1 Creative WaveStudio

Creative WaveStudio is an easy-to-use yet powerful program that allows you to record, play, and edit 8-bit (tape quality) and 16-bit (CD quality) audio files in the Windows environment. You can use Creative WaveStudio to record from audio sources such as MIDI or an audio compact disc (CD); and although WaveStudio also offers you the choice of recording with line-in or a microphone, these two options are not supported by the PC Compatibility Card.

IMPORTANT You must have Windows 95 or Windows version 3.1 or higher installed on your system in order to use Creative WaveStudio.

This chapter provides you with information on using WaveStudio and its powerful features. It is organized as follows:

- Starting Creative WaveStudio
- Understanding WaveStudio interface
- Using the mouse
- Understanding the WaveStudio menus
- Working with WaveStudio
- Customizing WaveStudio
- Using WaveStudio effectively
- Using CD Sync
- Quitting WaveStudio

Starting Creative WaveStudio

Creative WaveStudio has minor variations depending on the Windows version installed on your computer. If you are using a version of Windows other than Windows 95, refer to the onscreen help for WaveStudio when WaveStudio is different from how it is described in this manual.

Starting Creative WaveStudio in Windows 95

1   **Click the Windows 95 start button.**

2   **Point to Programs, then point to Sound Blaster 16 in the list of programs.**

3   **Click WaveStudio, located at the bottom of the Sound Blaster 16 list of programs.**

A Creative WaveStudio window similar to Figure 1-1 appears.

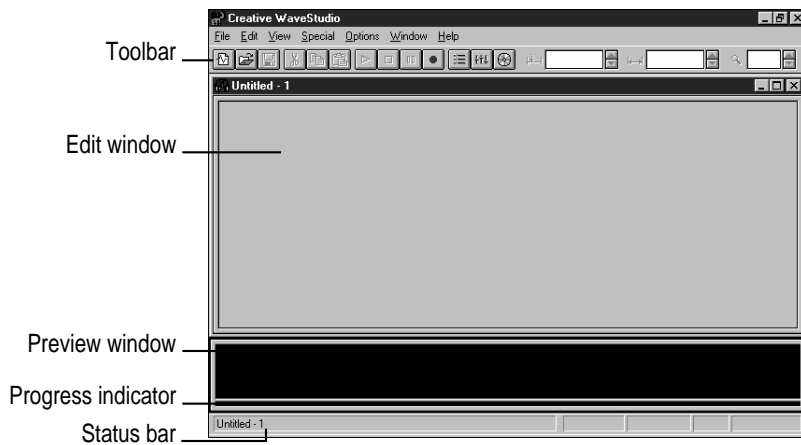**Figure 1-1** The Creative WaveStudio window

Starting Creative WaveStudio in Windows version 3.1 or higher

1   **Double-click the Audio Software program group in the Program Manager window.**

2   **Double-click the WaveStudio icon in the Audio Software program group window.**

A Creative WaveStudio window similar to Figure 1-1 appears.

Understanding the WaveStudio interface

The WaveStudio interface has four main features. They are the toolbar, edit window, preview window, and status bar.

Toolbar

The toolbar includes buttons and control boxes for file and wave operations. See Figure 1-2 for descriptions of what they do.
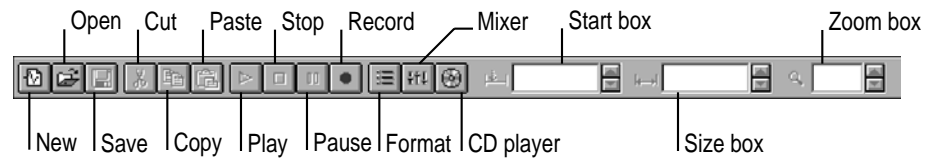

Figure 1-2 The toolbar

Button	Description
	New: Opens a new window without any sound data.
	Open: Loads an existing sound file.
	Save: Saves the active sound file.
	Cut: Cuts the selected data of the active sound file.
	Copy: Copies the selected data of the active sound file.
	Paste: Pastes cut or copied data onto the active sound file.
	Play: Plays the sound file that is currently active in WaveStudio.
	Stop: Stops the playback of the active sound file.

Button	Description *(continued)*
	Pause: Pauses/Resumes the playback of the active sound file.
	Record: Records a sound file.
	Format: Sets the default recording format.
	Mixer: Activates Creative Mixer.
	CD: Activates the CD player.

Box icon	Description
	Start box: Displays the starting position of the sound data selection. You can specify the position by typing a numerical value in the text box or use the scroll arrows to select the starting position.
	Size box: Displays the size of the sound data selection. You can type the size in the text box or use the scroll arrows to increase or decrease the size.
	Zoom box: Displays the zoom ratio of the sound file displayed. You can type the ratio in the text box or use the scroll arrows to increase or decrease the ratio. The smaller the value, the larger the magnification.

Edit window

When you record a new sound file, or open an existing sound file, a smaller edit window appears inside the Creative WaveStudio window and displays file data (see Figure 1-3). You can open several files at a time in the edit window. Choose Cascade from the Windows menu to stack the files behind each other. Choose Tile Horizontally or Tile Vertically from the Windows menu to display the files one on top of the other or side by side. Opening several files at a time allows you to perform editing functions like copying data from one file to another easily and quickly. For more information on the editing options available in the edit window, refer to the edit menu table in "Understanding WaveStudio Menus," later in this chapter.

Only a small portion of sound file data can be viewed in the edit window. To view all of the data in the file, use the horizontal and vertical scroll bars. The horizontal scroll bar allows you to view the file data from beginning to end, and the vertical scroll bar allows you to zoom into (or out of) the data.
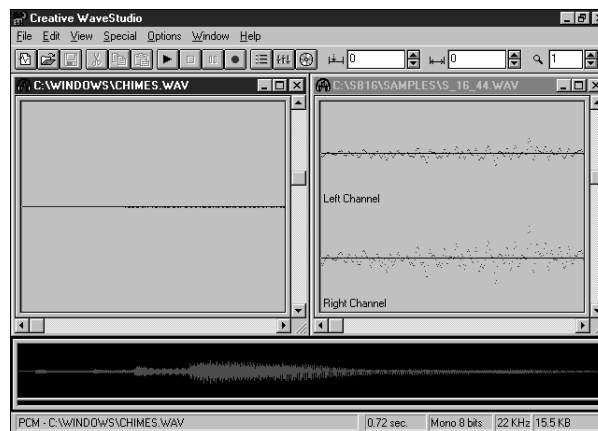
Figure 1-3 Two sound files displayed in the edit window in Tile Vertically mode

Preview window

The preview window condenses and displays in a single view all the data for the sound file that is in the active edit window. The preview window and the edit window are linked so that you can use the preview window to zoom in on portions of data you want to edit. When you place your pointer in the preview window, it changes to ▣ . You can then use the pointer in the preview window to select the portion of the sound file you want to edit. The portion of the file you select in the preview window is automatically loaded into the edit window.

Located below the preview window is the progress indicator. The progress indicator shows progress in playing back the sound file. If the entire file is selected in the preview window, the progress indicator moves from the beginning to the end of the file as it is played back. If only a portion of the file is selected, the progress indicator moves only from the beginning to the end of the selected portion.

Status bar

The status bar (see Figure 1-4) displays information about the sound file in the active edit window. A window has to contain sound file data before any information relevant to the file is displayed in the status bar. The status bar also displays information about the menu options you select while working with your sound file. When you select an option from the menu bar, the status bar displays a brief description of the option you are pointing to with your pointer.

| PCM - C:\WINDOWS\CHIMES.WAV | 0.72 sec. | Mono 8 bits | 22 KHz | 15.5 KB |

Figure 1-4 A status bar

Using the mouse

Selecting the data you want to edit is easy when you use the mouse. The following table explains how to select sound file data in the edit window using the mouse. If you are using a multibutton mouse, use the left mouse button for all mouse button operations in this table.

To select…	Do this
a portion of the data	Place the pointer at the beginning of the portion of data you want, then drag to highlight the entire portion and release the mouse button.
the entire data	Double-click anywhere in the edit window.
data from a specific position back to the beginning of the data	Place the pointer at the chosen position, then drag to above the edit window.
data from a specific position to the end of the data	Place the pointer at the chosen position, then drag to below the edit window.

Understanding WaveStudio menus

WaveStudio has seven menus: File, Edit, View, Special, Options, Window, and Help. It also has a context-sensitive menu that you can activate easily with your mouse.

File menu

The File menu contains the following commands:

Command	Description
New	Creates a new window without any data.
Open	Loads an existing sound file.
Close	Closes an open sound file.
Close All	Closes all open sound files.
Save	Saves changes made to the sound file.
Save As	Saves the sound file with a new name.
Save All	Saves all open sound files.
Exit	Quits WaveStudio.

WaveStudio keeps a record of the last four sound files you have opened. The recently opened files are displayed at the bottom of the File menu. To open any of the files, click the file name.

Edit menu

The Edit menu contains the following editing commands:

Command	Description
Undo	Restores the sound file to the state last saved.
Cut	Copies and then removes the selected portion of the sound data.
Copy	Copies the selected portion of the data.
Paste	Pastes cut or copied sound data into the edit window. If you have selected a portion of the data, that portion is replaced. Otherwise, WaveStudio pastes the data at the pointer.
Paste Mix	Mixes cut or copied sound data with the one in the edit window. When you play the sound file, you will hear both sounds together.
Delete	Deletes a selected portion of the data. Unlike the Cut command, the Delete command doesn't copy the data first.
Crop to Selection	Deletes all the data except the portion selected.
Select All	Selects the entire sound file in the edit window. You can also do this by double-clicking anywhere within the edit window.

View menu

Use the commands in the View menu to customize the WaveStudio workspace:

Command	Description
Preview	Hides or displays the preview window.
Toolbar	Hides or displays the toolbar.
Status Bar	Hides or displays the status bar.
Fit Wave in Window	Adjusts zoom ratio of the sound data display to fit the size of the edit window.
Actual Size	Resets zoom ratio of the sound data display in the edit window to its actual size (1:1).
Cursor Position	Displays the sound file at the starting position of the highlighted sound data selection.
Cursor End	Displays the sound file at the ending position of the highlighted sound data selection.
Zoom	Zooms into the portion of the sound file selected. (You should select the desired portion before using this function.)

Special menu

Use the commands in the Special menu to add special effects to sound files:

Command	Description
Reverse	Reverses the playback of the entire or selected portion of the sound file. For stereo files, there are options for reversing either channel.
Add Echo	Adds echo effect to the entire or selected portion of the sound file. For stereo files, there are options for adding echo to either channel.
Invert Waveform	Inverts the sound data for the entire or selected portion of the sound file. For stereo files, there are options for inverting either channel.
Rap!	Repeats the selected portion of the sound file.
Insert Silence	Inserts silence into the selected portion of the sound file.
Force to Silence	Silences the selected portion of the sound file. For stereo files, there are options for silencing either channel.
Fade In	Gradually increases the volume of the entire or selected portion of the sound file. The starting magnitude of volume is determined by you and increases to 100 percent. For stereo files, there are options for fading in either channel or both channels.
Fade Out	Gradually decreases the volume of the entire or selected portion of the sound file. The volume decreases from 100 percent to whatever level you choose. For stereo files, there are options for fading out either channel or both channels.
Swap Channels	Swaps the entire or selected portion of the sound file between the left and right channels. For stereo files only.
Pan Left to Right	Pans the entire or selected portion of the sound file from left to right. For stereo files only.
Pan Right to Left	Pans the entire or selected portion of the sound file from right to left. For stereo files only.
Phase Shift	Shifts one channel of the entire or selected portion of the sound file to the right, causing a delay during playback. For stereo files only.
Convert Format	Opens the Convert Format dialog box, which allows you to change the channels, sampling rate, and sampling size of a sound file. For example, a stereo file can be converted to a mono file by using the Convert Format dialog box to change the channels, sampling rate, and sampling size to mono levels.
Modify Frequency	Modifies the frequency (playback rate) of the entire sound file.
Amplify Volume	Changes the volume level of the entire or selected portion of the sound file.

Options menu

Use the commands in the Options menu to change the WaveStudio default settings:

Command	Description
Record Settings	Sets the default record settings.
Mixer Settings	Activates Creative Mixer.
Customize Colors	Customizes WaveStudio display colors.
Display in Bytes	Displays wave selection information in bytes.
Display in Samples	Displays wave selection information in samples.
Display in Milliseconds	Displays wave selection information in milliseconds.
Always on Top	Makes WaveStudio the topmost window.

Window menu

Use the commands in the Window menu to organize the edit windows when several sound files are open. For more information regarding these commands, refer to your Microsoft Windows manual.

Help menu

Use the Help menu to find more information on Sound Blaster 16 programs and features:

Command	Description
Help Topics	Searches for a topic in WaveStudio Help.
System Info	Displays information about Windows and your system such as CPU and available memory.
About WaveStudio	Opens a window displaying copyright information.

Context-sensitive menu

To see a menu of context-sensitive help in the edit window, press and release the mouse button while holding down the ⌘ (Command) key. If you are using a multibutton mouse, you can access the context-sensitive menu by clicking the right mouse button. The commands that appear in the menu depend on the content of the edit window. The commands include these possibilities:

Command	Description
Play	Plays the entire or selected portion of the sound file in the edit window.
Record	Records the sound file. If the current active window in the edit window is an open file, the content in the open file will be replaced by the recorded file.
Stop	Stops the playback of a sound file.
Mixer Settings	Activates Creative Mixer.
Fit Wave in Window	Adjusts the zoom ratio of the sound data display to fit the size of the edit window.
Actual Size	Resets the zoom ratio of the sound data display in the edit window to its actual size (1:1).
Cursor Position	Displays the sound file at the starting position of the highlighted sound data selection.
Zoom	Zooms into the selected portion of the sound file.
New	Creates a new window without any data.
Open	Loads an existing sound file.
Save	Saves changes made to the sound file.

Working with WaveStudio

WaveStudio offers a variety of easy-to-use features to assist you in recording and editing your sound files. This section shows you how to specify the format for sound files, and how to open, save, and mix sound files.

Specifying sound wave formats

Before recording a sound file, you need to ensure that the format of the file is specified correctly. Sound wave format refers to the sound channel and sampling rate and size of the file.

To specify the sound wave format:

1   **Choose Record Settings from the Options menu.**

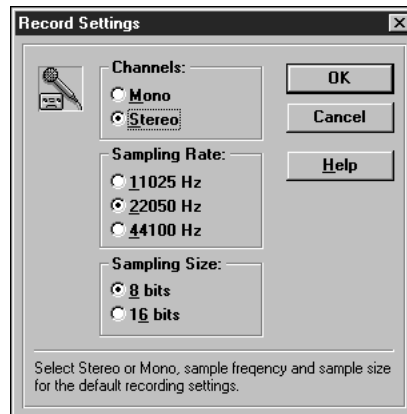The Record Settings dialog box similar to Figure 1-5 appears.

Figure 1-5 The Record Settings dialog box

2   **Select the format for the sound file.**

- Select Mono for one sound channel and Stereo for two sound channels.
- Select 11025 Hz for voice, 22050 Hz for cassette, and 44100 Hz for CD quality recording.
- Select 8 bits for tape quality and 16 bits for CD sound quality.

3   **Click OK.**

There is a trade-off between the quality of a sound file and the amount of storage space required for the file. A sound file with better sound quality requires more storage space because of its high sampling rate.

Opening sound files

To edit a sound file, you first need to open it. Sound files created or edited in WaveStudio are in the WaveStudio format, and therefore have .WAV at the end of their file names. If you open a file with raw data (.RAW) or Creative's Voice format (.VOC), a dialog box prompting you to confirm the conversion of the file to .WAV format is displayed.

To open a sound file:

1 **Choose Open from the File menu.**
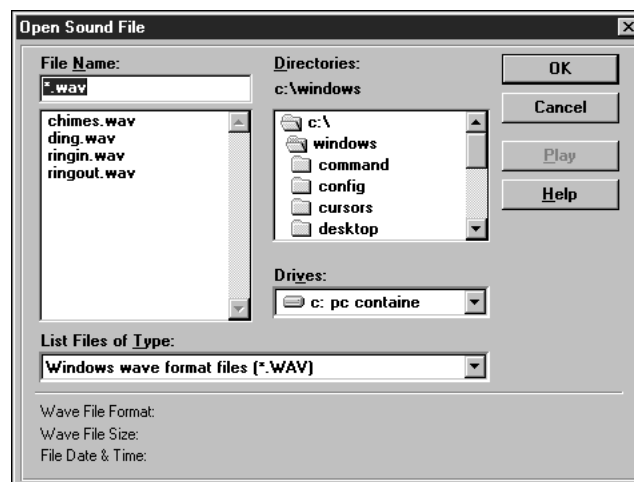
The Open Sound File dialog box similar to Figure 1-6 appears.

Figure 1-6 The Open Sound File dialog box

2 **Select the file you wish to open from the File Name list box.**

You may have to specify the directory where your file (.WAV) resides. To listen to the playback of the sound file before opening it, click Play.

3 **Click OK.**

Recording sound files

WaveStudio allows you to record new files or to record over existing files.

Recording a new sound file

To record a new sound file:

1   **Click New on the toolbar, or choose New from the File menu.**

2   **Click Record on the toolbar. (If your toolbar is not visible, first choose Toolbar from the View menu.)**

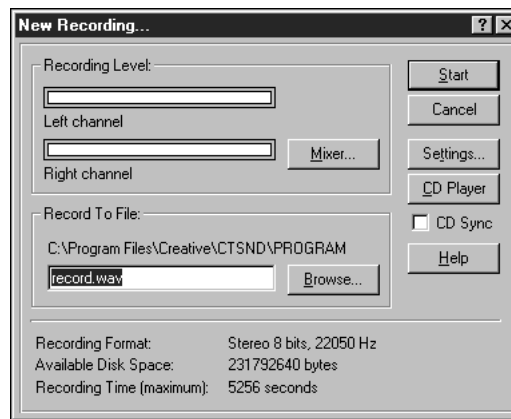The New Recording dialog box similar to Figure 1-7 appears.

Figure 1-7   The New Recording dialog box

3   **Ensure the settings in the dialog box are specified correctly.**

- Check the recording level in the Recording Level group box. If the level is too low or high, adjust it using the Mixer button.

- Check the path and file name created in the Record To File group box. You can change the file name and directory by using the Browse button.

- Check the recording format shown at the bottom of the dialog box. You can change the format by using the Settings button.

- Check your system's storage space shown at the bottom of the dialog box. If there is insufficient storage space for your file, free up more disk space or select another drive before recording the file.

4   **Click Start.**

IMPORTANT You can click the CD Player button to launch the CD player. Also, you can select the CD Sync checkbox to synchronize the start of the recording with the playback of your audio CD.

Recording over an existing sound file

To record over an existing sound file:

1   **Activate the file you want to record over.**

2   **Click Record on the toolbar. (If your toolbar is not visible, first choose Toolbar from the View menu.)**

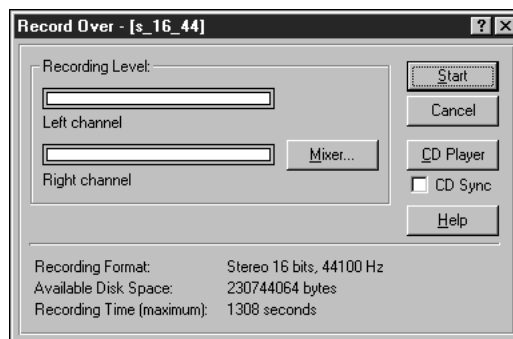The Record Over dialog box similar to Figure 1-8 appears.

Figure 1-8 The Record Over dialog box

3   **Click Start.**

Saving new sound files

To save a sound file you have just recorded:

1   **Click Save on the toolbar or choose Save from the File menu.**

2   **Enter the name of the file and the path if prompted.**

3   **Click OK.**

Assigning a new name or format to an existing sound file

If you want to use the data in an existing sound file as the basis for another sound file, you can save the existing sound file under a new name or format and then edit the sound data in the new file.

To give an existing sound file a new name or format:

1   **Choose Save As from the File menu.**

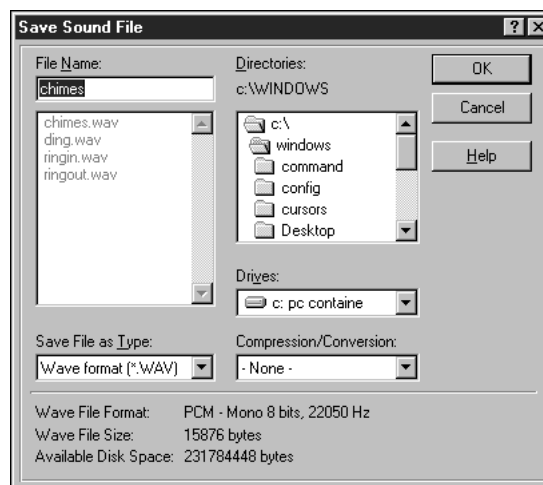The Save Sound File dialog box similar to Figure 1-9 appears.

Figure 1-9   The Save Sound File dialog box

2   **Enter a new name for the file and the path if prompted.**

3   **Select the desired file format and compression method from the "Save File as Type" and "Compression/Conversion" drop-down list boxes respectively.**

4   **Click OK.**

IMPORTANT Compression is not available for 8-bit sound files. Also, you can convert a Windows sound file to a different format by selecting PCM Conversion from the Compression/Conversion drop-down list box.

Mixing data from multiple sound files

When you mix the data of two sound files, you are actually adding the data of one file to another to create a new file. After mixing, you can play back the new file to hear the new sound generated.

To mix the data contents of two sound files:

1 **Activate the first (source) file and select the desired portion of the data for mixing.**

2 **Choose Copy from the Edit menu.**

The data copied is stored in an internal buffer.

3 **Activate the second (target) file and select the location where you want the copied data to be mixed.**

4 **Choose Paste Mix from the Edit menu.**

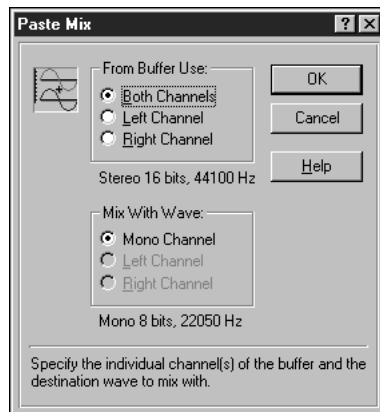A Paste Mix dialog box similar to Figure 1-10 appears.

Figure 1-10 The Paste Mix dialog box

5 **Select the desired channels for copying data from the source file in the From Buffer Use group box and for mixing data with the target file in the Mix With Wave group box.**

- Select Left Channel, Right Channel, or Both Channels for stereo file.
- Select Mono Channel for a mono file.

6 **Click OK.**

If a portion of the target file is not selected, the data is mixed where the pointer is. If a portion of the target file is selected, the copied data in the buffer is mixed with the portion selected.

IMPORTANT You cannot mix 8-bit with 16-bit sound data. However, you can convert both files to either 16-bit or 8-bit sampling size before mixing them.

Adding special effects

WaveStudio allows you to enhance your sound files with special effects from the Special menu. These effects include Reverse, Add Echo, Invert Waveform, Rap!, Insert Silence, Force to Silence, Fade In and Fade Out, Swap Channels, Pan Left to Right and Pan Right to Left, Phase Shift, Convert Format, Modify Frequency, and Amplify Volume.

Reverse

This effect reverses the sequence of the data in the sound file so that the sound is played backwards. You can specify a selected portion of the file to be reversed. If no portion of the file is selected, the entire file will be reversed.

To reverse a file:

1 **Choose Reverse from the Special menu.**

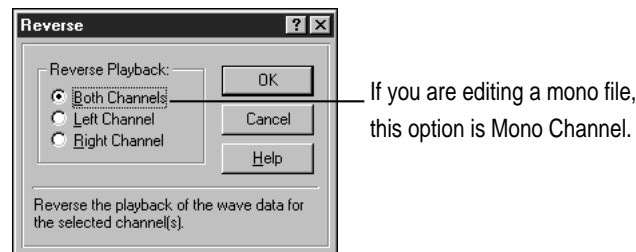A Reverse dialog box similar to Figure 1-11 appears.

 If you are editing a mono file, this option is Mono Channel.

Figure 1-11 The Reverse dialog box

2 **If you are editing a stereo file, select Left Channel, Right Channel, or Both Channels.**
If you are editing a mono file, Mono Channel is already selected.

3 **Click OK.**

Add Echo

Add Echo modifies data in the sound file to give it an echo effect. You can create a metallic sound effect by continually applying Add Echo to the same sound file until you have achieved the desired result. To add echo to a file:

1   Choose Add Echo from the Special menu.
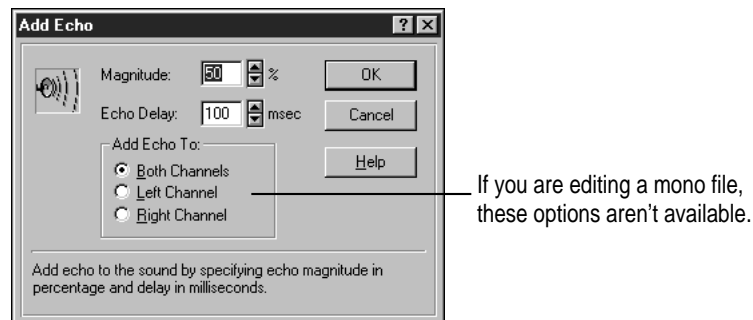
The Add Echo dialog box similar to Figure 1-12 appears.

If you are editing a mono file, these options aren't available.

Figure 1-12 The Add Echo dialog box

2   Enter the echo magnitude (loudness of the echo) in the Magnitude text box. The maximum magnitude you can enter is 200 percent.

3   Enter the echo delay (the time between the actual sound and the echo) in the Echo Delay text box.

4   If you are editing a stereo file, select Left Channel, Right Channel, or Both Channels. If you are editing a mono file, the options for channels are not available.

5   Click OK.

Invert Waveform

The Invert Waveform effect inverts the sound file along its horizontal axis. You can specify a selected portion of the file to be inverted. If a specific portion of the file is not selected, the entire file will be inverted. To create an unusual effect, invert only one channel of a stereo file.

To invert a file:

1   **Choose Invert Waveform from the Special menu.**
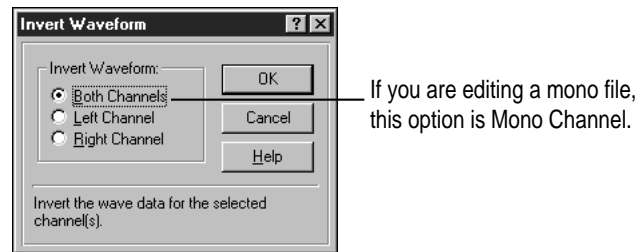
An Invert Waveform dialog box similar to Figure 1-13 appears.

If you are editing a mono file, this option is Mono Channel.

Figure 1-13   The Invert Waveform dialog box

2   **If you are editing a stereo file, select Left Channel, Right Channel, or Both Channels. If you are editing a mono file, Mono Channel is already selected.**

3   **Click OK.**

Rap!

This feature repeats the selected portion of the sound file. This is useful when you want to create a jerky or stuttering effect for your voice files. To repeat a selection:

1   **Select a portion of the file.**

2   **Choose Rap! from the Special menu.**

Insert Silence

This effect inserts silence into a selected portion of the sound file.

To insert silence into a file:

1   Select a portion of the sound file.

The length of the silence depends on the length of the portion selected.

2   Choose Insert Silence from the Special menu.

You will see a straight line representing the silence inserted into the portion selected.
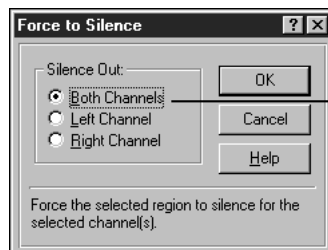
Force to Silence

This effect mutes the selected portion of the sound file so that the selected portion will not be heard during playback.

To mute a file:

1   Select a portion of the file.

2   Choose "Force to Silence" from the Special menu.

The Force to Silence dialog box similar to Figure 1-14 appears.

If you are editing a mono file, this option is Mono Channel.

Figure 1-14 The Force to Silence dialog box

3   If you are editing a stereo file, select Left Channel, Right Channel, or Both Channels. If you are editing a mono file, Mono Channel is already selected.

4   Click OK.

The selected portion is replaced by a straight line.

Fade In and Fade Out

You can create a fading in (soft to loud) or fading out (loud to soft) effect for your sound files. Use the instructions below for Fade In to help you use Fade Out. The Fade In and Fade Out dialog boxes are very similar.

To use Fade In:

1   **Choose Fade In from the Special menu.**

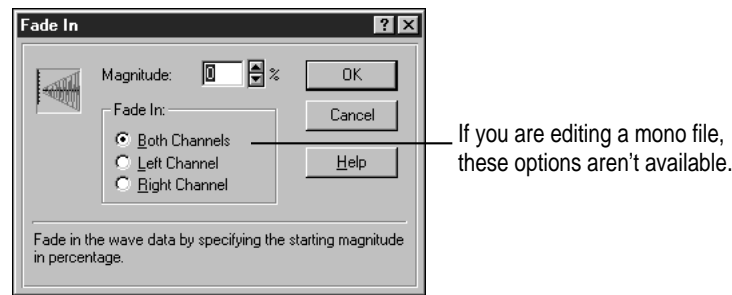A Fade In dialog box similar to Figure 1-15 appears.

If you are editing a mono file, these options aren't available.

Figure 1-15 The Fade In dialog box

2   **Enter the starting magnitude in the Magnitude text box.**

3   **If you are editing a stereo file, select Left Channel, Right Channel, or Both Channels. If you are editing a mono file, the options for channels are not available.**

4   **Click OK.**

IMPORTANT For Fade In, the file will be linearly faded in from the starting magnitude (volume) to 100 percent. For Fade Out, the file will be linearly faded out from a 100 percent magnitude to the ending magnitude.

Swap Channels

This effect swaps the entire or selected portion of wave data between the left and right channels. This effect is only applicable to stereo sound files.

To swap the channels of a wave:

Choose Swap Channels from the Special menu.

Pan Left to Right and Pan Right to Left

The "Pan Left to Right" effect pans the data of sound files from the left to the right channel. The "Pan Right to Left" effect pans the data from the right to the left channel. This feature is useful if you want to simulate the movement of a sound source from one end of a sound stage to the other.

To use "Pan Left to Right" (or vice versa):

Choose "Pan Left to Right" from the Special Menu.

Phase Shift

This effect allows you to delay the playback of the selected channel. This effect is only applicable to stereo sound files. However, you can convert a mono sound file to a stereo sound file by applying this effect. This gives the converted mono file a pseudo-stereo effect.

To create a phase shift effect:

1 **Choose Phase Shift from the Special menu.**

The Phase Shift dialog box similar to Figure 1-16 appears.
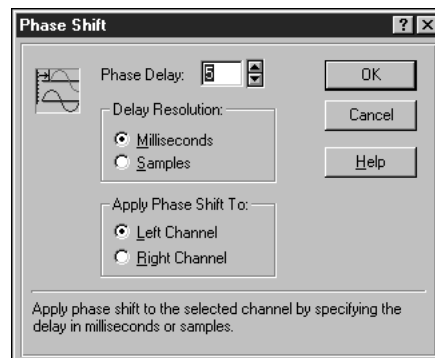
Figure 1-16 The Phase Shift dialog box

2 **Select the desired measurement unit from the Delay Resolution group box.**

3 **Enter the number of units of delay you want in the Phase Delay text box.**

4 **Select Left Channel or Right Channel from the Apply Phase Shift To group box.**

5 **Click OK.**

Convert Format

Convert Format allows you to convert between mono and stereo files, 8-bit and 16-bit files, and different frequencies.

To convert the format of a file:

1   **Choose Convert Format from the Special menu.**

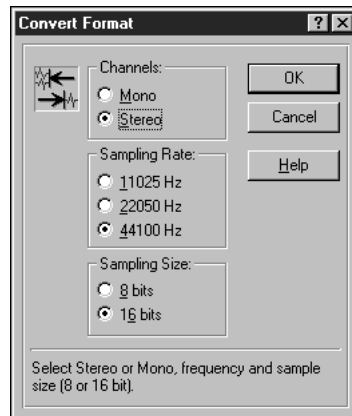The Convert Format dialog box similar to Figure 1-17 appears.

Figure 1-17 The Convert Format dialog box

2   **Select the desired channel from the Channels group box.**

3   **Select the desired sampling rate and size from the Sampling Rate and Sampling Size group boxes respectively.**

4   **Click OK.**

IMPORTANT Conversion is a complex process and may take a long time to complete, depending on the size of the file.

Modify Frequency

You can modify the frequency (playback rate) of sound files by selecting from three fixed frequencies: 11025 Hz, 22050 Hz, or 44100 Hz. Selecting a higher frequency causes a faster playback while a lower frequency causes a slower playback. This effect is applied to the entire file.

To modify the frequency of a file:

1 **Choose Modify Frequency from the Special menu.**

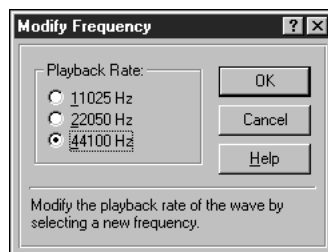The Modify Frequency dialog box similar to Figure 1-18 appears.

Figure 1-18 The Modify Frequency dialog box

2 **Select the desired frequency.**

3 **Click OK.**

IMPORTANT If your file is already at the maximum frequency of 44100 Hz, use Convert Format from the Special menu to convert it to 22050 Hz first before using this effect.

Amplify Volume

This effect allows you to change the volume of sound files. It can be applied to the entire or selected portion of the sound file.

To change the volume of a file:

1   **Choose Amplify Volume from the Special menu.**

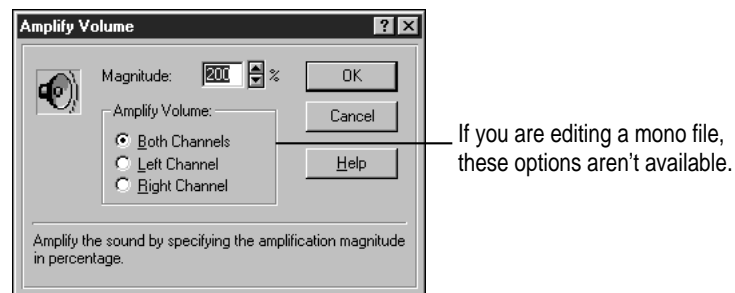The Amplify Volume dialog box similar to Figure 1-l9 appears.

If you are editing a mono file, these options aren't available.

Figure 1-19 The Amplify Volume dialog box

2   **Enter the magnitude in the Magnitude text box. The maximum magnitude you can enter is 500 percent.**

3   **If you are editing a stereo file, select Left Channel, Right Channel, or Both Channels. If you are editing a mono file, the options for channels are not available.**

4   **Click OK.**

Customizing WaveStudio

WaveStudio allows you to customize the default settings for recording, Creative Mixer, and the display color of the WaveStudio interface.

Recording

When you customize the record settings, future recordings of sound files will be based on those settings.

To customize the record settings:

1 **Choose Record Settings from the Options menu.**

The Record Settings dialog box similar to Figure 1-5 appears.

2 **Specify the desired settings.**

3 **Click OK.**

Creative Mixer

To adjust the settings for Creative Mixer:

1 **Click Mixer on the toolbar, or choose Mixer Settings from the Options menu.**

Creative Mixer appears.

2 **Specify the desired settings.**

Note: For more information on using the Creative Mixer, refer to Chapter 4, "Creative Mixer."

Display color

You can customize the colors used to display sound data in both the edit and preview windows, or you can reset the customized colors back to the default color scheme.

Customizing the color

To customize the display color:

1   **Choose Customize Colors from the Options menu.**

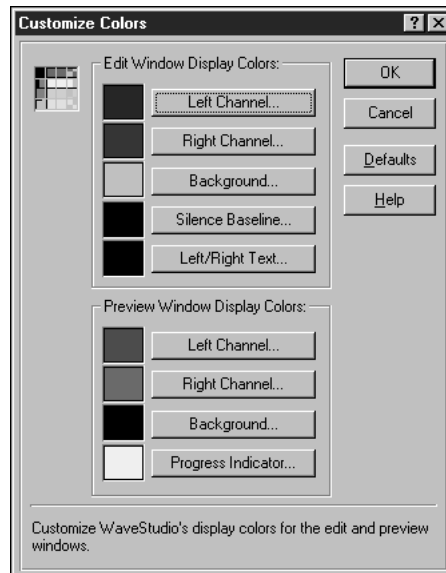The Customize Colors dialog box similar to Figure 1-20 appears.

Figure 1-20 The Customize Colors dialog box

2   **Select the display elements you want to customize in the Edit Window Display Colors and Preview Window Display Colors group boxes.**

A color selection box appears.

3   **Click the color you want.**

4   **Click OK.**

Restoring the original color

To restore the display elements to their original color scheme:

Click Defaults.

Using WaveStudio effectively

To use WaveStudio effectively, you need to know the amount of memory needed to run WaveStudio, how to manage your files, and how to work with compressed files.

Memory requirements

WaveStudio requires about one megabyte (MB) of memory. Additional memory is needed for the buffers when you play back or record sound files.

When you open a file for editing, WaveStudio will only allocate a certain amount of memory for storing the necessary information and will not load the entire file into memory. The file will be edited directly from your hard disk. As such, you can edit files as large as your hard disk can contain.

File management

This section explains how you can optimize your system for speed and manage your sound files effectively.

System optimizing

When you record sound files, WaveStudio will store recorded data directly to the hard disk. High resolution recording of data, particularly 16-bit data at 44100 Hz, will take longer to write to your disk if it is not optimized for speed.

You can reduce the amount of time your system spends reading and writing data by compacting your hard disk using a disk-compaction utility such as Disk Defragmenter and installing a disk cache utility such as SMARTDRV.EXE. For more information on using these utilities, consult your Windows 95 documentation.

Number of open files

WaveStudio does not limit the number of files you can open. But the number of files WaveStudio can open at a time depends on how you specify your operating system configuration. For more information on how to do that, consult your operating environment documentation.

Use of DOS SHARE utility

It is recommended that you use the DOS SHARE utility to allow proper file sharing and locking. This will prevent you from accidentally deleting a file while WaveStudio is accessing it. For more information on how to use this utility, consult your DOS documentation.

Compressed sound files

To work effectively with compressed sound files, you need to know how compressed files are opened and edited.

Opening compressed files

WaveStudio currently supports five compression formats: Microsoft ADPCM, CCITT A-Law, CCITT μ-Law, IMA/DVI ADPCM, and Creative ADPCM.

When you open a compressed sound file, WaveStudio will decompress the file first before displaying it. You must ensure that the file resides on a drive that has sufficient disk space to accommodate the uncompressed data.

The amount of space required depends on the compression format adopted. For CCITT A-Law and μ-Law, the compression ratio is 1:2 (compressed:uncompressed). For ADPCM, the ratio is 1:4. For example, if you are working with a 1 MB ADPCM file, you need to have at least 4 MB of free disk space.

Editing compressed files

When you open a compressed sound file for editing, WaveStudio will automatically compress the file when you save it. As this can be time-consuming for large files, you should save your work as an uncompressed wave (PCM) file first. Once you have finished editing, save the file with the desired compression format.

Using CD Sync

CD Sync allows you to synchronize the start of the recording with the playback of audio CDs.

If you have mistakenly placed a CD-ROM data disc instead of an audio CD in your CD-ROM drive, the program will inform you of the error; but the recording will still continue. To stop the recording, click Stop on the toolbar. Insert the correct audio CD and then click Record on the toolbar to record over your file. If you do not want the CD Sync option, uncheck it before proceeding with the recording.

Quitting WaveStudio

To quit WaveStudio:

Choose Exit from the File menu.

If changes to the file have not been saved, a dialog box will prompt you to save the changes.

2 Creative Remote and the Creative CD, Wave, and MIDI Players

Creative Remote resembles the remote control of a home stereo system. Creative Remote works in conjunction with three different audio players: Creative CD, Creative Wave, and Creative MIDI. Creative CD plays audio CDs from your CD-ROM drive, Creative Wave plays sound files created in WaveStudio, and Creative MIDI plays MIDI files. You can use Creative Remote to play audio in standard ways through the different players. If you wish to have still more control over each kind of audio, you can use Creative Remote to open and use the individual Creative CD, Creative Wave, and Creative MIDI players.

IMPORTANT You must have Windows 95 or Windows version 3.1 or higher installed on your system in order to use Creative Remote.

In addition to controlling the audio output for the three players, you can use Creative Remote in conjunction with Creative Wave to record audio from a CD or a MIDI file and to save it as a sound file. Although Creative Wave also offers the option of recording using line input or microphone input, the PC Compatibility Card does not support these options.

This chapter is organized as follows:

- Using Creative Remote
- Using Creative CD
- Using Creative Wave
- Using Creative MIDI

Using Creative Remote

You can use Creative Remote to play audio through Creative CD, Creative Wave, and Creative MIDI all at the same time. However, Creative Remote can only make adjustments to one player at a time. This player is called the active player.

Starting Creative Remote

Creative Remote varies slightly depending on the version of Windows installed on your computer. If you are using a version of Windows other than Windows 95, refer to the onscreen help when Creative Remote is different from how it is described in this manual.

Starting Creative Remote in Windows 95

1 **Click the Windows 95 start button.**

2 **Point to Programs, then point to Sound Blaster 16 in the list of programs.**

3 **Click Creative Remote in the Sound Blaster 16 list of programs.**

The Creative Remote controls similar to those in Figure 2-1, appear.
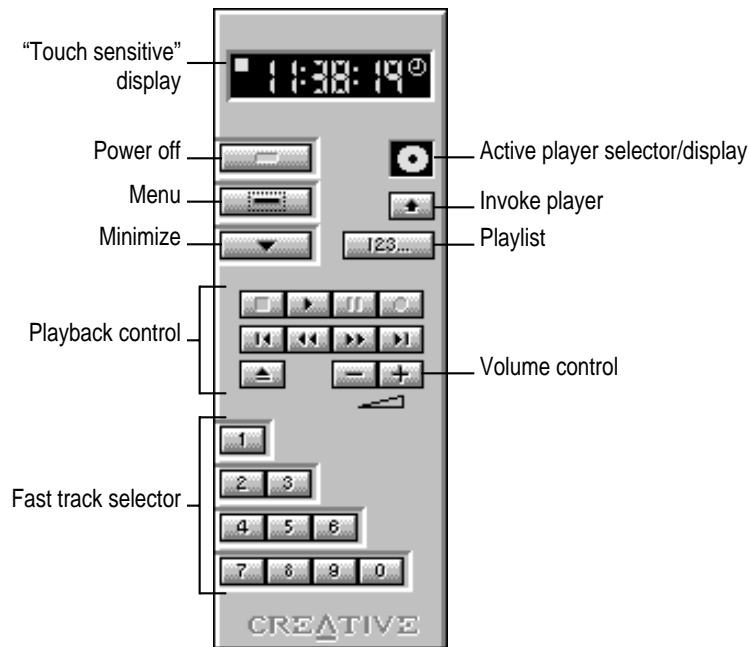
Figure 2-1 Creative Remote

Starting Creative Remote in Windows version 3.1 or higher

1   **Double-click the Audio Software program group in the Program Manager window.**

2   **Double-click the Creative Remote icon in the Audio Software program group window.**

The Creative Remote controls similar to those in Figure 2-1, appear.

Creative Remote features

Creative Remote consists of the following features:

■ "touch sensitive" display

■ power off button

■ menu button

■ minimize button

■ active player selector/display

■ invoke player button

■ playlist button

■ playback control buttons

■ volume control buttons

■ fast track selector

The "touch sensitive"/display in Creative Remote

By clicking the "touch sensitive" display, you can switch among the following:

— Current system time

— Title of the current playlist

— Title of the current track

— Name of the current artist

Power off button

Click the power off button to quit Creative Remote.

Menu button

Click the menu button to display the Control menu, shown below in Figure 2-2:
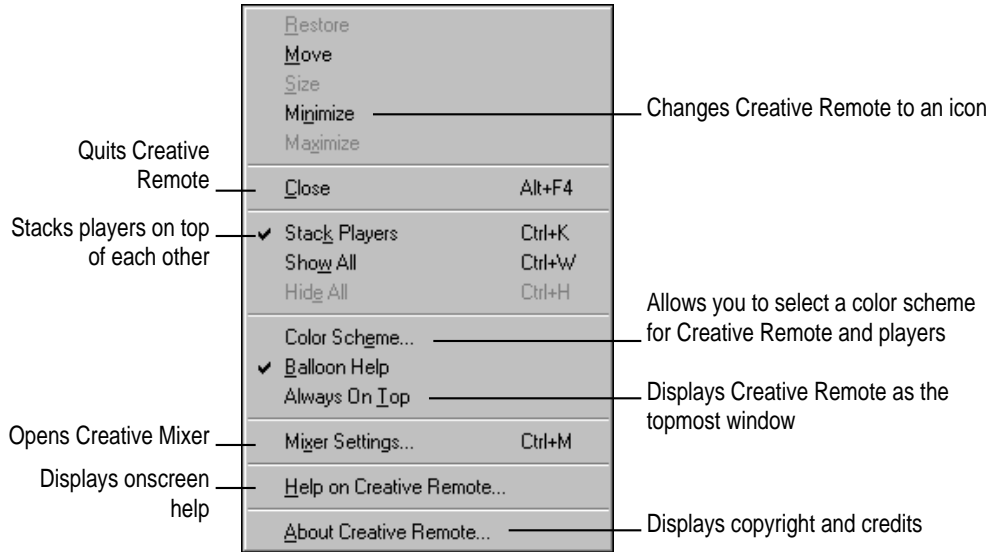
Figure 2-2 The Creative Remote Control menu

Minimize button

The minimize button changes the Creative Remote control panel to an icon at the bottom of your screen. To maximize Creative Remote, returning it to its original size, double-click the Creative Remote icon.

Active player selector/display

The active player selector displays the icon of the active player once you select it. The icons of the players are the following:

Creative CD

Creative MIDI
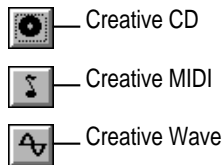
Creative Wave

Invoke player button

Click the invoke player button to open Creative CD, Creative MIDI, or Creative Wave.

Playlist button

The playlist button opens the Playlist dialog box, where you can rearrange your tracks/sound files into a customized playing order.

Playback control buttons

The playback control buttons allow you to perform the playback operations on the active player.

Button	Description
	Stops the track/sound file.
	Plays the track/sound file.
	Pauses the track/sound file.
	Records sound from a selected source within Creative Wave.
	Plays the previous track/sound file.
	Rewinds the track/sound file.
	Fast forwards the track/sound file.
	Plays the next track/sound file.
	Loads or unloads the CD within Creative CD.

Volume control buttons

The volume control buttons decrease and increase the volume (see Figure 2-3).

Decrease volume ————— | | ————— Increase volume

Figure 2-3 Creative Remote volume control buttons

Fast track selector

The fast track selector is an array of buttons that allow you to select a particular track or sound file in the playlist (see Figure 2-4). For example, to play the second track or sound file, click button 2. If you have more than ten tracks or sound files in your playlist, click the two buttons that make up the number. For example, to play the twelfth track or sound file, click button 1 and then button 2.
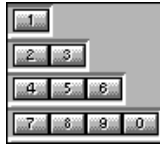
Figure 2-4 Creative Remote fast track selector

Activating a player

Before you can control a player with Creative Remote, you need to activate a player.

To activate a player:

1 **Click the active player selector/display.**

The player selection buttons appear.

2 **Click the button of the player you want to activate.**

The player becomes active and the icon of the active player appears on the active player selector/display.

Playing tracks or sound files

You can play tracks or sound files using the playback control buttons. Creative Remote plays tracks or sound files from the active player's playlist. You can also select a track or sound file and play it using the fast track selector.

To play a track or sound file using the fast track selector:

Click the button in the fast track selector that corresponds to the track or sound file you want to play. If you want to play track 10, click 0. If you want to play track 12, click 1 and then click 2.

IMPORTANT If you choose a track or sound file number that does not exist, the last track or sound file in the playlist will be selected.

Compiling a playlist

You can compile a playlist by clicking the playlist button. When you click this button, a Playlist dialog box appears allowing you to perform operations such as adding, deleting, and rearranging tracks or sound files.

Note: For more information on how to compile the playlist, refer to the relevant section about the active player later in this chapter.

Opening a player

You can open a specific player to control more aspects of that type of audio than are possible in Creative Remote. For example, you can switch to Creative CD to play tracks in random order and preview the first few seconds of each track in the playlist. When you open a player, you make it active in Creative Remote.

To open a player:

1 **Click the invoke player button.**

The player selection buttons appear.

2   **Click the button of the player you want to open.**

Alternatively, if you want to open the active player, double-click the active
player selector/display.

Using the hot keys

You can use hot keys (key commands) to perform operations on Creative
Remote. The following are some of the hot keys available:

Key command	Description
<A>	Pauses the track/sound file.
<B>	Plays the previous track/sound file.
<C>	Activates the active player selector/display.
<Ctrl+D>	Changes the information displayed on the "touch sensitive" display.
<D>	Decreases the volume.
<E>	Loads/ejects the CD.
<F>	Plays the next track/sound file.
<F1>	Activates the onscreen help.
<H>	Activates the invoke player button.
<K>	Rewinds the track/sound file.
<L>	Opens the playlist.
<N>	Minimizes Creative Remote to an icon.
<O>	Quits Creative Remote.
<P>	Plays the track/sound file.
<R>	Records the sound file.
<S>	Stops the track/sound file.
<Space bar>	Confirms selection.
<U>	Increases the volume.
<W>	Fast forwards the track/sound file.
<0> to <9>	Selects the track/sound file.

Using Creative CD

You can use Creative CD to perform operations such as playing audio CDs, compiling the playlist, and giving names to the tracks on your CD.

Starting Creative CD

Creative CD has minor variations depending on the Windows version installed on your computer. If you are using a version of Windows other than Windows 95, refer to the onscreen help when Creative CD is different from how it is described in this manual. In addition to starting Creative CD as described here, you can also start it from Creative Remote with the invoke player button.

Starting Creative CD in Windows 95

1 **Click the Windows 95 start button.**

2 **Point to Programs, then point to Sound Blaster 16 in the list of programs.**

3 **Click Creative CD in the Sound Blaster 16 list of programs.**

The Creative CD controls similar to those in Figure 2-5, appear.
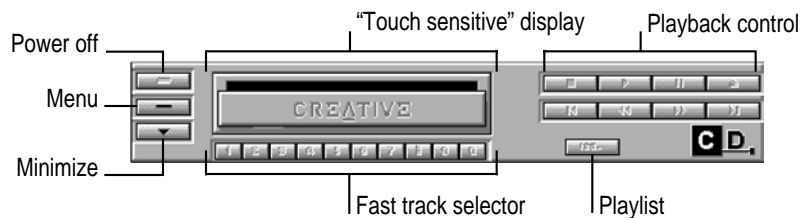
Figure 2-5 Creative CD

Starting Creative CD in Windows version 3.1 or higher

1 **Double-click the Audio Software program group in the Program Manager window.**

2 **Double-click the Creative CD icon in the Audio Software program group window.**

The Creative CD controls similar to those in Figure 2-5, appear.

Creative CD features

Creative CD consists of the following features:

- "touch sensitive" display
- power off button
- menu button
- minimize button
- playlist button
- playback control buttons
- fast track selector

The "touch sensitive" display in Creative CD

By clicking the "touch sensitive" display, you can switch among displays of these categories of information:

- CD-ROM drive status (indicates whether a CD is in the CD-ROM drive)
- CD and track title
- artist name and track title
- track number and duration

A "touch sensitive" display for track number and duration is shown in Figure 2-6.
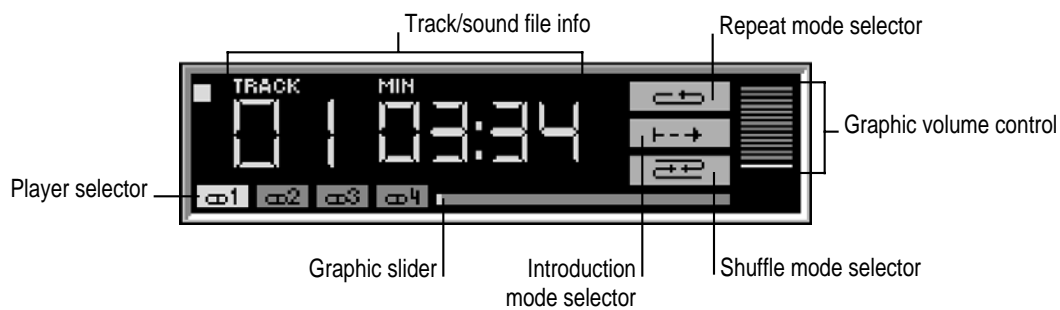
Figure 2-6 The "touch sensitive" display for track number and duration

The "touch sensitive" display contains the following components:

Item	Description
Player selector	Allows you to control up to four CD-ROM drives—CD 1, CD 2, CD 3, and CD 4. Select CD 1 to connect to your Macintosh CD-ROM drive. The PC Compatibility Card only supports CD 1, the Macintosh CD-ROM drive.
Graphic slider	Indicates the percentage of the current track that has been played; allows you to control the position of the playing track.
Graphic volume control	Shows the volume level of the player.
Two-digit mode selector	Allows you to select a track number above ten in the playlist.
Repeat mode selector	Repeats the whole playlist when the final track has played.
Introduction mode selector	Plays the first few seconds of the tracks in the playlist.
Shuffle mode selector	Randomly changes the order of the playlist.

Power off button

Click the power off button to quit Creative CD.

Menu button

The menu button displays the Control menu, shown below in Figure 2-7:
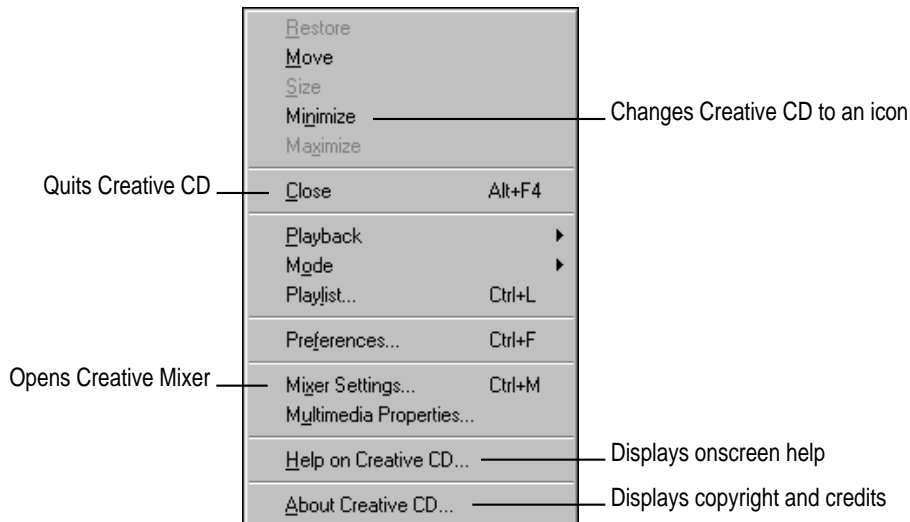
Figure 2-7 The Creative CD Control menu

Minimize button

The minimize button changes the Creative CD control panel to an icon at the bottom of your screen. To maximize Creative CD, returning it to its original size, double-click the Creative CD icon.

Playlist button

The playlist button allows you to compile a selection of the tracks that you want to play. When you click the playlist button, a CD Playlist dialog box similar to Figure 2-8 appears.
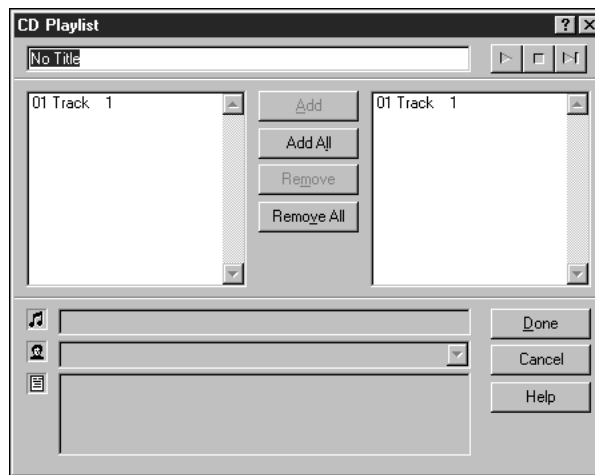
Figure 2-8 The CD Playlist dialog box

The CD Playlist dialog box contains the following components:

Item	Description
CD Artist/Title	Allows you to name your CD.
Track title	Allows you to name the tracks on your CD.
Play	Displays the tracks that are in the playlist.
Track List	Displays the tracks on your CD.
Play	Plays the selected tracks in the Playlist or Track List list box.
Add	Adds the selected tracks in the Track List list box to the Playlist list box.
Add All	Adds all the tracks in the Track List to the Playlist list box.
Clear	Clears the tracks in the Playlist list box.
Remove	Removes the selected tracks from the Playlist list box.
Done	Confirms the compilation of the tracks in the Playlist list box.
Cancel	Cancels changes made to the track in the Playlist list box. The playlist reverts to its last saved copy.
Help	Displays the onscreen help facility.

Playback control buttons

The playback control buttons allow you to perform playback operations on
Creative CD.

Button	Description
	Stops the track.
	Plays the track.
	Pauses the track.
	Plays the previous track.
	Quickly rewinds the track.
	Quickly forwards the track.
	Plays the next track.
	Loads or unloads the CD.

Fast track selector

The fast track selector allows you to select a track that you want to play (see Figure 2-9).

Figure 2-9 The Creative CD fast track selector

Playing tracks

You can play the tracks using the playback control buttons and fast track selector.

To play a track using the fast track selector:

Click the button from the fast track selector that corresponds to the track you want to play. If you want to play track 10, click 0. If you want to play track 12, click 1 and then click 2.

IMPORTANT If you choose a track number that does not exist, the last track in the playlist will be selected.

If you want to play a track from a certain point, you can use the graphic slider to change the track's playing position. You can change this before playing the track or while the track is playing.

To play a track starting at a different point:

1 **Press and hold down the mouse button on the graphic slider and go to the point at which you want to start the track, then release the mouse button.**

If your player is already playing, the player will immediately go to the point you have chosen and start playing.

2 **If your player is not playing, click the play button to start playing the track from the point you have chosen.**

Adjusting the volume

You can adjust the volume of Creative CD using the graphic volume control.

To adjust the volume:

1   **Press and hold down the mouse button on the graphic volume control.**

2   **Adjust the volume to the level you want.**

Working with the CD playlist

A playlist is a collection of tracks that are grouped in some order for playing. You can compile the tracks in the playlist using the CD Playlist list box.

Compiling the playlist

To compile the playlist:

1   **Click the Playlist button.**

The CD Playlist dialog box appears (see Figure 2-8).

2   **Perform the desired operations on the playlist:**

- preview tracks
- add tracks
- remove tracks
- rearrange tracks
- name the tracks and playlist

3   **Click Done when you are satisfied with the compilation of the playlist.**

Adding tracks to the playlist

To add tracks to the playlist:

1   **Select the tracks to add to the playlist from the Track List list box.**

2   **Click Add to add the tracks to the Playlist list box.**

Note: To add all the tracks in the Track List list box to the Playlist list box, click Add All.

Previewing tracks

To preview tracks:

1 Select the tracks from the Playlist or Track List list box.

2 Click Play.

The first track starts playing.

Note: You can also preview a track by double-clicking the track in a list box.

Removing tracks from the playlist

To remove tracks from the playlist:

1 Select the tracks you want to remove from the Playlist list box.

2 Click Remove.

Note: To remove all the tracks from the Playlist list box at once, click Remove All.

Selecting tracks in the playlist

You can select multiple tracks for previewing, adding, or removing by holding down <Ctrl> or <Shift> while you choose them.

- **Pressing <Ctrl> allows you to randomly select the tracks.**
- **Pressing <Shift> allows you to select a group of adjacent tracks when you select the first and last tracks in the group.**

Rearranging tracks in the playlist

You can use your mouse to rearrange the tracks in the playlist.

To move a track in the playlist using a single-button mouse:

Hold down the ⌘ (Command) key as you drag the track in the Playlist list box to the new position.

To move a track in the playlist using a multibutton mouse:

Use the right mouse button to drag the track in the Playlist list box to the new position.

The track moves to the position you choose.

IMPORTANT If you are in shuffle mode, Creative CD will continue to play the tracks randomly. To leave shuffle mode, click the shuffle mode button on the "touch sensitive" display to deselect it. Once you have left shuffle mode, Creative CD will use your rearranged playlist.

Naming the playlist

Once you have compiled your playlist, you may want to give the playlist a title. To give your playlist a title:

1 **Highlight the CD Artist/Title edit box.**

2 **Type the title in the edit box.**

Naming the tracks

To name a track on your CD:

1 **Select the track in the Track List list box.**

The track appears in the Track Title edit box.

2 **Highlight the track.**

3 **Type the new name and press <Return>.**

The name of the track is changed.

Using the hot keys

You can use hot keys (key commands) to perform operations on Creative CD. These hot keys are as follows:

Key command	Description
<A>	Pauses the track.
<B>	Plays the previous track.
<Ctrl+D>	Changes the information shown on the "touch sensitive" display.
<E>	Loads/ejects CD.
<F>	Plays the next track.
<F1>	Activates onscreen help.
<G>	Activates the graphic slider.
<H>	Activates shuffle mode selector.
<I>	Activates introduction mode selector.
<K>	Rewinds the track.
<L>	Opens the playlist.
<M>	Activates repeat mode selector.
<N>	Minimizes Creative CD to an icon.
<O>	Quits Creative CD.
<P>	Plays the track.
<S>	Stops the track.
<Space bar>	Confirms selection.
<W>	Fast forwards the track.
<0> to <9>	Selects tracks.

Using Creative Wave

You can use Creative Wave to perform operations such as playing a sound file created in WaveStudio, compiling a playlist, and recording a MIDI file or audio CD. Recording with line or microphone input is not supported by the PC Compatibility Card.

Starting Creative Wave

Creative Wave has minor variations depending on the Windows version installed on your computer. If you are using a version of Windows other than Windows 95, refer to the onscreen help when Creative Wave is different from how it is described in this manual. In addition to starting Creative Wave as described here, you can also start it from Creative Remote with the invoke player button.

Starting Creative Wave in Windows 95

1   **Click the Windows 95 start button.**

2   **Point to Programs, then point to Sound Blaster 16 in the list of programs.**

3   **Click Creative Wave in the Sound Blaster 16 list of programs.**

The Creative Wave controls similar to those in Figure 2-10, appear.
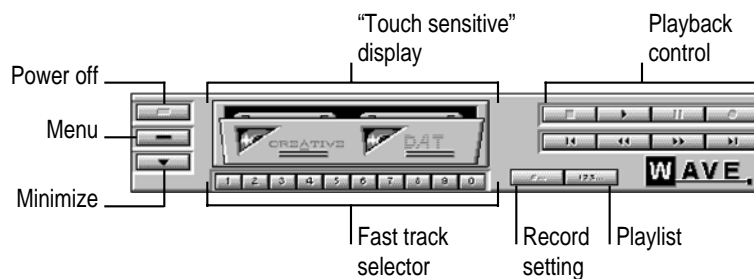
Figure 2-10 Creative Wave

Starting Creative Wave in Windows version 3.1 or higher

1   **Double-click the Audio Software program group in the Program Manager window.**

2   **Double-click the Creative Wave icon in the Audio Software program group window.**

The Creative Wave controls similar to those in Figure 2-10, appear.

Creative Wave features

The Creative Wave interface consists of the following features:

- "touch sensitive" display
- power off button
- menu button
- minimize button
- playlist button
- playback control buttons
- record setting button
- fast track selector

The "touch sensitive" display in Creative Wave

By clicking the Creative Wave "touch sensitive" display, you can switch among displays of these categories of information:

- sound file playing status (showing whether a selected sound file is currently playing)
- titles of the sound file and playlist
- the number and elapsed time of the playing sound file

A "touch sensitive" display for the number and elapsed time of the playing sound file is shown in Figure 2-11.
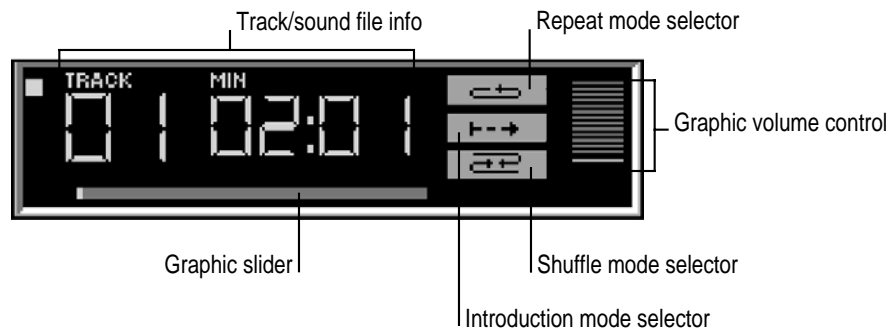
Figure 2-11 The "touch sensitive" display for the number and elapsed time of the playing sound file

The "touch sensitive" display contains the following components:

Item	Description
Graphic slider	Indicates the percentage of the current sound file that has played. It also allows you to play the sound file from a different point in the file.
Graphic volume control	Shows the volume level of the player.
Repeat mode selector	Repeats the whole playlist when the final sound file has played.
Introduction mode selector	Plays the first few seconds of all sound files in the playlist.
Shuffle mode selector	Randomly plays the sound files in the playlist.

Power off button

Click the power off button to quit Creative Wave.

Menu button

Click the menu button to display the Control menu (Figure 2-12).

Changes Creative Wave to an icon

Quits Creative Wave

Invokes (opens) Creative Mixer

Allows you to synchronize Creative CD to play immediately when you start recording

Allows you to synchronize Creative MIDI to play immediately when you start recording

Displays onscreen help

Displays copyright and credits

Figure 2-12 The Creative Wave Control menu

Minimize button

The minimize button changes Creative Wave to an icon at the bottom of your screen. To maximize Creative Wave, returning it to its original size, double-click the Creative Wave icon.

Playlist button

The playlist button allows you to compile the desired sound files for playing. When you click this button, the Wave Playlist dialog box similar to Figure 2-13 appears.
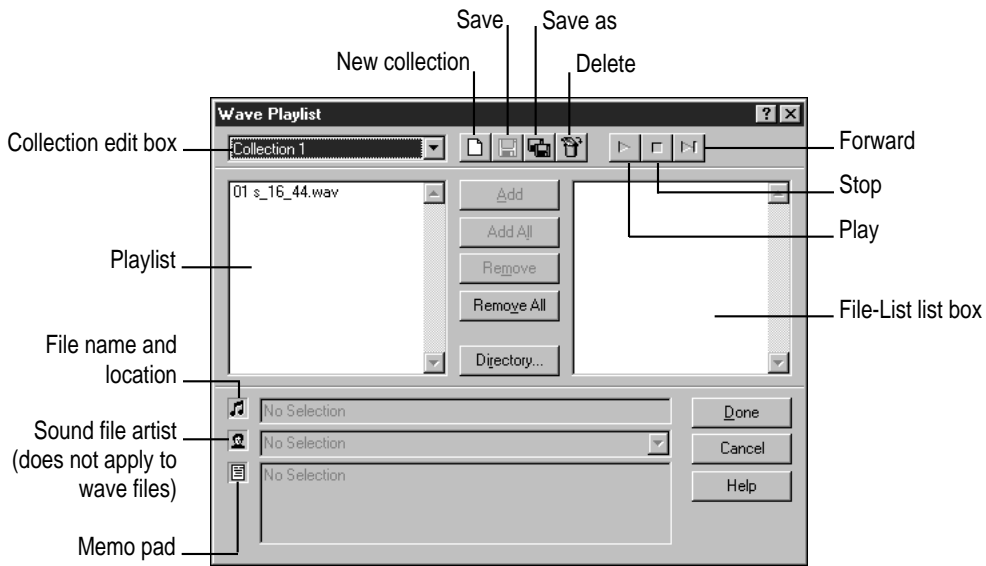
Figure 2-13 The Wave Playlist dialog box

The Wave Playlist dialog box contains the following components:

Item	Description
Collection Edit Box	Allows you to give a title to your playlist.
New Collection	Allows you to create a new collection title.
Save	Saves the playlist using the name provided in the Collection edit box.
Save As	Saves the playlist with a new name.
Delete	Deletes the playlist in the Collection edit box.
Play	Plays the selected sound files.
Stop	Stops the selected sound file from playing.
Forward	Forwards you to the next sound file in the playlist.
Playlist	Displays the files you have included in the playlist.
Add	Adds selected sound files to the Playlist list box.
Add All	Adds all the sound files to the Playlist list box.
Remove	Removes selected sound files from the Playlist list box.
Remove All	Removes all the sound files in the Playlist list box.
Directory	Displays the directory search path.
File-List List Box	Lists available sound files that can be added to the playlist.
File Name and Location	Tells you the name and directory location of the selected sound file.
Sound File Artist	Displays the artist name, if any, of the selected sound file. (Applies to CD tracks; wave files do not have an artist attached to them.)
Memo Pad	Allows you to type a brief description or memo about the selected sound file.
Done	Confirms the compilation of sound files in the Playlist list box.
Cancel	Cancels changes made in the Playlist list box. The playlist reverts to its last saved copy.
Help	Displays the onscreen help facility.

Playback control buttons

The playback control buttons allow you to perform the playback operations.

Button	Description
	Stops the sound file.
	Plays the sound file.
	Pauses the sound file.
	Records a sound file from a selected source.
	Plays the previous sound file in the playlist.
	Quickly rewinds the sound file.
	Quickly forwards the sound file.
	Plays the next sound file in the playlist.

Record setting button

The record setting button displays a dialog box that allows you to define the settings for recording.

Fast track selector

The fast track selector allows you to select and play a sound file in the playlist (see Figure 2-14).

Figure 2-14 The Creative Wave's fast track selector

Playing sound files

You can play sound files by using the playback control buttons and fast track selector.

To play a sound file using the fast track selector:

Click the button from the fast track selector that corresponds to the sound file you want to play. If you want to play file 10, click 0. If you want to play file 12, click 1 and then click 2.

IMPORTANT If you choose a sound file number that does not exist, the last sound file in the playlist will be selected.

If you want to play a sound file from a certain point, you can use the graphic slider to indicate where to start. You can do this before playing the file or while it is playing.

To play the sound file starting at a different point:

1 **Press and hold down the mouse button on the graphic slider and go to the point at which you want to start the sound file, then release the mouse button.**

If your player is already playing, the player will immediately go to the point you have chosen and start playing.

2 **If your player is not playing, click Play to start playing the sound file from the point you have chosen.**

Adjusting the volume

You can adjust the volume of Creative Wave using the graphic volume control.

To adjust the volume:

1 **Press and hold down the mouse button on the graphic volume control.**

2 **Adjust the volume to the level you want.**

Working with the wave playlist

A playlist is a collection of tracks that are grouped in some order for playing. You can compile the tracks in the playlist using the Wave Playlist list box.

Compiling the playlist

To compile the playlist:

1 Click the playlist button.

The Wave Playlist dialog box similar to Figure 2-13 appears.

2 Perform the desired operations on the playlist:

- preview sound files
- add sound files
- remove sound files
- rearrange or name sound files

3 Click Done when you are satisfied with the compilation of the playlist.

Adding sound files to the playlist

To add sound files to the playlist:

1 Select the sound files to add to the playlist from the Files list box.

2 Click Add to add the sound files to the Playlist list box.

Note: To add all the sound files in the Files list box to the Playlist list box, click Add All.

Previewing sound files

To preview sound files:

1 Select the sound files from the Playlist or Files list box.

2 Click Play.

The sound file starts playing.

Note: You can also preview a sound file by double-clicking the sound file in a list box.

Removing sound files from the playlist

To remove sound files from the playlist:

1 **Select the sound files from the Playlist list box.**

2 **Click Remove.**

Note : To remove all the sound files in the Playlist list box, click Remove All.

Selecting sound files in the playlist

You can select multiple sound files for previewing, adding, or removing by holding down <Ctrl> or <Shift> while you choose them.

- **Pressing <Ctrl> allows you to randomly select the sound files.**
- **Pressing <Shift> allows you to select a group of adjacent tracks when you select the first and last sound files in the group.**

Rearranging sound files in the playlist

You can use your mouse to rearrange the sound files in the playlist.

To move a sound file in the playlist using a single-button mouse:

Hold down the ⌘ (Command) key as you drag the file in the Playlist list box to the new position.

To move a sound file in the playlist using a multibutton mouse:

Use the right mouse button to drag the file in the Playlist list box to the new position.

The sound file moves to the position you choose.

IMPORTANT If you are in shuffle mode, Creative Wave will continue to play the sound files randomly. To leave shuffle mode, click the shuffle mode button to deselect it on the "touch sensitive" display. Once you have left shuffle mode, Creative Wave will use your rearranged playlist.

Naming the playlist

After compiling your playlist, you may give the playlist a title. To give your playlist a title:

1   **Click Save As.**

The Save As dialog box similar to Figure 2-15 appears.
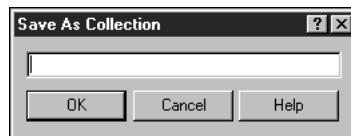
Figure 2-15 The Save As dialog box

2   **Type the title of the playlist in the edit box.**

3   **Click OK.**

Defining recording settings

To define the settings of a recording:

1   **Click the record setting button.**

The Record Settings dialog box (Figure 2-16) appears.
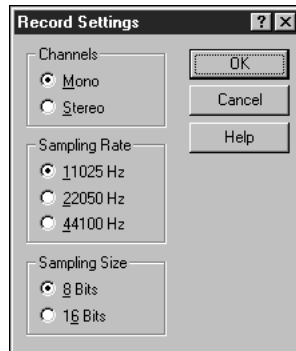
Figure 2-16 The Record Settings dialog box

2   **Enter the format you want the recording to have.**

- Mono or Stereo channel

- 11025 Hz, 22050 Hz, or 44100 Hz sampling rate

- 8-bit or 16-bit sampling size

3   **Click OK.**

Recording a sound file

Using Creative Mixer, you can record from audio sources such as your CD-ROM or MIDI. Although Creative Mixer also provides the option of recording with line-in or a microphone, the PC Compatibility Card does not support these two options. If you want to record from an audio CD or MIDI, you can use the Sync options in the Creative Wave Control menu to synchronize your recording with the playing of the audio. The audio is recorded in wave format and saved as a sound file.

IMPORTANT The format of the recording is set using the Record Settings dialog box.

To record a sound file in Creative Wave:

1   **Choose CD Sync, MIDI Sync, or both from the Control menu.**

These options have been chosen when check marks appear next to them.

2   **Click the record button.**

The Wave Recording dialog box similar to Figure 2-17 appears.
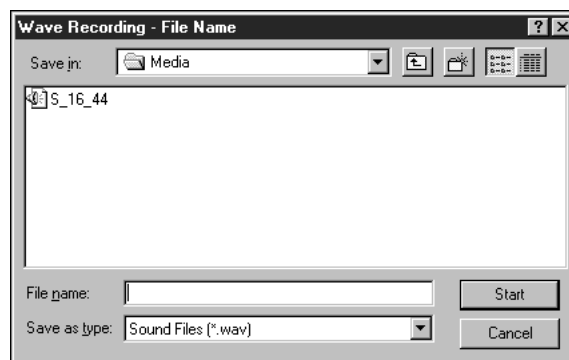
Figure 2-17 The Wave Recording dialog box

3   Enter the name of the file you want to record to.

4   Click Start.

IMPORTANT   When using the Sync options, the playing of the audio will synchronize with the recording only if the audio player is activated. For example, if you choose CD Sync from the Control menu, then either Creative CD or Creative Remote should be activated to run the audio CD.

Using the hot keys

You can use hot keys (key commands) to perform operations in Creative Wave:

Key command	Description
<A>	Pauses the sound file.
<B>	Plays the previous sound file.
<Ctrl+D>	Changes the information shown on the "touch sensitive" display.
<F>	Plays the next sound file.
<F1>	Activates onscreen help.
<G>	Activates the graphic slider.
<H>	Activates the shuffle mode selector.
<I>	Activates the introduction mode selector.
<K>	Rewinds the sound file.
<L>	Opens the playlist.
<M>	Activates the repeat mode selector.
<N>	Minimizes Creative Wave to an icon.
<O>	Quits Creative Wave.
<P>	Plays the sound file.
<R>	Records the sound file.
<S>	Stops the sound file.
<Space bar>	Confirms selection.
<W>	Fast forwards the sound file.
<0> to <9>	Selects sound files.

Using Creative MIDI

You can use Creative MIDI to perform operations such as playing a MIDI file and compiling a playlist.

Starting Creative MIDI

Creative MIDI has minor variations depending on the Windows version installed on your computer. If you are using a version of Windows other than Windows 95, refer to the onscreen help when Creative MIDI is different from how it is described in this manual. In addition to starting Creative MIDI as described here, you can also start it from Creative Remote with the invoke player button.

Starting Creative MIDI in Windows 95

1 **Click the Windows 95 start button.**

2 **Point to Programs, then point to Sound Blaster 16 in the list of programs.**

3 **Click Creative MIDI in the Sound Blaster list of programs.**

The Creative MIDI controls, similar to those in Figure 2-18, appear.
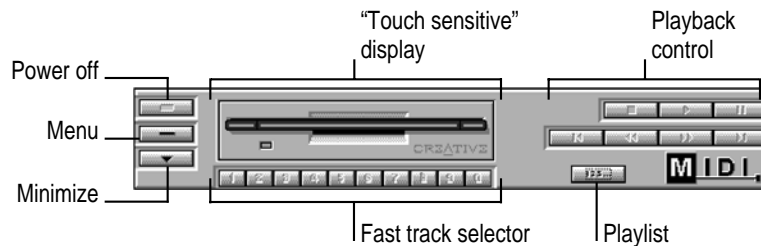
Figure 2-18 Creative MIDI

Starting Creative MIDI in Windows version 3.1 or higher

1 **Double-click the Audio Software program group in the Program Manager window.**

2 **Double-click the Creative MIDI icon in the Audio Software program group window.**

The Creative MIDI controls, similar to those in Figure 2-18, appear.

Creative MIDI features

The Creative MIDI control panel consists of the following features:

■ "touch sensitive" display

■ power off button

■ menu button

■ minimize button

■ playlist button

■ playback control buttons

■ fast track selector

The "touch sensitive" display in Creative MIDI

By clicking the "touch sensitive" display in Creative MIDI, you can switch among displays of these categories of information:

■ MIDI file playing status (showing whether a selected MIDI file is currently playing)

■ the number and elapsed time of the playing MIDI file

■ titles of the MIDI file and playlist

A "touch sensitive" display for the number and elapsed time of the playing MIDI file is shown in Figure 2-19.
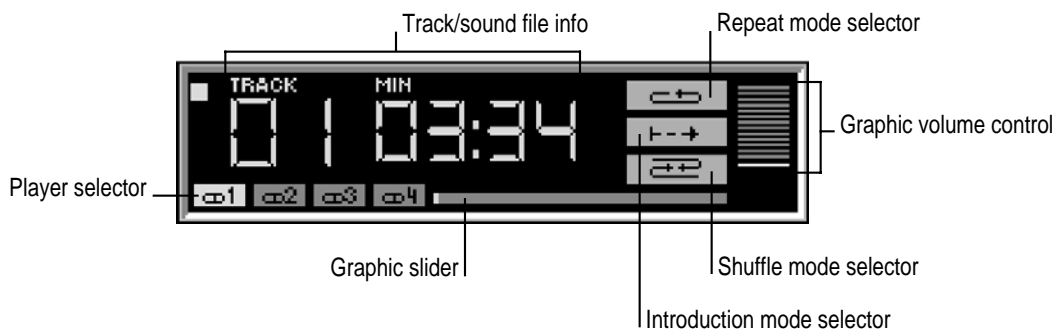
Figure 2-19 The "touch sensitive" display for the number and elapsed time of the playing MIDI file

The "touch sensitive" display contains the following components:

Item	Description
Graphic slider	Indicates the percentage of the current MIDI file that has played. It also allows you to play the sound file from a different point in the file.
Graphic volume control	Shows the volume level of the player.
Repeat mode selector	Repeats the whole playlist when the final MIDI file has played.
Introduction mode selector	Plays the first few seconds of all the MIDI files in the playlist.
Shuffle mode selector	Randomly arranges MIDI files in the playlist.

Power button

Click the power button to quit Creative MIDI.

Menu button

Click the menu button to display the Control menu (Figure 2-20):
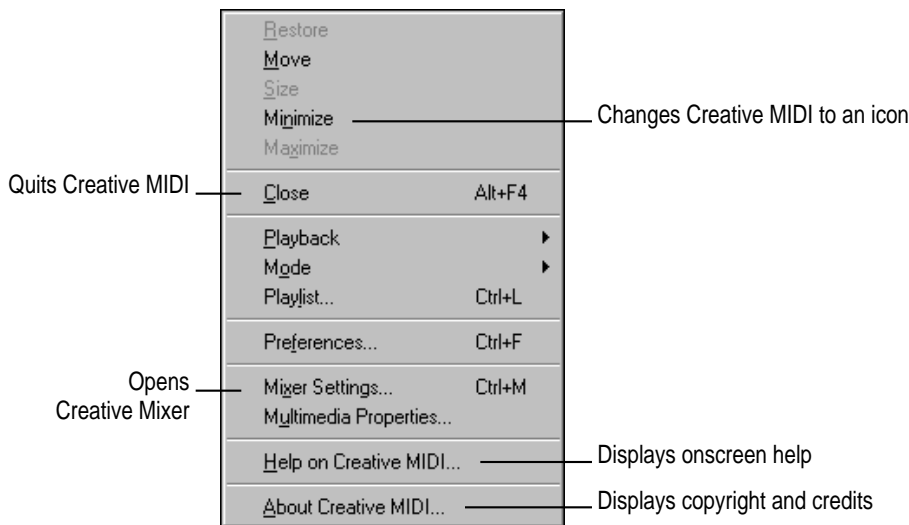
Figure 2-20 The Creative MIDI Control menu

Minimize button

The minimize button changes Creative MIDI to an icon located at the bottom of your screen. To maximize Creative MIDI, returning it to its original size, double-click the Creative MIDI icon.

Playlist button

The playlist button allows you to compile a selection of MIDI files that you want to play. When you click the playlist button, a MIDI Playlist dialog box similar to Figure 2-21 appears.
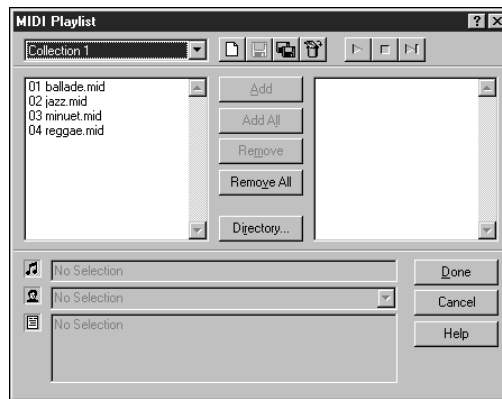
Figure 2-21 A MIDI Playlist dialog box

The MIDI Playlist dialog box contains the following components:

Item	Description
Collection	Allows you to name your playlist.
List Files of Type	Allows you to specify the type of files you want to view in the Files list box.
Drives	Displays the selected drive.
Directories	Displays the directory search path.
Files	Displays the files specified in the List Files of Type edit box.
Playlist	Displays the files you have included in the playlist.
Play	Plays the selected MIDI files.
Add	Adds the selected MIDI files to the Playlist list box.
Add All	Adds all the MIDI files to the Playlist list box.
Clear	Clears the MIDI files in the Playlist list box.
Remove	Removes selected MIDI files from the Playlist list box.
Done	Confirms the compilation of MIDI files in the Playlist list box.
Cancel	Cancels changes made in the Playlist list box. The playlist reverts to its last saved copy.
Help	Displays the onscreen help facility.
Save	Saves the playlist using the name provided in the Collection edit box.
Save As	Saves the playlist with a new name.

Playback control buttons

The playback control buttons allow you to perform the playback operations.

Button	Description
	Stops the MIDI file.
	Plays the MIDI file.
	Pauses the MIDI file.
	Plays the previous MIDI file in the playlist.
	Quickly rewinds the MIDI file in the playlist.
	Fast forwards the MIDI file.
	Plays the next MIDI file.

Fast track selector

The fast track selector allows you to select and play a MIDI file in the playlist (see Figure 2-22).

Figure 2-22 The Creative MIDI fast track selector

Playing MIDI files

You can play MIDI files using the playback control buttons and fast track selector.

To play a MIDI file using the fast track selector:

Click the button from the fast track selector that corresponds to the track you want to play. If you want to play track 10, click 0. If you want to play track 12, click 1 and then click 2.

IMPORTANT If you choose a MIDI file number that does not exist, the last MIDI file in the playlist will be selected.

If you want to play a MIDI file from a certain point, you can use the graphic slider to indicate where to start. You can do this before playing the file or while it is playing.

To play the MIDI file starting at a different point:

1   **Press and hold down the mouse button on the graphic slider and go to the point at which you want to start the MIDI file, then release the mouse button.**

If your player is already playing, the player will immediately go to the point you have chosen and start playing.

2   **If your player is not playing, click Play to start playing the MIDI file from the point you have chosen.**

Adjusting the volume

You can adjust the volume of Creative MIDI using the graphic volume control.

To adjust the volume:

1   **Press and hold down the mouse button on the graphic volume control.**

2   **Adjust the volume to the level you want.**

Working with the MIDI playlist

A playlist is a collection of tracks that are grouped in some order for playing. You can compile tracks in the playlist using the MIDI Playlist list box.

Compiling the playlist

To compile the playlist:

1   **Click the playlist button.**

The MIDI Playlist dialog box similar to Figure 2-21 appears.

2 **Perform the desired operations:**

- preview MIDI files
- add MIDI files
- remove MIDI files
- rearrange MIDI files
- name the playlist

3 **Click Done when you are satisfied with the compilation of the playlist.**

Adding MIDI files to the playlist

To add MIDI files to the playlist:

1 **Select the MIDI files to add to the playlist from the Files list box.**

2 **Click Add to add the MIDI files to the Playlist list box.**

Note: To add all the MIDI files in the Files list box to the Playlist list box, click Add All.

Previewing MIDI files

To preview MIDI files:

1 **Select the MIDI files from the Playlist or Files list box.**

2 **Click Play.**

The MIDI file starts playing.

Note: You can also preview a MIDI file by double-clicking the MIDI file in a list box.

Removing MIDI files from the playlist

To remove MIDI files from the playlist:

1 **Select the MIDI files from the Playlist list box.**

2 **Click Remove.**

Note: To remove all MIDI files in the Playlist list box, click Remove All.

Selecting MIDI files in the playlist

You can select multiple MIDI files for previewing, adding, or removing by holding down <Ctrl> or <Shift> while you choose them.

■ **Pressing <Ctrl> allows you to randomly select the MIDI files.**

■ **Pressing <Shift> allows you to select a group of adjacent tracks when you select the first and last MIDI files in the group.**

Rearranging MIDI files in the playlist

You can use your mouse to rearrange the MIDI files in the playlist.

To move a MIDI file in the playlist using a single-button mouse:

Hold down the ⌘ (Command) key as you drag the file in the Playlist list box to the new position.

To move a MIDI file in the playlist using a multibutton mouse:

Use the right mouse button to drag the file in the Playlist list box to the new position.

The MIDI file moves to the position you choose.

IMPORTANT If you are in shuffle mode, Creative MIDI will continue to play the files randomly. To leave shuffle mode, click the shuffle mode button on the "touch sensitive" display to deselect it. Once you have left shuffle mode, Creative MIDI will use your rearranged playlist.

Naming the playlist

Once you have compiled your playlist, you may want to give the playlist a title. To give your playlist a title:

1 **Click Save As.**

The Save As dialog box similar to Figure 2-23 appears.
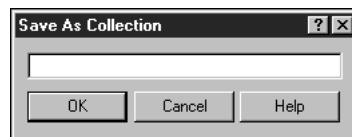
Figure 2-23 **T**he Save As dialog box

2   **Type the title of the playlist in the edit box.**

3   **Click OK.**

Using the hot keys

You can use hot keys (key commands) to perform operations on Creative MIDI:

Key command	Description
<A>	Pauses the MIDI file.
<B>	Plays the previous MIDI file.
<Ctrl+D>	Changes the information shown on the "touch sensitive" display.
<F>	Plays the next MIDI file.
<F1>	Activates onscreen help.
<G>	Activates the graphic slider.
<H>	Activates the shuffle mode selector.
<I>	Activates the introduction mode selector.
<K>	Rewinds the MIDI file.
<L>	Opens the playlist.
<M>	Activates the repeat mode selector.
<N>	Minimizes Creative MIDI to an icon.
<O>	Quits Creative MIDI.
<P>	Plays the MIDI file.
<S>	Stops the MIDI file.
<Space bar>	Confirms selection.
<W>	Fast forwards the MIDI file.
<0> to <9>	Selects MIDI files.

3 Creative Soundo'LE

Creative Soundo'LE plays and records sound file data. Buttons in the Soundo'LE window allow you to play, stop, pause, and record. When you play a sound file, the LED Display shows the amplitude of the sound.

Soundo'LE supports Object Linking and Embedding (OLE). With this capability, you can insert sound into other applications by linking sound files to a document or embedding sound files in a document. For more information about OLE, refer to the Microsoft Windows manual.

IMPORTANT You must have Windows 95 or Windows version 3.1 or higher installed on your system in order to use Creative Soundo'LE.

This chapter is organized as follows:

- Starting Soundo'LE
- The Soundo'LE menus
- Opening a sound file
- Playing a sound file
- Recording a sound file
- Selecting recording characteristics
- Embedding a sound file
- Linking a sound file
- Quitting Soundo'LE

Starting Creative Soundo'LE

Creative Soundo'LE has minor variations depending on the Windows version installed on your computer. If you are using a version of Windows other than Windows 95, refer to the onscreen help when Creative Soundo'LE is different from how it is described in this manual.

Starting Creative Soundo'LE in Windows 95

1   **Click the Windows 95 start button.**

2   **Point to Programs, then point to Sound Blaster 16 in the list of programs.**

3   **Click Soundo'LE in the Sound Blaster 16 list of programs.**

A Soundo'LE window similar to Figure 3-1 appears.
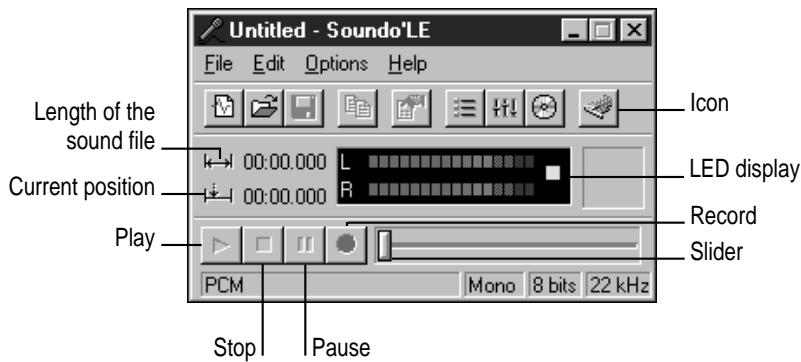
Figure 3-1 The Soundo'LE window

Starting Creative Soundo'LE in Windows version 3.1 or higher

1   **Double-click the Audio Software program group in the Program Manager window.**

2   **Double-click the Soundo'LE icon in the Audio Software program group window.**

A Soundo'LE window similar to Figure 3-1 appears.

The Soundo'LE menus

Soundo'LE has four menus: File, Edit, Options, and Help.

The File menu

Here's what the commands on the File menu do:

Command	Description
New	Creates a new sound file without any data.
Open	Loads an existing sound file.
Save	Saves the sound file.
Save As	Saves the sound file with a new name.
Properties	Displays the settings and attributes for the current sound file.
Exit	Quits Soundo'LE.

IMPORTANT Soundo'LE keeps a record of the last four sound files you have opened. They are displayed at the end of the File menu. To open one of these files, click its name.

The Edit menu

Here's what the commands on the Edit menu do:

Command	Description
Copy Sound as an Object	Copies the sound data and OLE information to the Clipboard. The sound data can then be pasted into a document as an embedded or linked object.
Run Wave Editor	Activates Creative WaveStudio. For more information on Creative WaveStudio, refer to Chapter 1, "Creative WaveStudio."

The Options menu

Here's what the commands on the Options menu do:

Command	Description
Preferences	Displays the OLE options available in Soundo'LE.
Toolbar	Displays the toolbar when checked. Hides the toolbar when unchecked.
Status Bar	Displays the Status Bar when checked. Hides the Status Bar when unchecked.
Mixer Settings	Activates Creative Mixer. For more information, refer to Chapter 4, "Creative Mixer."
Recording Settings	Allows the sampling size, frequency, and mono or stereo mode to be selected for recording.
Select Wave Device	Allows the selection of a wave device to be used for recording.
Always on Top	Makes Soundo'LE the topmost window.

The Help menu

Here's what the commands on the Help menu do:

Command	Description
Help for Soundo'LE	Opens the Windows help files for Soundo'LE.
Using Help	Gives tips on using Windows help files.
About Soundo'LE	Opens a window displaying copyright information.

You can use the keyboard to perform operations in Soundo'LE. For instance, you can use either <Tab> or the Left and Right Arrow keys to move to the various buttons on the Soundo'LE window. To choose a button, press <Space bar>.

You can also move around the open sound file with the aid of the slider. Simply select the slider thumb, and drag with the mouse. Alternatively, you can use the Left and Right Arrow keys.

Opening a sound file

To open a sound file:

1 Choose Open from the File menu.

The "Open a Sound File" dialog box similar to Figure 3-2 appears.
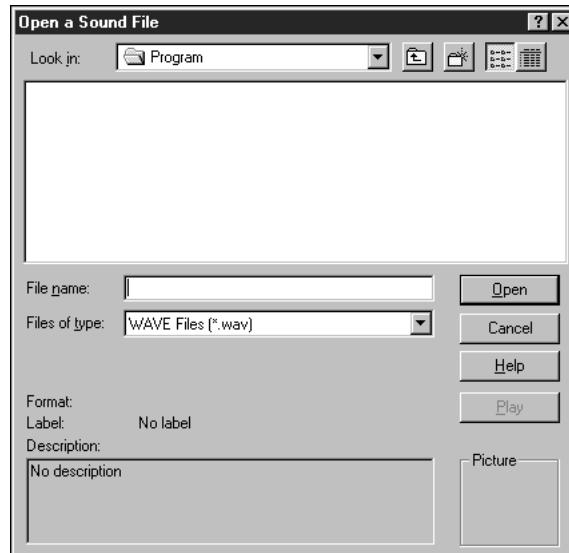
Figure 3-2 The "Open a Sound File" dialog box

2 Type or select the name of the sound file you want to open.

You can preview the file before opening it by choosing Play. You can also view information such as the wave format, data size, and the file date displayed in the dialog box.

3 Click Open.

Playing a sound file

To play a sound file:

1 **Open the sound file.**

2 **Click the Play button.**

To stop playing the sound file, click Stop.

Recording a sound file

To record a sound file:

1 **Choose New from the File menu.**

Soundo'LE opens a new, untitled sound file.

2 **Click the Record button.**

To stop the recording, click Stop.

Selecting recording settings

You can use one of three predefined sound quality recording settings or you can choose to create your own settings. The three predefined sound quality settings available are CD Quality, Radio Quality, and Telephone Quality.

To select your own sound quality recording settings:

1 **Choose Record Settings from the Options menu.**

The Record Settings dialog box similar to Figure 3-4 appears.
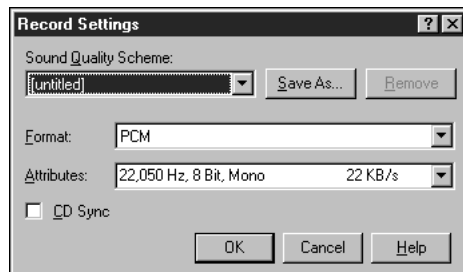
Figure 3-4 The Record Settings dialog box

2 Click the arrow next to the Format box to view the format options.

3 Click to select the format you want.

The format you choose will determine the choices available in the Attributes box.

4 Click the arrow next to the Attributes box to view your options.

5 Click to select the attributes you want.

6 Decide if you want to select the CD Sync checkbox to synchronize the start of the recording with the playback of your audio CD.

7 If you want to save your settings to use with other sound files, click Save As and give the new settings file a name. Click OK.

. **8** Click OK to return to the Soundo'LE window.

9 Click the arrow next to the Sound Quality Scheme box to view the available settings.

10 Click to select the settings you want. You can use the settings you created, or choose one of the three predefined settings.

Embedding a sound file

When you embed a sound file, you load a copy of the sound file in Soundo'LE and transfer it to an application program such as WordPad that supports Object Linking and Embedding (OLE). If you edit the sound file in Soundo'LE, the sound file in WordPad will not be affected because you no longer have any connection to the file.

You can embed a sound file using one of the following three methods:

■ from a document (one created in WordPad, for example)

■ from Soundo'LE

■ by dragging the icon located in the Soundo'LE window and inserting it into an open document

Embedding a sound file starting from a document

You can embed a sound starting from most word-processing documents using the method described for WordPad.

To embed a sound file starting from WordPad:

1   **Open the WordPad document in which you want to embed a sound file.**

2   **Choose Object from the Insert menu.**

An Insert Object dialog box similar to Figure 3-5 appears.
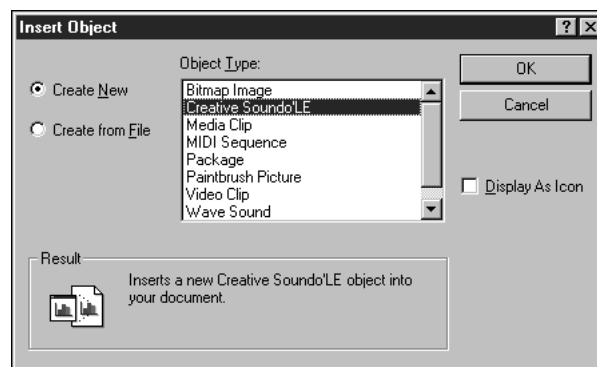
Figure 3-5 The Insert Object dialog box

3   **Select Creative Soundo'LE.**

4   **If you want to create a new Soundo'LE file to embed in the document, select Create New. If you want to embed an existing Soundo'LE file, select "Create from File".**

5   **Click OK.**

6   **Choose Update Document from the Soundo'LE File menu.**

This embeds the sound file in the WordPad document. An icon representing the sound file is placed in the document.

7   **Choose "Exit & Return to Document" from the Soundo'LE File menu.**

This returns you to the WordPad document.

Embedding a sound file starting from a Soundo'LE

To embed a sound file starting from Soundo'LE:

1 Open Soundo'LE.

2 Record a new sound file or open an existing sound file you want to embed.

3 Choose "Copy Sound as an Object" from the Edit menu.

The sound file is placed onto the Clipboard.

4 Open the WordPad document in which you want to embed the sound file.

5 Select Paste Special from the Edit menu in WordPad.

The Paste Special dialog box appears.

6 Select Creative Soundo'LE from the Paste As list.

7 Click OK.

The icon representing the embedded sound file appears in the document.

Embedding a sound file using the drag-and-drop method

To embed a sound file using the drag-and-drop method:

1 Position the Soundo'LE window and application window so that both are in view.

2 In Soundo'LE, open the sound file that you want to drag to the document. Alternatively, you can do a recording and save it as a new file before you include the file in the document.

Soundo'LE will display the icon in its window when a sound file is opened. No icon is displayed in the Soundo'LE window if no sound file is selected.

3 Open your program document.

4 Position your pointer on the icon in the Soundo'LE window and drag the icon to the document.

5   Release the mouse button.

The icon representing the Soundo'LE file appears in the document
(see Figure 3-6).
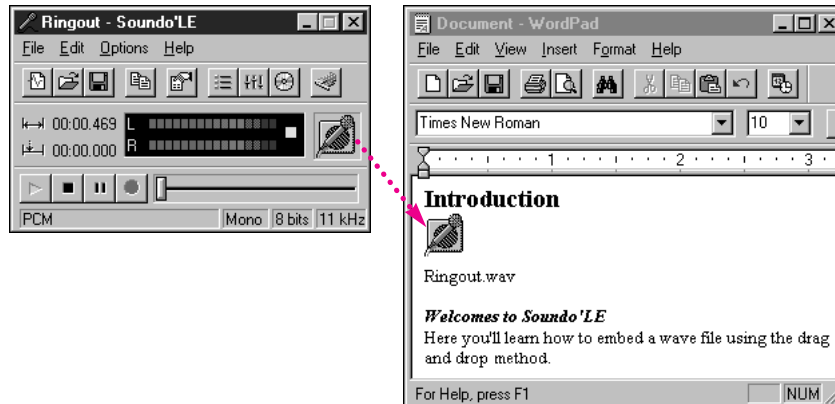
Figure 3-6 Embedding a sound file using the drag-and-drop method

Linking a sound file

When you link a sound file to an application such as WordPad, you are not
making a copy of the sound file and then pasting it into the document.
Instead, you are only making a reference to the sound file. If you edit the
sound file in Soundo'LE, the reference in the document is updated to reflect
the changes.

To link a sound file in WordPad:

1   Open Soundo'LE.

2   Create a new sound file or open an existing file that you want to link.

3   Save the sound file.

The sound file must be saved before you can link it to an OLE client.

4   Choose "Copy Sound as an Object" from the Soundo'LE Edit menu.

The sound file is copied onto the Clipboard.

5 **Open the WordPad document you want to link the sound file to.**

6 **Choose Paste Special from the WordPad Edit menu.**

The Paste Special dialog box appears.

7 **Select Paste Link in the Paste Special dialog box.**

8 **Click OK.**

The icon representing the Soundo'LE file appears in the document.

Quitting Soundo'LE

To quit Soundo'LE:

1 **Choose Exit from the File menu.**

The Soundo'LE dialog box similar to Figure 3-7 appears if the latest changes have not been saved.
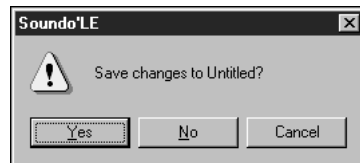
Figure 3-7 The Soundo'LE dialog box

2 **Click Yes to save the changes, No if you do not want to save the changes, or Cancel if you want to continue working in Soundo'LE.**

4 Creative Mixer

Creative Mixer is a powerful audio mixer that allows you to combine and edit sound from various audio sources. You can use Creative Mixer in conjunction with Creative Wave to record input from an audio CD or MIDI source. Although Creative Mixer also offers the option of recording with line-in or a microphone, the PC Compatibility Card does not support these options.

IMPORTANT To use Creative Mixer, you must have Windows 95 or Windows version 3.1 or higher installed on your system.

This chapter is organized as follows:

- Starting Creative Mixer
- Moving around in Creative Mixer
- Creative Mixer features
- Creative Mixer control menu
- Creative Mixer LED display
- Customizing Creative Mixer
- Quitting Creative Mixer

Starting Creative Mixer

Creative Mixer has minor variations depending on the Windows version installed on your computer. If you are using a version of Windows other than Windows 95, refer to the onscreen help when Creative Mixer is different from how it is described in this manual.

Starting Creative Mixer in Windows 95

1   Click the Windows 95 start button.

2   Point to Programs, then point to Sound Blaster 16 in the list of programs.

3   Click Creative Mixer in the Sound Blaster 16 list of programs.

The Creative Mixer window similar to Figure 4-1 appears.

Creative Mixer Window and Buttons

Select boxes

Vertical slider

Horizontal slider
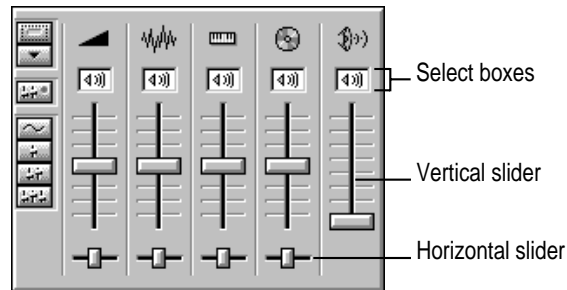
	Power off
	Minimize
	Recording volume control
	Show/hide LED display
	Minimum view
	Custom view
	Expanded view

Figure 4-1 The Creative Mixer window

Starting Creative Mixer in Windows version 3.1 or higher

1 **Double-click the Audio Software program group in the Program Manager window.**

2 **Double-click the Creative Mixer icon in the Audio Software program group window.**

The Creative Mixer window similar to Figure 4-1 appears.

Moving around in Creative Mixer

You can move around easily in Creative Mixer using either the mouse or the keyboard.

- To select a select box, click it.
- To adjust the slider bar, drag it to the desired position.

- To advance from one option to another, press <Tab>.
- To move to the previous option, press <Shift+Tab>.
- To select an option in a select box, press <Space bar>.
- To adjust the volume of audio sources, use the Up or Down Arrow key.

Creative Mixer features

Creative Mixer consists of the following features:

- power off button
- minimize button
- recording/volume controls button
- show/hide LED display button
- minimum view button
- custom view button
- expanded view button
- audio source select boxes and sliders

Power off button

Click the power off button to quit Creative Mixer.

Minimize button

The minimize button changes Creative Mixer to an icon located at the bottom of your screen. To maximize Creative Mixer, returning it to its original size, double-click the Creative Mixer icon.

Recording/volume controls button

Use the recording/volume controls button in conjunction with the audio source select boxes and sliders to control the recording input and volume levels for the audio sources you want to record.

When the button displays a green triangle the audio source select boxes display red microphones . The microphones indicate that the recording level controls are in effect. Any adjustments made with the vertical or horizontal sliders affect the audio source recording level input and balance.

When the button displays a red dot the audio source select boxes display green speakers . The speakers indicate that the volume controls are in effect. Any adjustments made with the vertical or horizontal sliders affect the audio source volume level and balance.

Show/hide LED display button

The show/hide LED display button reveals or conceals the Creative Mixer LED display.

Minimum view button

The minimum view button shows only one audio source and the Creative Mixer LED display.

Custom view button

The custom view button shows only the audio sources and controls you choose to reveal. For information on choosing the audio sources and controls you wish to reveal in custom view, refer to the "Customizing Creative Mixer" section later in this chapter.

Expanded view button

The expanded view button shows all the possible audio sources available for recording.

Note: Although Creative Mixer displays line and microphone input as possible audio sources, these two sources are not available because they are not supported by the PC Compatibility Card.

Audio source select boxes and sliders

The audio source select boxes and sliders control the recording input and volume levels for the audio sources you want to record.

Select boxes

The audio source select boxes display either red microphones [image] or green speakers [image]. A red microphone indicates that the recording level controls are in effect. A green speaker indicates that the volume controls are in effect. To select an audio source for recording, click the select box beneath the audio source until a sound wave [image] appears in the box next to the microphone or speaker. To deselect an audio source, click the select box below the audio source until the sound wave disappears.

Vertical sliders

When the audio source select box displays a red microphone, the vertical slider beneath the select box controls the recording input level of the selected audio source.

When the audio source select box displays a green speaker, the vertical slider beneath the select box controls the volume level of the selected audio source.

Horizontal sliders

When the audio source select box displays a red microphone, the horizontal slider beneath the select box controls the recording input balance of the selected audio source.

When the audio source select box displays a green speaker, the horizontal slider beneath the select box controls the volume balance of the selected audio source.

Note: To reset the horizontal slider to equal distribution, double-click the slider thumb.

You can activate any slider by using the following hot keys (key commands):

Key command	Description
<C>	CD volume
<D>	MIDI volume
<M>	Master volume
<P>	PC Speaker volume
<V>	Wave volume

Creative Mixer control menu

The Control menu contains many options you can use to control Creative Mixer (see Figure 4-2). To open the Control menu, hold down the ⌘ key and click anywhere within the Creative Mixer window.

Lets you move Creative Mixer — Restore, Move, Size, Minimize, Maximize

Changes Creative Mixer to an icon — Minimize

Closes Creative Mixer — Close   Alt+F4

Displays the mixer controls — View ▶

Always On Top

Allows you to customize Creative Mixer — Preferences...   Ctrl+F

Device Palette...   Ctrl+P

Show Recording Controls   Alt+R — Opens the Recording Settings dialog box

Help On Creative Mixer...

About Creative Mixer... — Displays copyright information

Figure 4-2 The Control menu

Creative Mixer LED display

The Creative Mixer LED display allows you to graphically view audio source data.

To open the Creative Mixer LED display:

Choose View from the Control menu and click LED Display.

The Creative Mixer LED display appears.

When you click the LED display, you can alternate between any of the following displays:

■ *Power Spectrum* shows different frequency levels of the output (see Figure 4-3).

Bass ——————— Treble

Figure 4-3 The Power Spectrum

■ *VU Meter* shows the intensity of the sound entering both the left and right speakers (see Figure 4-4).

L ——— Left speaker

R ——— Right speaker
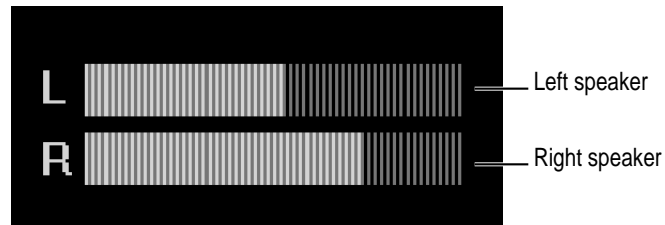
Figure 4-4 The VU Meter

■ *Scope* shows the combined amplitude of waves from the selected audio sources (see Figure 4-5).
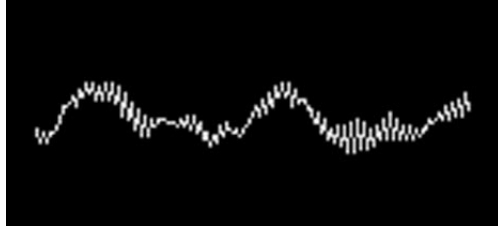
Figure 4-5 The Scope

IMPORTANT The Creative Mixer LED display will not be seen during the playback or recording of sound files.

IMPORTANT For stereo recording, make sure the left signal (L) of the audio source is directed to the Left In channel and the right signal (R) to the Right In channel.

For mono recording from stereo source, select the source's left and/or right channels in the Left In box.

Customizing Creative Mixer

You can change the appearance of Creative Mixer by choosing one of three views: minimum view, custom view, or expanded view. Custom view displays only the audio sources and controls you choose.

To choose the audio sources and controls you want to display in custom view:

1   Choose Preferences from the Control menu.

The Preferences dialog box similar to Figure 4-6 appears
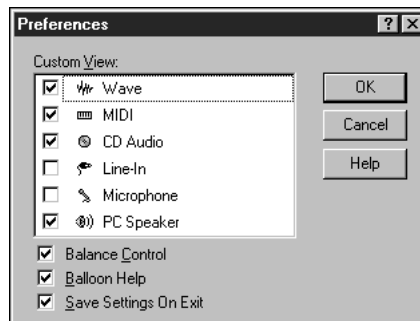
Figure 4-6 The Preferences dialog box

Note: The PC Compatibility Card does not support the Line-In and Microphone options.

2   Click the checkbox next to the audio sources and controls you want as a part of your custom view. When an audio source or control is selected a check appears in the box.

3   Click OK to save your custom view settings.

Here's what some of the options in the Preferences dialog box do:

- *Balance Control* displays or hides the horizontal balance sliders.
- *Balloon Help* activates or deactivates balloon help in Creative Mixer.
- *Save Settings On Exit* saves all the changes made to Creative Mixer settings.

Quitting Creative Mixer

To quit Creative Mixer:

Choose Close from the Control menu or click the power off button.

5 MIXERSET Utility

The MIXERSET Utility is a DOS program that allows you to control the volume level and balance of the audio sources you want to play or record.

You can use the MIXERSET Utility by typing commands at the DOS prompt or Windows command line, or by using the MIXERSET control panel.

IMPORTANT To use the MIXERSET Utility, you must have DOS but *not* Windows 95 installed on your computer. You *can* use the MIXERSET utility with Windows version 3.1 or Windows for Workgroups.

This chapter provides you with detailed information on using MIXERSET. It is organized as follows:

- Using MIXERSET commands
- Using the MIXERSET control panel
- MIXERSET control panel features
- Using the mouse and keyboard

Using MIXERSET commands

To control sound mixing options using commands, you type first the MIXERSET command, then the control that specifies what you want to have happen. You can type commands at the DOS prompt or at the Windows Command line.

Controls can be categorized into the following:

■ execution controls

■ volume controls

■ miscellaneous controls

These controls are listed and explained in the sections following the instructions for using MIXERSET commands.

IMPORTANT When specifying the controls, you do not need to type the full name since the shortened names work equally well. However, you need to type at least the first two characters, except the execution controls which have only one character.

Using commands at the DOS prompt

To use MIXERSET commands at the DOS prompt:

1 **Change the directory to be your sound directory.**

2 **At the sound directory, type `MIXERSET [controls] ...` at the DOS prompt and press <Return>.**

Using commands at the Windows command line

To use MIXERSET commands at the Windows command line:

1 **Go the the Windows command line by choosing Run from the Program Manager File menu.**

The Run dialog box appears.

2 **Change the directory to be your sound directory. If you do not know the location of the sound directory, use the Browse button.**

3 **Once you have switched to the sound directory, type `MIXERSET [controls] ...` at the command line and press <Return>.**

Execution controls

The execution controls are as follows:

`/? or /H`   opens MIXERSET help files

`/Q`   runs MIXERSET without displaying the setting information

`/P`   opens and runs MIXERSET according to the user-defined preset levels for audio input and output. The preset levels can be updated with new settings by making any new adjustments and then saving the changes. The process of saving creates the new preset and stores it in the CTMIX.CFG file.

Volume controls

To set the MIXERSET volume by typing commands at the DOS prompt or Windows command line, use the following controls:

`/MA:`*n;x*   sets the MASTER volume and balance of left and right speakers

`/VO:`*n;x*   sets the VOICE volume and balance of left and right speakers

`/MI:`*n;x*   sets the MIDI volume and balance of left and right speakers

`/CD:`*n;x*   sets the CD volume and balance of left and right speakers

`/SP:`*n*   sets the PC SPEAKER volume

In volume controls, *n* specifies the volume level. It ranges from 0 to 255 where 0 turns off the volume completely and 255 is the maximum volume setting.

In volume controls, *x* specifies the balance of left and right speakers. It ranges from –5 to +5 where –5 channels the sound output totally to the left speaker and +5 channels the sound output totally to the right speaker. To channel the sound output equally to both speakers, *x* must be 0. In addition, *x* must be preceded by ";".

The following are some examples of how you can set the volume controls at the DOS prompt or Windows command line:

To set the PC speaker volume to 200:

- Type `MIXERSET /SP:200` and press <Return>.

To set the master volume to 200 with balanced output through the left and right speakers:

- Type `MIXERSET /MA:200` and press <Return>. If balance is not specified, both speakers will be set equally.

To specify both of the above settings in one command:

- Type `MIXERSET /SP:200 /MA:200;0` and press <Return>.

To set the master volume at 200 but with reduced volume in the left speaker:

- Type `MIXERSET /MA:200;+5` and press <Return>.

To reduce the volume in the right speaker only:

- Type `MIXERSET /MA:;-5` and press <Return>.

Miscellaneous controls

To set the miscellaneous features in MIXERSET by typing commands and pressing <Return> at the DOS prompt or Windows command line, use the following controls:

/OPS:*ss*   Turns on or off the audio source for the speakers.

OPS stands for output source.

Replace the *ss* with the abbreviation for the sound source you want to use.

For example, for the command /OPS:CD+, the CD indicates that the sound source specified is an audio CD. The "+" turns the CD sound source on so that the CD audio is passed to the speakers. A "–" following the sound source turns the sound source off.

/IPL:*ss* Specifies the input to the left channel during recording. The input can be either the left or right channel, or both channels of each recording source. IPL stands for input left.

/IPR:*ss* Specifies the input to the right channel during recording. The input can be either the left or right channel, or both channels of each recording source. IPR stands for input right.

For /IPL:*ss* and /IPR:*ss*, *ss* indicates whether a device's left and/or right channels are turned on or off for recording. "CDL" and "CDR" respectively specify the CD's left and right channels as recording sources. A "+" or "–" follows to turn each recording source on or off. You can specify one or more recording sources simultaneously. For example, MIXERSET /IPL:CDL+ /IPR:CDR+ selects the CD's left channel and right channel for recording into the left and right channels respectively.

Using the MIXERSET control panel

How you open the MIXERSET control panel depends on whether you are in DOS or in Windows. Once you are in MIXERSET, you use your mouse and keyboard to specify what you want. See "Using the Mouse and Keyboard" later in this chapter.

Opening the MIXERSET control panel from the DOS prompt

To open the MIXERSET control panel from the DOS prompt:

1 Change the directory to be your sound directory.

2 Type `MIXERSET` at the DOS prompt and press <Return>.

The MIXERSET control panel shown in Figure 5-1 appears.

Opening the MIXERSET control panel
from the Windows command line

To open the MIXERSET control panel from the Windows command line:

1 **Go to the Windows command line by choosing Run from the Program Manager File menu.**

The Run dialog box appears.

2 **Change the directory to be your sound directory. If you do not know the location of the sound directory, use the Browse button.**

3 **Once you have switched to your sound directory, type `MIXERSET` and click OK.**

The MIXERSET control panel shown in Figure 5-1 appears.

IMPORTANT The PC Compatibility Card does not support the Line and Mic features shown on the MIXERSET control panel.
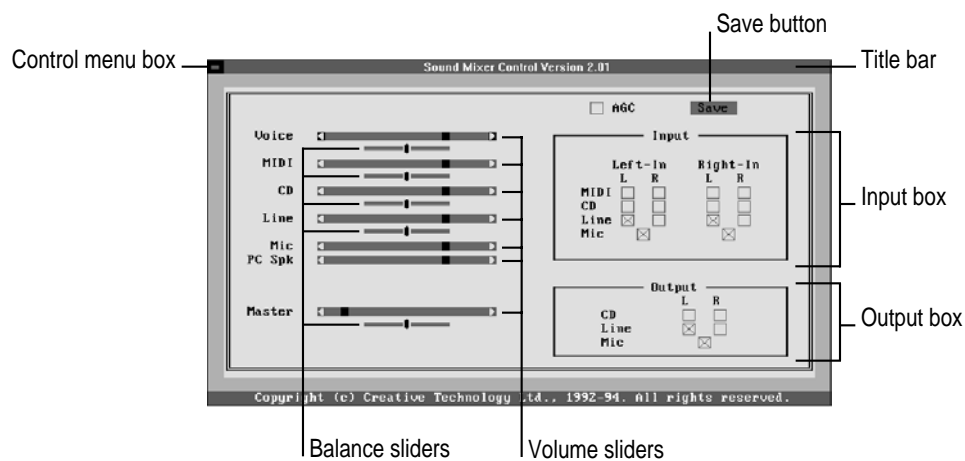
Figure 5-1 The MIXERSET control panel

MIXERSET control panel features

The MIXERSET control panel has the following features:

■ volume sliders

■ balance sliders

■ save button

■ input box

■ output box

Volume sliders

The larger sliders control the volume levels of the input sources.

Balance sliders

The smaller slider under each volume slider controls the balance of the left and right speakers for audio sources with stereo capability. Moving the slider to the left decreases the volume of the right speaker but the left speaker volume remains constant. Moving the slider to the right decreases the volume of the left speaker but the right speaker volume remains constant.

Save button

The Save button saves all changes made to the settings in MIXERSET. They become the new preset settings stored in the CTMIX.CFG file. The new settings are used the next time you open MIXERSET using the command MIXERSET/P (for preset settings).

Input box

The input box enables you to select the audio sources you want to record from. The audio sources available are MIDI and CD. You can direct these audio sources through the left or right channels or through both channels.

IMPORTANT To achieve a stereo sound effect, make sure that the left channel signal of the audio source is directed to the Left-In channel and the right signal to the Right-In channel.

Output box

The Output box enables you to control the left and right channel output for your selected audio source.

Using the mouse and keyboard

To work with the controls in the MIXERSET control panel, you need to use your mouse in Windows version 3.1 or higher or your keyboard in DOS:

- Click to select or deselect a checkbox.

- Drag a slider to move it, or click at the extreme end of the slide to increase or decrease the volume.

- Press <Tab> to advance to the next feature.

- Press <Shift+Tab> to return to the previous feature.

- Press the Up or Down Arrow keys to move from one option to another within each feature.

- Press the Left or Right Arrow keys to adjust the volume and balance levels.

- Press <Space bar> or <Return> to select or deselect a checkbox.

- Press <Esc> to quit the MIXERSET control panel.

Using PC Sound

With the PC Compatibility Card

Contents

•••••••

Getting Started With PC Sound

Welcome to the 16-bit audio software that delivers the next wave of audio capability to your PC Compatibility Card. With it, you can use your computer to sample high quality digital audio.

In the Windows environment, Sound Blaster 16 offers the following programs for working with PC sound:

- Creative WaveStudio
- Creative Remote
- Creative Wave
- Creative CD
- Creative MIDI
- Creative Soundo'LE
- Creative Mixer

In DOS (if Windows 95 is not installed on your computer), you can use the Sound Blaster 16 MIXERSET utility to set volume and recording levels for audio sources.

System requirements

To use the Sound Blaster 16 Windows programs, you must have Windows 95 or Windows version 3.1 or higher installed on your system.

To use the MIXERSET Utility, you must have DOS but *not* Windows 95 installed on your computer. You *can* use the MIXERSET Utility with Windows version 3.1 or Windows for Workgroups.

Document conventions

This manual uses the following conventions to help you locate and identify information.

Convention	Used for
< >	Characters in pointed brackets represent symbols, letters, and key names on the keyboard.
[ ]	Words in straight brackets explain the type of information you need to type.
<Key1+Key2>	The plus sign (+) between Key1 and Key2 means that both keys have to be pressed simultaneously. For example, "Press <Control+Z>" means that the <Control> and <Z> keys have to be pressed at the same time.
<Key1,Key2>	The comma (,) between Key1 and Key2 means that the keys have to be pressed in sequence. For example, "Press <C,Return>" means that you press the <C> key and release it, and then press the <Return> key and release it.
Italic	Represents a type of information you must supply. Italicized words are often used in conjunction with straight brackets to describe information needed as part of DOS commands.
IMPORTANT	Areas of text where the information or instructions should be read especially carefully.
	The mouse icon precedes instructions for operations that require the use of the mouse.
	The keyboard icon precedes instructions for operations that require the use of the keyboard.

This manual assumes you are using a standard, single-button mouse. If you have a multibutton mouse, use the left mouse button for actions requiring the use of the standard mouse button. Use the right mouse button for actions requiring the use of the standard mouse button while holding down the ⌘ (Command) key.

The pointer, the symbol that you see on the computer screen when you move your mouse, is sometimes called a cursor in Sound Blaster 16 programs.

Starting Sound Blaster 16 programs

You start any Sound Blaster 16 program the same way, although that way depends upon whether you are using Windows 95 or Windows version 3.1 or higher.

Starting Sound Blaster 16 in Windows 95

1 **Click the Windows 95 start button.**

2 **Point to Programs, then point to Sound Blaster 16 in the list of programs.**

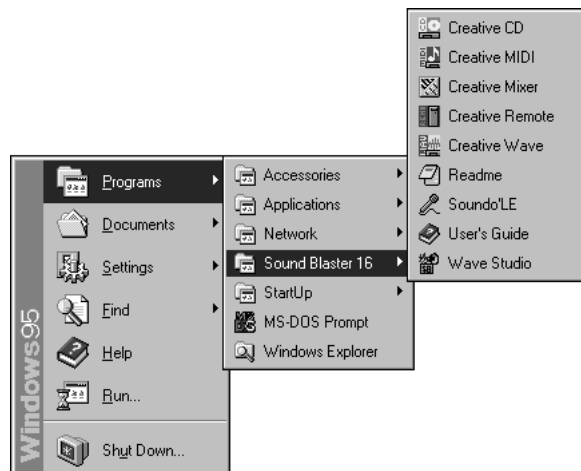The menu structure similar to Figure P-1 appears.

Figure P-1 The path to a Sound Blaster 16 program

3 **Click the Sound Blaster 16 program you want to use.**

Starting Sound Blaster 16 in Windows version 3.1 or higher

1   **Double-click the Audio Software program group in the Program Manager window.**

2   **Double-click the icon for the Audio Software program you wish to use.**