

Getting Started

Creative Sound Blaster Live! Value Creative Audio Software

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Version 1.00

August 1999

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ATTENTION: Ce carte est destiné à être installé par l'utilisateur, dans un ordinateur compatible certifié CSA/TUV/UL ou listé IBM AT, à l'intérieur de la zone définie par le fabricant. Consulter le mode d'emploi ou le fabricant de l'appareil pour vérifier ou confirmer si l'utilisateur peut y installer lui-même des cartes périphériques.

Notice for the USA

FCC Part 15: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, this notice is not a guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try one or more of the following measures:

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

CAUTION: To comply with the limits for the Class B digital device, pursuant to Part 15 of the FCC Rules, this device must be installed in computer equipment certified to comply with the Class B limits.

All cables used to connect the computer and peripherals must be shielded and grounded. Operation with non-certified computers or non-shielded cables may result in interference to radio or television reception.

Modifications

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the device.

This apparatus complies with the Class "B" limits for radio interference as specified in the Canadian Department of Communications Radio Interference Regulations.

Cet appareil est conforme aux normes de CLASSE "B" d'interférence radio tel que spécifié par le Ministère Canadien des Communications dans les règlements d'interférence radio.

Compliance

This product conforms to the following Council Directive:

- Directive 89/336/EEC, 92/31/EEC (EMC)

Declaration of Conformity

According to the FCC96 208 and ET95-19

Name: ***Creative Labs Inc.***

Address: ***1901 McCarthy Boulevard
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United States
Tel: (408) 428-6600***

declares under its sole responsibility that the product

Trade Name: ***Creative Labs***

Model Number: ***CT4830***

has been tested according to the FCC / CISPR22/85 requirement for Class B devices and found compliant with the following standards:

EMI/EMC: ANSI C63.4 1992, FCC Part 15 Subpart B

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 undesirable operation.

Ce matériel est conforme à la section 15 des règles FCC.

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1. Le matériel ne peut être source D'interférences et
2. Doit accepter toutes les interférences reçues, Y compris celles pouvant provoquer un fonctionnement indésirable.

***Compliance Manager
Creative Labs, Inc.
June 9, 1999***

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Introduction

The #1 Audio Solution for Digital Entertainment and Gaming

Sound Blaster Live! Value is the top audio solution for your games, movies, CDs and other digital entertainment. With its support for today's leading audio standard—Environmental Audio—Sound Blaster Live! Value creates real-life, multidimensional sound and multitextured acoustical environments for the most realistic 3D audio experience. Its powerful EMU10K1 audio processor delivers audio at optimum CPU performance with the highest fidelity and absolute clarity. Combine it with a four-speaker setup and you'll experience realistic 3D audio, Environmental Audio in supported games, and enjoy your movies with true surround sound. The Live!Ware upgrade program will keep your Sound Blaster Live! Value card up to date with continual upgrades supporting future technologies, functionality, and features.

For digital entertainment enthusiasts and gamers looking for added value, nothing comes close to Sound Blaster Live! Value—the best choice for experiencing the best of digital entertainment and gaming.

System Requirements

For Creative software, your card requires at least:

- Genuine Intel® Pentium® class processor:
133 MHz for Windows 95/98, 200 MHz for Windows NT 4.0
- Intel or 100% compatible motherboard chipset
- Windows 95, 98 or Windows NT 4.0
- 16 MB RAM for Windows 95/98 (32 MB RAM recommended),
32 MB RAM for Windows NT 4.0
- 65 MB of free hard disk space

- Open half-length PCI 2.1 compliant slot
- Headphones or amplified speakers (available separately)
- CD-ROM drive required for software installation

Sound Blaster Live! Value gives you an estimate of the hard disk space required when you select it on the installation screen. Included applications may need higher system requirements or microphone for basic functionalities. Refer to the documentation for individual applications for details.

Live!Ware Benefits

Your Investment Is Protected as you have less of a likelihood of finding your audio card obsolete shortly after purchasing it. Through Live!Ware, new features and applications are always made available for you to experience the latest technology and to extend the life of your card.

The Value and Experience Increases Over Time as Live!Ware continues to deliver new capabilities and enhancements. Each upgrade will “rejuvenate” your audio card, allowing you to experience new functionality. It is as if your audio card is “reborn”.

Your Card Is Up To Date because the latest Live!Ware upgrades are only a download away. When new standards and capabilities emerge, your hardware is ready for it—just download the functions and the card becomes up-to-date!

Getting More Information

See the online *User's Guide* for MIDI specifications and connector pin assignments, as well as instructions on using the various applications in your audio package.

Where To Go From Here ...

- Installation instructions: Chapter 1, “Knowing and Installing Your Card”
- Software installation instructions:
 - Chapter 2, “Installing Software in Windows 95/98”
 - Chapter 3, “Installing Software in Windows NT 4.0”

Other Recommendations

- ❑ For an overview of the features of your card, launch the Sound Blaster Live! Experience program.
- ❑ Visit the www.sblive.com site for more information, content and Live!Ware updates.

Document Conventions

The following typographical conventions are used throughout this document:

bold

Text that must be entered exactly as it appears.

italic

Title of a book or a placeholder, which represents the information you must provide.

UPPERCASE

Directory name, file name, or acronym.



The notepad icon indicates information that is of particular importance and should be considered before continuing.



The alarm clock designates a caution or warning that can help you avoid situations involving risk.

Knowing and Installing Your Card

This chapter is organized as follows:

- ❑ Your Audio Card
- ❑ Installing the Card and Related Peripherals
- ❑ Positioning Your Speakers

Your Audio Card



A jack is a one-hole connecting interface whereas a connector consists of many pins. Some connectors here may not be available on your card. Refer to the online *User's Guide*, "Hardware Information", for details on connector pin assignments.



Line Out and Rear Out jacks can be used simultaneously to power 4.1 channel speaker systems, for example, FourPointSurround™ speaker systems from Cambridge SoundWorks.

Your audio card has these jacks and connectors which allow you to attach other devices:

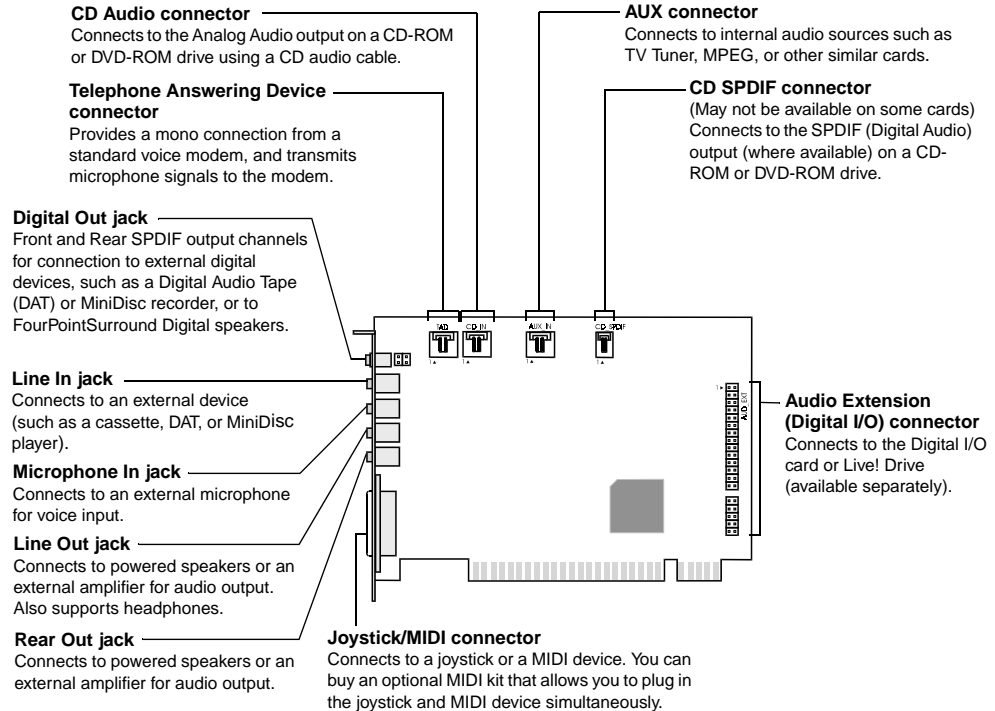


Figure 1-1: Jacks and connectors on the Sound Blaster Live! card.

Installing the Card and Related Peripherals



Do not force the audio card into the slot. If it does not fit properly, gently remove it and try again.



The joystick connector on your audio card is identical to that on a standard PC game control adapter or the game I/O connector. You can connect any analog joystick with a 15-pin D-shell connector or any device compatible with the standard PC joystick. To use two joysticks, you need a Y-cable splitter.

1. Switch off your system and all peripheral devices.
2. Touch a metal plate on your system to ground yourself and to discharge any static electricity, and then unplug the power cord from the wall outlet.
3. Remove the cover from your system.
4. Remove the metal plate from an unused PCI expansion slot in your system and put the screw aside, to be used later.
5. Align the audio card with the vacant PCI expansion slot. Press the card gently and evenly into the slot as shown in Figure 1-2. Ensure that the card is seated firmly inside the PCI expansion slot.
6. Secure the card to the expansion slot with the screw.
7. To learn how to connect to other devices, see Figure 1-3.
8. Replace the cover onto your system.
9. Plug the power cord back into the wall outlet, and switch on the system.

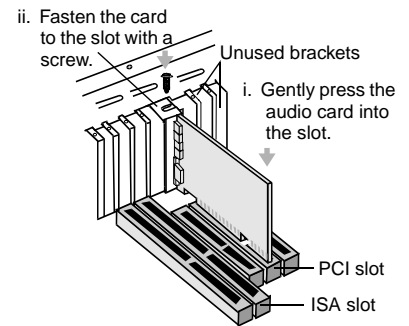


Figure 1-2: Securing the audio card to the PCI expansion slot.



- ❑ If you are playing games in Windows 95/98 MS-DOS mode (pure DOS mode), you must:
- Make sure the CD In connector and the Analog Audio connector of the CD-ROM or PC-DVD drive are connected.
 - In addition, if you get distorted audio, do not connect the CD SPDIF connector to the Digital Audio connector of the CD-ROM or PC-DVD drive.

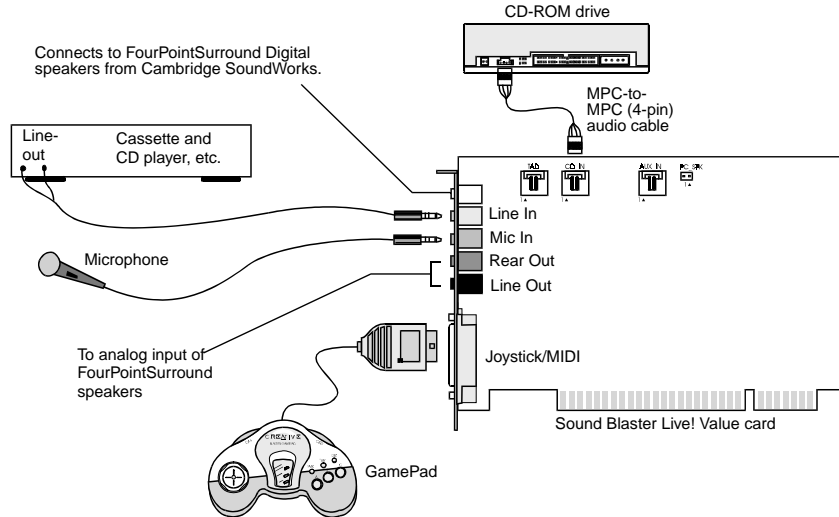


Figure 1-3: Connecting other devices.

Positioning Your Speakers

If you are using four speakers, place them so that they form the corners of a square with you exactly in the center (as in Figure 1-4) and that they are angled toward you. Make sure the computer monitor is not blocking the path of your front speakers. You may want to adjust the relative positions of the speakers until you get the audio experience you like best. If you have a subwoofer, place the unit in a corner of the room for the best bass experience.

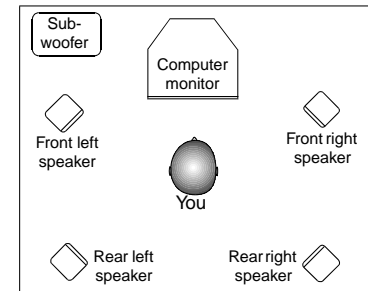


Figure 1-4: Recommended speaker positions for the 4-speaker configuration.

Installing Software in Windows 95/98

This chapter shows you how to install the audio software in Windows 95/98 after installing your card. It consists of the following sections:

- Setting Up the Audio Drivers
- Uninstalling the Applications
- Reinstalling the Audio Drivers From the Installation Disc
- Playing Legacy Games

Setting Up the Audio Drivers

You need device drivers to control the components on your audio card. After you have installed the card and switched on your system, Windows 95/98 automatically detects the components, and then either installs the drivers automatically or prompts you for the drivers. You may encounter the following messages, which may not be in the sequence shown.

- If a message similar to Figure 2-1 appears, just take note of it and wait for the next message.

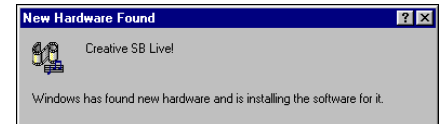


Figure 2-1: Message box indicating the detection of a device.

- ❑ If a dialog box similar to Figure 2-2 appears, click the **Driver from disk provided by hardware manufacturer** option, and then click the **OK** button.
- ❑ If the **Install From Disk** dialog box or a dialog box similar to Figure 2-3 appears:
 1. Insert the installation disc into your CD-ROM drive and select the drive.
 2. If there is a **Specify a location** check box, make sure it is selected and clear the other check boxes.
 3. Click the **Browse** button and select the folder **AUDIO\Language\WIN95DRV** where *Language* is the language of the software that you want to install.
 4. Click the **OK** button.
The required files are copied to your hard disk.



Figure 2-2: Driver installation dialog box where the Windows default driver option is not available.



Figure 2-3: Windows 98 Add New Hardware Wizard dialog box.

- ❑ If a dialog box similar to Figure 2-4 appears:
 1. Click the **Other Locations** button.
 2. At the **Select Other Locations** dialog box, click the **Browse** button and select the folder **AUDIO\Language\WIN95DRV** where *Language* is the language of the software that you want to install.
 3. Click the **OK** button, and then click the **Finish** button.

Some of the required files are copied to your hard disk. However, an error message stating that a file (2GMGSMT.SF2 or otherwise) cannot be found also appears.

4. Click the **OK** button.
5. At the **Copying Files** dialog box, click the **Browse** button and select the folder **AUDIO\Language\WIN95DRV** where *Language* is the language of the software that you want to install.
6. Click the **Open** button, and then click the **OK** button twice.
The file is copied to your hard disk.



Figure 2-4: Update Device Driver Wizard dialog box when driver cannot be found.

- ❑ If a dialog box similar to Figure 2-5 appears, click the **Next** button, and follow the instructions on the screen to complete the installation of the driver.
- ❑ If a Version Conflict message box appears about VJOYD.VXD and MSJSTICK.DRV, click the **Yes** button to keep the files.

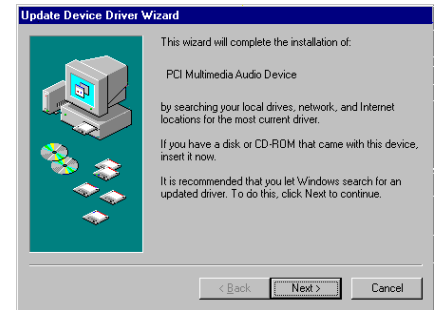


Figure 2-5: Update Device Driver Wizard dialog box at start of installation.

Uninstalling the Applications

Use the following steps to cleanly remove applications before you reinstall them to correct problems, change configurations, or make version upgrades.

To uninstall the applications:

1. Close the audio card's applications if they are open. This includes Creative Launcher and the SB Live! icon on the taskbar. Applications that are still running during the uninstallation will not be removed.
2. Click **Start -> Settings -> Control Panel**.
3. Double-click the **Add/Remove Programs** icon.
The **Add/Remove Programs Properties** dialog box appears with **Sound Blaster Live! Value, Creative Launcher** and **Creative PlayCenter** listed in the box.
4. Select **Sound Blaster Live! Value**, and then click the **Add/Remove** button.
5. Repeat steps 3 and 4 for **Creative Launcher** and **Creative PlayCenter**.
6. Click the **OK** button to close the **Add/Remove Programs Properties** dialog box.
7. Restart the computer if prompted.

Reinstalling the Audio Drivers From the Installation Disc

You may want to reinstall only the audio drivers if you think they have been corrupted.

1. Insert the installation disc into your CD-ROM drive.
2. Run the UPDDR95.EXE program from the **AUDIO\Language\WIN9XDRV** folder of your CD-ROM drive, where *Language* is the language of the software that you want to install. The updating process may take a while. When the progress indicator box disappears, the update is complete.

Playing Legacy Games

For more information, see Appendix B, "SB Emulation in MS-DOS/ Windows 95/98".

Installing Software in Windows NT 4.0



You cannot install more than one Sound Blaster audio card of the same type on your computer.

Installing the Software

Setting Up Joystick Drivers in Windows NT 4.0

This chapter shows you how to install the audio software in Windows NT 4.0 after installing your card. It consists of the following sections:

- Installing the Software
- Setting Up Joystick Drivers in Windows NT 4.0
- Reinstalling the Audio Drivers From the Installation Disc
- Reinstalling the Audio Drivers From the Installation Disc
- Uninstalling Sound Blaster Live! Value

The software installation in NT 4.0 includes the installation of audio drivers.

1. Insert the installation disc into your CD-ROM drive.
The AutoPlay screen appears.
 2. Follow the instructions on the screen to complete the installation.
-
1. Log on to your computer as Administrator.
 2. Click **Start** -> **Settings** -> **Control Panel**.
 3. Double-click the **Multimedia** icon, click the **Devices** tab, and then click the **Add** button.
 4. In the List of Drivers box of the **Add** dialog box, select **Unlisted Or Updated Driver**, and then click the **OK** button.

5. Insert the Windows NT 4.0 CD-ROM into the CD-ROM drive.
6. In the **Install Driver** dialog box, type **E:\DRVLIB\MULTIMED\JOYSTICK\X86** if E:\ is the CD-ROM drive letter, and then click the **OK** button.
7. In the **Add Unlisted Or Updated Driver** dialog box, click **Analog Joystick Driver**, and then click the **OK** button.
8. In the **Microsoft Joystick Configuration** dialog box, click the **OK** button.
9. Restart your computer when prompted.

Reinstalling the Audio Drivers From the Installation Disc

You may want to reinstall the audio drivers if you think they are corrupted.

1. Insert the installation disc into your CD-ROM drive.
2. Run the UPDPCINT.EXE program from the **AUDIO\Language\NT4DRV** folder of your CD-ROM drive, where *Language* is the language of the software that you want to install.
3. Restart your computer when prompted. You may be prompted to restart more than once.
4. If a Windows NT 4.0 Service Control Manager error message appears, see “Resolving I/O Conflicts” on page D-6.

Uninstalling Sound Blaster Live! Value

To uninstall the Sound Blaster Live! Value software, follow the steps listed in the section “Uninstalling the Applications” on page 2-5. They also apply in Windows NT 4.0.

General Specifications

This section lists the specifications of your card.

Features

PCI Bus Mastering

- PCI Specification Version 2.1 compliant
- Bus mastering reduces latency and speeds up system performance

EMU10K1

- Advanced hardware accelerated digital effects processing
- 32-bit digital processing while maintaining a 192 dB dynamic range
- Patented 8-point interpolation that achieves the highest quality of audio reproduction
- 64-voice hardware wavetable synthesizer
- Professional-quality digital mixing and equalization
- Up to 32 MB of sound RAM mapped to host memory

Stereo Digitized Voice Channel

- True 16-bit Full Duplex operation
- 16-bit and 8-bit digitizing in stereo and mono modes
- Playback of 64 audio channels, each at an arbitrary sample rate
- ADC recording sampling rates: 8, 11.025, 16, 22.05, 24, 32, 44.1 and 48 kHz
- Dithering for 8-bit and 16-bit recording

AC '97 Codec Mixer

- Mixes EMU10K1 audio sources and analog sources such as CD Audio, Line In, Microphone, Auxiliary and TAD
- Selectable input source or mixing of various audio sources for recording
- 16-bit Analog-to-Digital conversion of analog inputs at 48 kHz sample rate

Volume Control

- Software record and playback control of Master, Digitized Voice, and inputs from MIDI device, CD Audio, Line, Microphone, Auxiliary, TAD, PC Speaker and Wave/DirectSound device
- Separate bass and treble control
- Front and Rear Balance control
- Muting and balance control for individual playback sources

Creative Multi Speaker Surround™ (CMSS™)

- Multi-speaker technology
- Professional-quality panning and mixing algorithm
- Independent multiple sounds can be moved and placed around a listener

Connectivity

Audio Inputs

- One line-level analog Line input via stereo jack on rear bracket
- One mono Microphone analog input via stereo jack on rear bracket
- CD_IN line-level analog input via 4-pin Molex connector on card
- AUX_IN line-level analog input via 4-pin Molex connector on card
- TAD line-level analog input via 4-pin Molex connector on card

Audio Outputs

- DIGITAL OUT (Front and Rear SPDIF digital outputs) via 4-pole 3.5mm minijack on rear bracket
- Two line-level analog outputs via stereo jacks on rear bracket, Front and Rear Line-Outs
- Stereo headphone (32-ohm load) support on Front Line-Out

Interfaces

- PC_SPK 1x2 pin header
- D-Sub MIDI interface for connection to external MIDI devices. Doubles as Joystick port
- AUD_EXT 2x20 pin header for connection to Optical Digital I/O card or Drive Bay

SB Emulation in MS-DOS/ Windows 95/98

Background

Legacy games in the market have been designed for only MS-DOS. SB Live! supports MS-DOS games. There are two ways to play MS-DOS games:

❑ **From the MS-DOS box in Windows 95/98 (recommended)**

To open the box:

- Click **Start** -> **Programs** -> **MS-DOS Prompt**.

❑ **In the Windows 95/98 MS-DOS mode**

There may be times when you do not want to or cannot run a game from the MS-DOS box. The game may be incompatible with Windows 95/98, or there are insufficient system resources to play the game with Windows 95/98 loaded. In such cases, use the MS-DOS mode, in which only the real-mode portions of Windows 95/98 are loaded.

To restart the system in MS-DOS mode when you are already in Windows 95/98:

1. Click **Start** -> **Shut Down**.
2. Click the **Restart the computer in MS-DOS mode** option button, and then click the **OK** button.

To start the system in MS-DOS mode at system startup:

1. At startup as Windows 95/98 is loading, hold the F8 key.
2. At the startup menu, choose the Command Prompt Only option, and then press <Enter>.

Understanding the Installation Program

The AUTOEXEC.BAT File Settings

The installation program modifies your AUTOEXEC.BAT and CONFIG.SYS files.

The installation program adds the following statements to the AUTOEXEC.BAT file:

```
SET CTSYN=C:\WINDOWS
SET BLASTER=A220 I5 D1 H5 P330 T6
C:\PROGRA~1\CREATIVE\SBLIVE\DOSDRV\SBEINIT.COM
```

The first two statements set up the environment variables for your audio card. For an explanation of the variables, see “Environment Variables” on page B-5.

The third statement runs SBEINIT.COM which is the SB Live! MS-DOS driver. It is required for the SB Live! card to function properly under MS-DOS mode.

SBEINIT.COM requires the HIMEM.SYS and EMM386.EXE files to be loaded. If needed, the installation program adds the necessary HIMEM.SYS and EMM386.EXE lines to your CONFIG.SYS file, creating the file if it is not present.

On the rare occasion a program does not work with expanded memory, simply add the NOEMS parameter to your memory manager. For example:

```
DEVICE=C:\WINDOWS\EMM386.EXE NOEMS
```

You may load this driver into high memory in the AUTOEXEC.BAT file, even though the default is not. For example:

```
LOADHIGH=C:\PROGRA~1\CREATIVE\SBLIVE\DOSDRV\SBEINIT.COM
```

Do not remove the memory manager altogether. Do not attempt to load SBEINIT.COM into high memory when using the NOEMS option if SBEINIT.COM fails to run SBELOAD.EXE or SBECFG.EXE. In the rare case that an MS-DOS game will not work with a memory manager, you will not be able to use the SB Live! card with the game.

The CONFIG.SYS File Settings

System Resource Settings



In the following tables, the preferred values are in bold.

Input/Output (I/O) Addresses

The installation program adds the following statements to the CONFIG.SYS file:

```
DEVICE=C:\WINDOWS\HIMEM.SYS  
DEVICE=C:\WINDOWS\EMM386.EXE
```

This section explains the following software SB emulation resources—not hardware resources—of your card:

- Input/Output (I/O) Addresses
- Interrupt Request (IRQ) Line
- Direct Memory Access (DMA) Channel

If your card encounters a conflict with a peripheral device, you may need to change its resource settings. For details, see “Resolving I/O Conflicts” on page D-6.

When any resource setting is changed, make sure that the environment variables (see “Environment Variables” on page B-5) reflect the changes as well. You can view your system environment by typing **SET** at the DOS prompt.

I/O addresses are communication areas used by your computer’s central processor to distinguish among various peripheral devices connected to your system when sending or receiving data.

Table B-1: Possible default input/output (I/O) addresses.

Device	Default I/O Address Range
SB interface	220H to 22FH 240H to 24FH 260H to 26FH 280H to 28FH
MPU-401 UART MIDI interface	300H to 301H 310H to 311H 320H to 321H 330H to 331H

Table B-1: Possible default input/output (I/O) addresses.

Device	Default I/O Address Range
Stereo music synthesizer	388H to 38BH

Interrupt Request (IRQ) Line

An IRQ line is a signal line that a device uses to notify your computer's central processor that it wants to send or receive data for processing.

Table B-2: Possible default interrupt request (IRQ) line assignment.

Device	Default IRQ Line
SB interface	5, 7, 9, 10

Direct Memory Access (DMA) Channel

A DMA channel is a data channel that a device uses to transfer data directly to and from the system memory.

Table B-3: Possible default direct memory access (DMA) channel assignment.

Usage	Default DMA Channel
First DMA channel	0, 1, 3
Second DMA channel	5, 6, 7

Environment Variables

Environment variables are used to pass hardware configuration information to the software in your system. For MS-DOS, your audio card includes the following:

- CTSYN Environment Variable
- BLASTER Environment Variable

CTSYN Environment Variable

The CTSYN environment variable points to the location of the CTSYN.INI file, which usually resides in the Windows directory. The syntax for this variable is as follows:

```
CTSYN=path
```

where path is the location of the CTSYN.INI file.

BLASTER Environment Variable

The BLASTER environment variable specifies the base I/O address, IRQ line, and DMA channels of the SB interface. Its syntax is:

```
BLASTER=A220 I5 D1 H5 P330 T6
```

The parameters in the command are as follows.

This

Parameter Specifies

Axxx	SB interface's base I/O address.
Ix	IRQ line used by the audio interface.
Dx	First DMA channel used by the audio interface.
Hx	Second DMA channel used by the audio interface.
Pxxx	MPU-401 UART interface's base I/O address.
Tx	Card type. x must be 6.

Determining Resources

To find the current SB Live! SB16 Emulation resources in Windows 95/98:

1. Click **Start** -> **Settings** -> **Control Panel**.
2. In the **Control Panel** window, double-click the **System** icon.
3. In the **System Properties** dialog box, click the **Device Manager** tab.
4. Double-click **Creative Miscellaneous Devices**, and then double-click **Creative SB Live! SB16 Emulation**.
5. Click the **Resources** tab.

You can use the information in the resource list to help you configure MS-DOS games for use with the SB Live! card.

The resource list may show three entries of “Input/Output Range” and two entries of “Direct Memory Access”. They correspond to the sequence of entries in Table B-1 and Table B-3. If the number of entries do not match, a good estimate of the identity of the device is its I/O address or DMA channel.

To find the current SB Live! SB16 Emulation resources in MS-DOS mode:

1. Switch to your SB Live! DOS driver directory, that is:
C:\PROGRA~1\CREATIVE\SBLIVE\DOSDRV
2. Type **SBECFG** and then press <Enter>.

Some older games may have difficulty detecting the SB Live! card at certain resource settings. Typically, these games expect the card to be at a fixed set of resources and would fail to load if those resources are not detected. If you have older MS-DOS games that do not work properly, try changing the SB Live! SB16 Emulation configuration. Use the following as a guide:

Problem: Sound Blaster emulation is not recognized.

Solution: Try switching the SB Emulation IRQ between 5 and 7, use DMA channel 1, use SB interface port 220.

Problem: The MPU-401 emulation is not recognized.

Solution: Try using Port address 330.



The MS-DOS driver SBEINIT.COM must be running for SBECFG.EXE to work properly.

Selecting the Best Audio Options in a Game

Most MS-DOS–based games that provide sound have some procedure for audio setup. These procedures generally allow you to choose from a list of popular audio cards or audio devices.

Games may present audio options differently. Some may present a single choice that corresponds to a particular audio device; for example, Sound Blaster 16, Roland Sound Canvas, etc. Others provide an option for music and digital audio separately; for example, General MIDI music with Sound Blaster digital audio. In such a case, there are often two separate menus to configure.

Some games allow you to set the MIDI port address and IRQ for music and sound. Make sure that these settings correspond to the values displayed by SBECFG.EXE or the Resources tabbed page of the Creative SB Live! SB16 Emulation Properties dialog box.

There are games that offer MPU-401/Roland (General MIDI or MT-32/LAPC-1) as an option. Often these games allow you to set the MIDI port address. Make sure that they match the MIDI address in the Resources list on Resources tabbed page of the Creative SB Live! SB16 Emulation Properties dialog box. The same values can be found under “MPU-401 (General MIDI, Roland MT-32/LAPC-1) Emulation”, displayed by SBECFG.EXE in MS-DOS mode. Remember to enable the MT-32 MIDI patch with the SBEMIXER program if you select Roland MT-32 or LAPC-1 for music.

Music Options

Most MS-DOS games offer a menu choice for sound when they start up. If you have a choice between General MIDI and MT-32, always choose General MIDI, since it will provide you with the best sound quality. If you need to use MT-32, you must first switch from the General MIDI instrument set (the default) to the MT-32 instrument set using SBEMIXER. Be sure to switch back to the General MIDI set when you are finished using the MT-32 instrument set.

Digital Audio Options

SB Live! supports Sound Blaster, Sound Blaster Pro, Sound Blaster 16, and Adlib digital audio emulation. If an application provides all these as options, specify the choices in this order:

1. Sound Blaster 16
2. Sound Blaster Pro
3. Sound Blaster
4. Adlib

MS-DOS Mode Utilities

The SB Live! card includes a few MS-DOS utilities. These utilities require the SB Live! DOS driver SBEINIT.COM to be loaded.

SBECFG.EXE

Use the SBECFG.EXE utility to obtain the hardware settings and the status of the SB Live! card. Typing **SBECFG.EXE** at the command prompt displays the following hardware settings:

- PCI Hardware Settings: Port, IRQ
- Sound Blaster Emulation: Port, IRQ, DMA
- MPU-401 Emulation (GM, Roland MT-32/LAPC-1) Emulation: Port
- Adlib Emulation: Port

The emulation settings appear only if they are enabled.

SBEMIXER.EXE

Use SBEMIXER.EXE to change the volume levels of the MPU-401 instrument set used on the SB Live! card. You can use SBEMIXER.EXE from the command line—useful for advanced users who want to set up batch files with particular volume levels—or within the SBEMIXER screen. The settings for SBEMIXER.EXE are independent of the Creative Mixer settings in Windows 95/98.

To set SBEMIXER values in the command line:

At the DOS prompt, type the SBEMIXER command in a single line. Its syntax is:

```
SBEMIXER [/S:x] [/W:x] [/C:x] [/M:x] [/?]
```

where square brackets [] denote optional parameters, and:

This

Parameter Specifies

/S:x	Synth volume. <i>x</i> can be a value from the range 0 to 127.
/W:x	Wave volume. <i>x</i> can be a value from the range 0 to 127.
/C:x	CD audio volume. <i>x</i> can be a value from the range 0 to 127.
/M:x	Synth MT-32/LAPC-1 mode. For <i>x</i> , 0 is Off, 1 is On.
/?	View a short description of the parameters.

An example of an SBEMIXER command is

SBEMIXER /S:64 /W:120 /C:50 /M:0

which corresponds to “set the synth volume to 64, the Wave volume to 120, the CD audio volume to 50, and turn off the Synth MT-32/LAPC-1 mode”.

To set SBEMIXER values within the Mixer screen:

At the DOS prompt, type

SBEMIXER

The interactive editor mode allows you to change the mixer settings with the mouse, <Tab>, <PgUp>, <PgDn>, or arrow keys.

Use the Save button to save the settings for the next session.

SBESSET.EXE

Use SBESSET.EXE to manually configure SB resources or disable SB Emulation. By default, SB Emulation in DOS follows the Windows settings. For example, if you disable SB Emulation in Windows, in the next boot to DOS, SB Emulation in DOS disabled. Under rare circumstances you may need to manually reconfigure DOS SB Emulation, for example, if there is conflict in DOS before it can boot to Windows. SBESSET.EXE is run from the command line.

To set SBESSET values in the command line:

At the DOS prompt, type the SBESSET command in a single line. Its syntax is:

```
SBESSET [-Axxx] [-Ix] [-Dx] [-Hx] [-Pxxx] [-dx] [-wx]
```

where square brackets [] denote optional parameters, and:

This

Parameter Specifies

- | | |
|-------|---|
| -Axxx | SB interface's base I/O address. |
| -Ix | IRQ line used by the audio interface. |
| -Dx | First DMA channel used by the audio interface. |
| -Hx | Second DMA channel used by the audio interface. |



See “System Resource Settings” on page B-3 for a list of the possible values.

- Pxxx MPU-401 UART interface's base I/O address.
- dx SB Emulation mode. For *x*, 1 is Off, 0 is On.
- wx Set *x* to 1 to use the Windows-assigned resource configuration.
Set *x* to 0 to use (your) user-assigned resource configuration.

An example of an SBESET command is

SBESET -A240 -I5 -D3 -w0

which corresponds to “set the SB interface's base I/O address to 240, the IRQ line used by the audio interface to 5, the First DMA channel used by the audio interface to 3, and use the Windows-assigned resource configuration”.

SBEGO.EXE

Use this to confirm whether SB16 Emulation is properly installed and working.

Changing Audio Card Settings

You might want to disable interfaces that you are not using to free up resources, for example, when you do not have enough IRQ lines.

This appendix is organized as follows:

- Enabling/Disabling Gameport Joystick Interface
- Enabling/Disabling Other Features

Enabling/Disabling Gameport Joystick Interface

The Gameport Joystick interface on your audio card can be enabled or disabled in Windows 95/98.

To enable or disable the interface in Windows 95/98:

1. Click **Start** -> **Settings** -> **Control Panel**.
2. In the **Control Panel** window, double-click the **System** icon.
3. In the **System Properties** dialog box, click the **Device Manager** tab.
4. Double-click **Sound, Video And Game Controllers**, and then select **Creative Gameport Joystick**.
5. Click the **Properties** button.

6. In the Properties dialog box:
If you have an **Original Configuration (Current)** check box:
 - To enable the interface, make sure that the check box is selected.
To disable it, clear the check box.If you have a **Disable In This Hardware Profile** check box:
 - To enable the interface, clear the check box.
To disable it, make sure that the check box is selected.
7. Click **OK** to restart Windows and for the change to take effect.

When the Gameport Joystick interface is disabled, the entry in Device Manager has a red cross.

Enabling/Disabling Other Features

In Windows 95/98 and
Windows NT 4.0

To open AudioHQ from the
Sound Blaster menu

To open AudioHQ from
Creative Launcher

Use the applets under Creative AudioHQ to enable or disable features such as Stereo Enhancement Effect.

Click **Start -> Programs -> Creative -> Sound Blaster Live! -> AudioHQ**.
Check out the applets within the AudioHQ window.

Click Creative Launcher at the top or bottom of your computer screen, and then click the **AudioHQ** tab.
Check out the applets indicated by the icons in the Launcher.

Troubleshooting

Problems Installing Software

This appendix provides tips for solving problems you may encounter during installation or normal use.

In Windows 95/98, the installation does not start automatically after the CD-ROM is inserted.

The AutoPlay feature in your Windows 95/98 system may not be enabled.

To start the installation program through the My Computer shortcut menu:

1. Double-click the **My Computer** icon on your Windows desktop.
2. In the **My Computer** window, right-click the CD-ROM drive icon.
3. On the shortcut menu, click **AutoPlay** and follow the instructions on the screen.

To enable AutoPlay through Auto Insert Notification:

1. Click **Start -> Settings -> Control Panel**.
2. In the **Control Panel** window, double-click the **System** icon.
3. In the **System Properties** dialog box, click the **Device Manager** tab and select your CD-ROM drive.
4. Click the **Properties** button.
5. In the **Properties** dialog box, click the **Settings** tab and select **Auto Insert Notification**.
6. Click the **OK** button to exit from the dialog box.

Problems With Sound



If your record source is “What U Hear”, then at any one time, you can only select one of the five sources and mute the others. Therefore, you can get sound from the rear speakers only from the selected source.

There is unexpected excessive environmental sound or effects when an audio file is played.

The last selected preset is an inappropriate environment for the current audio file.

To switch to an appropriate environment:

1. Open the **Environmental Audio** control applet in AudioHQ.
2. In the Environment list, select “No effects” or an appropriate environment.

No sound from the headphones.

Check the following:

- The headphones are connected to the Line Out jack.
- Under the Environment deck of Surround Mixer, make sure that the Speaker selected is “Headphones”.

In a 4-speaker configuration, there is no sound from the rear speakers.

Check the following:

- The rear speakers are connected to the audio card’s Rear Out jack.
- If you are playing sound from one of these sources:
 - CD Audio
 - Line In
 - TAD
 - Auxiliary (AUX)
 - Microphone

To solve the problem:

1. In Surround Mixer’s Mixer deck, make sure the check box of the source being played is enabled.
2. Select the same source as the record source.

For example, if you are playing DVD games or movies, make sure that you select the Auxiliary device and select the Auxiliary device as your record source in Surround Mixer.

- If you have changed environments, make sure that your active sources are selected in Surround Mixer.

No sound from the speakers.

Check the following:

- First, check that you have connected your speakers to your card's output. Second, check that you have selected the correct source in the Mixer deck. If both these conditions have been met and you still do not get any sound, click the red plus sign above the VOL control and check whether the Digital Output Only check box is selected. If it is, you are in the Digital Output Only mode and so must connect to digital speakers to hear the sound from your audio card. See the section on Digital Output Only in Surround Mixer's online help for more information.

No audio output when playing digital files such as .WAV, MIDI files or AVI clips.

Possible causes:

- The speaker volume knob (if any) is not set properly.
- The external amplifier or speakers are connected to the wrong jack.
- There is a hardware conflict.
- The Speaker selection in the Environment deck of Surround Mixer is incorrectly selected.
- The **Original Sound** sliders in either the **Master** and **Source** tabbed pages of the Environmental Audio applet are set at or near 0%.

Check the following:

- The speakers' volume control knob, if any, is set at mid-range. Use Creative Mixer to adjust the volume, if necessary.

- ❑ The powered speakers or external amplifier are connected to the card's Line Out or Rear Out jack.
- ❑ No hardware conflict between the card and a peripheral device. See “Resolving I/O Conflicts” on page D-6.
- ❑ The Speaker selection in the Environment deck of Surround Mixer corresponds to your speaker or headphone configuration.
- ❑ The **Original Sound** sliders in either or both the **Master** and **Source** tabbed pages of the Environmental Audio applet are set to 100%.

No audio output when playing CD-Audio or DOS games that require a CD-ROM.

To solve this problem:

- Make sure the Analog Audio connector on the CD-ROM drive and the CD In connector on the audio card are connected.

Panning a source sometimes turns off its sound.

This occurs when you are in the Digital Output Only mode and the source's left-right balance in a software mixer application other than Surround Mixer (for example, the Windows Volume Control application) is at the opposite end compared to the position to which you have panned the source in the Environment deck of Surround Mixer. For example, the CD Audio balance in Windows Volume Control is on the left but in Surround Mixer you have panned the CD Audio to the right.

To solve this problem:

- Open that other mixer, and center the balances for all the audio input sources. This ensures that your analog sources will not turn silent when you pan them in Surround Mixer.

Problem with Surround Mixer

The mixer settings change unexpectedly with every change of super-environment presets.

To solve this problem:

- Dissociate the mixer settings.
 1. In the Preset deck, click the Surround Mixer title in the upper-left corner. The system menu appears, with a command **Dissociate Mixer Settings**.
 2. To dissociate mixer settings, make sure that the command is checked.

Insufficient SoundFont Cache

There is insufficient memory to load SoundFonts.

This may occur when a SoundFont-compatible MIDI file is loaded or played while insufficient memory has been allocated to SoundFonts.

To allocate more SoundFont cache:

- On the **Options** tabbed page of the SoundFont Control applet, move the SoundFont Cache slider to the right.

The amount of SoundFont cache you can allocate depends on the system RAM available.

If there is still insufficient system RAM available:

- On the **Configure Banks** tabbed page of the SoundFont Control applet, select a smaller SoundFont bank from the **Select Bank** box. The smallest SoundFont bank available is 2 MB (2GMGSMT.SF2).



The trade-off of a smaller SoundFont file is its lower sound quality.

Problems With Joystick



Do not attempt to make changes to the BIOS unless you have experience with system software.

Resolving I/O Conflicts



You can also refer to the Troubleshooting section in the Help file of Windows 95/98.

The joystick port is not working.

The audio card's joystick port conflicts with the system's joystick port.

To solve this problem:

- Disable the audio card's joystick port and use the system port instead. For details, see "Enabling/Disabling Gameport Joystick Interface" on page C-1.

The joystick is not working properly in some programs.

The program may use the system processor timing to calculate the joystick position. When the processor is fast, the program may determine the position of the joystick incorrectly, assuming that the position is out of range.

To solve this problem:

- Increase your system's 8 bit I/O recovery time of the BIOS setting, usually under the Chipset Feature Settings section. Or, if available, you may adjust the AT Bus speed to a slower clock. If the problem persists, try a different joystick.

Conflicts between your audio card and another peripheral device may occur if your card and the other device are set to use the same I/O address.

To resolve I/O conflicts, change the resource settings of your audio card or the conflicting peripheral device in your system using Device Manager in Windows 95/98.

If you still do not know which card is causing the conflict, remove all cards except the audio 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 hardware conflicts in Windows 95/98:

1. Click **Start** -> **Settings** -> **Control Panel**.
2. In the **Control Panel** window, double-click the **System** icon.

Problems in Windows NT 4.0

3. In the **System Properties** dialog box, 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 box, click the **Resources** tab.
6. Make sure that the **Use automatic settings** check box is selected, and click the **OK** button.
7. Restart your system to allow Windows 95/98 to reassign resources to your audio card and/or the conflicting device.

A Service Control Manager error message appears with one or more other error messages at system restart.

This occurs after you remove an audio card from your computer after you have successfully installed the Sound Blaster Live! card. Windows is trying to match the drivers to the removed audio card.

To solve this problem:

1. Log on to your computer as Administrator.
2. Click **Start -> Settings -> Control Panel**.
3. Double-click the **Multimedia** icon, and then click the **Devices** tab.
4. In the list, remove from under these entries
 - Audio Devices
 - MIDI Devices And Instrumentsthe items other than
 - Audio for Creative SB Live!
 - MIDI for Creative SB Live!
 - MIDI for Creative S/W Synth
5. Click the **OK** button to close the dialog box.
The drivers are removed.

Problems with Encore DVD Player

The Encore DVD Player is not launched when a DVD disc is inserted into the drive.

To solve this problem:

1. In the Windows system tray, right-click the Disc Detector icon, and then click **Properties**.
2. On the **General** tabbed page of the **Creative Disc Detector** dialog box, make sure that **Enable Disc Detector** check box is selected.
3. Click the **Players** tab.
4. Select the DVD Disc entry and then click the **Select Player** button.
5. In the **Players Properties** dialog box, click the **Browse** button.
6. Browse to C:\Program Files\Creative\PC- DVD Encore and double-click the entry **ctdvdply**
The Name box now displays the entry *ctdvdply*.
7. Click the **OK** button twice to close.

Now when you double-click the Disc Detector icon, the Encore DVD Player is launched.