Using PC Sounds

With the DOS Compatibility Card

Contents

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Preface

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Conventions

The information in this guide follows certain conventions that are adopted to assist you in locating and identifying the information. These conventions are broken down into two sections:

Keyboard conventions

These conventions are made up of key combinations and key sequences.

Notation	Meaning
\<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.
\< >	The characters enclosed in this "bracket" represent any of the symbols, letters and key names on the keyboard.
[ ]	The square bracket is used for indicating the optional parameters.

Document conventions

These conventions are adopted to provide consistent text formats and cues, and are designed to ensure that information is easily identifiable.

Type style	Used for
Italic	Italic type is used for indicating any text supplied by you.
`Courier font`	Command names, switches and any text that must be presented exactly as it appears.
ALL CAPITALS	Directory names, filenames, and acronyms.

Notices

Three levels of notices might be used in this guide. They are as follows:

Levels	Used for
Note	Used to emphasize an area of text.
Caution	Used to warn of undesirable procedures or of situations in which equipment damage could potentially result.
Important	Used to denote an area of text where the information/instructions must not be taken lightly but should be noted/followed.

1 Voice Utilities

This chapter includes information on the following:

- Playing Sound Files
- Adding Voice File Header
- Converting Voice Files to Waveform Files
- Converting Waveform Files to Voice Files
- Converting Between Version 1.10 and 1.20 Voice Files

Several voice utilities are provided for various multimedia applications. All of these files are located in /SB16/VOCUTIL. These utilities are as follows:

Voice utilities	Uses for
VPLAY	Plays digitized voice in VOC format
WPLAY	Plays digitized voice in WAV format
VOCHDR	Adds headers to raw voice files
VOC2WAV	Converts voice files to waveform files
WAV2VOC	Converts waveform files to voice files
VOCO2N	Converts Version 1.10 voice files to Version 1.20
VOCN20	Converts Version 1.20 voice files to Version 1.10

Note: VOC is the Creative voice file extension and WAV is the Microsoft wave file extension.

Playing sound files

The VPLAY and WPLAY utilities are for playing voice files from the DOS command line. The voice file must be in VOC or WAV format.

The command line entry for VPLAY is:

VPLAY *file.voc* [/B:*xx*] [/T:*xx*] [/Q] [/X="*command line*"]

The command line entry for WPLAY is:

WPLAY *file.wav* [/B:*xx*] [/T:*xx*] [/Q] [/X="*command line*"]

Parameter specifications

The following are the command line parameters for VPLAY and WPLAY:

Parameter	Description
file	The voice or waveform file to play.
/B:*xx*	Sets the buffer size for playback. *xx* is the size of the buffer in 2 Kbyte units. If the buffer size is not specified, a default value of 16 is assumed for *xx* (32 Kbytes per buffer). *xx* ranges from 2 to 32.
/T:*xx*	Limits the playback time in one second units. *xx* ranges form 1 to 65535. (Note: This function will not work when the /X switch is specified.)
/Q	Specifies a quiet screen operation mode. All messages except error messages are suppressed when this is specified.
/X="*command line*"	Executes a DOS command or another program once the voice process is activated. (It is necessary to include the quotation marks when using this command.)

Adding voice file header

The VOCHDR utility adds the .VOC header to a file containing raw sound data. With the header, programs using the CT-VOICE or CTVDSK driver can play the voice file.

The command line entry for this utility is:

```
VOCHDR source target.voc [/S:xxxxx] [/T:x] [/R:xx] [/C:x] [/O]
[/? or /H]
```

Parameter specifications

The following are the command line parameters:

Parameter	Description
/S:$xxxxx$	Specifies the sampling rate. If value is not specified for $xxxxx$, the default value of 22050 Hz is used.
/T:x	Defines the type of raw voice data file. x can be either 1 for mono or 2 f or stereo.
/R:xx	Specifies the number of bits per sample. Type 8 for 8 bits per sample and 16 for 16 bits per sample. The default is 8.
/C:x	Defines the compression method used. Valid values to use are 4, 3, 2, and 0. The default is 0.
/O	Generates Version 1.10 voice files. If this is omitted, version 1.20 files are generated.
/? or /H	Displays the help screen.

Converting voice files to waveform files

The VOC2WAV utility is for converting files with VOC format to WAV format.

The command line entry for this utility is:

VOC2WAV *source* [*target*] [/C*xx*] [/R*xx*] [/S*xx*] [/L*xx*]

Parameter specifications

Parameter	Description
/C_xx_	Specifies the audio channels. _xx_ can be either 1 for mono or 2 for stereo. Default is 1.
/R_xx_	Sets sampling rate for the waveform file. _xx_ can be 11, 22, or 44 kHz. Default is 11 kHz.
/S_xx_	Converts silence block from voice file to waveform file data block. _xx_ is either **OFF** or **ON.** Default is **OFF.**
/L_xx_	Replicates the voice data between the Repeat and End Repeat statement in a voice file to a waveform file. _xx_ is either **OFF** or **ON.** Default is **OFF.**

Note: VOC2WAV will process versions 1.10 and 1.20 voice files alike.

Examples

The following are examples of converting voice files to waveform files.

```
VOC2WAV sample.voc
```
Performs a default conversion.

```
VOC2WAV sample.voc newsamp.wav /C2
```
Performs a stereo conversion.

```
VOC2WAV sample.voc repsamp.wav /C2 /LON
```
Performs a conversion with repeat blocks expanded. If sample.voc has the following format:

VOC Header
Repeat 2
VOCdata
End Repeat

The output file (repsamp.wav) will have the following data:

WAV Header
wave data
wave data
wave data

Note: Remember the following points when converting from VOC file format to WAV:

- WAV file formats only support 11, 22, and 44 kHz sampling rates. All voice files are converted based on these rates.

- WAV file format supports only one block of data and can be played at only one sampling rate. Therefore, the source voice files should only contain blocks with the same sampling rate.

- Compressed voice file data blocks are not converted.

Converting waveform files to voice files

The WAV2VOC utility is for converting files in WAV format to VOC format.

The command line entry for this utility is:

WAV2VOC *source* [*target*] [/O] [/8]

Parameter specifications

The following are the parameter specifications for WAV2VOC:

Parameter	Description
/O	Generates Version 1.10 VOC file format. The default is the 1.20 file format.
/8	Converts 16 bit WAV to 8 bit VOC. The default is the original number of bits used in WAV.

Note: DOS wildcards (*,?) may be specified for the *source* file. Using the wildcard, the *target* file will retain the same name as the *source* file but with the VOC extension.

Examples

The following are examples of converting waveform files to voice files.

WAV2VOC wavsamp.wav
Converts the file wavsamp.wav to wavsamp.voc.

WAV2VOC *.wav
Converts all waveform files to voice files. The converted file will have the same name but with a voc extension.

Converting between version 1.10 and 1.20 voice files

The utilities that allow you to convert between Version 1.10 and 1.20 voice files are VOCO2N and VOCN20.

To convert a version 1.10 voice file to version 1.20, the command line entry is: VOCO2N *file1 file2*

To convert a version 1.20 voice file to version 1.10, the command line entry is: VOCN20 *file1 file2*. (The /M switch in VOCN20 allows you to convert stereo files to mono.)

Parameter specifications

The following are the command line parameters for both utilities:

Parameter	Description
file1	Represents the input file.
file2	Represents the output file.

Note: All specified files must have the VOC extension. If no files are specified, a short help will be displayed. Version 1.20 format supports 16-bit data.

2 Music Utility

PLAYMIDI utility

PLAYMIDI plays standard MIDI files in the DOS environment. Before running the utility, you have to load the SBMIDI driver into memory.

To load SBMIDI into memory:

1 Change to \SB16 directory.

2 Type SBMIDI [/G | /E | /B] [/U] [/?].

3 Press <Enter>.

The parameters for SBMIDI are as follows:

Parameter	Description
/G, /E or /B	Sets the MIDI format in use.
	/G denotes General MIDI format which plays all 16 channels with channel 10 as the drum channel.
	/E denotes Extended MIDI format which plays the first 10 channels with channel 10 as the drum channel. This is the default format.
	/B denotes Basic MIDI format which plays from channels 13 to 16 with channel 16 as the drum channel.
/U	Unloads the SBMIDI driver.
/?	Provides on-line help messages.

SBMIDI displays the actual settings when it is first loaded. If you wish to change the settings, run SBMIDI again with the desired settings. To show the current settings, run SBMIDI without any parameters.

To play MIDI files:

1 **Change to \SB16\PLAYMIDI directory.**

2 **Type** PLAYMIDI *midifile* [/FMT:*type*] [/DRUM:*channel*] [/S:*command*] [/Q][/?].

3 **Press <Enter>.**

The parameters for PLAYMIDI are as follows:

Parameter	Description
/FMT:*type*	Enter Basic, General, or Extended to play a MIDI file in the format of your choice. The default follows the SBMIDI settings.
/DRUM:*channel*	Defines the drum channel. The default is channel 10.
/S:*command*	Runs a DOS command while playing a MIDI file.
/Q	Plays a MIDI file without messages on the screen.
/?	Provides on-line help messages.

Note: To exit PLAYMIDI, press the Esc key.

Example

To play JAZZ.MID in Extended format and Basic format, the command line entries are PLAYMIDI JAZZ /FMT:EXTENDED and PLAYMIDI JAZZ /FMT:BASIC.

3 Mixer Utilities

Read this chapter to learn how to use the mixer utilities, including information on:

- Running MIXERSET Utility
- Controlling Options Using the Mouse or Keyboard

Running MIXERSET utility

MIXERSET controls the Mixer using an on-screen mixer or from the
DOS command line.

To run the MIXERSET:

1   **Change to \SB16 directory.**

2   **Type** MIXERSET **and press <Enter>**

3   **To exit from the mixer, click the button on the top left-hand corner of the on-screen mixer
or press <Esc>.**

Note: The DOS mouse driver needs to be installed before it can be used in
this mode. If you have a mouse driver, type Mouse at the DOS prompt and
press <Enter> to install it.

Controlling options using the mouse or keyboard

You can use the mouse or the keyboard to control the various options on the
Mixer.

When using the mouse to control an option:

■ Select the option if it is a check box.

■ Move the scroll box by dragging it or clicking a scroll arrow to increase or
decrease the volume/tone.

When using the keyboard to control an option:

■ Use <Tab> to move to the option.

■ Use <Spacebar> to select the option if it is in a check box.

■ Use the right or left arrow key to increase or decrease the volume/tone.

4 FM Intelligent Organ

Read this chapter to learn about the following features of FM Organ:

- Loading FM Organ
- Octaves on FM Organ
- Loading a Song
- Learning a Song
- Playing FM Organ
- Saving, Loading, and Replaying a Song
- Adding Accompaniment to Songs
- Changing Instruments and Rhythms
- Changing Default Settings

FM Intelligent Organ

FM Organ is a DOS-based application that can transform your computer into an organ and you into an instant musician. With this program, you can learn to play complex musical pieces on your computer keyboard. FM Organ also has a function to help you master the organ. And if you have a MIDI-compatible keyboard, using the MIDI interface on your audio card will increase your music-making capabilities tenfold.

Loading FM Organ

To load FM Organ:

1 **Change to \SB16\PRO_ORG sub-directory.**

2 **Type** `PRO_ORG` **and press <Enter>.**

The FM Organ main menu similar to Figure 4-1 appears.
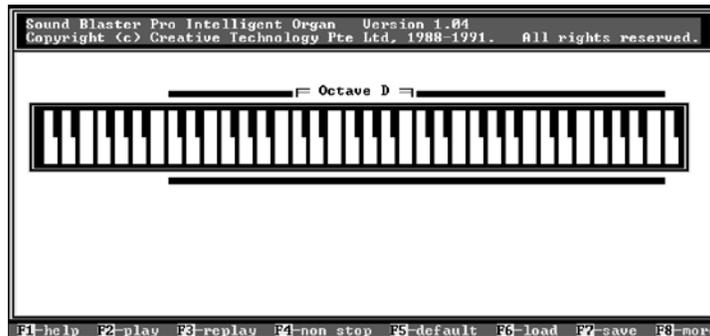

Figure 4-1 The FM Organ main menu.

Octaves on FM Organ

Like any organ keyboard, the keys on FM Organ are arranged in groups of 12 keys (5 black and 7 white keys). Each group is called an octave and the first white key of each octave is "DO," the second "RE," the third "MI," and so on. The Middle C is the "DO" note of the D octave.

There are seven octaves on FM Organ. For convenience, they are named A, B, C, D, E, F, and G (see Figure 4-2). Only four octaves can be accessed from the PC keyboard at one time. To access the rest of the octaves, use the right or left arrow key (when in play mode only).

The green bar above FM Organ indicates the four octaves. The four octaves represent the four rows of keys on your PC keyboard, that is rows 1, Q, A, and Z, that are used for playing FM Organ. If the D octave is shifted to the far-left of the green bar, then row Z would represent the D octave. On the other hand, if the D octave is shifted to the far-right, then row 1 would represent the D octave (see Figure 4-2).
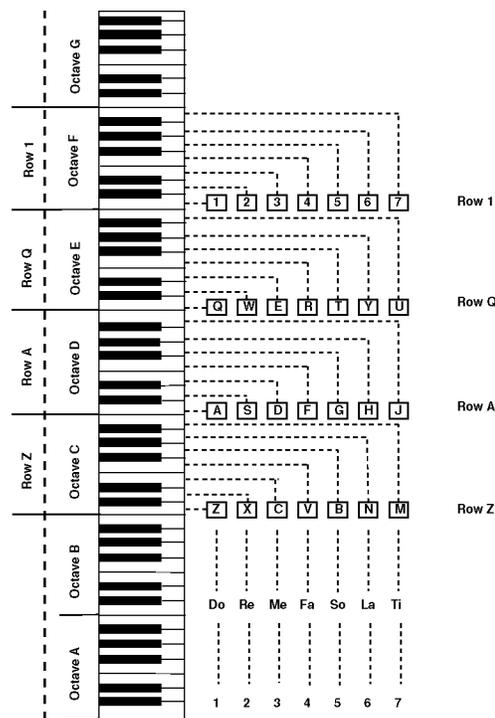

Figure 4-2 Seven octaves of FM Organ on the PC keyboard.

The four octaves do not allow you to make use of the black keys on the keyboard. If you want to make use of the black keys, press <Tab>. When <Tab> is pressed, the four rows on the keyboard will only comprise two octaves, namely D and E (see Figure 4-3).
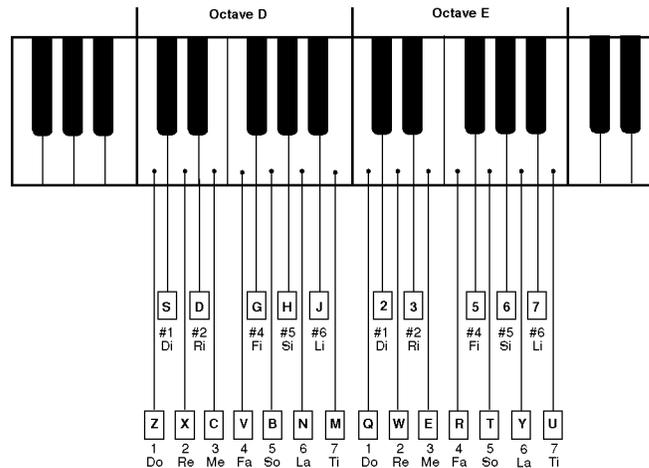
Figure 4-3: The D and E octaves on the PC keyboard.

Loading a song

To load a song, first return to the main menu. Then follow these steps:

1   **Press <F6>.**

A window listing the available songs appears below FM Organ.

2   **Use <Page Up>, <Page Down>, or the arrow keys to select a song.**

Note: <Page Up> and <Page Down> are used for moving between different groups of songs, while the arrow keys are used for selecting a particular song within a group.

3   **Press <Enter>.**

4   **Press <F4> to play the song.**

Note: If you press <F2> instead of <F4> to play the song, you will hear the accompaniment and not the melody. To hear the melody, the song will have to be reloaded.

Learning a song

FM Organ has a feature that helps you learn any of the songs provided. It teaches you how to play a song by highlighting the alphabetical keys corresponding to the music notes on the keyboard. With such a feature, all you need to do is to press the key every time it is highlighted.

To learn a song:

1 **Press <F6> from the main menu.**

2 **Choose the song you want to learn using <Page Up>, <Page Down>, or the arrow keys.**

3 **Press <F8,F1>.**

A layout of the PC keyboard similar to Figure 4-4 appears.

Figure 4-4 Layout of the PC keyboard for learning songs.

4 **Press <F1> for a demonstration on how the song is played using the PC keyboard.**

5 **Press <F2> for a step-by-step lesson on how to play the song.**

When <F2> is pressed, a numeric key will be highlighted in brown. This signals you to get ready to press the key. When the alphabetical key below the numeric key is highlighted in magenta, it means you must press the key. If the key is not pressed, FM Organ will wait for you to press the key before proceeding to the next one.

Playing FM Organ

To play FM Organ, press <F2> from the main menu. When you press any of the keys on the PC keyboard, you should hear a corresponding sound. If you cannot hear any sound, please check the settings in the Sound control panel (in the Mac OS).

If you are not able to find something to play, you can try the tunes in Figures 4-5 and 4-6. To play the tunes, press the keys on the PC keyboard that correspond to the number on the music notes. For example, the first seven notes in Figure 4-5 are as follows: 1 1 5 5 6 6 5.

You can use any of the four octaves, that is, any of the four rows on the PC keyboard to play the tune.

If you choose row 1, type: 1 1 5 5 6 6 5

If you choose row Q, type: Q Q T T Y Y T

To quit from playing FM Organ, press <Esc>.

Figure 4-5 Music score for "Twinkle, Twinkle, Little Star."
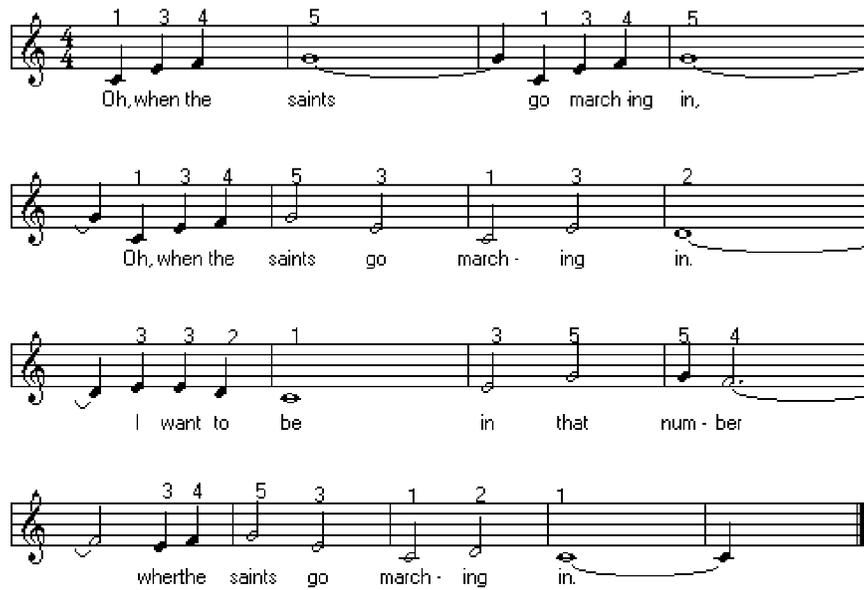
Figure 4-6 Music score for "When the Saints Go Marching In."

Saving, loading, and replaying a song

To save a song you have played using FM organ:

1   **Return to the main menu, then press <F7>.**

2   **Enter the name of the song when prompted.**

3   **Press <Enter>.**

FM Organ remembers the song you have played by storing it temporarily in a reserved memory area in your computer called the buffer. The buffer is 64 KB. Under normal conditions, the words "Buffer Status" will be indicated in blue. When the buffer is almost full, the words will become red. If you want to play the song again before saving it, press <F4>. After that, press <F7> if you want to save it, or <Esc> to quit.

To make sure the song has been saved, press <F2,Esc>. By so doing, you are removing the song stored in the buffer. With the song removed from the buffer, you can check whether the song has been saved when you press <F6,Enter> to load the song. If the song is not found, it means that it has not been saved.

To replay the song, press <F3> or <F4>. For <F3>, the song will only play once. But for <F4>, the song will keep on repeating until <Esc> is pressed. Changes made to the song while in the <F4> mode will not be saved. However, in the <F3> mode, the changes can be saved by pressing <F7>.

Adding accompaniment to songs

FM Organ comes with several features that will not only enhance the song you play, but also make you seem like a virtuoso. These features are Auto Bass-Chord, Auto Arpeggio, and Artificial Melody.

Auto Bass-Chord

The Auto Bass-Chord adds bass and chord to a song when <Spacebar> is pressed. To stop Auto Bass-Chord, press <Spacebar> again. To ensure Auto Bass-Chord does not end abruptly when you want to end this feature, press <Enter> instead of <Spacebar>. To increase/decrease the volume for Auto Bass-Chord, use <Page Up>/<Page Down> or the arrow keys on the numeric keypad.

Auto Arpeggio

The Auto Arpeggio adds a melodious touch to a song by playing the chord not simultaneously but in rapid succession. To select any of the six arpeggios, use the right or left square bracket. To stop Auto Arpeggio, press < ' >. To increase/decrease the volume for Auto Arpeggio, use the up/down arrow key on the numeric keypad.

Artificial Melody

When the Artificial Melody is activated, you will hear a string of melody accompanying what you are playing. This feature can be activated by pressing <9>, <0>, <->, or <=>. To increase/decrease the volume for Artificial Melody, use the <Home>/<End> key on the numeric keypad.

Changing instruments and rhythms

All the songs in FM Organ consist of an instrument and a rhythm accompanying it. Both the instruments and rhythms can be changed. The instruments are represented by <F1> to <F4>. Each function key supports five instruments, giving a total of 20 instruments. The rhythms are represented by <F5> to <F8>. Each function key supports four rhythms, giving a total of 20 rhythms. Pressing a function key lets you switch between the various options (see Table 4-1).

To change the instruments and rhythms of a song:

1   Press <F2>.

The CMS's Intelligent Organ control panel appears.

2   Select <F1> to <F4> for changing the instruments.

3   Select <F5> to <F8> for changing the rhythms.

4   To change the tempo of the rhythm, press <Ins> to increase it and <Del> to decrease it. (The tempo is indicated by the "moving numbers" on the far-left.)

5   To change the scale of the songs, press <F9> for songs that are in major scale and <F10> for songs that are in minor scale.

6   To transpose a song, press <+> to transpose the song one semitone up and <-> one semitone down. Pressing <Shift + +> transposes a song four perfect tones up and <Shift + -> transposes a song five perfect tones down.

Note: Changes made in CMS's Intelligent Organ control panel cannot be saved. To save the changes, you need to change the default settings.

F1	F2	F3	F4
Piano	Trumpet	Flute	Sitar
Harp	Saxophone	Harmonica	Jamaican
El guitar	Trombone	Clarinet	Bells
Marimba	Mars	Violin	Synth1
Alien	Organ1	Oboe	Synbass

F5	F6	F7	F8
March	Rhumba	Swing	Waltz
March1	Samba1	Swing1	Waltz1
March2	Bosonov1	Rock & Roll	Waltz2
March68	Tango1	Disco1	Jwaltz

Table 4-1 Instruments and accompaniment.

Changing default settings

To change the default settings of a particular song:

1 **Press <F5> from the main menu.**

The Default Settings window appears.

2 **Enter** T **to select the title of the song.**

3 **Use the up or down arrow key or press the characters highlighted in red to select the options.**

4 **Use the right or left arrow key to change the default options.**

5 **Press <Enter> once you have confirmed the settings.**

6 **Press <F7> to save it or <Esc> to quit without saving.**

7 **Press <O> to restore the values to the factory default settings.**

5 Windows Mixer

This chapter includes:

- Running Windows Mixer Control
- Controlling Options Using the Mouse or Keyboard
- The Windows Mixer Control Menus

Mixer Control is a powerful Windows audio mixer that allows you to combine and manipulate sound from various audio sources. With this windows mixer, it is possible to control the volume, tone, and gain of an audio source while running other Windows applications.

Running Windows Mixer Control

To run Windows Mixer:

■ **Expand the Mixer icon from your audio card's group window.**

The Mixer Control window similar to Figure 5-1 appears.

Figure 5-1 The Mixer Control window.

Controlling options using the mouse or keyboard

You can use the mouse or the keyboard to control the options in Mixer Control.

When using the mouse to control an option:

■ Click the option if it is in a check box.

■ Move the slider button by dragging it or by clicking above or below the slider to increase or decrease the volume/tone.

When using the keyboard to control an option:

■ Use <Tab> to move to the option.

■ Use the up or down arrow key to increase or decrease the volume/tone.

■ Press <Shift+Tab> to move through the options backwards.

Mixer Control menus

The windows mixer has two menus: Options and Help.

The Options menu

The description of the command on the Options menu is as follows:

Command	Description
Lock L/R Vol	Locks both the right and left channels of the sources so that both channels move at the same time when you drag the slider button to the desired volume level.

The Help menu

The description of the command on the Help menu is as follows:

Command	Description
About Mixer Control	States copyright information of the application.

6 Creative WaveStudio

This chapter includes information on the following WaveStudio features:

- Running WaveStudio
- The WaveStudio Interface
- The WaveStudio Menus
- Opening Waveform Files
- Inserting Waveform Files
- Modifying Waveform Files
- Quitting WaveStudio

Creative WaveStudio is a powerful application for playback and editing of both 8- and 16-bit waveforms within the Windows environment. It supports the Windows Multiple Document Interface (MDI), which allows you to work with several waveform files within a single application.

Running WaveStudio

WaveStudio can edit and play Microsoft waveform files. These files are accompanied by the WAV extension.

To run WaveStudio window:

■ **Double-click the WaveStudio icon in the audio card's group window.**

The WaveStudio window similar to Figure 6-1 appears.
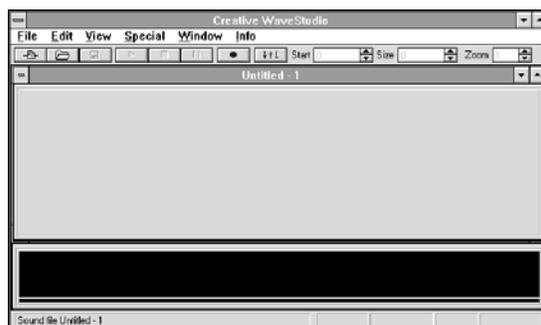
**Figure 6-1** The WaveStudio window.

The WaveStudio interface

The WaveStudio interface has four main features. They are the Toolbar, Edit Window, Preview Window, and Status Bar.

Toolbar

The Toolbar comprises several buttons for file operations and control boxes for waveform operations.

The buttons on the Toolbar are:

|	
	Opens a new window in WaveStudio containing no waveform data.
	Opens an existing waveform file.
	Saves the open waveform file to disk.
	Cuts a portion of the waveform file.
	Duplicates a portion of the waveform file.
	Copies a portion of the waveform file to the Windows Clipboard.
	Plays the waveform file that is currently in WaveStudio.
	Stops playing a waveform file.
	Pauses/resumes playing a waveform file.
	Activates the Windows Mixer.
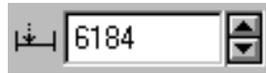
⊢⊣ 6184 ⬥	Displays the starting position of a selected portion of a waveform. You can type the position in the text box or use the scroll arrows to move to the starting position.
⊢→ 1924 ⬥	Displays the size of a selected portion of a waveform. You can type the size in the text box or use the scroll arrows to increase/decease the size.
🔍 1 ⬥	Displays the zoom ratio of a waveform file. You can type the ratio in the text box or use the scroll arrows to increase/decrease the ratio.
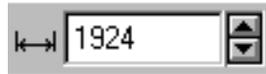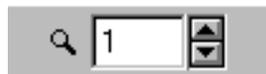
Edit Window

The Edit Window is the area where the contents of waveform files are displayed. This is the area where you may select and edit part or all of the waveform.

To have a better view of a portion of the waveform, use the scroll bar at the bottom of the Edit Window to move the waveform to that portion and use the scroll arrows in the Zoom box to increase the size of that portion.

To select a portion of the waveform for editing, hold down the left mouse button anywhere on the Edit Window and drag the mouse. Once the desired portion of the waveform has been selected, release the left mouse button. The selected areas will be highlighted. If you wish to edit the entire waveform, double-click the Edit Window.

Note: When you click the right mouse button on the Edit Window, a menu of commands allowing you to perform various functions will be displayed.

Preview Window

The Preview Window displays the entire waveform currently loaded for editing. You can also select a portion of the waveform for editing by clicking anywhere on the Preview Window with the left mouse button and dragging the mouse. The area selected will be highlighted. If you wish to select the entire waveform, double-click on its window.

Within the Preview Window is the Progress Indicator that shows the progress of a waveform that is being played. If the entire waveform is selected, the Progress Indicator moves from the start to the end of the waveform. If a portion of a waveform is selected, the Progress Indicator moves through the waveform from the start to the end of the selected portion of the waveform.

Status Bar

The Status Bar displays information about each menu command when selected with the mouse. It also provides information related to the waveform in the Edit Window.

PCM - C:\SB16\SAMPLES\S_8_22.WAV	2.56 sec.	Stereo 8 bits	22 KHz	110.3 KB
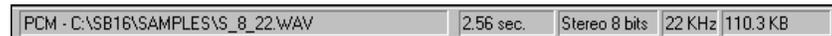
Note: A window has to contain waveform data before the information relevant to the waveform is displayed in the Status Bar.

The WaveStudio menus

WaveStudio has seven menus: File, Edit, View, Special, Options, Window, and Help.

The File menu

The File menu lists all the file commands. The descriptions of these commands are:

Command	Description
New	Creates a new window without any waveform data.
Open	Opens either an existing file that contains raw sound data or opens a file in the WAV file format.
Close	Closes an opened waveform file.
Close All	Closes all opened files.
Save	Saves changes made to the waveform file.
Save As	Saves the waveform file with a new name.
Save All	Saves all open files.
Exit	Quits WaveStudio.

Note: WaveStudio keeps a record of the four latest waveform files you have opened by displaying them after the Exit command. To open any of the files, select the file with the left mouse button.

The Edit menu

The Edit menu contains all the basic editing commands. The descriptions of these commands are:

Command	Description
Undo	Undoes the last action performed.
Cut	Removes a selected portion of the waveform into an internal buffer.
Copy	Copies a selected portion of the waveform into an internal buffer.
Paste	Pastes the contents of the internal buffer into the Edit Window. If you have selected a portion of the waveform, that portion is replaced by the contents of the buffer. Otherwise, WaveStudio pastes the contents of the buffer at the cursor.
Paste Mix	Mixes the contents of the internal buffer with the waveform in the Edit Window.
Delete	Deletes a selected portion of the waveform. Unlike the Cut command, the waveform is not placed in the internal buffer.
Crop to Selection	Deletes the entire waveform except the selected portion.
Select All	Selects the entire contents of the waveform in the Edit Window. You can also do this by double-clicking the mouse anywhere in the Edit Window.

The View menu

The commands on the View menu allow you to customize the WaveStudio workspace. The descriptions of these commands are:

Command	Description
Preview	Toggles the Preview Window between on and off.
Toolbar	Toggles the Toolbar between on and off.
Status Bar	Toggles the Status Bar between on and off.
Fit Wave In Window	Scales (adjusts the zoom ratio) the waveform to fit the size of the window.
Actual Size	Resets the zoom ratio of the waveform in the Edit Window to 1:1.
Cursor Position	Brings initial cursor position into view.
Cursor End	Brings cursor end position into view.
Zoom	Zooms a selected area to fit the size of the window.

The Special menu

The commands on the Special menu allow you to add special effects to a waveform. The descriptions of these commands are:

Command	Description
Reverse	Reverses the playback of the entire waveform.
Add Echo	Adds echo effect to a certain portion of the waveform or an entire waveform.
Invert Waveform	Inverts the wave data for the selected channel(s).
Rap!	Repeats a selected portion of the waveform.
Insert Silence	Inserts silence into a selected portion of the waveform. This command is used when you want to add a pause between the sounds in a waveform.
Force to Silence	Silences a selected portion of the waveform. For stereo waveforms, there are options for silencing either channel.
Fade In	Fades into a selected portion of the waveform.
Fade Out	Fades out of a selected portion of the waveform.
Swap Channels	Swaps Left and Right Channels.
Pan Left to Right	Pans waveform from Left to Right Channel.
Pan Right to Left	Pans waveform from Right to Left Channel.
Phase Shift	Applies phase shift to the selected channel.
Convert Format	Converts waveform channels (stereo or mono), sampling rate frequence, and sampling size (8 or 16 bit).
Modify Frequencies	Modifies the playback rate of the wave.
Amplify Volume	Changes the volume level of a waveform. If the waveform is not selected, this command will amplify the entire waveform. Otherwise, only the selected portion will be amplified.

The Options Menu

Command	Description
Mixer Settings	Opens the Mixer Control Window.
Customize Colors	Customizes WaveStudio's display colors for the Edit and Preview windows.
Display in Bytes	Displays waveform in bytes.
Display in Samples	Displays waveform in samples.
Display in Milliseconds	Displays waveform in milliseconds.
Always on Top	Toggles WaveStudio as the topmost window.

The Window menu

The commands on the Window menu specify several ways of organizing windows when running WaveStudio. For more information regarding these commands, refer to the manual on Microsoft Windows.

The Help menu

The descriptions of the commands on the Help menu are:

Command	Description
Contents	Displays contents for WaveStudio Help.
Search for Help on	Searches for a topic in WaveStudio Help.
System Info	Displays information about Windows and your system.
About WaveStudio	Displays copyright information of the application.

Opening waveform files

To open an existing waveform file:

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

The Open Sound File dialog box similar to Figure 6-2 appears.
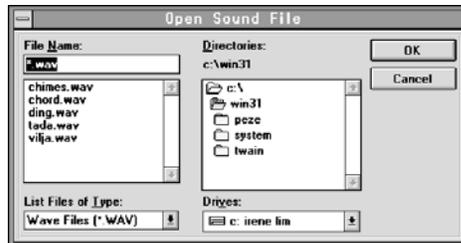
Figure 6-2 The Open Sound File dialog box.

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

3 **Choose OK.**

Inserting waveform files

A waveform file can be inserted into WaveStudio by dragging and dropping.

To do this:

1 **Start File Manager and open the directory containing the waveform file you want to drag.**

2 **Select the desired waveform file.**

3 **Arrange your windows so that both the waveform file and the WaveStudio Window can be seen.**

4 **Drag the waveform file by holding down the left mouse button while pulling the file into Edit Window. A plus sign in the icon will be seen as you drag the file into the WaveStudio Window.**

5 **Release the mouse button when the icon is in the WaveStudio Window.**

WaveStudio will automatically open the file for editing. To select multiple files from the File Manager, hold down <Shift> and click on the mouse button, and drop them into the WaveStudio Window. WaveStudio will automatically open all the files for you.

Modifying waveform files

You can change the shape and characteristics of a waveform by using the commands from the Edit and Special menus.

To mix the contents of the internal buffer with the waveform in the Edit window:

1   Select Paste Mix from the Edit menu.

The Paste Mix dialog box similar to Figure 6-3 appears.
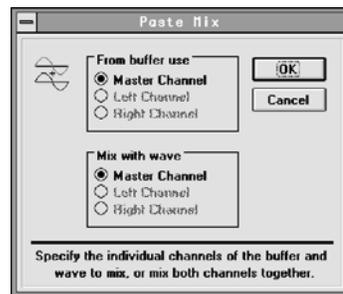
Figure 6-3: The Paste Mix dialog box.

2   Select a channel for the internal buffer and the waveform.

For stereo waveforms, the following are the options available for mixing:

- the corresponding master channel
- left (buffer) to left (waveform) channel
- right (buffer) to right (waveform) channel
- left (buffer) to right (waveform) channel
- right (buffer) to left (waveform) channel

Note: For master to master channel mixing, the left (buffer) goes to the left (waveform) channel, and the right (buffer) goes to the right (waveform) channel.

3   **Choose OK.**

As a result of this mixing process, the contents of the buffer are added to the waveform. When you play back the waveform, you will hear both sounds together. If no portion of the waveform is selected, the buffer contents are placed at the cursor. If a portion of the waveform is selected, the contents of the buffer and the waveform data are mixed.

To add echo to a selected portion of a waveform:

1   **Select Add Echo from the Special menu.**

The Add Echo dialog box similar to Figure 6-4 appears.
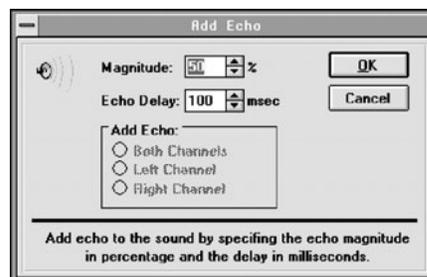
Figure 6-4 The Add Echo dialog box.

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

Echo magnitude (i.e. how loud the echo sounds) should be in percentage.

3   **Enter the echo delay in the Echo Delay text box.**

Echo delay (i.e. the time between the actual sound and the echo) should be in milliseconds.

4   **Select the Channel in which you wish to add the echo.**

5   **Choose OK.**

To add silence to a selected portion of a waveform:

1   **Choose Force to Silence from the Special menu.**

The Force to Silence dialog box similar to Figure 6-5 appears.

Figure 6-5   The Force to Silence dialog box.

2   **Choose the channel or channels to silence out.**

The channels available are the master, and the left and right channels of the stereo waveform.

3   **Choose OK.**

To fade in/out a selected portion of a waveform:

1   **Choose either Fade In or Fade Out from the Special menu.**

If Fade In is selected, the Fade In dialog box similar to Figure 6-6 appears. If Fade Out is selected, a similar dialog box to Figure 6-6 will appear with Fade Out as the title.
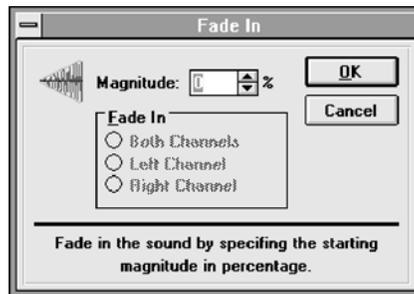
Figure 6-6   The Fade In dialog box.

2 Enter the starting magnitude in the Magnitude text box if Fade In is selected. Enter the ending magnitude on the Magnitude text box if Fade Out is selected.

3 Choose the channel you wish to perform the fade in or fade out. (For stereo waveforms, there are additional options for fading both channels or only one channel.)

4 Choose OK.

To amplify the volume of a selected portion of a waveform:

1 Choose Amplify Volume from the Special menu.

The Amplify Volume dialog box similar to Figure 6-7 appears.
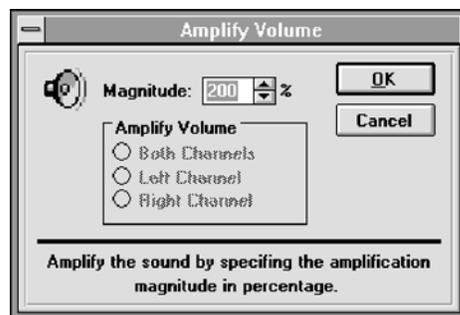
Figure 6-7 The Amplify Volume dialog box.

2 Enter the magnitude of the volume in percentage.

3 Choose the channel you wish to amplify the volume. (For stereo waveforms, there are additional options for amplifying both channels or only one channel.)

4 Choose OK.

Quitting WaveStudio

To quit WaveStudio:

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

If you made changes and have not saved them, the Creative WaveStudio dialog box similar to Figure 6-8 will appear.
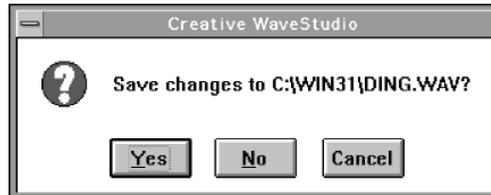
Figure 6-8 Creative WaveStudio dialog box.

2   **Choose Yes to save the changes, No if you do not want to save the changes, or Cancel if you want to continue working in WaveStudio. (By selecting Yes or No you will immediately exit WaveStudio.)**
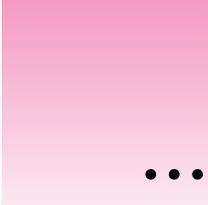
Appendix
New Files on Your Hard Disk

Read this appendix for a list of all Sound Blaster files installed on your hard disk.

■ In the \SB16 directory, you will find the following:

FILELIST.LST List of all Sound Blaster-related files on your hard disk.
README.COM Program to display the README.TXT file.
README.TXT Text file containing latest information not in the manual at print time.
CQA.COM Program to display the CQA.TXT file.
CQA.TXT Text file for commonly asked questions and the answers to them.
MIXERSET.EXE Mixer controller.
CTMIX.CFG Configuration file for MIXERSET.EXE.
WINSETUP.EXE Audio software's Windows 3.1 applications set up program.
WINSETUP.INF WINSETUP program information file.
INSTALL.EXE Audio software installation program.
INSTALL.PVL Compressed library for INSTALL.EXE.
SBMIDI.EXE MIDI driver.

■ In the \SB16\DRV sub-directory, you'll find the following files:

AUXDRV.DRV Auxiliary driver for controlling volume.
CT-VOICE.DRV Loadable driver for voice (memory version).
CTVDSK.DRV Loadable driver for voice (disk version).
CTWDSK.DRV Loadable driver for wave (disk version).
CTWMEM.DRV Loadable driver for wave (memory version).
ORGAN.DRV Driver for PRO_ORG.

■ The following files are located in the \SB16\PLAYMIDI sub-directory:

PLAYMIDI.EXE MIDI file player.
*.MID Sample MIDI files.

■ The \SB16\VOCUTIL sub-directory includes the following:

VOC2WAV.EXE Voice file to Wave file converter.
VOCHDR.EXE Program to add a header to raw voice files.
VOCN2O.EXE Program to convert new voice files to old format.
VOCO2N.EXE Program to convert old voice files to new format.
VPLAY.EXE Program to play voice files.
WAV2VOC.EXE Wave file to voice file converter.
WPLAY.EXE Program to play a wave file.

■ In the \SB16\SAMPLES sub-directory:

S_8_22.WAV Sample wave file.

■ In the \SB16\WINAPPL sub-directory:

WMIXER16.EXE Mixer controller.
CTWAVE.EXE Audio software WaveStudio program.
CTWHELP.EXE Help for Audio software WaveStudio program.

■ The \SB16\PRO_ORG sub-directory contains:

PRO_ORG.EXE Intelligent Organ program.
*.ORG Sample organ files.

■ The following files reside in the \SB16\WINDRV sub-directory:

VSBPD.386 Windows virtual device driver.
MIDIMAP.CFG Windows MIDI map configuration file.
SB16AUX.DRV Auxiliary driver.
SB16FM.DRV Voyetra / Sound Blaster SuperSAPI FM Driver.
SB16SND.DRV Wave and MIDI driver.
OEMSETUP.INF Windows set up file.
CSPMAN.DLL Advanced Signal Processor dynamic link library.
CTRES.DLL Audio hardware's resources dynamic link library.
CTCCW.DLL Audio hardware's custom controls for Windows dynamic
link library
CTL3D.DLL Windows 3D effect dynamic link library.
CTWFLT.DLL Audio hardware's Wave filter manager.
WFLT0001.DLL Wave filter for PCM format.
WFLT0002.DLL Wave filter for MS ADPCM format.
WFLT0006.DLL Wave filter for CCITT A-Law format.
WFLT0007.DLL Wave filter for CCITT u-Law format.
WFLT0011.DLL Wave filter for IMA/DVI ADPCM format.
WFLT0200.DLL Wave filter for Creative ADPCM format.
WFM0006.ACV Windows driver for software CODEC for CCITT A-Law
WFM0007.ACV Windows driver for software CODEC for CCITT u-Law.
WFM0011.ACV Windows driver for software CODEC for IMA/DVI ADPCM.
WFM0200.ACV Windows driver for software CODEC for Creative ADPCM

The following files will be copied to your Windows or Windows \SYSTEM directory. You should not have duplicate copies of these files in both directories.

The following files should reside in your WINDOWS directory:

CTRES.DLL   **CTCCW.DLL**

The following files should reside in your WINDOWS\SYSTEM directory:

VSBPD.386	**SB16SND.DRV**	**SB16FM.DRV**	**SB16AUX.DRV**
MIDIMAP.CFG	**CSPMAN.DLL**	**WFM0006.ACV**	**WFM0007.ACV**
WFM0200.ACV	**WFM0011.ACV**	**CTL3D.DLL**	**CTWFLT.DLL**
WFLT0001.DLL	**WFLT0002.DLL**	**WFLT0006.DLL**	**WFLT0007.DLL**
WFLT0011.DLL	**WFLT0200.DLL**		

![Apple logo]