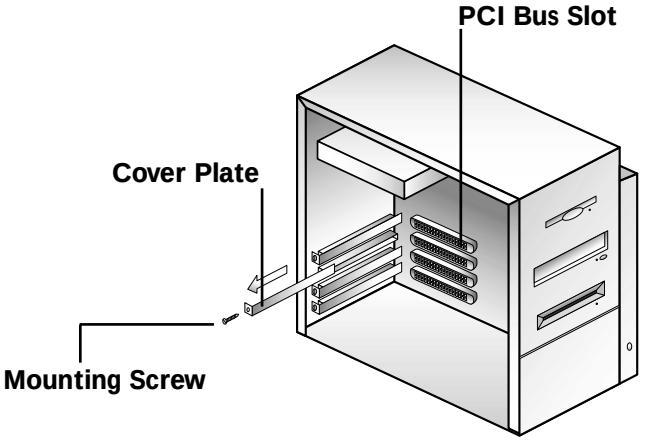




Select an available PCI slot and, if necessary, remove its cover plate.

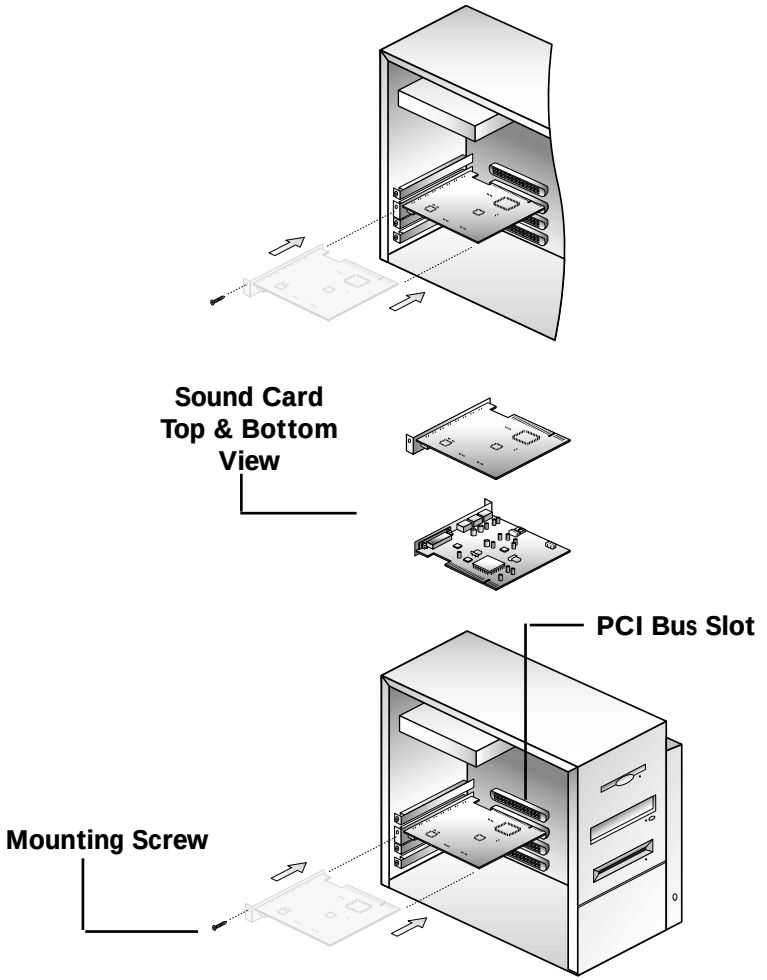
Keep the mounting screw to secure your sound card later. Save the mounting plate for possible use later.





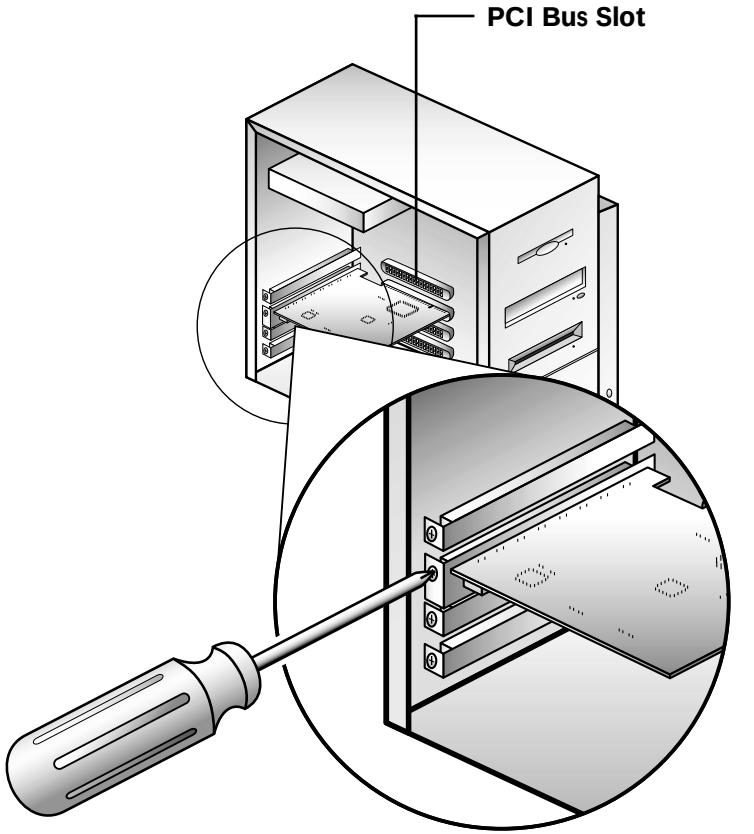
Installing Acoustic Edge

Remove the Acoustic Edge™ Sound Card from the anti-static bag. Align your sound card with the selected PCI Bus-Slot and firmly push it into the slot. Be sure the sound card is aligned properly and fits snugly into the slot.



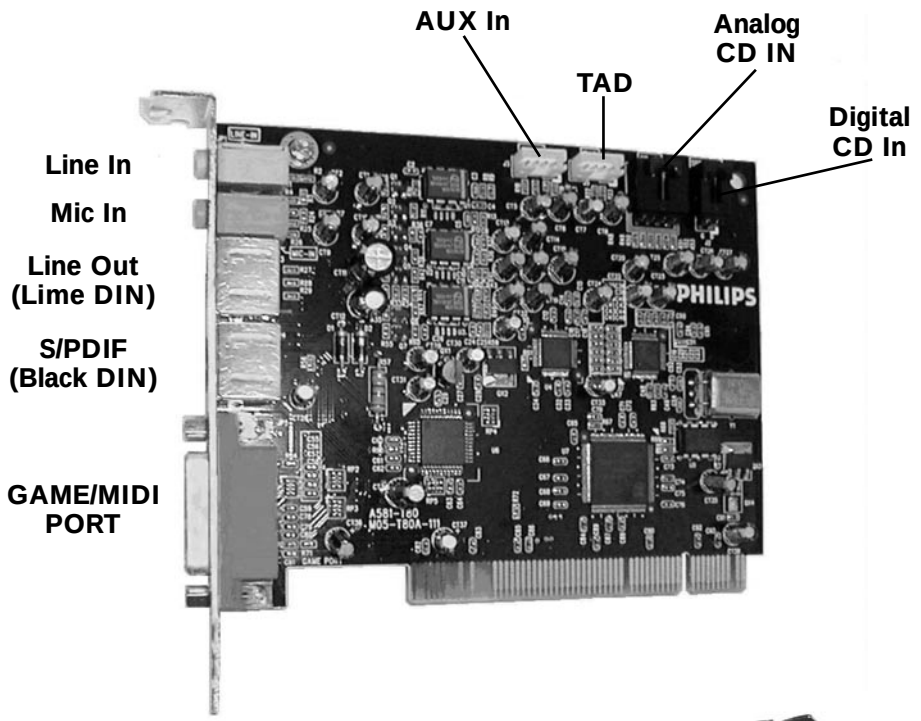
Align sound card and fit firmly in place

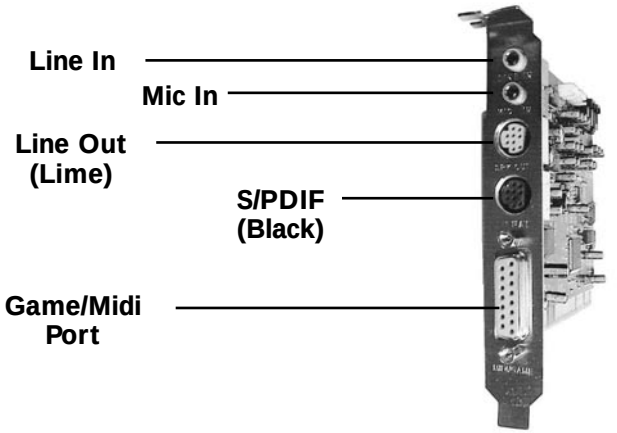
Use the screw from the slot cover to secure the sound card to the frame of the computer chassis, but do not over-tighten. Securing the card assures proper grounding.

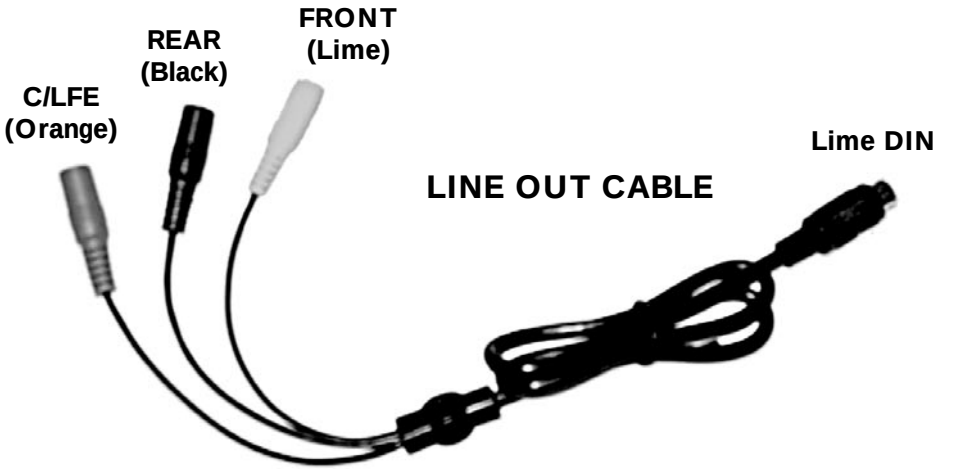


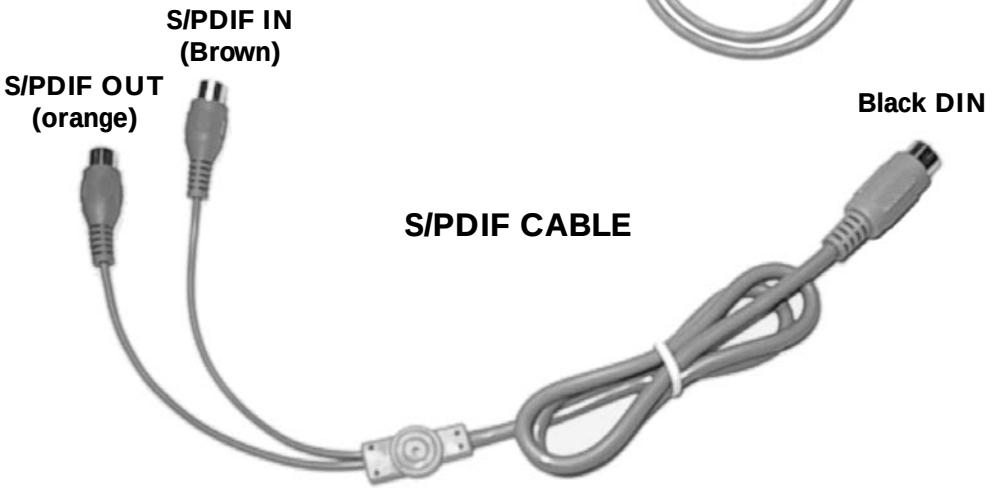
Installing Acoustic Edge

Sound Card Configuration









Installing Acoustic Edge

Connecting to Your Acoustic Edge Sound Card

Speakers

Carefully insert the "Line Out" cable into the top DIN socket on the sound card bracket making sure the key is properly aligned. If the cable does not easily insert into the socket DO NOT FORCE IT IN, instead verify the key alignment is correct and gently reinsert. The DIN sockets are the large round sockets just below the two smaller jacks for "Line In" and "Mic".

Next plug your front speakers or headphone into the lime colored 3.5mm stereo jack at the other end of the cable. If you have a quad surround or 5.1 channel speakers then plug your rear/surround speakers into the black colored 3.5mm stereo jack on the same cable. If you have a 5.1 channel speaker system then also plug the center/LFE speakers into the orange colored 3.5mm stereo speaker jack on the same cable. If you are using a pair of digital (S/PDIF) speakers for your front or rear speakers then plug them into the S/PDIF Out phono jack as indicated below.

S/PDIF

If you intend to use the external S/PDIF In or S/PDIF out connections then carefully insert the "S/PDIF" cable into the bottom DIN socket on the sound card bracket making sure the key is properly aligned. If the cable does not easily insert into the socket DO NOT FORCE IT IN, instead verify the key alignment is correct and gently reinsert. The DIN sockets are the large round sockets just below the two smaller jacks for "Line In" and "Mic".

To connect digital speakers, an AC3 or DTS decoder, receiver or other device with an S/PDIF input to the S/PDIF Out of the sound card, plug it into the orange phono jack on the end of this cable. To connect an external digital source with an S/PDIF output to the sound cards S/PDIF In plug it into the brown phono jack on the end of this cable. Do not simultaneously connect devices to both the brown external S/PDIF In connection and the internal Digital/CD connector as they will interfere with each other (see Internal Connections Below).

Line In, Mic In and MIDI/Joystick

External analog stereo sources with line level output can be connected to light blue 3.5mm stereo jack at the top of the sound card bracket. A microphone can be connected to the pink 3.5mm mono jack. An analog or digital joystick and/or MIDI devices can be connected to the large connector at the bottom of the bracket.

Internal Connections

Connectors for three line level analog inputs (Aux In, TAD, Analog CD In) and one S/PDIF digital input (Digital CD In) are provided along the top of the sound card as indicated in the picture on page 16. Use the 4 pin CD audio cable to connect the analog audio output of your internal CD or DVD drive to the sound cards "Analog CD In" connector.

The "Digital CD In" connector is not required for most applications because current CD players and games typically use digital extraction (no cable required) or the included "CD Analog Audio Cable" to bring CD audio into the sound card. If you connect "Digital CD In" connector to your CD or DVD drive you will not be able to use the external "S/PDIF In" jack on the "S/PDIF" cable which plugs into the rear of the card.

Replace computer cover and reconnect the power cable, monitor and other devices.

Software Installation

Windows® 95/98/2000 Installation

Now that the hardware is installed, it is time to configure the drivers.
Plug and Play uses your system's BIOS and the Plug and Play features of Windows® 95/98/2000 to allocate resources for Philips Acoustic Edge™.

Which version of Windows do you have?

Microsoft issued a maintenance release of Windows® 95 referred to as OSR2. This version shipped as the stock operating system on many PC's. Newer and recently upgraded PC's will have the Windows® 98 operating system. Other systems will have the original Windows® 95 or "Gold" version. The following procedure describes installation using Windows® 98/98SE. Windows® 2000 screens are slightly different but the procedure is the same as described. If you have older versions of Windows® 95 then the installation will be slightly different than described below.

To install the drivers for Windows® 95/98/2000

1. Turn on the computer and place the Philips Acoustic Edge™ CD in your CD-ROM drive.

   When the Add New Hardware Wizard dialog box reports that a new PCI Multimedia Audio Device has been detected, click **NEXT**.

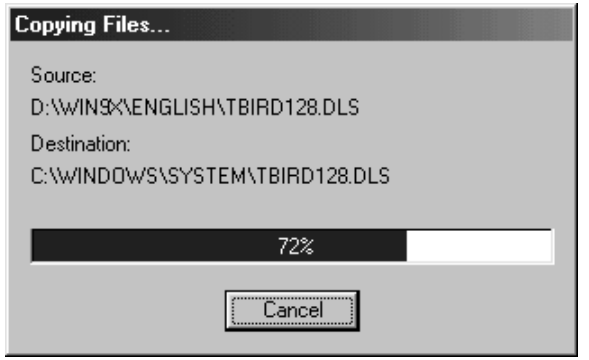
2. **Select Search for the best driver for your device (Recommended)**. Click **NEXT**.

3. If you are installing from the install CD or if you have copied the install to any other location, select **SPECIFY A LOCATION** and browse to your directory where the setup files are located. For Windows® 95/98, select Win9x directory then choose english. For Windows® 2000, select WDM directory.

   Click **NEXT**.

4 Select **NEXT** to install the drivers.

5. Windows® then copies the files. You may be prompted to insert your Windows® CD or floppy, as the core sound components of the operating system may need to be copied as well. These include audio Codecs, the Mixer and the Sound Recorder program.



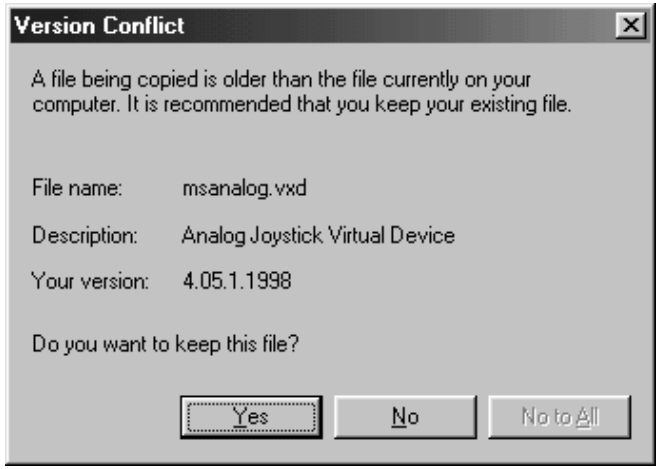
6. The installation will continue to install the files to your system. For Windows® 95/98,

   Click **FINISH**.

   For Windows® 2000, you must install the **Philips Acoustic Edge Audio™ and Philips Acoustic Edge GamePort Enumerator** devices. Browse to the Driver disk directory WDM\English to install these files. You will find these files in the same WDM install directory and Windows® will finish installing the drivers for Philips Acoustic Edge™ automatically.

   Click **FINISH** on each screen to install each of these devices.

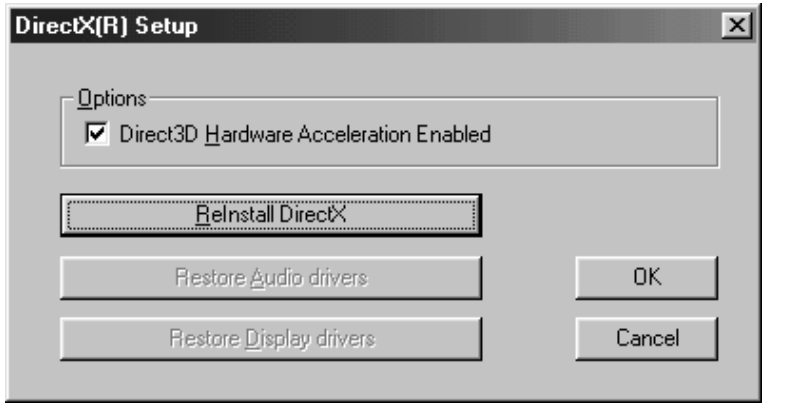
7. After clicking "Finish" the Philips Acoustic Edge™ GamePort will be installed. It is possible during gameport installation, Windows® will detect newer versions of msanalog.vxd, vjoyd.vxd and msjstick.drv. It is recommended that you keep your existing files. Click **YES** on all 3 screens that appear.



8. Next, the software launcher will allow you to open the Acoustic Edge control panel and configure your speaker settings if desired. Select **YES** to modify these settings now, or select **NO** to modify later. Speaker settings are described under the Settings Tab in this manual.

Note: Any time you say No to a Applications Launcher dialog box like the one shown above, a second box will appear asking if you want to launch the next time Windows is started. Answer Yes or No as desired.

9. Next, the DirectX® Setup dialog box will appear. Click **OK**.



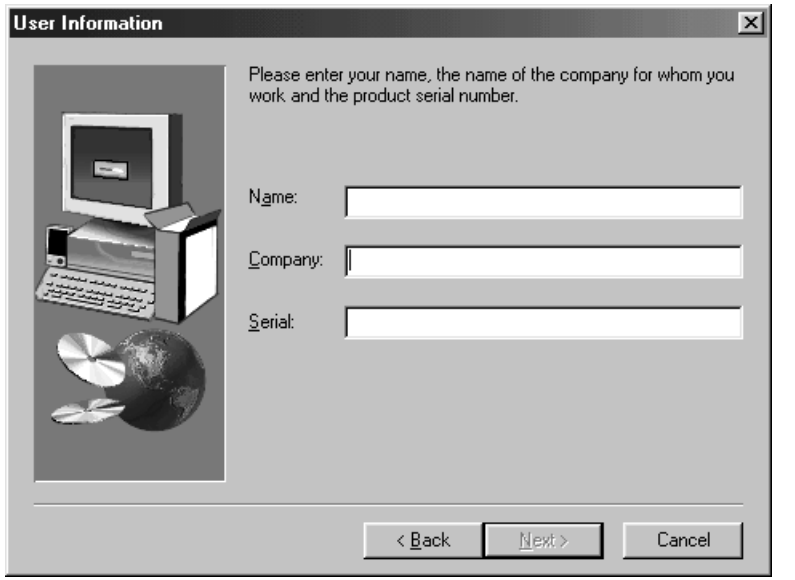
YAMAHA SOFTSYNTHESIZER INSTALLATION

10. After Acoustic Edge™ driver installation, the software launcher will prompt you to install the Yamaha SoftSynthesizer. Click **YES**.

11. The Yamaha SoftSynthesizer Welcome page appears. Click **NEXT**.

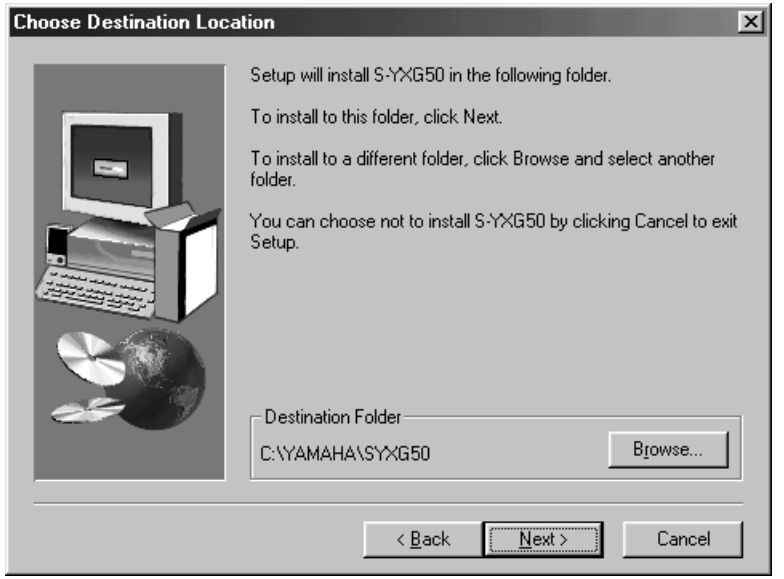
12. Enter the serial number located on the Yamaha Corporation Certificate of Authenticity included with your documentation. This serial number is case sensitive!

    Click **NEXT.**



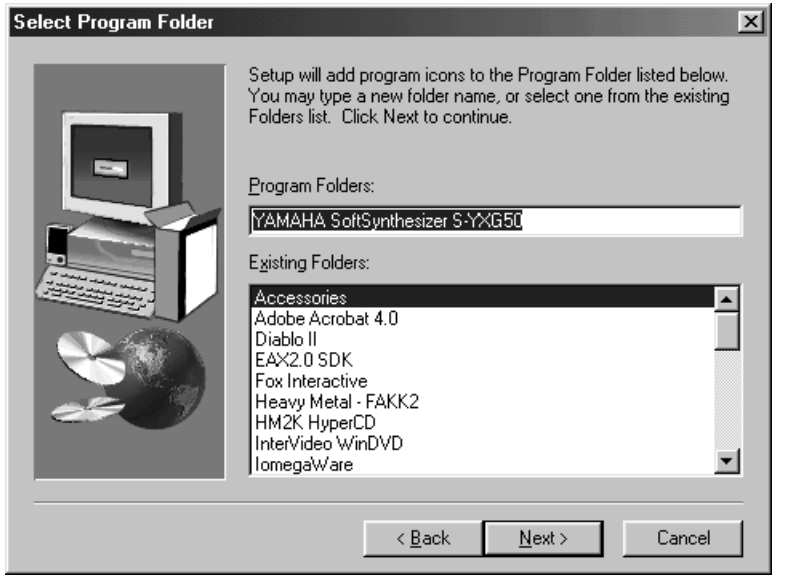
13. The Choose Destination Location dialog box appears. Follow the instructions in this box .

    Click **NEXT**

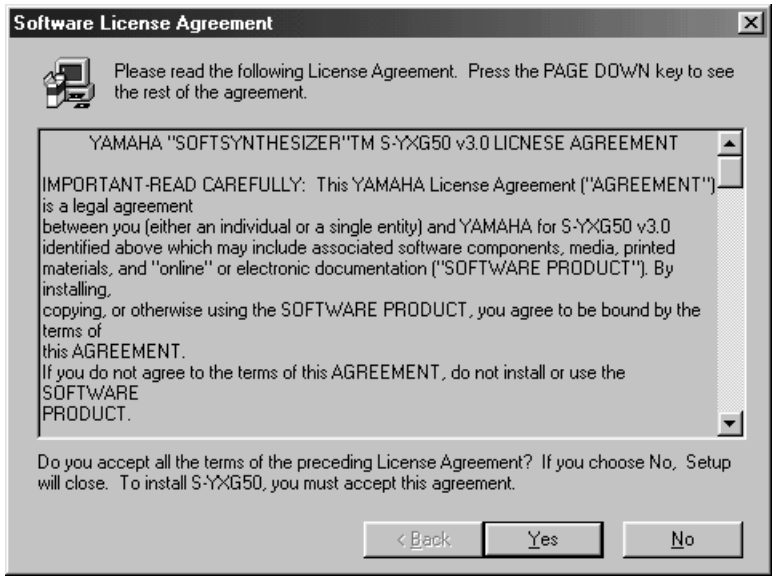


14. Select A Program Folder dialog box appears.

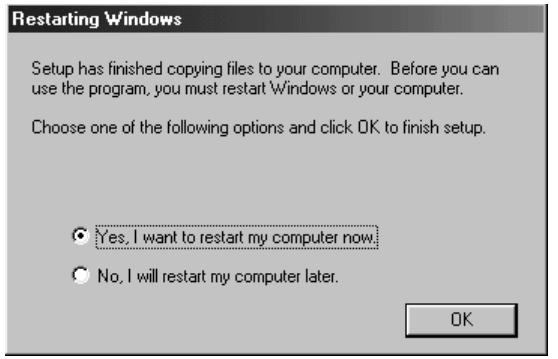
    Click **NEXT**



15. The Yamaha Software License Agreement dialog box is displayed. If you accept the terms and conditions, Click **YES.**



16. You must restart your computer at this time. Click **OK**



17 Next, the software launcher allows you to install Sonic Foundry SIREN Jukebox XPress. This application allows you to play and organize music. Click **YES** on the dialog box and follow the installation screens to install this software. See section About SIREN XPress to learn more about this application.

18. Product Registration – If you are connected to the internet, you can register your product now by clicking **YES** in the dialog window shown below.

    If you prefer to register your product at a later time, go to: www.philipsusa.com/prod_reg_bounce.html and follow the instructions.

Congratulations!
You have successfully installed your Philips Acoustic Edge™.

Installing Acoustic Edge

Windows NT® Installation

Installation of the drivers for your Philips Acoustic Edge™ in a Windows NT® environment are as follows (note: you must have the appropriate privileges in order to install the drivers):

1. Boot the system to the Windows NT® desktop and insert your install CD in your CD-ROM.
2. Go to D:\NT40\English and double click on **Philips Acoustic Edge Install.exe**. (D: represents your CD-ROM drive).
3. Wait a couple of minutes while the data transfers. Once it finishes the Philips Acoustic Edge Settings window will appear. Click **OK** on the settings page and then when the "System Settings Change" page comes up and prompts you to restart, click the "Restart Computer Now" button.

That's it! Once the system reboots to Windows NT® your Philips Acoustic Edge™ should be fully functional as indicated by the Windows® Startup sound.

Yamaha SoftSynthesizer Installation for Windows NT®

Follow these steps to install the Yamaha SoftSynthesizer from your install CD:

1. Insert your install CD into your CD drive
2. Go to D:\S-yxg50\Nt40\Disk1\ (D: represents your CD-ROM drive)
3. Double Click on Setup.exe
4. Follow the on-screen instructions for installation. The required serial number is located on the Yamaha Corporation Certificate of Authenticity included with your documentation.

Siren XPress Installation for Windows NT®

Follow these steps to install the Siren XPress. This application allows you to play and organize music.

1. Insert your install CD into your CD drive
2. Go to D:\Applications\Sonic Foundry\Siren\ (D: represents your CD-ROM drive)

Siren XPress Installation for Windows NT® (cont)

3. Double Click on Sirensetup.exe
4. Follow the on-screen instructions for installation

Real Mode DOS Installation (Optional)

This step is only required if you intend to run DOS applications under real DOS mode by restarting your computer in "MS-DOS mode". This step is not required to run DOS applications in a DOS box (MS-DOS prompt).

In real DOS mode, you must have your DOS CD-ROM drivers loaded for access to the install CD. Another way to do this is to simply run INST_DOS.BAT from a DOS box in Windows.

Run INSTALL.EXE from the DOS directory on the CD. This installation program will create the TBird directory on any drive you desire. Follow the screen prompts to install the files to your hard drive. The install program will edit your autoexec.bat file to perform automatic initialization of Philips Acoustic Edge™ for use in real mode DOS .

Using the Philips Acoustic Edge Control Panel for DOS

To launch the DOS control panel:

1. Go to C:\Acoustic\ (C represents you hard drive)
2. Type **VOLCNTRL.EXE**

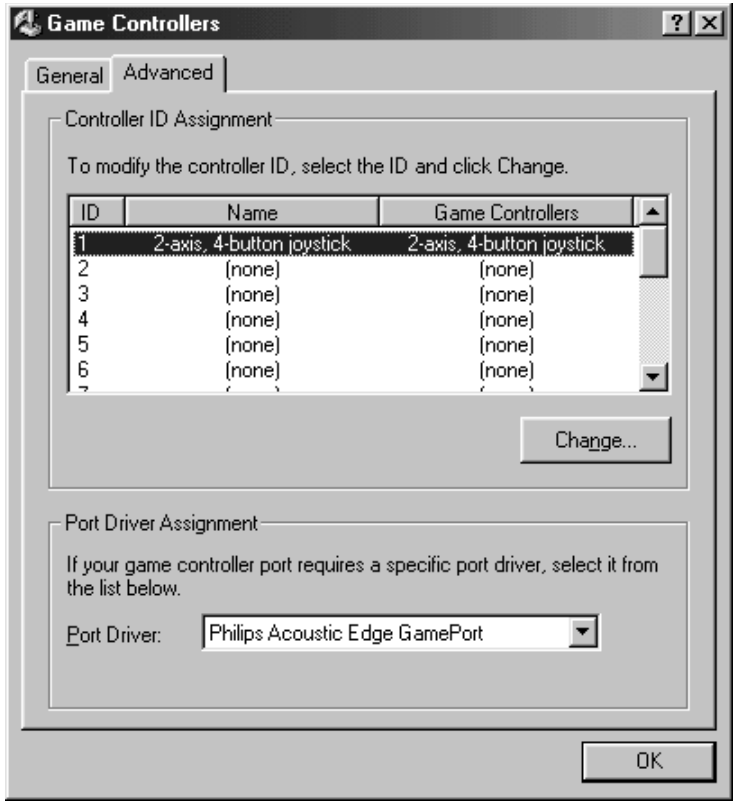
This application allows you to adjust volume levels, balance, input levels, synthesizer modes, speaker modes, and midi effects in real DOS.

In DOS games that have music settings, if you select FM synthesis in the game, make sure the synth control in the control panel is set to **OPL3**. For games that support MIDI (mpu-401), select the **WVTBL** (wavetable) option. The game publisher normally has this information in the program documentation.

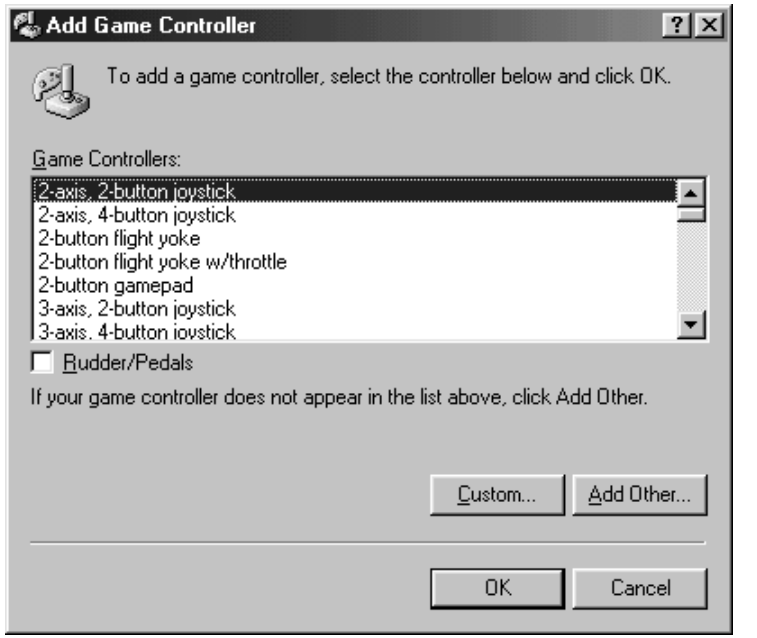
NOTE: This application is for real MS-DOS mode only and should not be run under Windows. In Windows®, use the Windows® mixer for adjusting playback and recording levels.

Joystick Configuration for Windows® 95/98/2000:

1. Open the Control Panel and double-click on the **GAME CONTROLLERS** icon. Select the **ADVANCED** tab and under **PORT DRIVER ASSIGNMENT** and select Philips Acoustic Edge GamePort.

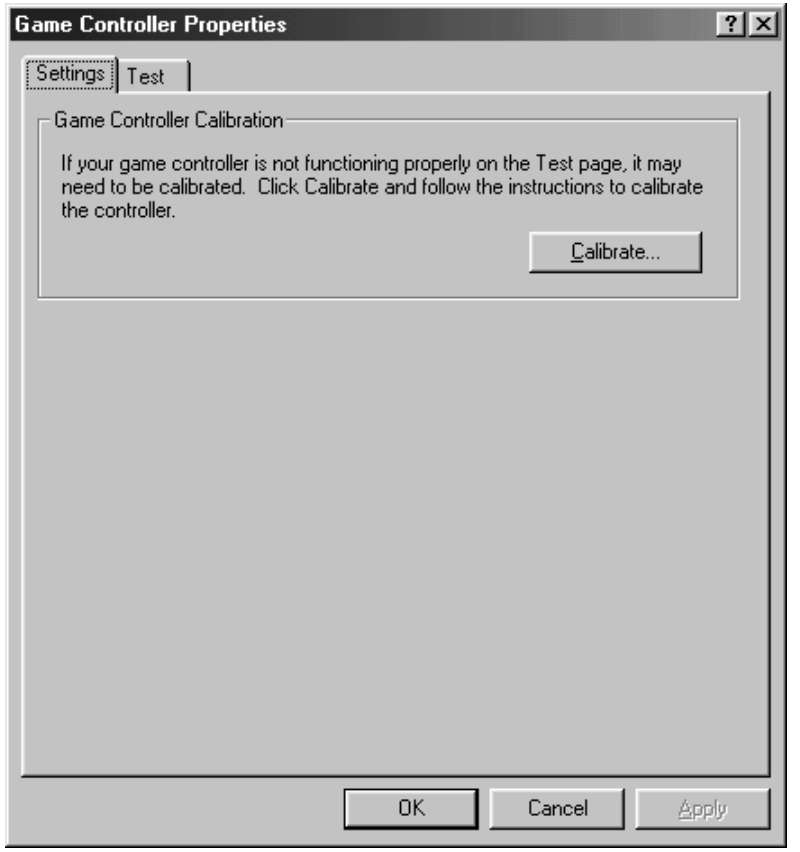


2. Select the **GENERAL** tab and click the Add button. You may select any one of the **GAME CONTROLLERS** listed, then click **OK**.



Installing Acoustic Edge

3. After making your selection, highlight the selected controller in **GAME CONTROLLERS** and click the **PROPERTIES** button. Select **CALIBRATE** and calibrate your joystick. Your joystick should be installed and ready for flight!



Technical Support

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 memory available.
- Computer Operating System (IE: Windows® 95, Windows® 98, etc.)
- On-screen error information.
- Other hardware connected to your sound card.

Technical Support Information:

- Toll-Free Telephone Number: 1-800-835-3506

Operating Hours (US Central Time):

- Monday through Friday 7:00am – 11:00pm
- Saturday & Sunday 8:00am – 10:00pm

Internet Address: **www.philipsusa.com**

Product Return

Before returning the Philips sound card, you must first contact the Philips Technical Support group to determine the nature of product defect. Once the nature of the problem has been determined, a Return Authorization number and address will be supplied. **A RETURN AUTHORIZATION NUMBER MUST ACCOMPANY THE RETURN OF THIS PRODUCT.**

When returning the product for service:

- The cost of shipment is at your expense and you assume all the risk. It is recommended to ship the product through a carrier that provides proof of delivery and product should be insured.
- Return Authorization number must be clearly marked on the outside of the package.
- Use proper packing materials for shipment
- A dated proof of purchase proving the product is still under Warranty

Warranty: 3-year limited warranty

DSP Special Effects and Algorithms

Philips Acoustic Edge™ DSP Special Effects and Algorithms

EAX™ Game Compatibility (Effects Tab)
The Acoustic Edge uses QSound Environmental Modeling™ (QEM™) to achieve compatibility with games utilizing EAX™ 1.0 or EAX™ 2.0 properties including environmental reverb, obstruction and occlusion modeling. EAX™ is a trademark of Creative Labs.

DVD QSurround™ (Settings Tab)
Provides virtual 5.1 playback using just stereo speakers and a compatible soft-DVD player capable of providing 5.1 output.

QSound Environmental Modeling™ /QEM™ (Effects Tab)
QSound Environmental Modeling (QEM) provides EAX game compatibility and the ability to apply reverb to non-EAX sound sources including applications, S/PDIF In and external inputs.

QSound Multi-Speaker System™ /QMSS™ (Settings and S/PDIF Tabs)
QMSS (QSound Multi-Speaker System) transforms stereo sources into 4 channel or 5.1 channel output. QMSS is automatically invoked for stereo applications if 4 speaker or 5.1 speaker mode is selected for all operating systems except Windows® 2000 (WDM drivers). For Windows® 2000 (WDM drivers) the "Expand All" box must be checked before starting the application. QMSS will also be applied to analog inputs (CD In, Line In, etc.) and the S/PDIF In if enabled on the control panel.

QSound3DInteractive™/Q3DI™ (Automatic)
Q3DI positions sounds all around you using stereo, surround, 5.1 speakers systems or headphones when playing 3D audio enabled applications. The proper DSP algorithm is automatically selecting based on your speaker mode.

QXpander (Settings Tab)
QXpander widens the sound field of stereo music and provides 3D enhancement to 2D audio games when using stereo speakers.

Tone Control (Settings Tab)
Allow you to adjust treble and base levels to your personal taste.

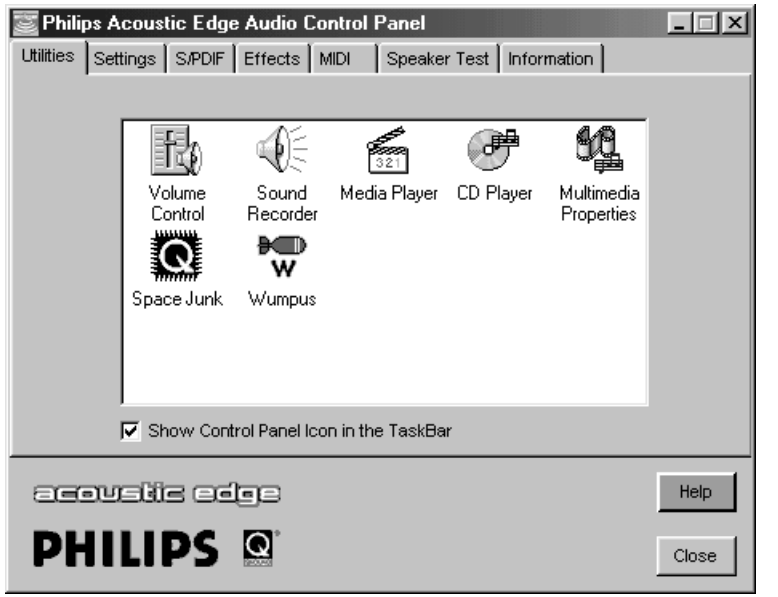
Control Panel

Help Button

Click the blue "Help" button on any tab and you will have access to comprehensive hyper linked help file describing the control panel. Within the help file you can navigate by simply clicking on parts of the image of the control panel, searching or by using contents or index lists.

Utilities Tab

Windows® Audio Applications



Volume Control:
Windows® audio mixer for adjusting volume of various sound sources.

Multimedia Properties:
Windows® utility for selecting multimedia devices. Use it to switch between the Acoustic Edge's two MIDI music synthesis engines. (See "MIDI Tab" section)

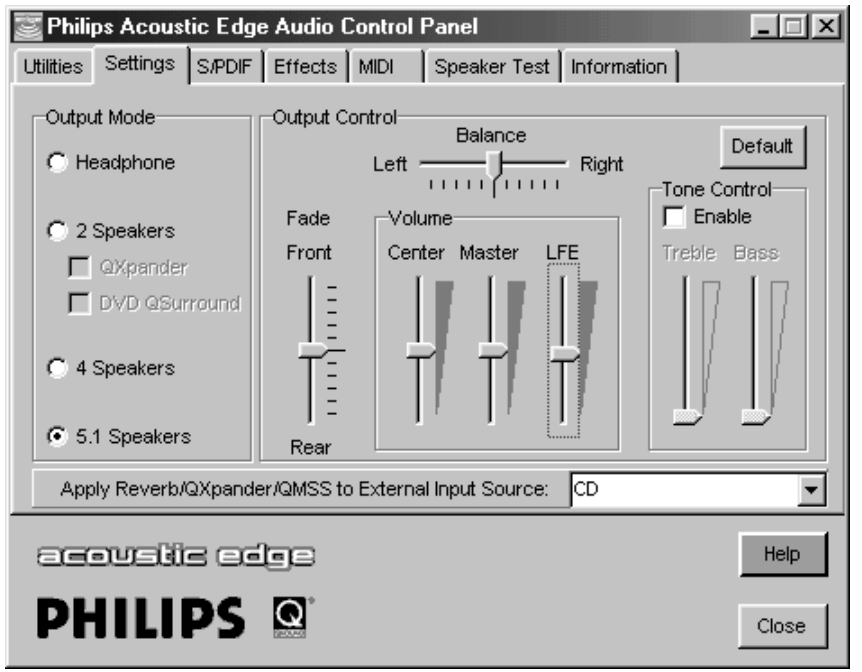
Sound Recorder, Media Player & CD Player:
Windows® playback and record applications.

Space Junk & Wumpus:
3D audio applications that demonstrate QSound Lab's 3D audio technology. You must have the Acoustic Edge install CD in your CD-ROM drive to launch these applications.

Show Control Panel Icon in the TaskBar:
Enabling this allows you to open the control panel from the taskbar. Default setting is enabled.

Settings Tab

This tab allows you to select your exact speaker configuration and provides you with sliders for adjusting the master volume, left/right speaker balance, fade control (balance between front and back speakers), Center/LFE (Low Frequency Effects) level control for 5.1 channel playback, and Tone Control which affects all channels.



Output Mode

Headphone
Select this mode when listening using headphones rather than speakers. The headphones should be plugged into the "front" speaker jack.

Selecting "Headphone" tells the sound card to use a special 3D algorithm when playing 3D games. Selecting "2 Speakers" will result in incorrect sound positioning when using headphones. Selecting "Headphones" when using speakers will reduce the effectiveness of 3D effects.

Note: The Acoustic Edge is designed for use with headphones or amplified (powered) speakers. Use with passive (non-amplified) speakers is not recommended.

2 Speakers
Select this mode when using stereo (2 or 3 piece) speaker systems. The Acoustic Edge will apply advanced 3D algorithms to virtualize sounds all around you when playing compatible 3D audio enabled games.

QXpander
QXpander widens the sound field of stereo music and provides 3D enhancement to 2D audio games. Using this feature in combination with speakers providing "3D enhancement" may cause distortion and is not recommended.

DVD QSurround
This feature will greatly enhance your listening experience when used during DVD playback in 2 speaker mode. This feature will provide the sensation of a full-blown 5.1 speaker system by virtualizing the surround speakers. For proper operation 5.1 output must be selected in the soft-DVD player's control panel.

QSurround requires a soft-DVD player capable of providing 5.1 channel output. If your soft-DVD player does not offer 5.1 output mode then select "stereo' or "Pro-Logic mode" in the soft-DVD player's control panel and select QXpander mode instead of DVD QSurround.

The Acoustic Edge supports numerous playback modes for various speaker configurations. See the "DVD Playback Modes" section of this manual for details.

4 Speakers
Select this if you have a 4 or 5 piece speaker system (stereo front left and right and rear/surround left and right speakers and optional subwoofer). 3D sounds generated by compatible applications will processed to the appropriate speaker and stereo sounds from applications will be expanded to four distinct channels using QMSS.

Stereo sources from external inputs (CD In, Line In . . .) will not be expanded to the rear speakers unless the source is selected in the "Apply Reverb/QXpander/QMSS to External Input Source:". Similarly the "Apply QXpander/QMSS" box must be checked under "S/PDIF In" on the "S/PDIF" tab in order for S/PDIF In sources to be expanded to all 4 speakers.

If your front or rear speakers are digital (S/PDIF) rather than analog then see the "S/PDIF" section of this manual for additional instructions.

5.1 Speakers:
Select this mode if you have a 5.1 speaker system (front left, front center, front right, surround left and right speakers and LFE/subwoofer). 3D sounds generated by compatible applications will processed to the appropriate speaker and stereo sounds from applications will be expanded to 5.1 distinct channels using QMSS.

Stereo sources from external inputs (CD In, Line In . . .) will not be expanded to the rear, center and LFE speakers unless the source is selected in the "Apply Reverb/QXpander/QMSS to External Input Source:". Similarly the "Apply QXpander/QMSS" box must be checked under "S/PDIF In" on the "S/PDIF" tab in order for S/PDIF In sources to be expanded to all speakers.

If your front or rear speakers are digital (S/PDIF) rather than analog then see the instructions in the "S/PDIF" section of this manual.

Expand All (Windows® 2000/WDM drivers only)
Select "Expand All" before starting the application to transform stereo applications to 4 or 5.1 speaker playback. This occurs automatically in other operating systems.

Output Control

Balance Slider
Use this slider to adjust the relative volume of the right vs. left speaker. The overall volume will not be affected. To center the balance slider automatically, right click on the balance slider, and choose "Center".

Fade Slider
Use the slider to adjust the relative volume of the front vs. rear speaker. To center the fade slider automatically, right click on the fade slider, and choose "Center".

Volume Sliders

Center:	To adjust the volume output for the center channel in 5.1-Speaker mode.
Master:	To adjust the volume output for the master volume (all speakers affected).
LFE:	To adjust the volume output for the Low Frequency Effects channel in 5.1-Speaker mode.

Tone Control
Treble and/or Bass level can by emphasized by checking the "Enable" box and adjusting the Treble and/or Bass sliders. Uncheck the "Enable" box or adjust the sliders to the bottom for a flat response.

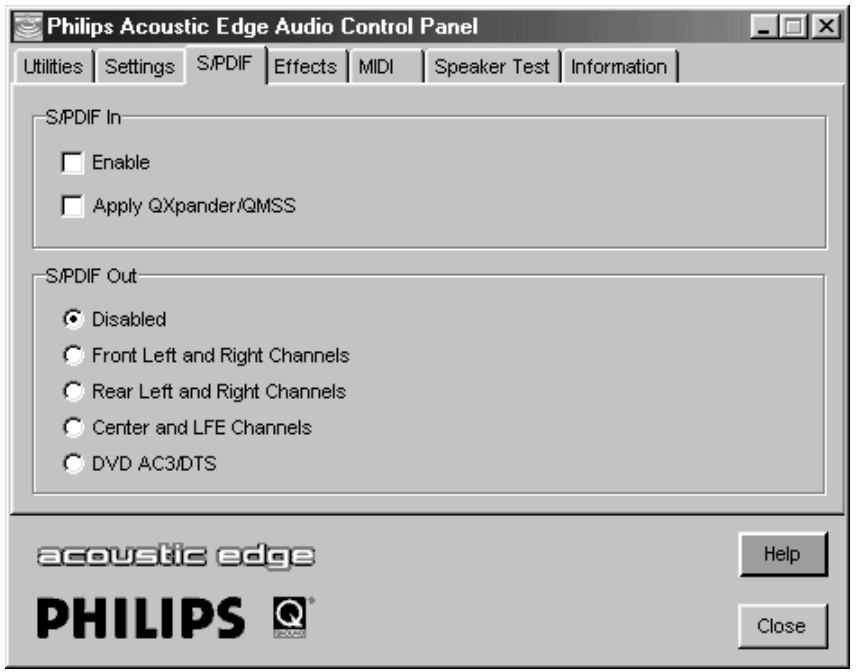
Default Button
The default button will disable tone control and set Tone Control sliders to minimum (flat). All other sliders under "Output Control" are centered.

Apply Reverb/QXpander/QMSS to External Input Source
Reverb, QXpander (when enabled), and expansion of stereo to 4 or 5.1 channels (QMSS) are automatically applied to all sounds generated by applications running on your PC however they are not applied to inputs such as analog "CD In" and "Line In" unless that input is selected on the "Apply Reverb/QMSS/QXpander to External Input Source " selector pull-down menu.

For example if you are using the Microsoft "CD player" which uses the analog "CD In" connector to play CD's or if you are using a tape deck or other external device connected to "Line In" you must select the input here to enable conversion of these stereo sources to 4 or 5.1 channels using QMSS. However if you are using an application that is not dependent on these connections such as a game, MP3 player, or a CD player that uses digital extraction rather than analog "CD In" (such as the included Siren JukeBox application) then QMSS is used to automatically convert these sources to 4 or 5.1 channels (when in 4 or 5.1 speaker mode).

S/PDIF Tab

This page of the Philips Acoustic Edge Control Panel will control the settings for the Digital Audio input and output. S/PDIF is the acronym for industry-wide standard called Sony/Philips Digital Interface. This is the signal typically labeled "Digital Output" on the back of a newer generation CD-Player or similar "Digital Audio" consumer devices.



S/PDIF In

Enable

This setting is used to enable the S/PDIF In on Philips Acoustic Edge from a digital source such as a CD-ROM or DVD drive housed in the PC or an outside device connected to the external S/PDIF cable.

Apply QXpander/QMSS

Checking this box will have the following effect:

- When in 4 speaker or 5.1 speaker mode any source connected to S/PDIF In will be expanded to all speakers using QMSS.
- When in 2 speaker mode QXpander will be applied to any source connected to S/PDIF In providing an enhanced (wider) sound field.

S/PDIF Out

Disabled

In this mode S/PDIF Out is disabled. Select one of the following options to determine what content will be sent to the S/PDIF Out connector.

Front Left and Right Channels

In this mode the same content being sent to the front Line Out speaker jack in analog format will also be sent to the S/PDIF output in digital format for applications running on your PC (MP3, games, etc.). For external inputs (CD-In or Line In), select the proper source on the "Apply Reverb/QXpander/QMSS to External Input Source" pull down menu located on the Settings tab. Use this mode if you are using digital S/PDIF speakers for your front speakers or wish to send the front speaker stereo signal to an external device connected to the S/PDIF output such as a mini-disk recorder or receiver with S/PDIF In. Please note that the volume settings on the Settings tab will have no affect on the signal on the S/PDIF output.

Rear Left and Right Channels

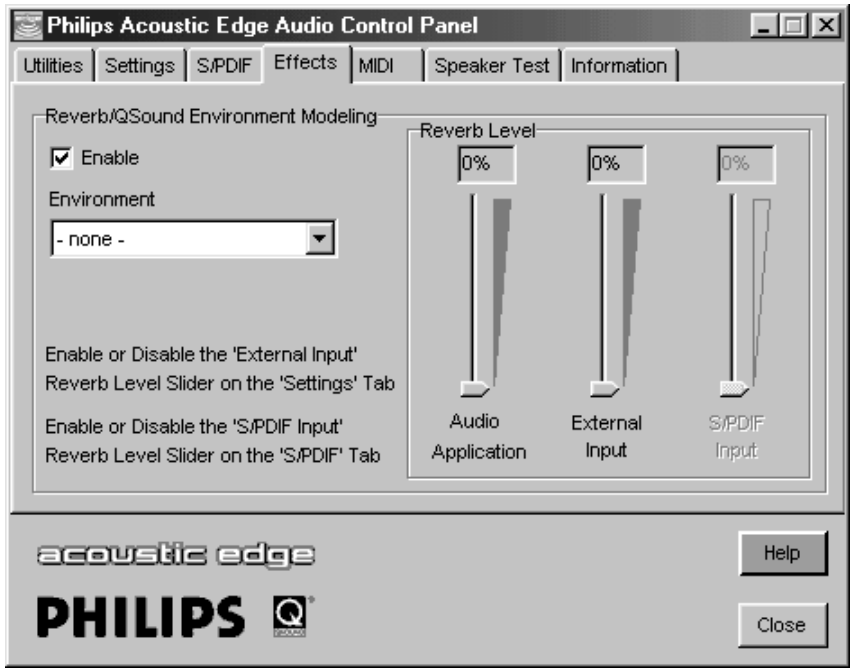
In this mode the same content being sent to the rear/surround Line Out speaker jack in analog format will also be sent to the S/PDIF output in digital format for applications running on your PC (MP3, games, etc.). For external inputs (CD-In or Line In), select the proper source on the "Apply Reverb/QXpander/QMSS to External Input Source" pull down menu located on the Settings tab. Use this mode if you are using digital S/PDIF speakers for your rear speakers. For proper operation you must also be in 4 speaker or 5.1 speaker mode. Please note that the volume settings on the Settings tab will have no affect on the signal on the S/PDIF output.

Center and LFE Channels

In this mode the same content being sent to the Center/LFE Line Out speaker jack in analog format will also be sent to the S/PDIF output in digital format for applications running on your PC (MP3, games, etc.). For external inputs (CD-In or Line In), select the proper source on the "Apply Reverb/QXpander/QMSS to External Input Source" pull down menu located on the Settings tab. Use this mode if you are using digital S/PDIF speakers for your center and LFE speakers. For proper operation you must also be in 5.1 speaker mode. Please note that the volume settings on the "Settings" tab will have no affect on the signal on the S/PDIF output.

DVD AC3/DTS

Use this mode if you wish to play DVD audio using an external AC3 or DTS decoder such as a speaker set, receiver or decoder box connected to S/PDIF Out. This mode is only available when using a compatible soft-DVD player capable of streaming AC3 or DTS data to the sound card.



Effects Tab

These controls allow you to manage the application of reverb and QSound Environmental Modeling™ (QEM™). QEM provides EAX 1.0/2.0 game compatibility and the ability to apply reverb to non-EAX sources including applications, S/PDIF In and external inputs.

Enable

When playing games supporting EAX properties select the "Enable" box under "Reverb/QSound Environmental Modeling". Set the Environment selector to "- none –" to avoid reverb being applied to non-EAX applications.

To apply reverb to non-EAX applications also select a reverb type using the "Environment" selector described below and adjust the reverb level using the slider corresponding to the source.

Environment

Using this pull down menu you can select various types of reverbs that simulate various environments. To turn on these environments the "Enable" box must be selected.

If you are playing an EAX 1.0 or 2.0 game it should automatically select the appropriate environment as you move around the game. The environment selector can be left on "-none-".

If you are playing a non-EAX enabled game, music or movies you can select an environment of your choice and adjust the level using the slider corresponding to the source.

If you are using the Philips Acoustic Edge (H/W) Synth rather than the Yamaha SXG (default) then the "Environment" you select will also be used when playing MIDI music and the intensity will be controlled on the reverb slider on the MIDI tab.

Some "Environments" such as "Concert Hall" are more appropriate for music while others like "Forsaken" were designed with specific games in mind and others like "Drugged" are for gaming and general playing around.

Reverb Level Sliders

These sliders, used in conjunction with the "Enable" box and the "Environment" pull down menu, allow you to control the intensity and characteristics of the reverb effect applied to your sound. Reverb is an acoustic effect that simulates the interaction of sound with the environment. As an example imagine the sound of a gunshot in a large cathedral compare to the same sound in a tiled bathroom. The entry under "Default Environment" allows you to select a certain surrounding (environment) such as a cave, arena or hallway while the sliders provide for control over the intensity of the effect.

Typically very low settings should be used when adding ambiance to music or games rather than higher settings that may cause distortion and sound unnatural.

Specifically:

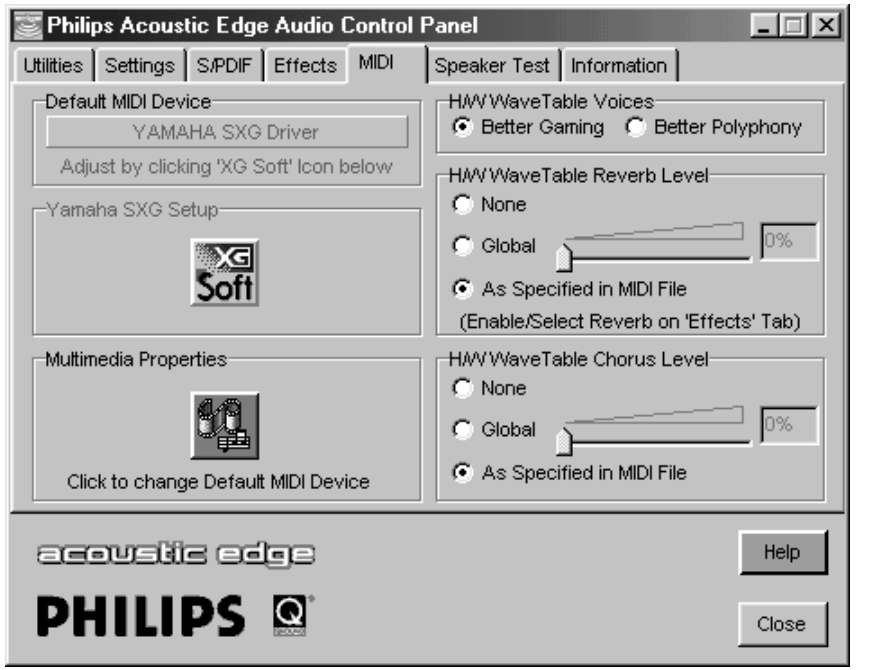
Audio Applications slider:
Control the intensity of the effect for games, Sonic Foundry Siren, Yamaha SXG Wavetable synth (also has its own reverb effect controls) and other applications.

External Input slider:
Control the intensity of the effect for analog input sources such as CD In and Line In.

S/PDIF Input slider:
Control the intensity of the effect for digital input source such as a digital connection to an internal CD drive or external device connected to the S/PDIF cable.

MIDI Tab

NOTE!: When your card is initially installed the SXG Softsynth is selected as your default MIDI engine. The SXG IS NOT CONTROLLED ON THIS TAB BUT IN A SEPARATE CONTROL PANEL. See details on the following pages



Your Acoustic Edge™ sound card includes **two** distinct wavetable music synthesis engines. The Yamaha SXG is an extremely high quality, high polyphony (512 simultaneous voices) MIDI synthesis engine with both GM and XG compatibility. Select the SXG for the richest music experience. The Acoustic Edge WaveTable Synth is a pure hardware synthesis engine designed for use with games or other applications were low CPU consumption is critical. Select the Acoustic Edge WaveTable Synth **only** for games that utilize MIDI for music. Note that most current PC games do not use MIDI music so typically the SXG Softsynth can be left selected even when playing games. These games use digital sound recordings exclusively and are not effected by MIDI output selection.

Default MIDI Device
When your card is initially installed the SXG Softsynth is selected as your default MIDI engine. To view your default selection look under "Default MIDI Device" on the MIDI tab. MIDI applications will use this default device unless they have been specially configured to use a different device. To change the default device see "Multimedia Properties" below. If the current default device is "Yamaha SXG Driver" then make adjustments as indicated in "Yamaha YXG Setup" below. If the default device is "Acoustic Edge WaveTable Synth" then make adjustments as indicated under the "H/W Wavetable . . ." below.

Multimedia Properties
Use this ICON to change your default MIDI device:

1. Click on the Multimedia properties icon
2. Select the MIDI tab on the "Multimedia Control Panel"
3. "Single instrument" will be selected
4. To change to a different MIDI output select it then select "Apply" or "OK". You can select either "Yamaha SXG Driver" (typical), "Acoustic Edge WaveTable Synth" (games **with** MIDI) or Acoustic Edge External (if you have an external synthesizer connected to the Game/MIDI port of the card.

Yamaha YXG Setup
To adjust the SXG Softsynth:

1. The SXG is **not** affected by the "H/W Wavetable" controls under the MIDI tab of the Acoustic Edge control panel. Instead click on the "XG Soft" Icon under "Yamaha YXG Setup" on the Acoustic Edge Control Panel MIDI tab.
2. The SXG can also be adjusted by right clicking on the "XG Soft" icon in the systray (lower right corner of your screen) or in the control panel and selecting "SoftSynthesizer Setup" .

H/W Wavetable Voices
Use this and the H/W Wavetable Chorus and Reverb Level controls to adjust Acoustic Edge WaveTable synth. These adjustments will have no effect on MIDI playback unless the Acoustic Edge Wavetable synth is selected as the MIDI device.

Better Gaming (Default, Recommended)
Best setting for Windows® DirectSound® and DirectSound3D Gaming. Maximum hardware acceleration for games.

Better Polyphony
Setting for the highest MIDI WaveTable polyphony (most simultaneous voices). This setting will reduce resources available for DirectSound and 3D audio acceleration and increase CPU consumption.

You will only notice an effect if your file is high polyphony (i.e. using a large number of voices simultaneous). For high polyphony applications you typically will want to use the Yamaha YXG instead which has up to 512 voice polyphony.

H/W Wavetable Chorus Level
None – Chorus effect is not applied.

As Specified in MIDI File
Chorus effect is applied only as specified in the MIDI file being played. If no chorus is specified for a MIDI voice then no change will be observed when switching between this mode and "None" mode.

Global
Chorus will be applied to all MIDI voices regardless of the MIDI file and the chorus intensity will be set using the slider.

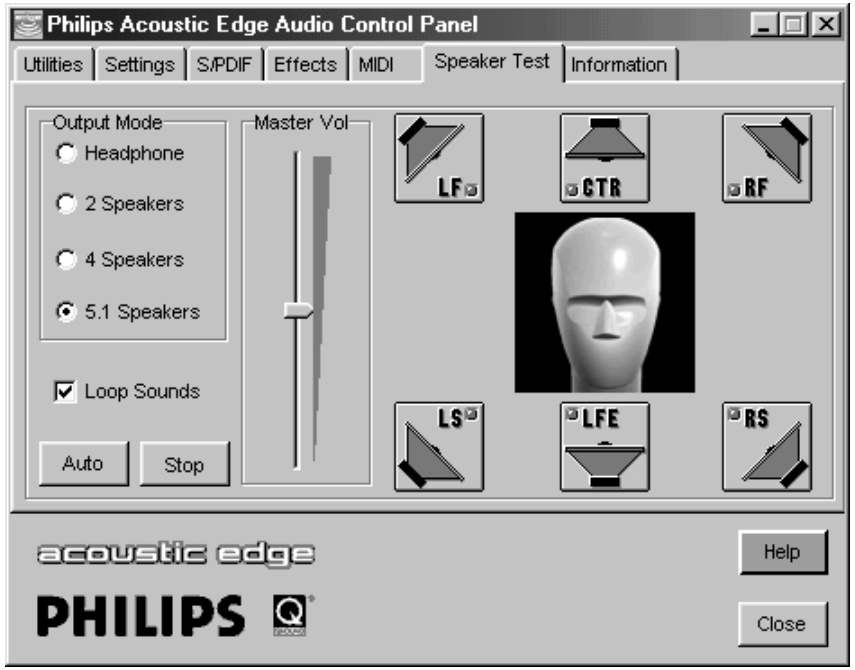
H/W Wavetable Reverb Level
None – Reverb effect is not applied.

As Specified in MIDI File
Reverb effect is applied only as specified in the MIDI file being played. If no reverb is specified for a MIDI voice then no change will be observed when switching between this mode and "None" mode. Reverb must also be enabled and a reverb "environment" selected on the "Effects" Tab.

Global
Reverb will be applied to all MIDI voices regardless of the MIDI file and the reverb intensity will be set using the slider. Reverb must also be enabled and a reverb "environment" selected on the "Effects" Tab.

Speaker Test Tab

The speaker test tab is a utility to help verify proper speaker connections to your sound card. The acronyms are defined as follows:



- LF – Left Front Speaker
- CTR – Center Speaker
- RF – Right Front Speaker
- RS – Right Surround Speaker
- LFE – Low Frequency Effects / Subwoofer
- LS – Left Surround Speaker

Select the Output Mode you wish to test.

There are two modes to test your speaker settings: Manual and Auto

Manual Mode:
Once you have selected the appropriate Output Mode, click on any of the desired speakers to verify proper connection. You can check the Loop Sounds box that will result in continuous sound in that speaker. Click the Stop button to stop the test.

Auto Mode:
Click on Auto Mode. Sounds will emanate in sequence starting with LF and cycle through each speaker in the Output Mode you selected.

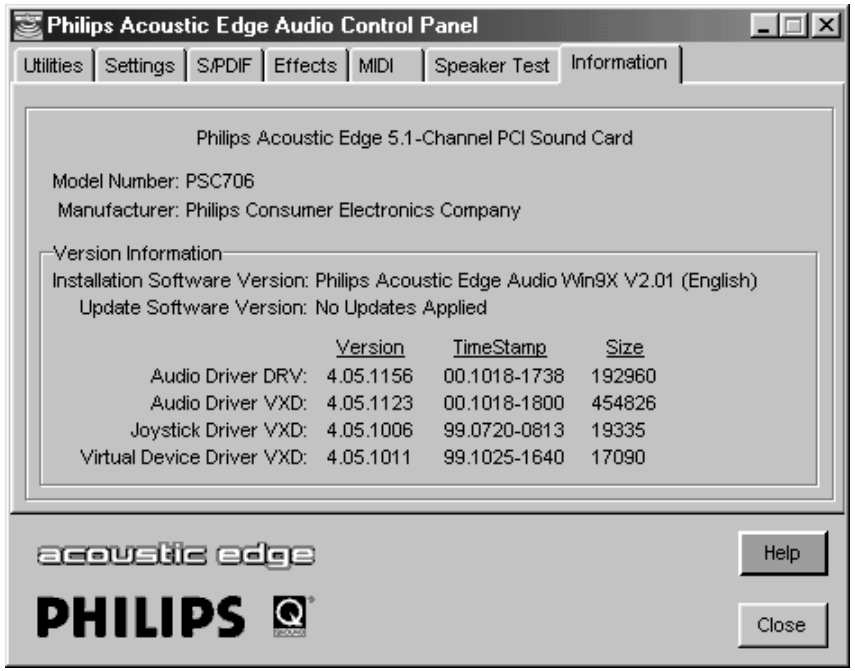
Use the Master Volume Slider to adjust the overall output level of your speaker system.

Adjust speaker connections as required to complete your sound card installation.

Control Panel

Information Tab

The information tab provides detailed information about your sound card. This includes the model number for your product and software version information.



DVD Playback Modes

Using 4 or 5.1 channel surround speakers your Acoustic Edge™ sound card can deliver true multi-channel surround sound from a compatible soft-DVD player application even if the player only supports stereo output. If the soft-DVD player is capable of providing a true 5.1 Dolby Digital or a 4 channel Dolby Digital™ down-mix Acoustic Edge will output all 4 or 5.1 Dolby Digital channels. Even if the soft-DVD player supports 4 or 5.1 channel Dolby Digital™ you may prefer using QMSS™ playback of DVD's because of the enhanced rear channel content it provides. If you have only stereo speakers Acoustic Edge can also provide virtual surround using its QSurround feature.

To enable 4 or 5.1 speaker QMSS™ DVD enhancement:

1. Make sure "4 Speakers" or "5.1 Speakers" (and "Expand All" for Windows® 2000) is selected in the Acoustic Edge control panel settings tab.
2. Open the "control panel" or "settings" menu for the soft-DVD player.
3. Select the menu or tab that controls the player's audio settings.
4. Look for a panel that allows you to select the number and type audio channels
5. Select either 2 speaker "Stereo" or 2 speaker "Dolby Surround or ProLogic". Either option will work well as the QMSS™ DSP algorithm does not depend on Dolby encoding. (Effectively you should follow the soft-DVD player instructions for playing back over stereo speakers even though you have a quad or 5.1speaker system connected).
6. Close the control panel and play a DVD. Acoustic Edge will detect that it is in 4 or 5.1 speaker mode but is only receiving two channels of audio from the DVD and automatically generate 4 or 5.1 distinct channels of surround sound using QMSS™.

To enable a 4 or 5.1 speaker Dolby Digital™ playback :

1. Make sure "4 Speakers" or "5.1 Speakers" is selected (and for Windows® 2000 that "Expand All" is NOT selected) in the Acoustic Edge control panel settings tab.
2. Follow the soft-DVD players instructions for 4 or 5.1 speaker playback. (Some players will not offer this feature)
3. Play a DVD and Acoustic edge will output the 4 or 5.1channel Dolby Digital sound provided by the soft-DVD player.

DVD Playback Modes

Acoustic Edge supports Microsoft's standards for multichannel playback however some soft-DVD players may not. If this mode does not work with your soft-DVD player then use QMSS DVD enhancement mode described in the preceding section.

If you only have stereo speakers:

1. Make sure "2 speakers" is selected in the Acoustic Edge control panel settings tab.
2. Select "DVD QSurround" under "2 speakers" in the Acoustic Edge control panel.
3. Follow the soft-DVD players instructions for "5.1 speaker" playback. [If your soft-DVD player does not provide a 5.1 speaker mode then select "QXpander" instead of "DVD QSurround in line 2) above and follow the soft-DVD players instructions for "stereo" playback instead]
4. Play a DVD and Acoustic Edge will virtualize surround effects coming from the DVD.

About SIREN™ XPress

Transform your PC into the ultimate music entertainment center with SIREN XPress music jukebox. SIREN XPress lets you "rip" your CD collection onto one convenient location—your hard drive. Let SIREN XPress help you surf the net and find more great music to add to your collection—MP3, WAV, and WMA files are all supported. Use SIREN XPress' advanced organizational features to create custom playlists of the songs you want to hear. SIREN XPress maximizes your audio experience with dazzling, colorful eye candy—real-time computer animation that pulses and interacts with your songs. And when you're ready to hit the road with your portable MP3 player,* SIREN XPress is the fun, easy way to upload your custom playlists.

** Supported MP3 players do not currently run under Windows NT or Windows 2000. You must be running SIREN XPress on Windows 9x to upload songs to portable players. SIREN XPress includes 20 free MP3 encodes, with unlimited MP3 playback.*

SIREN XPress makes it easy to organize your music:

- SIREN XPress includes a powerful, database-driven music management engine.
- The Sort, Group, and Filter tools provide you with superior control over your music library.

About SIREN™ XPress

- Use the Field Chooser window to view your collection the way you want to see it.

SIREN XPress brings powerful functionality to your desktop:

- Use Search for Music to find music on a network or removable drive.
- Export custom playlists to your Rio or Nomad II portable MP3 device.
- Use your Microsoft Internet Keyboard hotkeys to control SIREN XPress's functions.

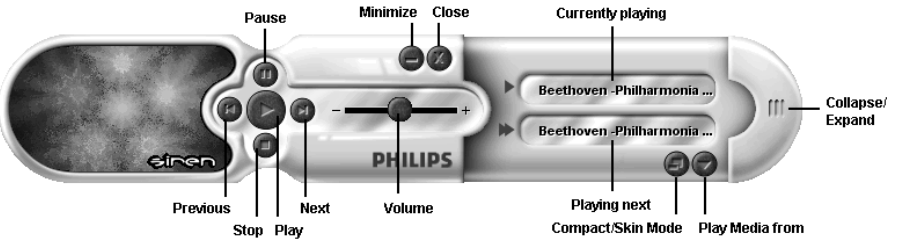
Siren™ XPress Quick Start

Welcome to Sonic Foundry's SIREN XPress! This guide is designed to provide you with information that will allow you to immediately begin taking advantage of the powerful features of SIREN™ XPress.

SIREN XPress allows you to operate in Philips compact mode or normal mode. The compact mode includes only the Transport buttons (Play, Stop, Pause, etc.). Normal mode displays the entire SIREN XPress window, and allows access to all SIREN XPress functionality. You can toggle between the Philips compact mode and normal mode using any of the following methods:

- Click the **Compact/Skin Mode** button.
- From the View menu, choose the **Compact/Skin Mode** option.
- Press **Ctrl + M** on your keyboard.

You can expand the Philips compact mode to display the current and next songs, the Compact/Skin Mode button, and the Select Playlist button. To expand the compact mode, click the Expand control on the right end of the player. You can also use this control to collapse the compact mode. The SIREN XPress expanded compact mode is shown below:



About SIREN™ XPress

Media Files

A media file refers to any audio and video file that SIREN will play from your computer. SIREN supports the following media file formats: .wav, .mp3, .wma, .pca, .aif, .ogg, .avi, .wmv, .asf, .mpg, .mpeg, .mov, .qt.

Finding Media

After you install SIREN XPress, a configuration wizard will scan your local hard drives for any .mp3 and .wma files and add them to your SIREN XPress media library. If you are unable to play media or use the transport controls for SIREN XPress after the installation process, you can manually run the **Configuration Wizard** from SIREN's normal mode by choosing Configuration Wizard from the **Options** menu.

You can also search your hard drive(s) for media to add to your media library any time by choosing **Search Computer for Media** from the **Options** menu.

Playing Media

SIREN will allow you to play .mp3, .wma,.wav , .pca, .aif, .ogg, .avi, .wmv, .asf, .mpg, .mpeg, .mov, and .qt files, as well as audio CDs. You can start playing media immediately by clicking on the Play button in either compact or normal mode.

Playing media by type

With the compact mode expanded, click on the "Play Media from" button. From the menu that displays, you can select your media by library views, album, artist, genre, or playlist, or choose to play an audio CD.

Graphic Effects

SIREN XPress displays dazzling visual effects during audio playback. SIREN XPress defaults to the special Acoustic Edge visual which represents the six distinctly different channels of sounds generated by the Acoustic Edge. With this effect selected you will see up to six dots, one corresponding to each speaker channel pulsating to the sound coming from the corresponding channel. For example in 5.1 speaker mode you will see these six dots:

Top center dot - center channel

Top left dot - left front channel

Top right- dot - right front channel

Center dot - LFE/Subwoofer channel

Bottom left dot - left rear channel

Bottom right dot - right rear channel

In 2 speaker or earphone mode you will see two dots and in 4 speaker modes you will see four dots. You can also select other effects patterns by right-clicking on the visual display and choosing from the list of available graphic effects."

Ripping (Recording) from a CD

1. Place an audio CD in your computer's CD-ROM drive.
2. In normal mode, select the **Play/Rip CD** tab (from the **Media Manager** panel). Your computer's CD drives are displayed on the **Play/Rip CD** page.
3. Specify the CD drive containing the audio CD (from the drop-down list located above the track list). The CD's tracks are displayed, and SIREN attempts to access information for the CD. If the CD information does not appear, you can obtain the CD information by clicking the CDDB button, or you can add the information manually in the **Play/Rip CD** page. If the CD information is not accessed or added manually, SIREN rips the songs as "Unknown" and numbers them sequentially.
4. Select the song(s) to be ripped.
5. From the **File** menu, choose **Rip to Library**. SIREN begins ripping files to the folder specified in the Preferences dialog, and a meter in the Status column depicts the progress of the ripping.
6. To halt ripping at any time, choose **Cancel Ripping** from the **File** menu.
7. To monitor the ripping progress, select Encoding List from the **Play/Rip CD** page drop-down list, or, if Tree View is enabled, double-click on the Encoding List folder.

Note: You can play media from the media library while you are ripping CDs, but you cannot listen to the CD itself during ripping.

Additional Help

For more detailed information about SIREN XPress features, please refer to the online Help file accessible from SIREN's normal mode by choosing Contents and Index from the **Help** menu.

For additional information on other Sonic Foundry products, visit www.sonicfoundry.com.

About Audio Pix™

Upgrading to SIREN Jukebox

If you like SIREN XPress but want more powerful options, upgrade to Sonic Foundry's SIREN Jukebox:

- CD burning
- Unlimited MP3 ripping
- Advanced audio effects
- Perfect Clarity Audio encoding
- Higher bitrate WMA encoding

To upgrade, choose **Instant Upgrade** from the **Help** menu.

About AudioPix™

AudioPix™ makes it easy to combine digital images with MP3 sound to get the ultimate multimedia presentation. In just three simple steps you will have an exciting new MPEG format that can be played back in either of the popular players, RealPlayer® or Windows Media™ Player. Now for the first time, you don't have to be a Web Master to create your own unique presentations – just grab an MP3 file, some of your most treasured images and let your imagination go.

- Turn your wedding photos and special occasions into a creative slideshow for friends and family
- Keep your vacation memories alive forever. Go on vacation without going on vacation!
- Create an "Internet Commercial" to promote your business

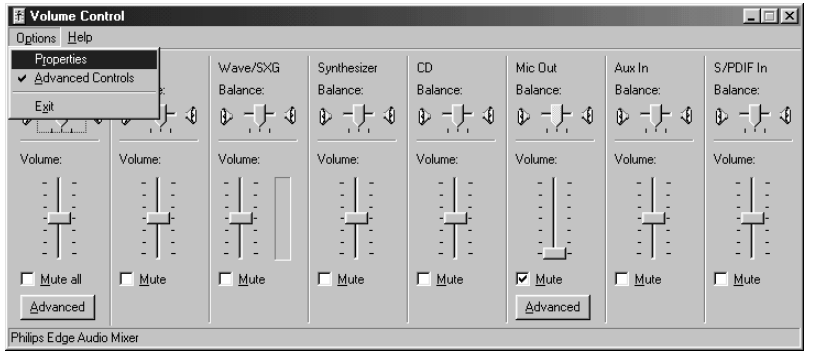
To install AudioPix, follow these simple steps:

1. Insert your install CD into your CD drive
2. Go to D:\Applications\QSound Labs\AudioPix\ (D represents your CD-ROM drive)
3. Double click on apixfree.exe
4. Follow the on-screen instructions for installation. The required serial number is located at D:\Applications\QSound Labs\AudioPix\. Open the apixfree.txt file.

Recording Source Configuration

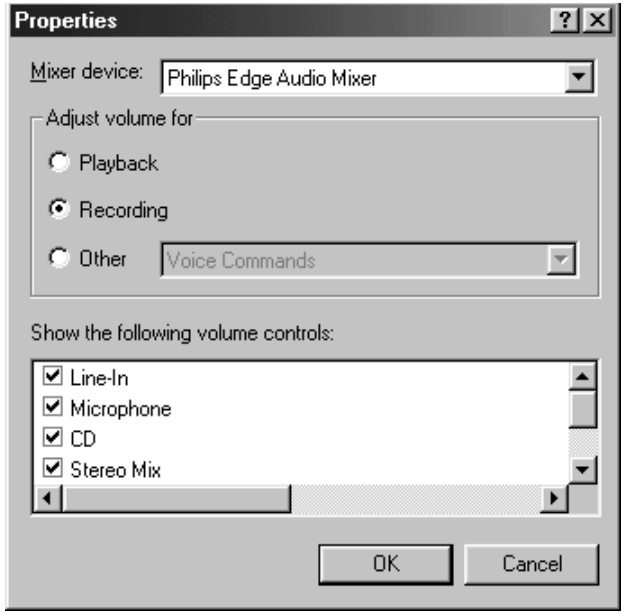
Philips Acoustic Edge™ allows you to record sounds and music from various input sources (i.e. microphone, audio CD, line in, etc). Before you start recording, you need to configure the recording source as follow:

- Open the Volume Mixer, go to Options, and select Properties.

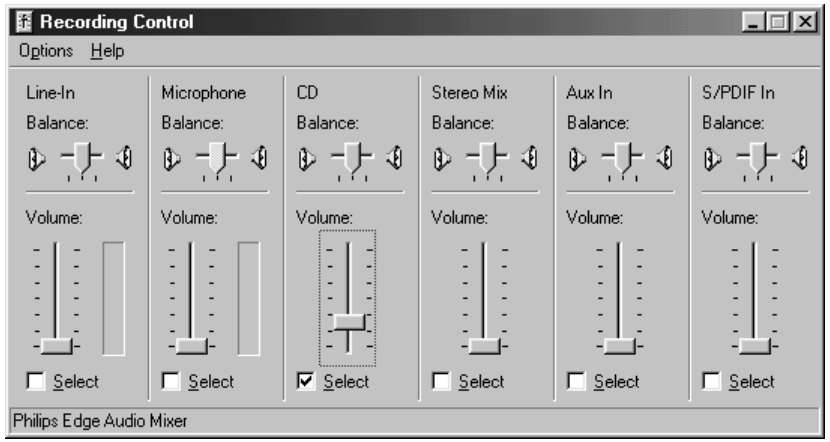


Recording Source Configuration

- Choose "Recording" under "Adjust Volume for", and check the recording source that you want to display in the Recording Mixer.
- Click OK, and the Recording Mixer window will open. Now you can select the recording source you intend to use and adjust the recording volume level.



- Open your favorite recording application and start recording.



Resolving I/O Conflicts

Conflicts between your audio card and another device may occur if they are set to use the same I/O address. To resolve I/O conflicts, change the resource settings of your **Philips Acoustic Edge**™ card or the conflicting device using Device Manager in Windows® 95/98.

If you are still unable to determine which card is causing the conflict, remove all cards except the **Philips Acoustic Edge**™ card and other essential cards (for example, disk controller and graphics cards). Add each card back until Device Manager indicates that a conflict has occurred.

To resolve conflicts in Windows® 95/98

1. Click the Start button, point to Settings, and then click Control Panel.
2. In the Control Panel window, double-click the System icon.
3. In the System Properties dialog, click the Device manager tab.
4. Under the Sound, Video and Game Controllers entry, select the conflicting audio card driver, indicated by an exclamation mark (!), and click the Properties button.
5. In the Properties dialog, click the Resources tab.
6. Select Use Automatic Settings and click the OK button.
7. Restart your computer to allow Windows 95/98 to reassign resources to the devices.

Uninstalling Software Drivers

Windows® 95/98 Uninstall

1. Select Control Panel, Add/Remove Programs and select Philips Acoustic Edge Audio Support Files. Click the **ADD/REMOVE** button.
2. You will be prompted to shutdown your computer after uninstall for the changes to take effect. Click Yes to shutdown your computer and then remove Philips Acoustic EdgeTM from your system.

Windows NT® Uninstall

Browse to the Multimedia page in the Control Panel, click on the "Devices" tab, under "Audio Devices" select "Philips Acoustic Edge Audio", and then click the "Remove" button. Shutdown your computer and remove Philips Acoustic Edge™ from your system.

Uninstalling Software Drivers

Windows® 2000 Uninstall

1. Open the Add/Remove Hardware control panel applet
2. Select "Uninstall/Unplug a Device". Click Next.
3. Select "Uninstall a Device". Click Next.
4. Choose Philips Acoustic Edge Audio from the list. Click Next.
5. Click Yes on confirm screen. Click Next.
6. Open the Add/Remove Hardware control panel applet
7. Select "Uninstall/Unplug a Device". Click Next.
8. Select "Uninstall a Device". Click Next.
9. Choose Philips Acoustic Edge Game Port Enumerator from the list. Click Next.
10. Click Yes on the confirm screen. Click Next.
11. Open the Add / Remove Programs control panel applet
12. Click on Philips Acoustic Support Files. Click Change/Remove.
13. Power down your computer and remove your sound card.

Notes:

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PHILIPS

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