User Manual

Creative Sound Blaster PCI

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Contents

Depending on your geographical region, your audio card's product name may be one of the following:

- Creative Ensoniq AudioPCI
- Creative Sound Blaster 16 PCI
- Creative Sound Blaster AudioPCI 128
- VIBRA 128
- Creative Sound Blaster PCI Compact
- Creative Sound Blaster PCI 128
- Sound Blaster 4.1 Digital
- Creative Sound Blaster 16 4.1 Digital

Introduction

Congratulations on your purchase of a Creative Sound Blaster™ PCI audio card. With its high quality performance and low CPU utilization, Sound Blaster PCI is the ideal choice for your computer.

Featuring 128-voice wave-table synthesis with very high sample rate converters, Sound Blaster PCI ensures high level audio quality and performance. In addition, Sound Blaster PCI supports localized three-dimensional sound immersion in headphone and four-speaker environments.

Sound Blaster PCI also supports multiple algorithm levels of reverb and chorus effects on the wave-table sounds as well as spatial sound enhancement on MIDI and Wave sounds in two speakers. Full duplex operation also allows simultaneous audio recording and playback.

Its use of the PCI bus and Plug and Play (PnP) technology helps make the Sound Blaster PCI one of the easiest audio cards to install. We believe this Sound Blaster PCI card will give you years of enjoyment of high-quality sound on your PC.

Minimum System Requirements

❏ Genuine Intel® Pentium® 133 MHz or faster for Windows 95, Windows 98 and Windows 98 Second Edition (SE)
Genuine Intel Pentium 166 MHz or faster for Windows Millennium Edition (Me)
Genuine Intel Pentium 200 MHz or faster for Windows NT 4.0 and Windows 2000
Genuine Intel Pentium 233 MHz or faster for Windows XP

❏ 16 MB RAM for Windows 95/98/98 SE (32 RAM recommended)
32 MB RAM for Windows NT 4.0/Me
64 MB RAM for Windows 2000
128 MB RAM for Windows XP

❏ One free PCI slot

❏ Windows 95, Windows 98, Windows 98 SE, Windows Me, Windows NT 4.0, Windows 2000 or Windows XP

❏ Headphones or amplified speakers (FourPointSurround series speakers recommended for Sound Blaster PCI 4-channel audio cards)

Using This Manual

This manual explains the various hardware components on your audio card, and also shows you how to install the card into your computer.

Getting More Information

Refer to Creative Sound Blaster PCI's online Help for more information and instructions on how to use the various applications found in your package.

To to Creative Sound Blaster PCI's online Help, do the following:

▶ Click **Start** -> **Programs** -> **Creative** -> **Sound Blaster PCI** -> **User's Guide**

Online Registration

Enjoy a host of benefits by registering your product during installation, or at www.creative.com/register. Benefits include:

❑ Service and product support from Creative
❑ Exclusive updates on promotions and events

Technical Support and Warranty

For Technical Support information, go to Start -> Programs -> Creative -> Technical Support. This information can also be found in the Installation CD. Go to D:\Support\<Language>\Support.pdf.

For Warranty information, go to D:\Warranty\<Region>\<Language>\Warranty.pdf (where D: represents your CD-ROM drive, <Region> represents the region you are in and <Language> represents the language the document is in).

Please keep your Proof of Purchase for the duration of the Warranty period.

Document Conventions

The following conventions are used throughout this document:

Table i: Document conventions

This	Represents
	This notepad icon indicates information that is of particular importance and should be considered before continuing.
	This alarm clock icon indicates that failure to adhere to directions may result in loss of data or damage to your system.
	The warning sign indicates that failure to adhere to directions may result in bodily harm or life-threatening situations.

About Your Audio Card

- The Rear Out connector is only available on 4-channel audio cards.
- SPDIF Out is only available on certain audio cards. If available, refer to the online Help for SPDIF Out mode selection. The jumper JP1 is not available on audio cards supporting SPDIF Out.
- The Line Out jack supports Speaker Out mode only if your audio card has the jumper JP1.

The figure below shows the connectors of a full-height audio card. These connectors allow you to attach a variety of devices to your audio card.

Line In connector (Blue)
Connects to external devices such as cassette, DAT, or MiniDisc player for playback and recording.

Microphone In connector (Red/Pink)
Connects to an external microphone for voice input.

Line Out/SPDIF Out connector (Green/Lime)
Connects to headphones, powered/FourPoint Surround speakers and an external amplifier. SPDIF output can be obtained from a mono 3.5mm minijack (available separately).

Rear Out connector (Black)
Connects to powered speakers for audio output.

Telephone Answering Device/Modem connector
Connects to a voice modem to transmit and receive audio signals.

CD Audio connector
Connects to a CD-ROM drive using an MPC-3 CD audio cable.

AUX connector
Connects to a TV card or second CD-ROM drive.

Joystick/MIDI connector
Connects to a joystick or a MIDI device. You can buy an optional MIDI kit that allows you to plug in the joystick and the MIDI device simultaneously.

Front Line Out/Speaker Out jumper (JP1)
Selects between Line Out (default) or Speaker Out mode for the Green jack. Your card may not support Speaker Out, and thus, may not have this jumper.
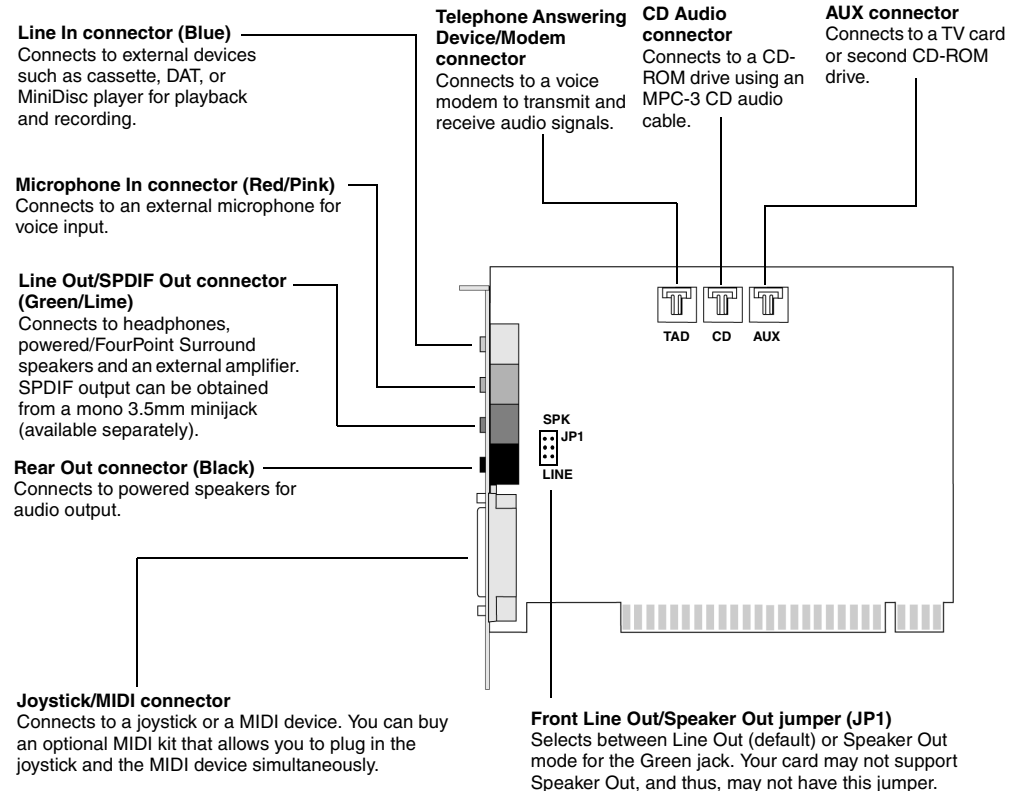
Figure 1: Connectors on your audio card.

You may have purchased a half-height audio card as shown in the figure below. The connectors of this type of audio card are shown in the figure below.

Line Out or SPDIF Out connector (Green/Lime)
Connects to powered speakers or digital devices. Refer to Creative Sound Blaster PCI Compact's online Help for the SPDIF Out mode selection.

Line In connector (Black/Blue)
Connects to external devices such as cassette, DAT or Minidisc players for playback and recording.

Microphone In connector (Red/Pink)
Connects to an external microphone for voice input.

CD Audio IN   TV Tuner   TAD I/O

CD Audio In connector
Connects to a CD-ROM drive using an MPC-3 CD audio cable.

Telephone Answering Device/ Modem connector
Connects to a voice modem to transmit and receive audio signals.

TV Tuner connector
Connects to a TV card or second CD-ROM drive.
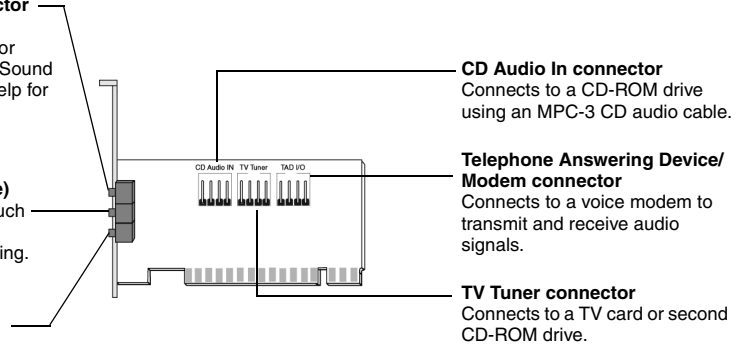
Figure 2:   Connectors on your audio card.

Installing Hardware

Step 1: Prepare your computer

⚠️

Turn off the main power supply and disconnect your computer's power cord. Systems using an ATX power supply unit with soft power off may still be powering the PCI slot. This can damage your audio card when it is inserted into the slot.

Remove any existing audio card or disable the onboard audio.

1. Turn off your computer and all peripheral devices.
2. Touch a metal plate on your computer to ground yourself and to discharge any static electricity, and then unplug the power cord from the wall outlet.
3. Remove the computer cover.
4. Remove the metal bracket from an unused PCI slot as shown in Figure 3. Put the screw aside for use later.
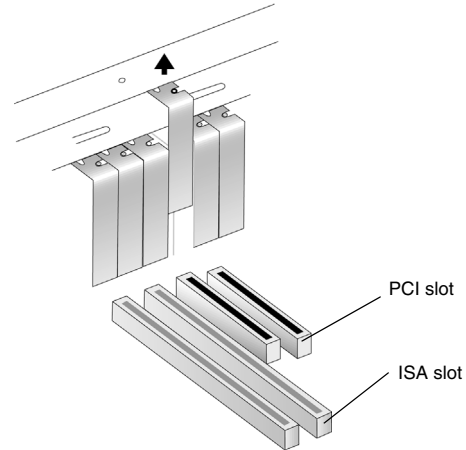

PCI slot

ISA slot

Figure 3:   Removing a metal plate.

Step 2: Install the audio card

Do not force the audio card into the slot. Make sure that the gold finger PCI connector on the Creative audio card is aligned with the PCI bus connector on the motherboard before you insert the card into the PCI expansion slot.
If it does not fit properly, gently remove it and try again.

1. Align the Creative audio card with the PCI slot and press the card gently but firmly into the slot as shown in Figure 4.
2. Secure the Creative audio card with the screw you had placed aside earlier.

Figure 4:   Aligning and securing the card against the slot.
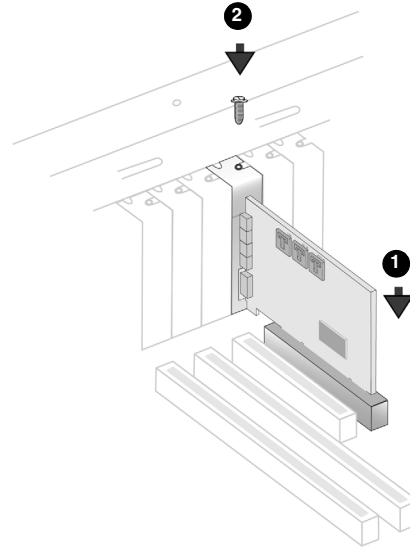
Step 3: Connect to the CD-ROM/DVD-ROM drive

The Analog CD audio cable is not bundled with your audio card.

For analog CD audio output:

▸ Connect the Analog CD audio cable from the Analog Audio connector on your CD-ROM/DVD-ROM drive to the CD Audio connector on the Creative audio card as shown in Figure 5.
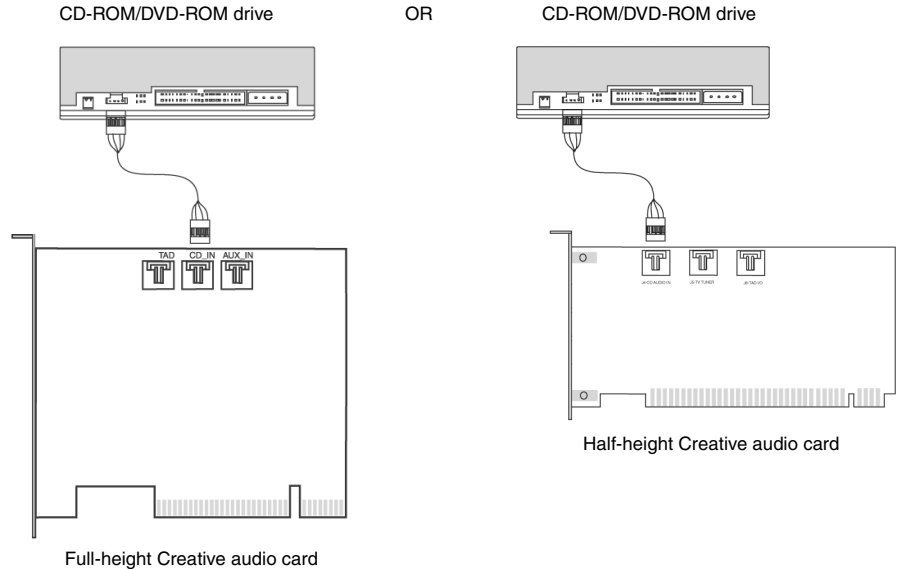

Figure 5: Connecting to a CD-ROM/DVD-ROM drive.

Installing Software

You need to install device drivers and applications to use Sound Blaster PCI. To install these drivers and the bundled applications, use the following instructions. The instructions are applicable to all supported Windows operating systems.

1. After you have installed the Creative audio card, turn on your computer. Windows automatically detects the audio card and device drivers.
2. When prompted for the audio drivers, click the **Cancel** button.
3. Insert the Sound Blaster PCI installation CD into your CD-ROM drive. The disc supports Windows AutoPlay mode and starts running automatically. If not, either enable your CD-ROM drive's auto-insert notification feature, or click **Start** -> **Run** and then type D:\CTRUN\CTRUN.EXE in the **Open** box (where D: represents your CD-ROM drive).
4. Follow the instructions on the screen to complete the installation.
5. When prompted, restart your computer.

Uninstalling Your Audio Card

You may at times need to uninstall and then reinstall the Creative audio card to correct problems or change configurations. The following instructions tell you how to uninstall the Creative audio card in all Windows operating systems.

1. Click **Start** -> **Settings** -> **Control Panel**.
2. Double-click the **Add/Remove Programs** icon.
3. Click the **Install/Uninstall** tab. The **Add/Remove Programs** dialog box appears.
4. Click **Sound Blaster PCI** and then click the **Add/Remove** button in Windows 95/98/98 SE/ME/NT 4.0 or the **Change/Remove** button in Windows 2000/XP.
5. When the **Confirm File Deletion** dialog box appears, click the **Yes** button.

Testing The Installation

After the drivers are installed, you can use Creative PlayCenter to test whether your audio card is working properly.

1. Click **Start** -> **Programs** -> **Creative** -> **Creative PlayerCenter**.
2. Click the **File** button and then click **Open**.
3. Click the **Browse** button. The **Open** dialog box appears.
4. Locate and double-click a .WAV file.
5. Click the **OK** button. You should hear the selected sound being played. If you encounter any problems, refer to the "Troubleshooting" section in Creative Sound Blaster PCI's online Help.

Troubleshooting

Configuring Speakers

The default speaker setup for Sound Blaster PCI may be **Stereo Speakers** for Windows 95/98/98 SE and **Desktop Stereo Speakers** for Windows 2000/Me/XP, which are 2-speaker setups. Depending on which Windows operating system you are using, follow one of the series of steps to change your speaker setting.

Windows 95/98/98 SE

1. Click **Start** -> **Settings** -> **Control Panel**.
2. Double-click the **System** icon. A dialog box appears.
3. Click the **Device Manager** tab.
4. Double-click the **Sound, Video and Game Controllers** option from the hardware tree.
5. Click the **Sound Blaster PCI** option.
6. Click the **Properties** button.
   The **Creative Sound Blaster PCI Properties** dialog box appears.
7. Click the **3D Audio** tab and select the speaker setting that you want.
8. Click the **OK** button.

Windows Me/2000/XP

1. Click **Start** -> **Settings** -> **Control Panel**.
2. Double-click the **Sounds and Multimedia** icon. A dialog box appears.
3. Click the **Audio** tab and then click the **Advanced** button.
4. On the **Speakers** tabbed page, select the speaker setting that you want.
5. Click the **OK** button.

Updating Windows 2000 (Service Pack 2)

Windows 2000 now provides better support for AC-3 SPDIF output (non-PCM through waveOut) for software DVD viewing. Click the website address below to go to Microsoft's Windows 2000 web site to download the Windows 2000 Service Pack 2 to enjoy this support and to fix other issues in the Windows 2000 OS.

http://microsoft.com/windows2000/downloads/servicepacks/sp2/default.asp

No audio output when playing audio CDs

• CD volume is controlled by the Wave/MP3 slider in the Audio Mixer application.

Sound Blaster PCI does not support analog CD audio playback. To listen to audio CDs, digital CD playback must be enabled. Do the following to enable digital CD playback:

For Windows 98 SE

1. Click **Start** -> **Settings** -> **Control Panel**.
2. In the **Control Panel** dialog box, double-click the **Multimedia** icon.
3. In the **Multimedia Properties** dialog box, click the **CD Music** tab.
4. Click the **Enable digital CD audio for this CD-ROM device** check box to select it.
5. Click the **OK** button.

For Windows Me

1. Click **Start** -> **Settings** -> **Control Panel**.
2. In the **Control Panel** dialog box, double-click the **System** icon.
3. In the **System Properties** dialog box, click the **Device Manager** tab.
4. Double-click the **DVD/CD-ROM drives** icon.
   Your computer drives will appear.

5. Right-click the **disk drive** icon.
   A menu will appear.
6. Click **Properties**.
7. In the **Digital CD Playback** box of the next dialog box, click the **Enable digital CD audio for this CD-ROM device** check box to select it.
8. Click the **OK** button.

For Windows 2000 and Windows XP
1. Click **Start** -> **Settings** -> **Control Panel**.
2. In the **Control Panel** dialog box, double-click the **System** icon.
3. In the **System Properties** dialog box, click the **Hardware** tab.
4. Click the **Device Manager** button.
5. Double-click the **DVD/CD-ROM drives** icon.
   Your computer drives will appear.
6. Right-click the **disk drive** icon.
   A menu will appear.
7. Click **Properties**.
8. In the **Digital CD Playback** box of the next dialog box, click the **Enable digital CD audio for this CD-ROM device** check box to select it.

You can also enable Direct Memory Access to your storage devices. Follow the steps below:

For Windows 98 SE and Windows Me
1. Click **Start** -> **Settings** -> **Control Panel**.
2. In the **Control Panel** dialog box, double-click the **System** icon.
3. In the **System Properties** dialog box, click the **Device Manager** tab.
4. Double-click the **Disk drives** icon.
   Your computer drives will appear.
5. Double-click the **hard disk drive** icon.

6. In the box that appears, click the **Settings** tab.

7. Click the **DMA** (Direct Memory Access) check box to select it.
   An alert message box appears.

8. Click the **OK** button.

9. Click the **OK** button in the next box.

10. Click the **Close** button on the **System Properties** dialog box.

11. When prompted to restart your computer, click the **Yes** button.

12. Repeat steps 4-11 if you have other drives, for example, other hard disk drives, CD-ROM, CD-RW, and DVD-ROM drives. In step 4, double-click the respective drive icon.

For Windows 2000 and Windows XP

1. Click **Start** -> **Settings** -> **Control Panel**.

2. In the **Control Panel** dialog box, double-click the **System** icon.

3. In the **System Properties** dialog box, click the **Hardware** tab.

4. Click the **Device Manager** button.

5. Double-click the **ATA/ATAPI IDE Controllers** icon.
   Your **IDE channels** will appear.

6. Right-click the **Primary IDE Channel** icon.

7. Click **Properties**.

8. In the **Properties** dialog box, click the **Advanced Settings** tab.

9. Click the **DMA if available** check box, to select it.

10. Click the **OK** button.

No audio output when using speakers that support digital audio

Digital output is only available on audio cards that support SPDIF Out. To check if your audio card supports SPDIF Out, follow the steps below.

1. Click **Start** -> **Settings** -> **Control Panel**.

2. Double-click the System icon.

3. In the dialog box that appears, click the Device Manager tab.

4. Double-click the Sound, Video and Game Controllers, and click the Sound Blaster PCI option.

5. Click the **Properties** button.

6. In the Creative Sound Blaster PCI **Properties** dialog box, click the Settings tab.

7. Under Output Mode, click the Digital check box to select it.

8. Click the **OK** button.

9. If you still do not hear any audio output from your speakers, this means that your audio card does not support SPDIF Out.

General Specifications

Wave-Table Synthesis

❏ Creative synthesis engine
❏ Digital effects engine for reverb and chorus
❏ 128-voice polyphony and multi-timbral capability
❏ 16 MIDI channels, 128 GM and GS compatible instruments and 10 drum kits
❏ MT-32 compatible instrument set
❏ 2MB,4MB and 8MB sample sets included

3D Audio Technology

❏ Support for Microsoft DirectSound and DirectSound3D and Creative Environmental Audio Extensions (EAX) audio technologies in two-speaker mode
❏ Localized 3D Sound technology expands the spaciousness of sounds in the traditional two speaker system
❏ Multi-Algorithm reverb and chorus

Memory Subsystem

❏ Utilizes system RAM for wave-table samples
❏ User configurable for 2 MB, 4 MB or 8 MB

CD-Quality, 16-Bit Stereo Digital Audio	❑ 8-bit and 16-bit mono and stereo recording and playback
	❑ User-selectable sample rates from 5 kHz to 48 kHz
	❑ Full-duplex support enables simultaneous record and playback for Internet communications software

MIDI Interface/Joystick Connector (on selected models)	❑ Built-in 15-pin MIDI interface (cable available separately)
	❑ Compatible with Sound Blaster and MPU-401 UART modes
	❑ IBM-compatible 15-pin joystick connector with analog support

Onboard Connectors	❑ Line In
	❑ Microphone In
	❑ Line Out/SPDIF Out (on selected models)
	❑ Joystick/MIDI connector (on selected models)
	❑ Telephone Answering Device In/Out
	❑ MPC-3 CD Audio In
	❑ Auxiliary In/TV Tuner

Works with the following standards	❑ Windows 95/98/98 SE/Me/NT 4.0/2000/XP
	❑ General MIDI
	❑ MPC-3
	❑ Plug and Play
	❑ Sound Blaster PCI
	❑ Microsoft DirectSound, DirectSound3D
	❑ EAX